TRAFFIC MANAGEMENT PLAN

Coppabella Wind Farm

29 May, 2020

FINAL

Document Control

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Document History

Revision	Date	Comment
0.1	28/6/19	Draft submission to RMS, Yass Valley Council and Hilltop Council
0.2	4/10/19	Final Draft to RMS, incorporating agency comments
0.3	1/11/19	Final – submitted to DPIE for endorsement
1.0	16/12/19	Final – incorporation of DPIE comments
1.1	6/5/20	Final – incorporation of 2nd set of DPIE comments
1.2	29/5/20	Final – incorporation of 3rd set of DPIE comments

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Contents

1. Introduction

1.1 Introduction

This Traffic Management Plan (TMP) for Coppabella Wind Farm (CWF) is required by Schedule 3, Condition 32 of the Conditions of Consent (SSD-6698). The TMP forms a sub-plan of the CWF Environmental Management Strategy (EMS). It has been prepared by Goldwind Australia Pty Ltd on behalf of Coppabella Wind Farm Pty Ltd (CWFPL).

This TMP provides a reference document to maximise safety of all road users and Project personnel by consideration of issues arising from access to and from the WRWF site and identifying most appropriate management practices. It presents a set of mitigation measures, monitoring procedures and protocols that:

- describe how CWFPL will manage and control risks associated with traffic management during construction activities of the Project;
- address the requirements of applicable legislation and the Minister's Conditions of Consent
- have been prepared in consultation with Roads and Maritime Services (RMS) and relevant local Councils (Yass Valley Council and Hilltops Council).

The TMP covers both the construction and the operation phases of the project, with most emphasis on construction as this is the phase that generates the greatest volume of traffic. Traffic management for decommissioning would be addressed closer to that time and the TMP updated accordingly.

2. Objectives and Targets

Objectives for traffic management of the CWF include:

- to minimise disruption to local traffic and maximise safety of all road users
- identify all relevant obligations and legislative requirements to be addressed during the construction phase of the Project
- to define key roles and responsibilities.
- to describe the specific traffic management requirements and identify the best practice methods to be implemented
- to identify all relevant stakeholders and fulfil consultation requirements
- to outline record keeping and monitoring requirements

Targets for traffic and access management issues associated with the Project comprise:

- 100% compliance with all applicable legislation, regulations, standards, codes and licenses that relate to the Project
- 100% compliance with this TMP
- no significant degradation to the environment or existing roadways as a result of project traffic movements
- no significant safety incidents for construction vehicles
- maximise the safety of all road users and construction staff
- no significant unreasonable traffic delays caused by the Project activities
- standard industry environmental management practices implemented for traffic management.

3. Legal and Other Requirements

3.1 Legislation, Policies, Standards and Guidelines

The applicable legislation, policies, standards and guidelines related to traffic management for the Project are outlined in Table 1.

Table 1. Applicable Legislation, Policies, Standards and Guidelines

Type	Title
Commonwealth Legislation	*Environment Protection and Biodiversity Conservation Act 1999*
State Legislation	*Environmental Planning and Assessment Act 1979*
	Protection of the Environment and Operations Act 1997
	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2017
	Roads Act 1993
	Roads Transport Act 2013
	Road Transport (General) Regulation 2013
Australian Standard	AS 1742 - Manual of Uniform Traffic Control Devices
	AS 1743 – Road Signs – Specifications
	AS 2890 – Parking Facilities
AUSTROADS Guidelines	Guide to Traffic Management
	Guide to Road Design
	Guide to Road Safety
	Guide to traffic Engineering Practice. Part 2 – Roadway Capacity 1999
RMS Guidance	Traffic Control at Worksites (TCAWS) 2018
	Guide to Traffic Control at Worksites
	Supplements for Australian Standards
	Supplements for Guide to Road Design
	Supplements for Guide to Road Safety

3.2 Minister's Conditions of Consent

Project Approval was initially granted for CWF by the Minister for Planning on 30 March 2016. Modification 1 was approved by the Independent Planning Commission on 10 December 2018. The Minister's Conditions of Consent include Conditions 27-33 of Schedule C relating to transport and access as presented in Table 2.

Table 2. Ministers' Conditions of Consent from Schedule C relating to Transport

Cond.	Requirement	Where addressed?
27	***Whitefields Road Upgrade*** *Prior to the construction of the proposed upgrade to Whitefields Road, the Applicant shall prepare detailed plans for the upgrade in consultation with the relevant Council, and to the satisfaction of the Secretary. In preparing these plans, the Applicant must seek to avoid and/or minimise the clearing of mature vegetation adjacent to the road. Further, the detailed plans must include a landscaping plan for replacing the removal of any existing vegetation and/or augmenting the existing vegetation adjacent to the upgraded road with species that are endemic to the locality.*	Separate Roadside Vegetation Management and Landscape Plan (RVMLP) has been approved. The Whitefields Road upgrade design is provided at Annex C of this TMP.
28	***Road Upgrades*** *Prior to the commencement of construction (other than pre-construction minor works), the Applicant shall:* *(a) upgrade the existing intersection at the Hume Highway and Whitefields Road in accordance with Austroads Guide to Road Design (as amended by RMS supplements);* *(b) upgrade the section of Whitefields Road to be used as a primary access route (and shown in the figure in Appendix 6) including widening and sealing to a minimum width of 5 m, with 0.5 m gravel shoulders;* *(c) upgrade the section of Coppabella Road to be used as a secondary access route (and shown in the figure in Appendix 6), including applying an all-weather gravel surface seal;* *to the satisfaction of the relevant roads authority*	Section 4.2 The designs meet the criteria of (a) and (b) evidenced at Annex C and Annex D. The designs have been endorsed by the relevant roads authorities (RMS, Hilltop Council and Yass Valley Council, as relevant) and must be completed to their satisfaction. Coppabella Rd no longer requires to be used and will not be upgraded. Hilltops Council supports this approach and the development has been staged accordingly.

29	*Road Maintenance* *The Applicant shall:* *(a) prepare a dilapidation survey in accordance with the guidelines and standards established by Austroads of the designated vehicle route on Whitefields Road and Coppabella Road, as identified in the figure in Appendix 6:* *• prior to the commencement of any construction and/or decommissioning works; and* *• within 1 month of the completion of any construction and/or decommissioning works;* *(b) rehabilitate and/or make good any development-related damage:* *• identified during the carrying out of the relevant construction and/or decommissioning works if it could endanger road safety, as soon as possible after the damage is identified, but within 7 days at the latest; and* *• identified during any dilapidation survey carried out following the completion of the relevant construction and/or decommissioning works within 2 months of the completion of the survey, unless the relevant roads authority agrees otherwise,* *to the satisfaction of the relevant roads authority.* *If the construction and/or decommissioning of the development is to be staged, the obligations in this condition apply to each stage of construction and/or decommissioning.* *If there is a dispute about the scope of any remedial works or the implementation of the works, then either party may refer the matter to the Secretary for resolution.*	Annex B
30	***Unformed Crown Roads*** *The Applicant shall ensure any unformed Crown road reserves affected by the development are maintained for future use, unless otherwise agreed with the NSW Department of Industry – Lands and Water.*	Section 4.1
31	***Restriction on Transport Routes*** *The Applicant shall ensure that all over-dimension and heavy vehicle access to and from the site is via the primary access routes identified in the EA (and shown in the figure in Appendix 6) unless the applicable roads authority approves otherwise.* *Note: The Applicant is required to obtain relevant permits under the Heavy Vehicle National Law (NSW) for the use of over-dimension vehicles on the road network.*	Section 5, Table 5
32	***Traffic Management*** *Prior to the commencement of construction, the Applicant shall prepare a Traffic Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with RMS and the Councils, and include:* *(a) details of all transport routes and traffic types to be used for development-related traffic;* *(b) a protocol for undertaking dilapidation surveys to assess the:* • *existing condition of the transport route/s prior to construction or decommissioning works; and* • *condition of the transport route/s following construction or decommissioning works;* *(c) a protocol for the repair of any roads identified in the dilapidation surveys to have been damaged during construction or decommissioning works;*	This Plan Section 4.2 & 4.3. Annex E Annex B Annex B

	(d) details of the measures that would be implemented to minimise traffic safety issues and disruption to local road users during construction or decommissioning works, including: • *temporary traffic controls, including detours and signage;* • *notifying the local community about project-related traffic impacts;* • *minimising potential for conflict with school buses and rail services;* • *responding to any emergency repair requirements or maintenance during construction and/or decommissioning; and* • *a traffic management system for managing over-dimensional vehicles; and*	Section 5 Annex B
	(e) a drivers code of conduct that addresses: • *travelling speeds;* • *procedures to ensure that drivers adhere to the designated transport routes; and* • *procedures to ensure that drivers implement safe driving practices.*	Annex A
	If the construction and/or decommissioning of the development is to be staged, the obligations in this condition apply to each stage of construction and/or decommissioning.	
33	*Following approval, the Applicant must implement the measures described in the Traffic Management Plan.*	Section 5.2

4. Project Context

4.1 Location

The CWF lies approximately 16km west of Yass along Hume Highway, located within Hilltops and Yass Valley LGA's. The project consent allows for up to 75 turbines to be constructed, however, only 69 turbines will be developed for the project.

The Project is mostly located on private land however certain access roads and electrical collections circuits traverse unformed Crown road reserves. Agreement of the Crown Lands Office has been obtained for the use of the land for the CWF purpose by way of a Crown Land Licence (Lic 571188). These crown road reserves under licence shall be maintained for future use.

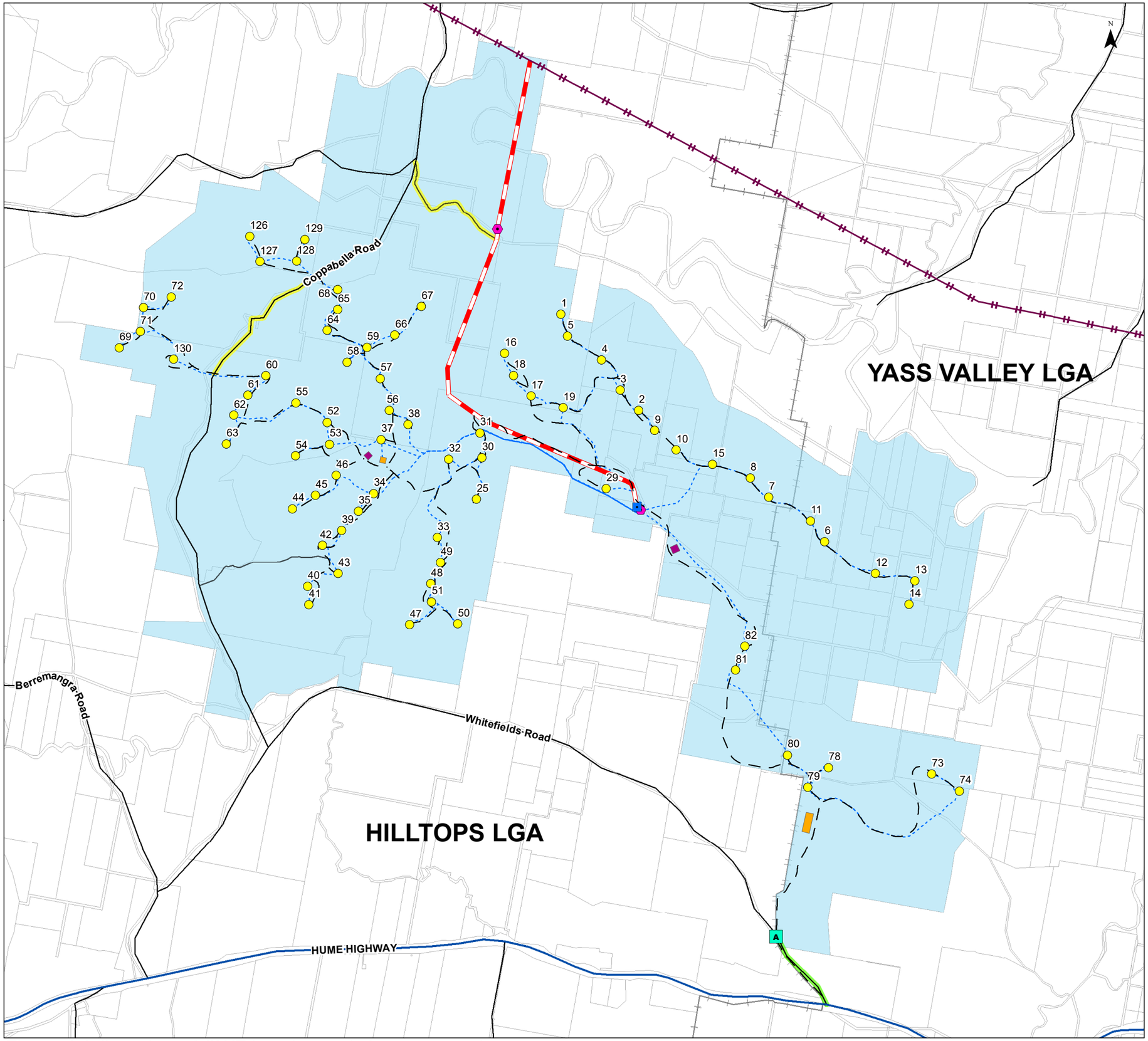
4.2 Surrounding Road Network and Site Access

Details of the surrounding road network are provided at Table 3.

Table 3. Details of existing road network surrounding CWF

Road Name	Number of Lanes	Speed Limit	Sealed (Y/N)	Controlling Authority	Road used for Project
Hume Highway	4 (median divided)	110 km/hr Posted	Y	Roads & Maritime Service	Yes
Whitefields Road	1 (to be upgraded to 2)	100km/hr Unposted. CWF traffic will have 40km/hr limit	N	Yass Valley Council	Yes
Coppabella Road	2	100km/hr Unposted	N	Hilltops Council	Minimal
Bouyeo Road	2	100km/hr Unposted	Y	Hilltops	No
Berremangra Road	2	100km/hr Unposted	Y	Hilltops	No
Illalong Road	2	100km/hr Unposted	Y	Yass Valley Council	No

An overview of the CWF access points is provided at Figure 4-1 and further described in the following section.



PROJECT

Coppabella Wind Farm

TITLE

Site Access Route

LEGEND

- Coppabella Wind Farm
- Primary access route
- Secondary access route
- Primary site access
- Proposed wind turbine
- Proposed access track
- Proposed underground reticulation (up to 33kv)
- Proposed powerline (up to 132kV)
- Existing 132kV Transmission Line
- Substation
- Potential switchyard locations
- Permanent Construction Compound and O&M
- Temporary Construction Compound
- Local Government Area
- Existing road

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DATE	SCALE	CHECKED
16/08/2018	@A3: 1:52,000	I.Mackey
STATUS	PRODUCED	APPROVED
DRAFT	C.McArlein	J.Bembrick
DRAWING No.		REV
CWF_OVR_012_1D Route		01D

Figure 4-1 Overview of CWF location and site access points

Hume Highway and Whitefields Road

Primary site access to CWF, including all over dimensional vehicles carrying turbine components and heavy vehicles, is from Whitefields Road. The primary access route is illustrated on Figure 4-2. The Hume Hwy is controlled by RMS and the relevant portion of Whitefields Road is controlled by Yass Valley Council.

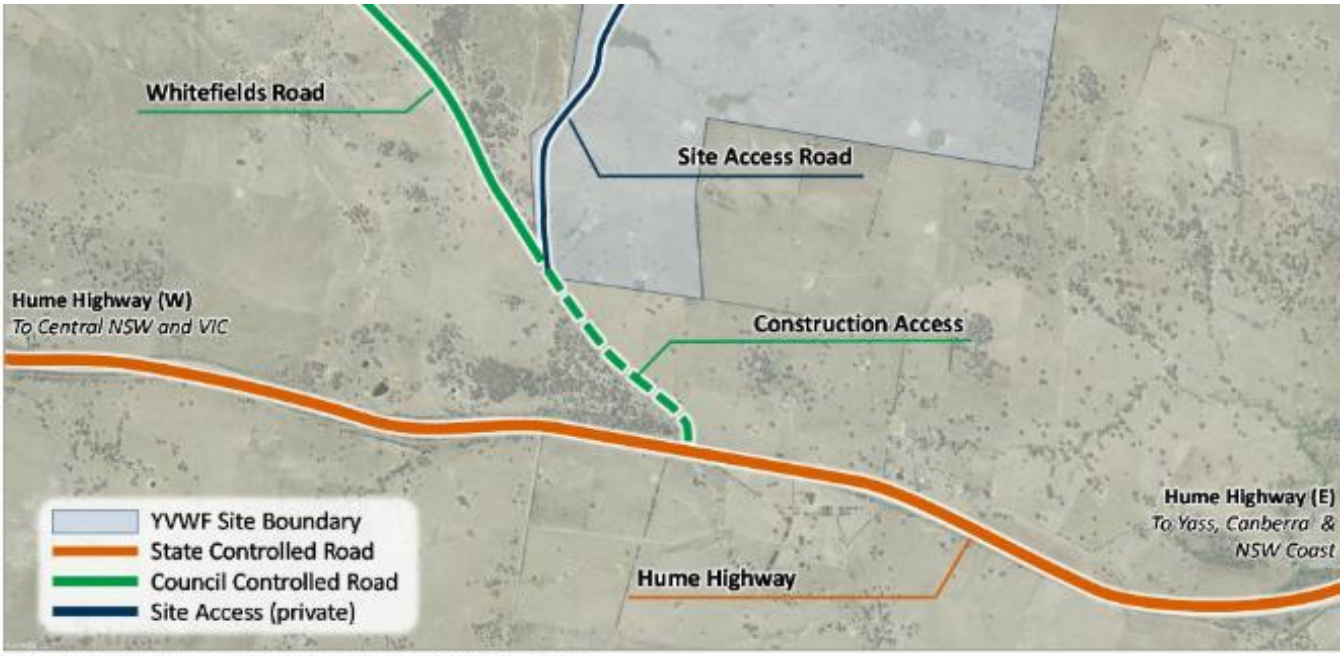
Whitefields Road is currently an unsealed road that intersects with Hume Highway at a priority controlled T-intersection. The access point to the CWF is located approximately 1.2km from the Hume Highway / Whitefields Road intersection. The 1.2km of Whitefields Road will be upgraded prior to commencement of major construction activities. The road upgrade design and accompanying Roadside Vegetation Management and Landscaping Plan (RVMLP) has been developed (and approved) in consultation with Yass Valley Council and the Commonwealth Department of Environment and Energy (DoEE). The design plans for the Whitefields Road upgrade are provided at Annex C.

The Hume Highway / Whitefields Road intersection will also be upgraded prior to commencement of construction (other than pre-construction minor works). The intersection upgrade will include:

- widening of the intersection to allow over-dimensional vehicle access
- extension of the turning lane into Whitefields Road from Yass (southbound)
- extension of the merging lane onto Hume Hwy heading towards Yass (northbound)
- removal of planted vegetation in medium to improve driver visibility and safety.

The intersection upgrade has been designed by RMS and will be completed by RMS.

An overview of the design of the Hume Highway / Whitefields Road intersection upgrade is provided at Annex D. It is expected that the majority of construction traffic will arrive to the Whitefields Road intersection from the Yass direction, and leave site in towards Yass (northbound) also.



Note: Site boundary and road alignments are indicative only.

Figure 4-2. Primary Site Access to CWF (source: Cardno, 2017)

Coppabella Road

Emergency site access / evacuation from the north of the project area is possible via Coppabella Road as shown at Figure 4-1. This road forms the emergency evacuation exit route for the project in the event of an emergency where the primary access point cannot be used (e.g. bushfire). Secondary access from Coppabella Road is envisaged to include vehicles associated with the establishment of the 132kV transmission line (by TransGrid). No other construction traffic is currently proposed for Coppabella Road although workers and limited materials originating from local areas to the north of the project area could be transported via Coppabella Road in latter stages of construction, subject to agreement with Hilltops Council. Coppabella Road will not be used by over dimensional vehicles carrying turbine components, except where the wind farm access tracks cross Coppabella Road. The section of Coppabella Road between the two wind farm legs (see Figure 4-1) is not currently proposed to be used during construction and therefore does not require upgrading. Management measures to prevent wind farm vehicles from using that section of Coppabella Road will include:

- information within the mandatory project induction
- reminders to staff during weekly toolbox talks
- signage
- inspections as part of the weekly routine inspections.

Should this change, appropriate arrangements would be made with the Hilltops Council to satisfy Schedule 3, Condition 28(c) of the Conditions of Consent. Hilltops Council has confirmed that this arrangement is acceptable and DPIE has also been notified accordingly.

4.3 Transport Route

Major Component Haulage Route

Over-dimensional turbine components from overseas will be delivered by ship to Port Kembla Port. The haulage route from Port Kembla to site covers a distance of approximately 276km and is shown at Figure 4-3. Key roads utilized include the Princes Highway, Picton Road, Hume Highway and then Whitefields Road into site (refer to Figure 4-3). The detailed haulage report is provided at Annex E. It is expected that at least two pilot vehicles will accompany each OSOM vehicle to guide the OSOM vehicle and manage traffic under the direction of police where required. The requirements for police escorts and / or police traffic management will be confirmed once the logistics contractor has been engaged.

Suitable arrangements and permits with the relevant road authorities must be in place prior to the commencement of turbine component haulage (e.g. any modifications to road furniture, etc). These arrangements will be confirmed by the successful transport Contractor (yet to be engaged). It is noted that several other wind farms have commenced construction in the Goulburn / Yass region. These other projects are also hauling turbine components from Port Kembla therefore it is expected that most amendments to road furniture will already be completed by the time CWF haulage commences. It is also anticipated that the haulage from the other projects will have largely been completed by the time CWF plans to commence turbine component haulage (i.e. mid 2020).

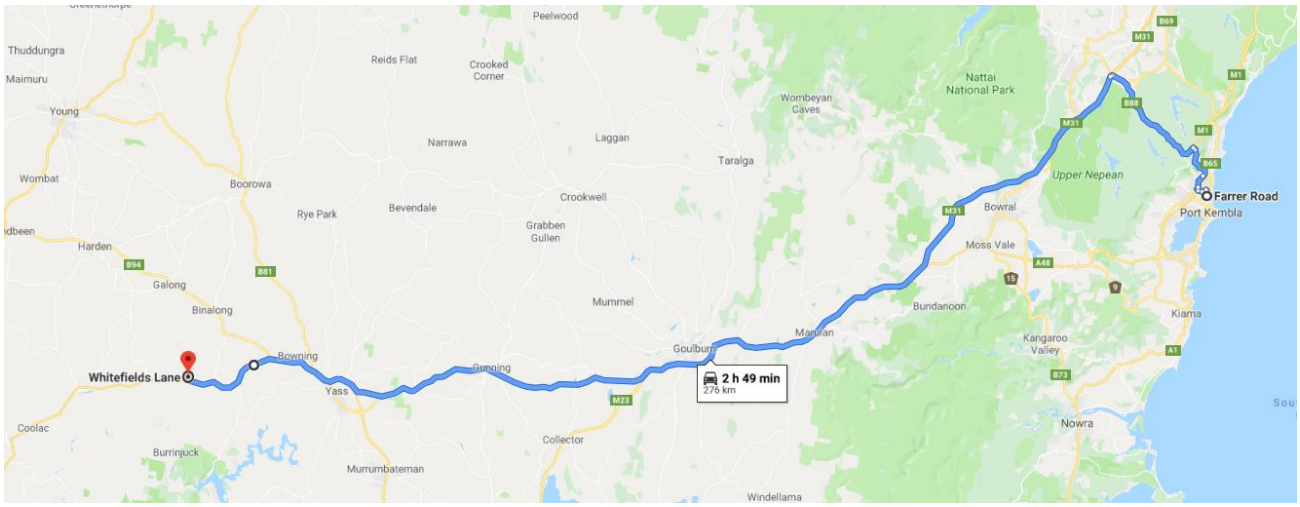


Figure 4-3 Over-dimensional transport access route from Port Kembla

Rest and Fatigue Breaks

The appointed haulage contractor will confirm the departure times from Port Kembla in consultation with relevant authorities and to confirm fatigue stop locations.

Potential pullover locations have been identified at:

- Stopping bay at Mount Ousley Road (approximately 10.7km from origin)Parking bay on Picton Road (approximately 40.9km from origin)
- Parking bay on Hume Motorway (approximately 67.2km from origin)
- Parking bay on Hume Motorway (approximately 104.4km from origin)
- Parking bay on Hume Motorway (approximately 124.6km from origin)
- Governers Hill Truck Parking Area on Hume Motorway (approximately 153km from origin)Parking bay on Hume Motorway (approximately 167km from origin)Parking bay on Hume Motorway (approximately 177km from origin)
- Parking bay at Cullerin on Hume Motorway (approximately 191km from origin)Emergency Pullover Bay on Hume Motorway (approximately 198km from origin)
- Parking bay at Conroys Gap on Hume Motorway (approximately 258km from origin)

Communication Protocol

A pre-departure meeting will be held at least 15 minutes prior to the commencement of any OSOM movement. Communication between the parties involved in the movements will occur on a UJF radio channel chosen for the trip. All parties will be informed of the chosen UHF channel in the pre-departure meeting along with all relevant procedures and schedules required for the OSOM movement.

“Pull over” Activation

It is expected that there will be two typical instances where a ‘pull over’ may be activated: These are:

- When queuing behind the convoy requires clearing. This is expected to be very limited considering that the majority of the haulage route is along the Hume Motorway.
- Approaching a pinch point and awaiting advice from police that temporary closures have been implemented and the OSOM vehicle is safe to proceed.

When a ‘pull over’ is activated the lead pilot vehicle for each OSOM vehicle is to determine a safe location for the OSOM load to stop, preferably at one of the locations identified at Section XX., or using the left lane and/or road shoulder to at least allow one lane of traffic to pass.

OSOM Emergency Procedures

In the event of an emergency such as a breakdown, the OSOM vehicle will be moved to the left lane / or shoulder to ensure that traffic flow adjacent can be maintained with minimal disruption. Police and pilot vehicles will manage traffic around the OSOM as necessary. Pilot vehicles accompanying the movements will be required to follow police direction at all times In such instances, the Traffic Management Centre will be promptly advised so that necessary warnings can be provided to the surrounding traffic.

In the event of a communications failure between any of the vehicles within the convoy, the OSOM movement is to cease at a suitable location until communications can be re-established.

Local Traffic Routes

Construction traffic will enter site through the primary access point at Whitefields Road (via Hume Highway). The Hume Highway / Whitefields Road intersection and the relevant portion of Whitefields Road will be upgraded prior to commencement of construction activities (other than pre-construction minor works) – refer to Section 4.2.

4.4 Traffic Generation

Estimated traffic generation during the construction is shown at Table 4. Construction is anticipated to commence during Q1 2020 and have a total duration of 12-16 months.

During operations the volume will reduce significantly and be mainly limited to the operational site team (~10 people), occasional contractors, visitors and site deliveries. This is expected to average approximately 15 loads (30 movements) per day, with peaks during periods of deep maintenance.

The project is anticipated to have a minimum 25 year life after which it would be upgraded or decommissioned. For decommissioning or upgrading, similar general measures would be necessary as those detailed in this report for construction works. This TMP would be revised to address traffic operation and volume changes in the future years during the decommissioning or upgrading phase.

Table 4 Estimated traffic volumes during construction

Item **(total movements)**	Detail	Total Quantum	Quantum Delivered per load	Loads	Typical Vehicle	Total Movements	Assumptions
Access Track Construction							
790	Delivery of Plant	20	1	20	Low Loader	40	Nominal allowance
	Road Base (t)	12,000	32	375	32t truck and dog	750	Only gate to substation likely imported as rest site won. ~12,000t for 6.5km of access track (6.5m wide)
	Fuel	-	-	50	30t tanker	100	Fuel pod established on site. Assumes weekly refilling during bulk earthworks.
	Water	-	-	-	-	-	Water for dust suppression and soil conditioning to be sourced on site (bores and farm dams)
Foundation Preparation and Turbine Construction							
Turbine Parts	Tower sections (5 per turbine)	345	1	345	OD trailer	690	Four sections per turbine
2027	Generators (1 per turbine)	69	1	69	6-axle articulated	138	One per turbine
	Hubs (1 per turbine)	69	1	69	6-axle articulated	138	One per turbine
	Nacelles (1 per turbine)	69	1	69	6-axle articulated	138	One per turbine
	Blades (3 per turbine)	69	1	207	OD trailer	414	Three per turbine
	Cables / controllers (1 per turbine)	69	1	69	6-axle articulated	138	One per turbine
	Tools, misc. goods for erection (2 per turbine)	138	1	138	6-axle articulated	276	Two 40 foot containers per turbine
	Kiosk transformers (1 per turbine)	69	2	35	6-axle articulated	70	One load per two turbines
	Turbine cooler units (2 per turbine)	138	4	35	6-axle articulated	70	One load per two turbines
Plant & Equipment	Delivery of plant for civil work	80	1	80	Low Loader	160	
270	Cranes – Mobile (3)	3	1	3	Crane	6	Three mobile cranes
	Cranes – Tower (2)	20	1	20	6-axle articulated	40	Two tower cranes. Allowance of 10 loads per tower crane. Remain on site until installations completed
	Cranes - assist	12	1	12	Body + 6-axle articulated	24	Two 750t assist cranes. Consist of body plus 5 semis of counterweights and other equipment
	Miscellaneous equipment	40	1	40	6-axle articulated	40	Nominal allowance
Concrete Batching	Delivery of Batching Plant	2	1	20	6-axle articulated	40	Two batch plants. Each plant comprises 10 loads.
6716	Cement (t)	-	-	350	6-axle articulated	700	125Te per turbine. Allow 5 loads per foundation..70 foundations (including substation footing and incidentals).
	Sand and aggregate (t)	-	-	2100	32T truck & dog	4200	~1000Te per turbine. Allow 30 loads per foundation. Allow 70 foundations.
	Water (t)	-	-	500	6-axle articulated	1000	40Te per turbine. Allow 2 loads town water per foundation. Allow 70 foundations
	Transport of batched concrete			568	Agitator truck	1136	Allow 8 Agitators arriving to site each concrete pour day (71 pour days allowed)
Site & Foundation	Walls / formwork	-	-	13	6-axle articulated	26	Nominal allowance
516	Fencing	-	-	3	6-axle articulated	6	Nominal allowance
	Concrete	-	-	-	Agitator truck	-	Sourced internally from batch plant
	Reinforcing Steel	207	1	207	6-axle articulated	414	65T per turbine. Three loads per turbine
	Hold down bolts	35	1	35	6-axle articulated	70	Half a load per turbine.
Support	Delivery of temporary construction site offices	-	-	30	6-axle articulated	60	Allow 15 loads for mobilisation and demobilisation

1158	Delivery of O&M Facility	-	-	30	6-axle articulated	60	Allow 15 loads for modular O&M facility; Allow 15 loads for storage/maintenance shed.
	Waste disposal	-	-	519	6-axle articulated	1038	One load every second day from compound; 2 skips each turbine; 1 skip per week at substation; sewage pump out twice per week; 1 container of recyclables / reusables at each turbine; 12 month duration;
Site Rehabilitation	Delivery of plant for civil work	-	-	-	Low loader	-	Use same plant as for construction
70	Rehabilitation equipment and deliveries	-	-	35	Heavy rigid	70	Includes hydro mulchers. Two loads per turbine
Electricity Transmission Infrastructure							
Substation	Transformer 33/132kV	-	-	1	OD Trailer	2	One load
62	Switchyard and control equipment	-	-	20	6-axle articulated	40	
	Fencing	-	-	10	6-axle articulated	20	
Electrical reticulation	Transmission line conduit (132kV)	80	6	14	6-axle articulated	28	8km, nominal 10 lines, 3km rolls, 2 rolls per load
264	Underground cable (33kV)	90	2	45	6-axle articulated	90	45km, 500m rolls, 2 rolls per load
	Poles (3-piece)	120	2	60	6-axle articulated	120	3-piece poles; spaced at 200m intervals; 2 pole pieces per load
	Pole fittings, insulators, etc	-	-	8	6-axle articulated	16	Allow 1 load per km
Construction and Operations Workforce							
32448	Construction Workforce (average daily)	104	2	16224	Light/medium vehicles	32448	Based in Yass & surrounds. Two people per vehicle; 6 days p/w; 12 months
195000	Operations Workforce (25 years)	15	1	97500	Light/medium vehicles	195,000	Based in Yass & surrounds. 1 person per vehicle. Average 15 per day; 5 days p/w; 25 years.
44321	**Total Construction (12 months)**						

5. Management Strategy

5.1 Communication Strategies

Notification Strategy

A number of activities have been devised in order to keep interested parties informed during the construction of the project. The strategy and associated activities are detailed in the Stakeholder and Community Engagement Plan for the project, including:

- establishment of dedicated project website
- establishment of a project information centre in the local area to allow visitors to learn more about the project and keep up to date on project details and construction activities
- establishment of a Community Consultative Committee that operates in accordance with NSW DPE guidelines.
- periodic project newsletters delivered via the post to residents within 10km of the project and other stakeholders that have opted to receive copies. Additionally available on the project website and in the project information centre
- Meetings with near neighbours and other stakeholders

Advertising / Radio Announcements

The local radio and newspaper will be used to communicate key project details such as oversize haulage vehicle dates and project updates.

To ensure that a Company representative can be contacted at all times on any matter including traffic issues associated with the related works, the Company's contact details will be included in all advertising material.

5.2 Mitigation Measures

To achieve the traffic and access targets presented in Section 2, and meet the Ministers Conditions of Consent and all legal and other requirements presented in Section 3, the mitigation and management measures as identified in Table 5 will be adopted. For each measure, key project personnel and accountabilities are provided.

Following approval, the measures described in this TMP shall be implemented and adhered to.

Table 5. Mitigation and management measures for traffic and access

Issue	Management or Mitigation Measure	Responsibility	Timeframe
Permits / Consent / Licences	• RMS will undertake the road intersection upgrade works in accordance with its internal system and processes. An arrangement is in place for this to occur • Works on public roads undertaken by the BoP Contractor will comply with requirements of Section 138 of the Roads Act 1993 'Works and Structures' • The logistics and Balance of Plant (BoP) contractors will ensure that all requirements for relevant Road Occupancy Licences are obtained from both local Council and from RMS prior to any work commencing on the stipulated roads • Prior to the commencement of turbine component deliveries, further consultation shall occur with RMS (and NSW Police) to confirm the turning arrangements into Whitefields Rd from Hume Hwy. This may involve VMS, temporary traffic light system, signage, police and or escort assistance. It is expected that the delivery schedule will be timed to minimise disruption / delays to local road user (e.g. 1am departure from Port Kembla would facilitate arrival to site by 5-5:30am, prior to arrival of other construction staff and prior to increased traffic on the surrounding road network • All works within the road reserve of a classified road are to be designed and constructed in accordance with the current Austroads Guidelines, Australian Standards and RMS Supplements	EPC Project Manager, BoP Contractor, Haulage Contractor.	Pre-construction: Prior to commencement of road activities that will be identified as requiring licensing.
Haulage	• An appropriately licensed and experienced haulage contractor shall be appointed for haulage of turbine components to site. The contractor will be responsible for obtaining all required approvals and permits from RMS or National Heavy Vehicle Regulator (NHVR) and Councils and for complying with conditions specified in the approvals • As per RMS requirements all "high risk" oversized and/or overmass vehicle movements will have an OSOM TMP provided as part of the permit submission requirements. Refer to RMS website (https://www.rms.nsw.gov.au/business-industry/heavy-vehicles/road-access/restricted-access-vehicles/oversize-overmass/index.html#TransportManagementPlans(TMPs)) for OSOM TMP requirements • The haulage contractor will implement a traffic management system for managing over-dimensional vehicles and ensure all arrangements with relevant road authorities are in place • Where required for oversized vehicles, pilot and escort vehicles will be used to facilitate safe transit of the oversized vehicle in accordance with RMS requirements • All over-dimensional and heavy vehicle access to and from the site shall be via the primary access route (Whitefields Road), unless the applicable roads authorities approves otherwise • All parties in the road transport supply chain have specific obligations under the law to prevent a breach. It is called the Chain of Responsibility and it requires every responsible person in the supply chain to take positive steps to prevent mass, load restraint, dimension, and fatigue and speed offences	EPC Project Manager	Pre-delivery of turbine components

Rest and Fatigue Breaks	• Staff to complete journey management planning and take necessary breaks (and other precautions) in a manner consistent with NHVAS Basic Fatigue Management (NHVAS21193). Drivers should stop immediately and rest if feeling drowsy or fatigued	Respective Managers	All times
Road Condition and Dilapidation	• Prepare a pre-dilapidation survey of the transport route prior to the commencement of any construction or decommissioning works other than pre-construction minor works (see Annex B) • Consultation with council as to appropriate procedure should emergency road repairs be required due to construction traffic along Whitefields Road. If works endanger road safety, the damage will be repaired as soon as possible but within 7 days at the latest • Prepare a post-dilapidation survey of the transport route within 1 month of the completion of construction or decommissioning works other than pre-construction minor works, or other timing as may be agreed by the applicable roads authority (see Annex B) • Rehabilitate and/or make good any project-related damage identified in the post-dilapidation survey within 2 months of the completion of survey, or other timing as may be agreed by the applicable roads authority, to the satisfaction of the relevant roads authority • A Dilapidation Survey and Road Repair Protocol is provided at Annex B	EPC Project Manager	Pre-construction (and post for post-dilapidation survey)
Consultation	• Undertake effective on-going consultation with relevant stakeholders including, road authorities, local landholders and emergency services. Liaison activities may include: • Consultation with relevant council/s and RMS once offsite civil material sources have been confirmed (e.g. gravel, cement, sand) • Notifications, prior to commencement of any significant works, to local residents, local newspapers, and on the project website • Notifications on a case by case basis as construction progresses, including via the project website, shop front, local councils, local residents, newsletters and the Community Consultative Committee • Brief the landholders that utilise Whitefields Rd regarding the traffic arrangements and road use protocol in relation to the wind farm construction traffic • A dedicated telephone contacts list to enable any issues or concerns to be rapidly identified and addressed • All traffic related complaints will be managed in accordance with the Complaints Management System (see Project EMS).	EPC Project Manager; Site Construction Manager	Pre-construction and during construction.
Traffic Control Plans	• Traffic Control Plans (TCPs) will be developed by personnel duly qualified and certified. TCPs will be based on the AS1742.3 Manual of uniform traffic control devices – Part 3: Traffic control for works on roads, the Roads and Maritime Traffic Control at Work Sites (2018), the WHS Act 2011 and WHS Regulation 2017, in consultation with Roads and Maritime and local councils, as required	BoP Construction Manager	Pre-construction and as required during construction.
Vehicle Movement Plans	• Vehicle movement plans will be prepared at relevant work sites and truck turning areas and will detail: ○ Entry and exit points ○ Turning point locations ○ Safety measures for surrounding workers	BoP Construction Manager	Construction

	○ Vehicle safety requirements		
Speed Limits	• Where speed limits are proposed to be changed on public roads, the process to undertake this will be identified in the TCP • Consultation with the relevant road authorities, safety authorities and any changes are to be clearly communicated within the community and with all road users • Speed limits on site will be limited to 40km/hr	Site Construction Manager, GWA HSE Manager	Pre-construction and as required during construction.
Safety of Road Users and Construction Staff	• Traffic risks will be further identified, assessed and mitigation measures developed as part of the Safety in Design (SID) and Hazard Identification (HAZID) workshops to bring the traffic risks to as low as reasonably practical • Specific TCP's will be prepared for all work which involves any form of traffic control or restriction • Place signs and devices (e.g. VMS boards) before proceeding with relevant works • Ensure signs are not obscured by vegetation, vehicles, plant or other traffic control signs/devices and that signs are placed in the correct order • Where traffic controllers are required, they must be suitably qualified having passed RMS-approved training courses • Traffic controllers (or portable traffic signals if directing traffic to cross barrier lines) shall be used if road users are to be directed to disobey a traffic regulation • All traffic controllers are to wear high visibility external clothing • Signs, devices and TCP's shall be used to warn, inform and guide road users safely around, through or past work areas • Signs, devices and TCP's are to be removed from the site upon completion of the work • An increased risk of rear end collisions arises in any location where road traffic is stopped for a period of time. Ensuring that there is sufficient warning to road users before encountering the queue is essential. Depending on the situation this may require extending the length of a sign posted roadwork speed zone in the development of the TCP, using oversized signs, flashing light signs and variable message signs (in consultation with the relevant road authority) • With the upgrade of the Hume Hwy / Whitefields Rd intersection it is considered unlikely that queueing of construction trucks will be an issue, however this will be monitored during the construction period to ensure appropriate action is taken to avoid excessive queuing (e.g. by staggering worker start times) • Endeavour to utilise shuttle bus/es for workers to nearby towns during the peak construction period to help minimise the impact on local traffic	Site Construction Manager, Contractors	Construction
Local School Buses and Rail Services	• There are no school buses that travel along the relevant sections of Whitefields Rd or Coppabella Rd. Vehicle operators will be informed on the general timing of school buses along Hume Hwy. Where relevant, restrictions will be placed on the timing of some deliveries to site to mitigate specific impacts, e.g. restriction of oversize traffic movements during school bus operating hours to mitigate delays. There are no rail services in the vicinity of the project	Site Construction Manager, Contractors	All project phases

Driver Code of Conduct	• The draft Driver Code of Conduct (Annex A) will be finalised in consultation with the transport contractor and BOP contractor (once engaged). The Driver Code of Conduct shall apply for all project staff undertaking and shall be included as part of the mandatory project induction process	EPC Construction Manager	Project inductions (prior to commencing work on site)
Acoustic and Amenity Impacts	• Construction activities associated with the Project will generally be undertaken during the following approved standard hours, unless requested by authorities for safety reasons, inaudible at non-associated residences, in the event of an emergency, or as otherwise agreed to by the Secretary (DPIE): ○ 7am to 6pm Mondays to Fridays ○ 8am to 1pm on Saturdays ○ no works on Sundays or public holidays Traffic to and from the site will generally be within one hour of the site hours, except under the exceptions above	Site Construction Manager (EPC & BoP)	During Construction.
Provisions for Emergency Vehicles & Emergency Response	• In the event of an emergency incident the following general procedures will be adopted: ○ the works crew is to stop work and activate all flashing lights (and contact emergency services if required) ○ immediately begin warning other road users in the safest means possible ○ use an appropriate TCP and use traffic controllers and signage where necessary ○ if a queue will be generated by the emergency incident, provide warning signs to inform road users and minimise the potential for end of queue collisions. • The Contractor will comply with instruction received from the applicable emergency services / authority controlling the incident	BoP Contractor	During Construction.
Environmental provisions	• On-site access will be restricted to defined tracks to ensure minimal environmental impact • All loads that have the potential to generate dust shall be covered if leaving the site or actively managed if remaining on site (e.g. increased watering, use of more appropriate plant, etc) • Keep vehicles clean, free of weeds or mud and in good mechanical condition • Appropriate controls will be emplaced at site access points to minimise tracking of sediment onto the public (sealed) road system by construction vehicles	Principal contractor	All project phases

6. Roles and Responsibilities

All personnel on site will comply with the requirements of this TMP and associated TCPs.

Duties and responsibilities of personnel allocated to manage, implement and monitor the Traffic Management practices for the project are detailed below:

Contact Name	Project Role	Contact Number
To be updated once confirmed	BoP Construction Manager	TBC
To be updated once confirmed	BoP Health and Safety Officer	TBC
Alexander Smith	EPC Construction Manager	0436 631 556

BoP Construction Manager

- Responsible for preparation of TCPs
- Application of 'Speed Zone Authorisation (SZA)' to reduce existing posted speed limit on relevant roads
- Liaise with RMS and Council regarding traffic management and resolve any traffic-related issues raised by these stakeholders
- Responsible for preparation and submission of 'Road Occupancy Licence' application/s
- Ensure appropriate monitoring is undertaken and any traffic issues resolved promptly

BoP Health and Safety Officer

- Responsible for engaging the relevant traffic contractors to install signs and devices as per the TCPs
- Preparation of Vehicle Movement Plans
- Notify the Site Manager and relevant stakeholders of all traffic incidents, near misses and complaints
- Implement and/or supervise emergency response including construction-related traffic incidents
- Ensure Daily Traffic Control – Safety Checks are carried out when operative

EPC Construction Manager

- Responsible for ensuring there is an approved TMP for the project at all times during construction
- Responsible for verifying that the BoP Contractor is fulfilling its traffic-related duties such as road maintenance, the preparation of TCPs and their implementation
- Responsible for verifying that the logistics contractor has all road permits and necessary arrangements in place to deliver the over-dimensional turbine components to site.

7. Training and Awareness

CWFPL will ensure that all personnel responsible for the implementing this TMP are competent on the basis of education, training and experience.

All site personnel (including sub-contractors) will be required to complete a project induction which will include key information relating to traffic and access. All personnel that drive vehicles, plant or machinery for the CWF will be required to sign up to the Driver Code of Conduct provided at Annex A and complete the driver-specific induction.

Ongoing training and updates on traffic/transport arrangements and will be provided throughout the project appropriate to their scope of activity and level of responsibility, including at toolbox talks, daily pre-starts and team meetings.

8. Inspections and Monitoring

The following inspections must be undertaken by the transportation contractor, BoP Contractor and other relevant contractors with respect to traffic:

- pre-start and pre-closedown inspections of traffic control devices and signage and the condition of local access roads
- daily pre-start inspections of vehicles to ensure they are maintained in good working order
- minimum weekly inspections of traffic control devices, signage and road condition.

The procedures to monitor traffic impacts on public and internal access tracks during construction, including noise, dust and travel times would include:

- monitoring compliance with TCP's adopted for the work site
- daily visual checks to assess vehicle movement and traffic flows to and from the Project site primarily in the vicinity of the Hume Hwy/Whitefileds Road intersection, along Whitefields Road and throughout the project site. It is not currently planned for the section of Coppabella Road (see Figure 4-1 to be used by construction traffic, however the interfaces of where the project access tracks cross Coppabella Road would need regular (minimum weekly) monitoring once these access tracks have been established.
- check minimum weekly that all project related signs and devices are satisfactory and in their correct position and the condition of the road.
- additional traffic monitoring may be undertaken in response to complaints or incidents regarding traffic

Where new damage to the roads is identified, the BoP Construction Manager will liaise with the relevant road authority (within the mechanisms of arrangements with each authority) to ensure roads are adequately maintained.

If unacceptable traffic congestion or issues are identified, then adjustment to site traffic arrangements will be made to rectify the issue. This may include staggering site arrival / start times for different groups of workers, additional use of buses for workers and safety information provided at pre-start meetings and toolbox talks.

9. Reporting, Incident Management and Review

9.1 Reporting

Inspection and monitoring records will be documented in the respective inspection and monitoring forms.

All traffic and access related incident reporting on the Project will be managed in accordance with the incident response process described in the EMS. This includes internal and external notification, recording, reporting and response processes.

9.2 Corrective Actions

Where planning, checks or monitoring identify that a traffic or access issue has occurred or a validated complaint was received, an incident report and set of corrective actions will be raised by the construction contractor (e.g. in their Health, Safety and Environmental Management System) and immediately reported to the Site HSE Representative.

Measures already implemented, additional measures to be implemented as a result and any corrective actions will be identified, implemented and documented in the incident report. Actions will be implemented to the satisfaction of the EPC Construction Manager and their effectiveness confirmed to demonstrate appropriate measures have been implemented to prevent reoccurrence of impacts, as far as practical.

9.3 TMP Review

The TMP is a working document that requires review and amendment during the life of the Project. The Development Compliance Manager shall undertake a review of the TMP where:

- an audit makes findings or recommendations identifying a need
- there is a significant change to the construction schedule, the site layout or a change in the construction methodology that will have traffic or access implications
- site based conditions require a change to the environmental controls and procedures identified within the TMP
- an incident occurs that requires corrective actions to be incorporated in the TMP
- directed to do so by the Secretary, NSW Department of Planning and Environment.

Changes to the TMP will be communicated through toolbox talks to existing onsite personnel and be incorporated into the project induction material.

Annex A – Driver Code of Conduct

This Code of Conduct will be applied to all traffic and transport construction activities associated with the CWF Project, with particular emphasis placed on the transport of oversize/overmass wind turbine components and delivery vehicles during the construction phase. This draft will form the basis for the Driver Code of Conduct to be finalised prior to construction. The final Code of Conduct will be reviewed and endorsed prior to implementation.

A.1 Haulage Routes and Timing of Transport

All large vehicles associated with the Project will follow the designated haulage route and main roads near the Project area to minimise impact to local roadways and road users. Timing of transport will be scheduled to minimise disruption to local traffic or result in safety risks.

Consultation with relevant stakeholders will occur regarding to deliveries, traffic and construction works, including notifications, to local residents, local newspapers, at the project shopfront, newsletters and on the project website. A dedicated telephone contact will be available to enable any issues or concerns to be rapidly identified and addressed.

A.2 Behavioural Requirements

The operators of all vehicles associated with the Project will maintain a high level of conduct and respect for other road users. All operators will undergo the project induction prior to undertaking any transport to site and regular toolbox meetings will be held to maintain awareness of required controls.

Details of the traffic and access training and induction will focus on:

- objectives and performance goals of the TMP;
- mitigation measures required to be implemented;
- traffic and access monitoring and reporting requirements; and
- incident investigation and response.

Training is to be provided prior to start-up of any traffic and access related management tasks and updated if task, equipment or procedures are expected to, or have changed.

The following requirements would be exercised at all times:

- obey all the laws and regulations;
- not drive whilst under the influence of alcohol, drugs, nor any medication which may affect their ability to drive;
- be medically fit to drive at all times and personnel must inform their manager and site HSE Representative if they have any medical condition which may affect their ability to drive;
- implement fatigue management practices and journey management planning. Take regular rest stops when driving long distances. Have a rest or change drivers if feeling fatigued when driving. Stop immediately and rest if feeling drowsy or fatigued.
- drive in a considerate manner at all times and respect the rights of others to use and share the road space;
- avoid compression braking near sensitive receivers and in built up areas;
- take extra precaution during school periods and school holidays;
- do not queue or idle on public roads or adjacent to sensitive receivers;
- stick to the identified access tracks onsite;
- follow all on-site signage (directional and speed);
- report all vehicle defects to their employer. Serious defects must be corrected immediately or an alternative vehicle supplied;
- report any vehicle accident resulting in injury/or damage to property;
- report any near misses;

- only drive in the construction hours when conducting Project works (unless permission to conduct Project works has been provided);
- securely fasten and cover loads, as appropriate; and
- keep vehicles clean and in good mechanical condition to reduce the environmental impact.

The transport contractor is to develop and implement

- safety initiatives for haulage through residential areas and/or school zones (as relevant); and
- a maintenance program for the heavy transport vehicles that is consistent with these safety requirements.

A.3 Maintenance Requirements

The operators of all vehicles associated with the Project would maintain a high level of maintenance. The following requirements would be exercised at all times:

- ensure their vehicle complies with relevant State legislation in relation to roadworthiness and modifications;
- undergo regular vehicle checks and maintenance; and
- ensure their vehicles have correctly fitted mufflers to minimise noise disturbance.

A.4 Speed Limits

All vehicles associated with the Project are required to travel within the posted speed limits on public roads. Project vehicles may be required to adhere to reduced speed limits on certain public roads as posted by VMS boards during construction. In situations where drivers' visibility and traffic safety on public roads is affected by weather related conditions such as heavy rainfall or fog, construction vehicles should reduce their speed limit until visibility and traffic safety has improved. Appropriate speed limits (40 km/h or less) on site should be implemented, providing for a safe workplace.

A.5 Heavy Vehicle Driver Fatigue

Fatigue is one of the biggest causes of crashes for heavy vehicle drivers. The Heavy Vehicle Driver Fatigue Reform was developed by the National Transport Commission and approved by Ministers from all States and Territories in February 2007. The heavy vehicle driver fatigue law commenced in NSW on 28 September 2008 and applies to trucks and truck combinations over 12 tonne gross vehicle mass (however there are Ministerial Exemption Notices that can apply). Under the law, industry has the choice of operating under three fatigue management schemes:

- Standard hours of operation
- Basic fatigue management
- Advanced fatigue management.

CWFPL is responsible to ensure all heavy vehicle drivers operating out of the CWF site are aware of and understand the adopted fatigue management scheme and operate within its requirements.

A.6 Inspections, Monitoring and Continual Improvement

Regular monitoring and inspections on- and-off site will occur to ensure that:

- travelling speeds are adhered to, including the use of monitoring systems within the project site.
- drivers adhere to the designated transport routes
- drivers implement safe driving practices

- traffic controls are in place and maintained
- road surface conditions are maintained and repaired in a timely manner.

Local residents will also be informed of the transport code of conduct and turbine component delivery arrangements (e.g. radio protocol) and encouraged to report to the EPC Contractor any instances where construction traffic is observed not following the code of conduct.

Traffic management measures will be regularly reviewed and identified improvements implemented and communicated to project personnel.

A.7 Complaint Resolution and Disciplinary Process

All traffic related complaints will be managed in accordance with the CWFPL Complaints Management System described in the EMS. Complaints will be investigated and a report prepared on the circumstances of the complaints, risks arising and any non-compliance with project procedures. Failure to comply with any procedures for safe transport may result in dismissal of specific operator(s) from the project.

Annex B – Dilapidation Survey and Road Repair Protocol

Prior to the commencement of construction (or decommissioning) of the Project and in accordance with Schedule 3, Condition 32(b) of the Development Consent Conditions, a dilapidation survey will be prepared in accordance with the guidelines and standards established by Austroads of the designated vehicle route on Whitefields Road and relevant sections of Coppabella Road, as identified in the figure in Appendix 6 of the Conditions of Consent (and replicated at Figure 4-1 of this TMP). This will be prepared in consultation and agreement with Hilltops Council and Yass Valley Council.

The 1.2km section of Whitefields Rd (including the intersection with the Hume Hwy) will be upgraded and sealed prior to significant construction works commencing. The section of Coppabella Road shown in Appendix 6 of the consent is not proposed to be used by the Construction Contractor and therefore does not require to be upgraded.

As a minimum, the following investigations will be undertaken to determine the pre-construction road pavement condition:

- digital imaging of road pavement/carriageway (with report); and
- assessment of rutting, roughness and macro texture of pavement.

The proponent will enter into agreement with Hilltops Council and Yass Valley Council for emergency road repairs, and the restoration of these roads based on the pre-construction dilapidation report details and their proposed use by the project. If works endanger road safety, the damage will be repaired as soon as possible but within 7 days at the latest.

The proponent will ensure that all pre-construction upgrade measures identified in the report are implemented to the satisfaction of Council and RMS, prior to the commencement of the wind farm construction (other than pre-construction minor works).

A post-construction Dilapidation Report will be undertaken within 1 month of the completion of the construction work to assess the damage attributable to the project over and above the normal road wear and tear for the time frame of the works. Measures to restore or reinstate roads affected by the project shall be undertaken within two months' of the survey, in accordance with the reasonable requirements of the relevant road authority and at the expense of the proponent as per agreement between the proponent and Council (or other relevant road authority, as required).

During the construction period, weekly visual checks will be undertaken of the access roads and intersections to identify any material deterioration of these roads early. Where new damage to the road is identified (e.g. pothole), the BoP Construction Manager will liaise with the relevant road authority (within the mechanisms of arrangements with each authority) to ensure roads are adequately maintained. It is generally expected that road damage by vehicles will be avoided as the project transport routes will predominantly be on State Highways and on a newly upgraded a sealed section of Whitefields Road with reduced speed limits.

The dilapidation surveys and the repair/rehabilitation of development-related damage shall be completed to the satisfaction of the relevant roads authority. If there is a dispute about the scope of any remedial works or the implementation of the works, the parties will first seek to resolve the dispute internally. If a resolution cannot be agreed then either party may refer the matter to the Secretary for resolution.

Annex C – Whitefields Road Upgrade Design

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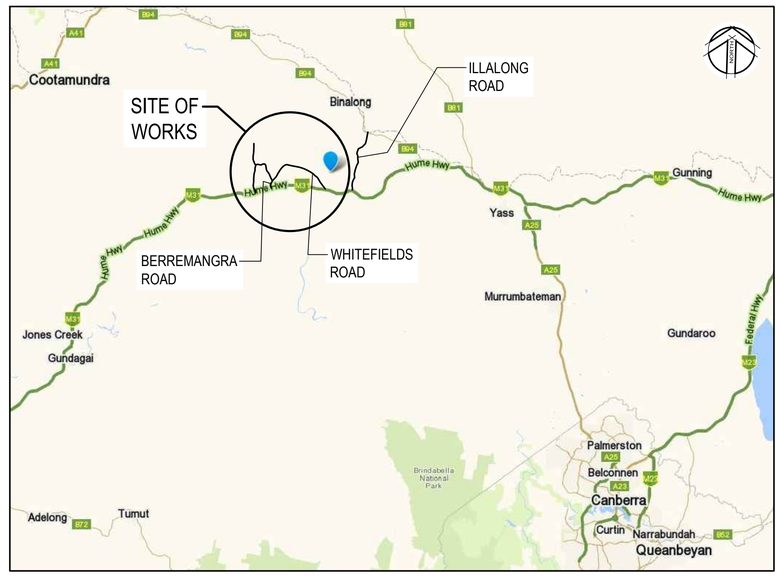
GOLDWIND AUSTRALIA

YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

COVER SHEET AND LOCALITY PLAN

DETAIL DESIGN



LOCALITY PLAN
NTS

DATE PLOTTED: 25 June 2019 10:04 AM BY : MEHUL VAIDYA
CAD File: N:\Projects\505\FY17019_YASS VALLEY WIND FARM\Drawings\Build\50517019-C00-CS.dwg

50517019 - C00
Drawing Number

4
Revision

DATE PLOTTED: 25 June 2019 10:04 AM BY : MEHUL VAIDYA

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION	REV.
50517019 - C00	COVER SHEET AND LOCALITY PLAN DETAIL DESIGN	4
50517019 - C01	DRAWING LIST	5
50517019 - C02	NOTES AND LEGEND	4
50517019 - C03	SITE PLAN	4
50517019 - C04	TYPICAL SECTIONS AND PAVEMENT DETAILS	4
50517019 - C10	GENERAL ARRANGEMENT - SHEET 1 OF 7	4
50517019 - C11	GENERAL ARRANGEMENT - SHEET 2 OF 7	4
50517019 - C12	GENERAL ARRANGEMENT - SHEET 3 OF 7	4
50517019 - C13	GENERAL ARRANGEMENT - SHEET 4 OF 7	4
50517019 - C14	GENERAL ARRANGEMENT - SHEET 5 OF 7	4
50517019 - C15	GENERAL ARRANGEMENT - SHEET 6 OF 7	4
50517019 - C16	GENERAL ARRANGEMENT - SHEET 7 OF 7	4
50517019 - C20	PLAN AND LONG SECTION (MC10) - SHEET 1 OF 4	4
50517019 - C21	PLAN AND LONG SECTION (MC10) - SHEET 2 OF 4	4
50517019 - C22	PLAN AND LONG SECTION (MC10) - SHEET 3 OF 4	4
50517019 - C23	PLAN AND LONG SECTION (MC10) - SHEET 4 OF 4	4
50517019 - C24	INTERSECTION PLAN AND LONG SECTION (MC20) SHEET 1 OF 2	2
50517019 - C25	INTERSECTION PLAN AND LONG SECTION (MC30) SHEET 2 OF 2	2
50517019 - C30	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 1 OF 10	4
50517019 - C31	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 2 OF 10	4
50517019 - C32	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 3 OF 10	4
50517019 - C33	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 4 OF 10	4

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION	REV.
50517019 - C34	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 5 OF 10	4
50517019 - C35	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 6 OF 10	4
50517019 - C36	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 7 OF 10	3
50517019 - C37	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 8 OF 10	3
50517019 - C38	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 9 OF 10	2
50517019 - C39	CROSS SECTIONS WHITEFIELDS RD (MC10) - SHEET 10 OF 10	2
50517019 - C45	PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES SHEET 1 OF 4	1
50517019 - C46	PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES SHEET 1 OF 4	1
50517019 - C47	PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES SHEET 1 OF 4	1
50517019 - C48	PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES SHEET 1 OF 4	1
50517019 - C50	SETOUT TABLES	4

0 10 20 30 40 50m

SCALE 1:500 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
4	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	17/05/2017	DRAWING LIST AMENDED CROSS SECTION 8 OF 8	G.J.	RIC	J.H.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: DRAWING LIST

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM | Scale: AS SHOWN | Size: A1

Drawing Number: 50517019 - C01

Revision: 5

XREFs:
CAD File: N:\Projects\505\FY17\019_YASS VALLEY WIND FARM\Drawings\Build\50517019-C01-DL.dwg

LEGEND

EXISTING	NEW	DESCRIPTION
eSW	SW	STORMWATER
		SEWER
eT		TELECOMMUNICATIONS
		WATER
eEo/h		ELECTRICITY OVERHEAD
— / — / —	— / — / —	FENCES
		TREE
		DEAD TREE
		STUMP
		EDGE OF GROUP OF TREES / BUSHES
		INDICATES TREE THAT REQUIRES REMOVAL
		INDICATES TREE THAT REQUIRES TRIMMING
TYPE 1 / TYPE 2		ACCESS ROAD PAVEMENT
		CATTLE GRID RESTORATION
		VERGE RESTORATION

TRAFFIC AND PEDESTRIAN MANAGEMENT

1. THE CONTRACTOR SHALL PROVIDE SAFE AND UNRESTRICTED ACCESS THROUGHOUT THE CONSTRUCTION PERIOD FOR PEDESTRIANS, CYCLISTS AND VEHICLES ON HUME HIGHWAY.
2. CLOSURE OF WHITEFIELDS RD IS ALLOWED DURING CONSTRUCTION PROCEEDINGS WITH ACCESS TO LANDHOLDERS' ACCESS POINT BEING FACILITATED.
3. THE CONTRACTOR SHALL ENSURE TRAFFIC AND PEDESTRIANS ARE PROTECTED FROM CONSTRUCTION VEHICLES, DUST, WATER AND OTHER NUISANCE BY MEANS OF TEMPORARY SCREENS, BARRIERS, SIGNAGE AND FENCING.
4. THE CONTRACTOR SHALL PREPARE AND GAIN APPROVAL FOR A TEMPORARY TRAFFIC MANAGEMENT PLAN, FOLLOWING ENDORSEMENT FROM HILLTOPS COUNCIL AND THE RMS.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE SITE OF WORKS AND THE TRAFFIC MANAGEMENT WITHIN THE SITE AND SHALL KEEP ALL REQUIRED RECORDS AND UNDERTAKE ALL NECESSARY MAINTENANCE.
6. ALL TEMPORARY TRAFFIC MANAGEMENT (TTM) DEVICES SHALL BE IN ACCORDANCE WITH AS 1742.3 AND QA G10 TRAFFIC MANAGEMENT (ACT MODIFIED).
7. ALL EMPLOYEES ARE TO WEAR APPROPRIATE SAFETY PPE AS DETAILED IN AS1742.3 AND QA G10 TRAFFIC MANAGEMENT (ACT MODIFIED).
8. ALL EMPLOYEES INVOLVED IN TTM TRAFFIC CONTROL, SETUP, MINOR MODIFICATIONS AND INSPECTIONS SHALL HAVE THE RELEVANT QUALIFICATIONS IN ACCORDANCE WITH CLAUSE 1.5.3 OF QA G10 TRAFFIC MANAGEMENT(ACT MODIFIED)
9. ALL TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE ERECTED AS PER THIS TTM AND IN CLEAR LINE OF SIGHT TO ALL ROAD USERS AND PEDESTRIANS. THEY SHALL NOT BE OBSCURED BY ANY VEGETATION, WORK PLANT OR PARKED VEHICLES. THEY SHALL NOT BE PLACED IN A MANNER THAT THEY WILL BECOME A HAZARD TO VEHICULAR TRAFFIC OR PEDESTRIANS.
10. THE CONTRACTOR SHALL LIAISE WITH ADJACENT LANDOWNERS AND NOT PLACE ANY CONFLICTING TTM. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT OF ANY CONFLICTS.
11. SPOTTERS AND / OR TRAFFIC CONTROL PERSONNEL SHALL BE USED AT ALL TIMES WHEN CONSTRUCTION TRAFFIC CROSSING OCCURS ON WHITEFIELDS ROAD.
12. NO CONSTRUCTION OR CONTRACTOR / SUB-CONSTRACTOR VEHICLES ARE PERMITTED TO PARK ON HUME HIGHWAY.
13. CONSTRUCTION ACCESS ONLY SIGNS SHALL BE PLACED ON THE ENTRY / EGRESS POINT.

STORMWATER STRUCTURE NOTATION

HW DENOTES STANDARD PRECAST CONCRETE HEADWALL

EROSION & SEDIMENT CONTROL NOTES

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN, INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH ALL ENVIRONMENTAL ACTS AND COUNCIL REQUIREMENTS.
2. ALL EROSION AND SEDIMENT MEASURES SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT.
3. THE CONTRACTOR SHALL PROVIDE DRAWING AND DETAILS OF PROPOSED EROSION AND SEDIMENT CONTROL MEASURES TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO COMMENCING WORKS.
4. PROVIDE FILTER ROLLS TO ALL NEW SUMPS AND CULVERTS WHEN COMPLETED DURING CONSTRUCTION.

PAVEMENT NOTES

1. ALL DESIGN SUBGRADE VALUES MUST BE CONFIRMED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
2. THE COMPACTION REQUIREMENTS FOR EARTHWORKS, SUBGRADES, AND PAVEMENT LAYERS ARE NOMINATED ON THE PAVEMENT DETAIL DRAWINGS.
3. SUBGRADES ARE INITIALLY TO BE PREPARED TO BOTTOM OF SUB-BASE LEVEL AND CBR TESTS TAKEN AT THIS LEVEL. FOLLOWING RECEIPT OF CBR RESULTS. THE SUPERINTENDENT WILL IDENTIFY IF ADDITIONAL SELECT FILL NEEDS TO BE PLACED IN SUBGRADE.
4. SUBGRADE PREPARATION :

   a) REMOVE TOPSOIL, LARGE ROOTS AND UPPER LEACHED SOILS FROM ALL AREAS TO BE DISTURBED.

   b) ANY HOLES CREATED BY REMOVAL OF ROOTS SHALL BE BACKFILLED.

   c) PROOF ROLL ALL SUBGRADES IN THE PRESENCE OF THE SUPERINTENDENT AND THE CONTRACTOR'S GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER WILL ASSESS SUITABILITY OF SUBGRADE. ANY AREAS OF UNSUITABLE SUBGRADE SHALL BE REMEDIATED AS PER THE GEOTECHNICAL ENGINEER INSTRUCTIONS AND SUPERINTENDENT'S APPROVAL.

   d)PROOF ROLL WEATHERED BEDROCK SUBGRADES.

TREE AND VEGETATION MANAGEMENT NOTES

1. THE CONTRACTOR SHALL RECOGNISE THE CLIENT'S INTENTION IS TO PRESERVE TREES, EXISTING VEGETATION / BRUSHES AND GROUND COVER IN ALL AREAS OF THE SITE WHERE POSSIBLE.
2. THE CONTRACTOR SHALL REFER TO THE NGH ENVIRONMENTAL LANDSCAPE MANAGEMENT PLANS FOR TREE PROTECTION REQUIREMENTS.

ORIGINAL SURVEY

1. SURVEY BY DPS (DIVERSE PROJECT SOLUTIONS, YASS NSW.
   JOB REFERENCE : 2604 (25 OCTOBER 2016)
   COMPUTER REFERENCE : 2604_DT1.dwg
2. VERTICAL DATUM
   DATUM : AHD
   BM : PM54492 RL518.439 (LC)
2. ORIGIN OF LEVELS
   SSM5002 - RL499.220
   SSM30840 - RL498.289

GENERAL NOTES

1. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT HILLTOPS COUNCIL'S REQUIREMENTS, COUNCIL DESIGN AND CONSTRUCTION SPECIFICATION - AUSSPEC#1, AUSTRALIAN STANDARDS, AUSTROADS.
2. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE HARDEN LOCAL ENVIRONMENTAL PLANS.
3. ANY EXISTING SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATION ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION, OR CONSTRUCTION ON SITE, THE CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES AND VERIFY THE LOCATION OF ALL UNDERGROUND SERVICES ON THE SITE AND OBTAIN NECESSARY CLEARANCES.
4. SURFACES WHICH LIE OUTSIDE THE GENERAL LIMITS OF LANDSCAPING AND RESTORATION WHICH ARE DISTURBED DURING THE CONSTRUCTION OF THE WORKS SHALL BE RESTORED BY THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, TO AT LEAST THEIR PRE-CONSTRUCTION CONDITION. THESE SURFACES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, PAVEMENTS, PAVING, GRASSING, LANDSCAPING ETC.
5. ANY WORKS THAT ALTER OR DISTURB GRASSED FLOODWAYS, ROAD RESERVE AREAS, MEDIANS OR OTHER OPEN AREAS MUST BE REINSTATED TO EXISTING CONDITION BY THE PERSON(S) RESPONSIBLE FOR THE DISTURBANCE IN ACCORDANCE WITH HILLTOPS COUNCIL AND RMS REQUIREMENTS.
6. ALL LEVELS SHOWN ARE FINISHED LEVELS PROVIDED IN THIS CONTRACT. THE CONTRACTOR SHALL ALLOW FOR THE THICKNESS OF ALL FINISHED SURFACES AND BULK EARTHWORKS REDUCTIONS AS DESCRIBED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 2000, WHICH REQUIRES EMPLOYERS TO ENSURE THE HEALTH, SAFETY AND WELFARE OF EMPLOYEES.
8. THE CONTRACTOR SHALL AT ALL TIMES EXERCISE ALL NECESSARY PRECAUTIONS APPROPRIATE TO ENSURE THE SAFETY OF ALL PERSONS ON THE WORK SITE OR IN THE VICINITY OF THE WORK SITE.
9. TO LIMIT THE IMPACT OF THE CONSTRUCTION ON ADJACENT LANDOWNERS, ALL WORKS SHALL BE RESTRICTED TO THE HOURS OF 7am-6pm MONDAY TO FRIDAY AND 8am-1pm SATURDAY. NO WORK SHALL TAKE PLACE ON SUNDAYS OR PUBLIC HOLIDAYS.
10. ALL WORK IS TO BE SET OUT BY A COMPETENT SURVEYOR APPROVED BY THE SUPERINTENDENT.
11. THE CONTRACTOR SHALL NOT DISTURB ANY SURVEY CONTROL MARKS. SHOULD ANY SURVEY CONTROL MARK BE DISTURBED OR OBLITERATED, THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT IMMEDIATELY. THE CONTRACTOR SHALL HAVE THE MARKS REPLACED AT THEIR EXPENSE.
12. ALL GREEN WASTE IS TO BE MULCHED, STOCKPILED AND USED (WHERE POSSIBLE) ON SITE. ALL EXCESS MULCH IS TO BE REMOVED OFF SITE.
13. ALL DISTURBED AREAS INCLUDING BATTERS, TABLE DRAINS AND FOOTPATH AREAS ARE TO BE TOP SOILED, FERTILIZED AND SEEDED TO THE SATISFACTION OF THE SUPERINTENDENT.
    THE TYPE OF SEED (NATIVE MIX) IS TO BE APPROVED BY THE SUPERINTENDENT.
14. IF ROCK IS ENCOUNTERED THE SUPERINTENDENT SHALL BE NOTIFIED IMMEDIATELY SO MEASUREMENTS OF VOLUMES CAN BE MADE. NO VARIATIONS FOR ROCK WILL BE CONSIDERED UNLESS THE SUPERINTENDENT HAS VERIFIED THE AMOUNTS PRIOR TO BACKFILLING.
15. THERE SHALL BE NO PARKING, SITE SHEDS, SITE AMENITIES, BILLBOARDS OR STORAGE OF MATERIALS ON THE ACTIVE ROAD RESERVE, OVERLAND FLOW PATHS OR OPEN SPACE UNDER ANY CIRCUMSTANCES. PROTECT ALL GRASSLAND, TREES AND SHRUBS OUTSIDE THE WORKS AREA FROM DAMAGE.

CAUTION:
OVERHEAD POWERLINES
THE CONTRACTOR SHALL UNDERTAKE ALL REQUIREMENTS OF WORKCOVER NSW FOR WORKING UNDER POWERLINES

Rev.	Date	Description	Des.	Verif.	Appd.
5	25/06/2019	TREE AMENDED	P.D.J.	RIC	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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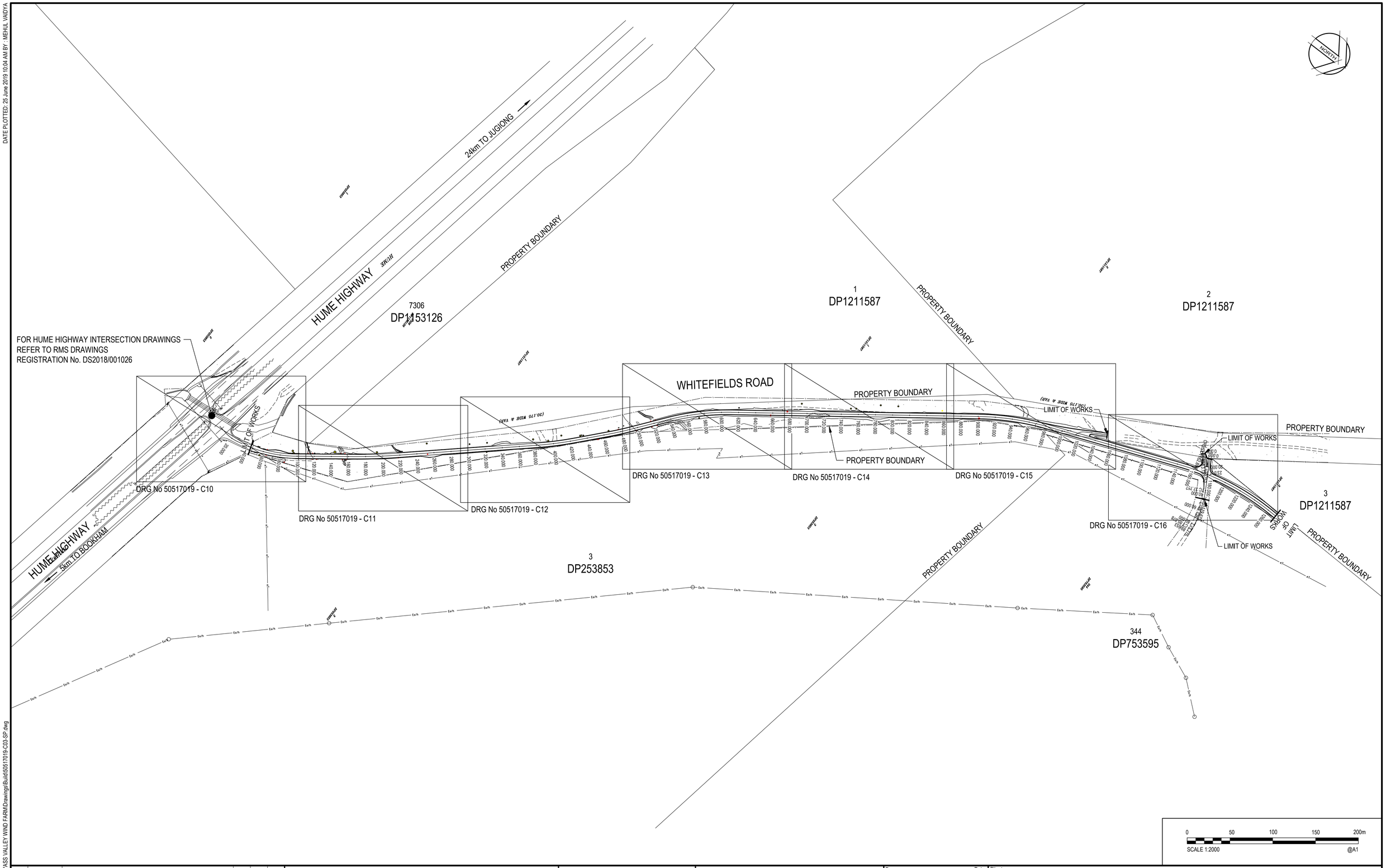
		Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS
Title: NOTES AND LEGEND
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
DATUM: AHD | Scale: AS SHOWN | Size: A1
Drawing Number: 50517019 - C02 | Revision: 5

DATE PLOTTED: 25 June 2019 10:04 AM BY : MEHUL VAIDYA



Rev.	Date	Description	Des.	Verif.	Appd.
6	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: SITE PLAN

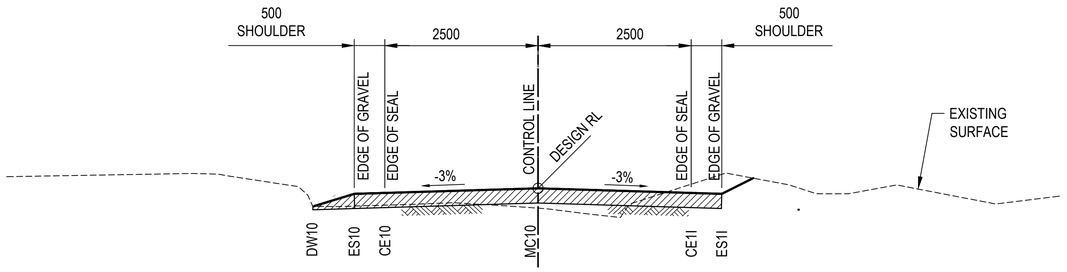
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:2000@A1	A1

Drawing Number: 50517019 - C03

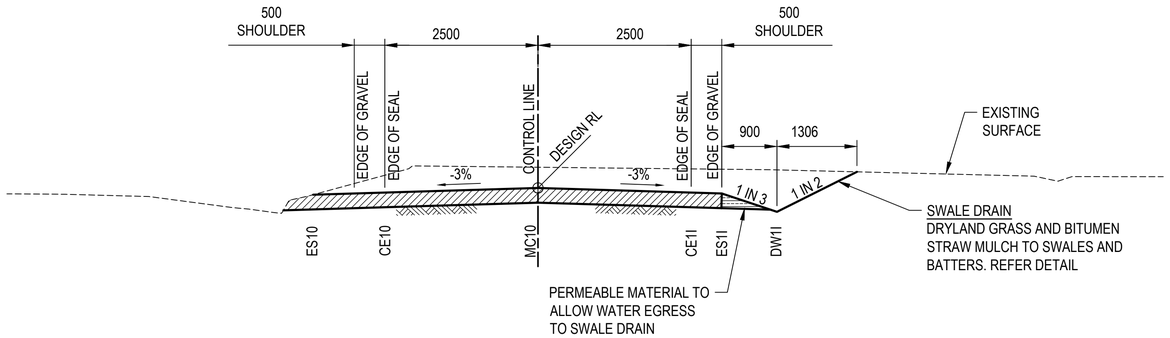
Revision: 6

XREFs: X-YASS-BASE; X-S DESIGN BDY; X-CVT-2604_DT1; X-DESIGN; XRF CONTROL MAIN 2000
CAD File: N:\Projects\505\PY17\019 YASS VALLEY WIND FARM\Drawings\Build\505170\19-C03-SP.dwg



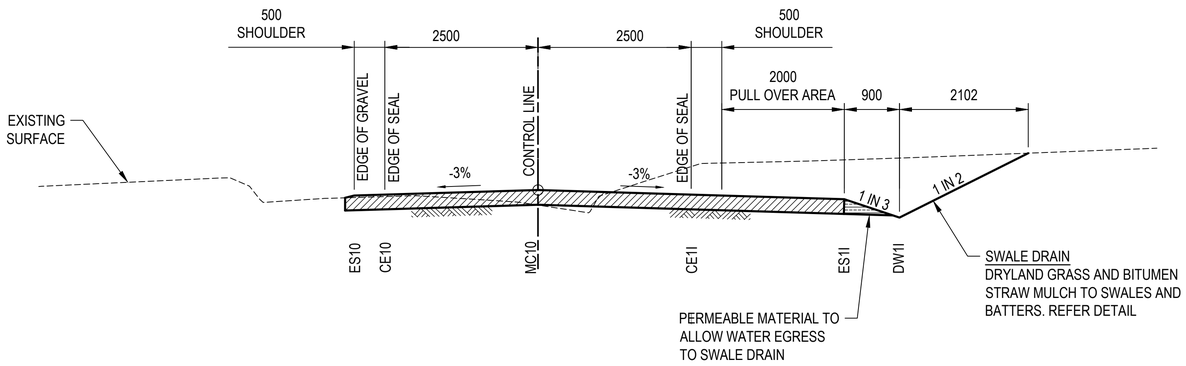
TYPICAL SECTION - CHAINAGE 300

SCALE 1:50



TYPICAL SECTION - CHAINAGE 680.0

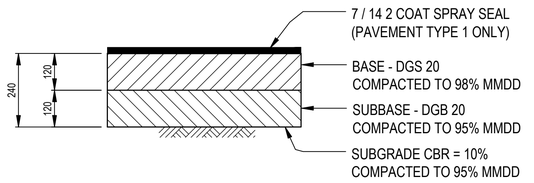
SCALE 1:50



TYPICAL SECTION - CHAINAGE 780.0

SCALE 1:50

(ROADSIDE PULL OVER AREA)

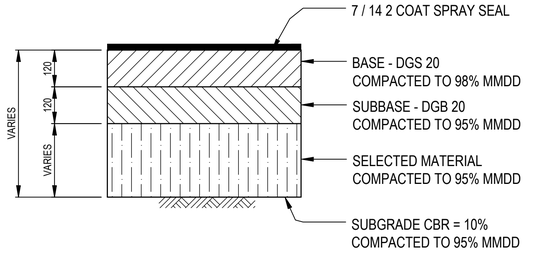


PAVEMENT TYPE 1 AND 2

ACCESS ROAD
(DESA 3.98 x 10^5)

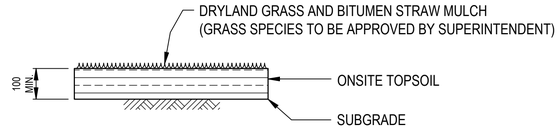
SCALE 1:10

TYPE 1 | TYPE 2



CATTLE GRID RESTORATION

SCALE 1:10



GRASS SURFACE RESTORATION

SWALE BATTERS AND AREAS OF RESTORATION

SCALE 1:10

0 1000 2000 3000 4000 5000mm

SCALE 1:50 @A1

0 200 400 600 800 1000mm

SCALE 1:10 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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		Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: TYPICAL SECTIONS AND PAVEMENT DETAILS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		AS SHOWN	A1

Drawing Number: 50517019 - C04

Revision: 4

DATE PLOTTED: 26 June 2019 4:05 PM BY: - MEHUL VAIDYA

XREF's: X-DESCONT250; XRF CONTROL MAIN 250; X-CVT-2604_DT1; X-SW-ROUGH AS GUTS; X-DESIGN; X-YASS-BASE; X-SURVCONT250; X-S DESIGN BDY; Xref-trees; X-TREE FOR GOLDWIND

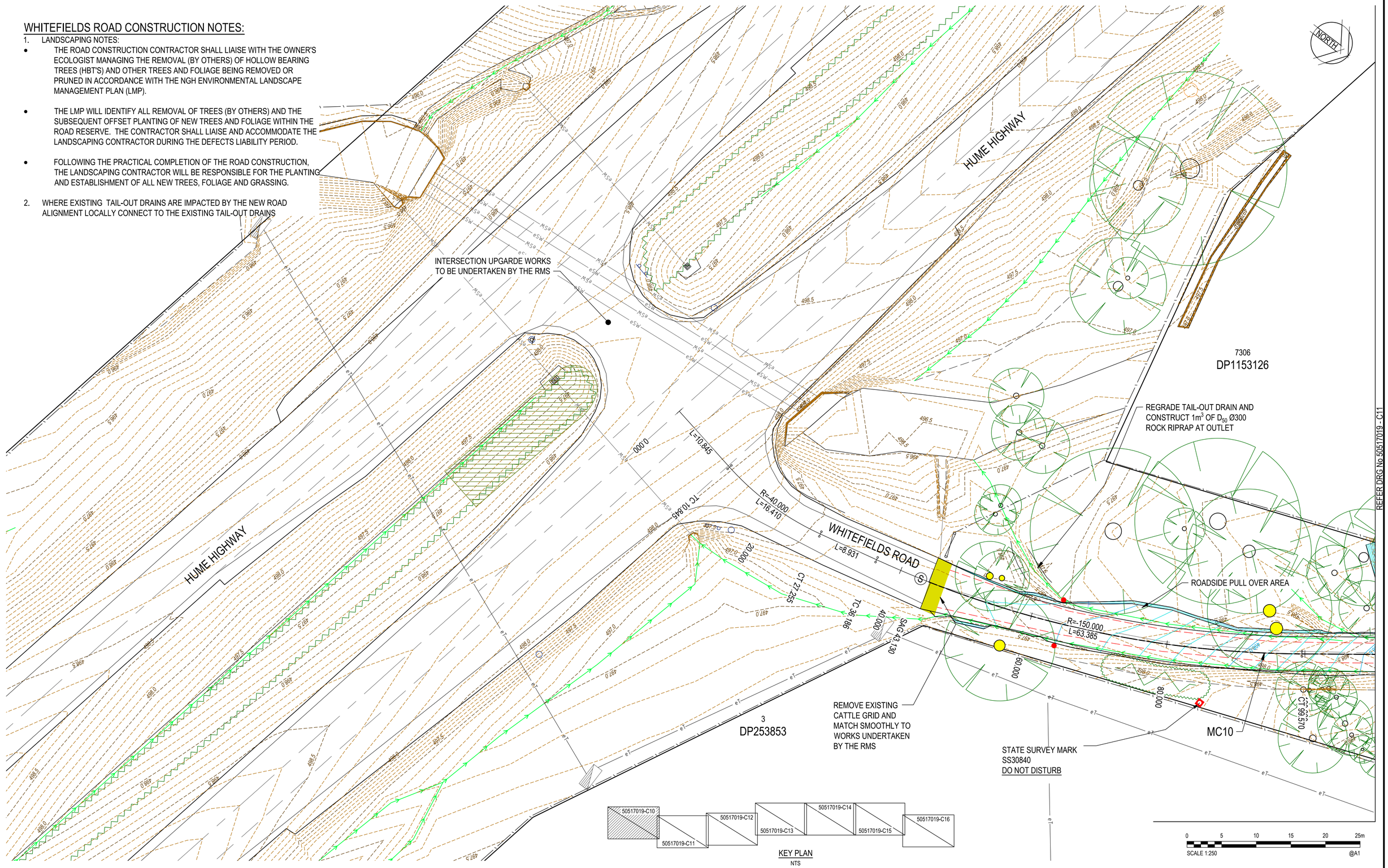
CAD File: N:\Projects\505\PY17019 YASS VALLEY WIND FARM\Drawings\Build\505017019-C10-C16-GA.dwg

WHITEFIELDS ROAD CONSTRUCTION NOTES:

1. LANDSCAPING NOTES:

- THE ROAD CONSTRUCTION CONTRACTOR SHALL LIAISE WITH THE OWNER'S ECOLOGIST MANAGING THE REMOVAL (BY OTHERS) OF HOLLOW BEARING TREES (HBT'S) AND OTHER TREES AND FOLIAGE BEING REMOVED OR PRUNED IN ACCORDANCE WITH THE NGH ENVIRONMENTAL LANDSCAPE MANAGEMENT PLAN (LMP).
- THE LMP WILL IDENTIFY ALL REMOVAL OF TREES (BY OTHERS) AND THE SUBSEQUENT OFFSET PLANTING OF NEW TREES AND FOLIAGE WITHIN THE ROAD RESERVE. THE CONTRACTOR SHALL LIAISE AND ACCOMMODATE THE LANDSCAPING CONTRACTOR DURING THE DEFECTS LIABILITY PERIOD.
- FOLLOWING THE PRACTICAL COMPLETION OF THE ROAD CONSTRUCTION, THE LANDSCAPING CONTRACTOR WILL BE RESPONSIBLE FOR THE PLANTING AND ESTABLISHMENT OF ALL NEW TREES, FOLIAGE AND GRASSING.

2. WHERE EXISTING TAIL-OUT DRAINS ARE IMPACTED BY THE NEW ROAD ALIGNMENT LOCALLY CONNECT TO THE EXISTING TAIL-OUT DRAINS



KEY PLAN
NTS

REFER DRG No 50517019 - C11

Rev.	Date	Description	Des.	Verif.	Appd.
6	25/06/2019	TREE AMENDED	P.D.J.	RIC	S.A.S.
5	20/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: GENERAL ARRANGEMENT - SHEET 1 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM: AHD | Scale: 1:250@A1 | Size: A1

Drawing Number: 50517019 - C10 | Revision: 6

7306
DP1153126

1
DP1211587

3
DP253853

PROPERTY BOUNDARY

REGRADE TAIL-OUT DRAIN AND CONSTRUCT 1m^3 OF D_{50} Ø300 ROCK RIPRAP AT OUTLET

REGRADE TAIL-OUT DRAIN AND CONSTRUCT 2m^3 OF D_{50} Ø300 ROCK RIPRAP AT OUTLET

EXHUME EXISTING Ø525 STORMWATER PIPE CAREFULLY FOR POSSIBLE REUSE.

EXHUME EXISTING Ø375 STORMWATER PIPE CAREFULLY FOR POSSIBLE REUSE.

MAINTAIN EXISTING TAIL-OUT DRAINS WHERE POSSIBLE (TYPICAL)

A.01 A.02 B.01 B.02

L=67.641

R=-660.000
L=51.624

WHITEFIELDS ROAD

HBT127

MC10

37

TC 167.211

CT 218.835

120.000 140.000 160.000 180.000 200.000 220.000 240.000 260.000 280.000

ROADSIDE PULL OVER AREA

REGRADE LOCALLY AROUND HEADWALL AND CONSTRUCT 0.5m^3 OF D_{50} Ø300 ROCK RIPRAP AT INLET

NORTH

PIT SCHEDULE

Pit Name	TYPE	EASTING	NORTHING	INLET DIA	INLET INV LEV	OUTLET DIA	OUTLET INV LEV	PIT SETOUT RL	REMARKS
A.01	HW525INLET	644667.574	6147376.334			525	497.810	498.600	
A.02	HW525	644664.327	6147367.130	525	497.690			498.204	setout level to pit sump level
B.01	HW375INLET	644646.219	6147403.729			(3x)375	498.500	498.578	
B.02	HW375	644640.702	6147397.210	(3x)375	498.400			499.150	setout level to pit sump level
C.01	HW375INLET	644394.946	6147668.179			(2x)375	504.997	505.295	
C.02	HW375	644389.976	6147661.234	(2x)375	504.970			504.598	setout level to pit sump level
D.01	HW375INLET	644130.326	6148008.038			(2x)375	520.559	520.995	
D.02	HW375	644122.747	6148004.104	(2x)375	520.517			520.517	setout level to pit sump level

KEY PLAN
NTS

50517019-C10 50517019-C11 50517019-C12 50517019-C13 50517019-C14 50517019-C15 50517019-C16

SCALE 1:250 @A1

0 5 10 15 20 25m

Rev.	Date	Description	Des.	Verif.	Appd.
6	25/06/2019	TREE AMENDED	P.D.J.	RIC	S.A.S.
5	20/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: GENERAL ARRANGEMENT - SHEET 2 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM: AHD | Scale: 1:250@A1 | Size: A1

Drawing Number: 50517019 - C11 | Revision: 6

Rev.	Date	Description	Des.	Verif.	Appd.
6	25/06/2019	TREE AMENDED	P.D.J.	RIC	S.A.S.
5	20/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
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GOLDWIND

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Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: GENERAL ARRANGEMENT - SHEET 3 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:250@A1	A1

Drawing Number: 50517019 - C12
Revision: 6

1
DP1211587

NORTH

MAINTAIN EXISTING TAIL-OUT DRAINS WHERE POSSIBLE (TYPICAL)

PROPERTY BOUNDARY

PROPERTY BOUNDARY

WHITEFIELDS ROAD

HBT110

106

MC10

CT 611.719

C.02

C.03

C.01

R=280.000
L=74.503

L=45.724

ROADSIDE PULL OVER AREA

TC 527.216

CT 491.492

86

REGRADE LOCALLY AROUND HEADWALL AND CONSTRUCT 1m^3 OF D_{50} Ø300 ROCK RIPRAP AT INLET

EXHUME EXISTING Ø450 STORMWATER PIPE CAREFULLY FOR POSSIBLE REUSE.

PROPERTY BOUNDARY

PROPERTY BOUNDARY

3
DP253853

PIT SCHEDULE

Pit Name	TYPE	EASTING	NORTHING	INLET DIA	INLET INV LEV	OUTLET DIA	OUTLET INV LEV	PIT SETOUT RL	REMARKS
A.01	HW525INLET	644667.574	6147376.334			525	497.810	498.600	
A.02	HW525	644664.327	6147367.130	525	497.690			498.204	setout level to pit sump level
B.01	HW375INLET	644646.219	6147403.729			(3x)375	498.500	498.578	
B.02	HW375	644640.702	6147397.210	(3x)375	498.400			499.150	setout level to pit sump level
C.01	HW375INLET	644394.946	6147668.179			(2x)375	504.997	505.295	
C.02	HW375	644389.976	6147661.234	(2x)375	504.970			504.598	setout level to pit sump level
D.01	HW375INLET	644130.326	6148008.038			(2x)375	520.559	520.995	
D.02	HW375	644122.747	6148004.104	(2x)375	520.517			520.517	setout level to pit sump level

KEY PLAN
NTS

50517019-C10
50517019-C11
50517019-C12
50517019-C13
50517019-C14
50517019-C15
50517019-C16

0 5 10 15 20 25m
SCALE 1:250 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
6	25/06/2019	TREE AMENDED	P.D.J.	RIC	S.A.S.
5	20/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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Web: www.cardno.com.au

		Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: GENERAL ARRANGEMENT - SHEET 4 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM: AHD | Scale: 1:250@A1 | Size: A1

Drawing Number: 50517019 - C13 | Revision: 6

DATE PLOTTED: 26 June 2019 4:05 PM BY: - MEHUL VAIDYA

XREF's: X-DESCONT250; XRF CONTROL MAIN 250; X-CVT-2604_DT1; X-SW-ROUGH AS GUTS; X-DESIGN; X-YASS-BASE; X-SURVCONT250; X-S DESIGN BDY; Xref trees; X-TREE FOR GOLDWIND

CAD File: N:\Projects\505\PY17019 YASS VALLEY WIND FARM\Drawings\Build\50517019-C10-C16-GA.dwg

1
DP1211587

REFER DRG No 50517019 - C13

REFER DRG No 50517019 - C15

NORTH

PROPERTY BOUNDARY

MAINTAIN EXISTING TAIL-OUT DRAINS WHERE POSSIBLE (TYPICAL)

ROADSIDE PULL OVER AREA

HBT110

WHITEFIELDS ROAD

L=289.242

680.000

700.000

720.000

740.000

760.000

780.000

800.000

820.000

840.000

860.000

PROPERTY BOUNDARY

ROADSIDE PULL OVER AREA

MC10

3
DP253853

eT

50517019-C10

50517019-C11

50517019-C12

50517019-C13

50517019-C14

50517019-C15

50517019-C16

KEY PLAN
NTS

0 5 10 15 20 25m
SCALE 1:250 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
6	25/06/2019	TREE AMENDED	P.D.J.	RIC	S.A.S.
5	20/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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		Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: GENERAL ARRANGEMENT - SHEET 5 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:250@A1	A1

Drawing Number: 50517019 - C14

Revision: 6

1
DP1211587

PROPERTY BOUNDARY

PROPERTY BOUNDARY

INSTALL STOCK GATE IN EXISTING FENCE LINE. LOCALLY REGRADE TO PROVIDE PROPERTY ACCESS

MAINTAIN EXISTING TAIL-OUT DRAINS WHERE POSSIBLE (TYPICAL)

PROPERTY BOUNDARY

D.02

D.01

R=310.000
L=81.701

115

TC 900.961
900.000

880.000

920.000

940.000

960.000

980.000

CT 982.692

INSTALL STOCK GATE IN EXISTING FENCE LINE. LOCALLY REGRADE TO PROVIDE PROPERTY ACCESS

LIMIT OF WORKS. MATCH SMOOTHLY TO EXISTING

MC50

WHITEFIELDS ROAD

R=12.000
L=7.504

L=3.682

L=26.939

WHITEFIELDS ROAD

CT 11.186
CT 3.682

20.000

38.125

WIND FARM ACCESS

L=160.672

1000.000

1020.000

1040.000

1060.000

MC10

6

PROPERTY BOUNDARY

REMOVE EXISTING FENCE AND CONSTRUCT NEW ALIGNMENT AS SHOWN

3
DP253853

344
DP753595

50517019-C10
50517019-C11
50517019-C12
50517019-C13
50517019-C14
50517019-C15
50517019-C16

KEY PLAN
NTS

0 5 10 15 20 25m
SCALE 1:250 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
6	25/06/2019	TREE AMENDED	P.D.J.	RIC	S.A.S.
6	20/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
5	22/03/2019	2 STOCK GATES ADDED AT CH 940	RIC	RIC	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: GENERAL ARRANGEMENT - SHEET 6 OF 7

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:250@A1	A1

Drawing Number: 50517019 - C15

Revision: 6

PROPERTY BOUNDARY

2
DP1211587

NORTH

OAD

L=160.672

WHITEFIELDS ROAD

PROPERTY BOUNDARY

MATCH TO EXISTING PROPERTY ENTRTY ROAD

PROPERTY BOUNDARY

MC40

L=9.904

L=13.113

RELOCATE EXISTING CATTLE GRID AND GATE. RECONSTRUCT ACCESS TRACK AFTER REMOVAL REFER PAVEMENT PLAN FOR DETAILS

REMOVE EXISTING FENCE AND CONSTRUCT NEW ALIGNMENT AS SHOWN

INSTALL NEW FENCE POST

344
DP753595

MC10

TC 1143.334

CREST 1162.884

L=37.762

2
DP1211587

PROPERTY BOUNDARY

REMOVE EXISTING FENCE AND CONSTRUCT NEW ALIGNMENT AS SHOWN

INSTALL CORNER POST AND CONNECT NEW FENCE

R=300.000
L=120.174

MC20

TC 37.752

INSTALL NEW FENCE POST

CONNECT TO EXISTING FENCE

MATCH TO EXISTING PROPERTY ENTRTY ROAD

LIMIT OF WORKS
INSTALL CATTLE GRID
AND GATE. FINAL LOCATION TO BE
CONFIRMED BY PROPERTY OWNER

L=7.311

ACCESS ROAD TO WIND FARM WITHIN PROPERTY BOUNDARY (BY OTHERS)

CT 1263.509

PIT SCHEDULE

Pit				INLET		OUTLET		PIT	
Name	TYPE	EASTING	NORTHING	DIA	INV LEV	DIA	INV LEV	SETOUT RL	REMARKS
A.01	HW525INLET	644667.574	6147376.334			525	497.810	498.600	
A.02	HW525	644664.327	6147367.130	525	497.690			498.204	setout level to pit sump level
B.01	HW375INLET	644646.219	6147403.729			(3x)375	498.500	498.578	
B.02	HW375	644640.702	6147397.210	(3x)375	498.400			499.150	setout level to pit sump level
C.01	HW375INLET	644394.946	6147668.179			(2x)375	504.997	505.295	
C.02	HW375	644389.976	6147661.234	(2x)375	504.970			504.598	setout level to pit sump level
D.01	HW375INLET	644130.326	6148008.038			(2x)375	520.559	520.995	
D.02	HW375	644122.747	6148004.104	(2x)375	520.517			520.517	setout level to pit sump level

KEY PLAN
NTS

50517019-C10 | 50517019-C11 | 50517019-C12 | 50517019-C13 | 50517019-C14 | 50517019-C15 | 50517019-C16

0 5 10 15 20 25m
SCALE 1:250 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	20/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

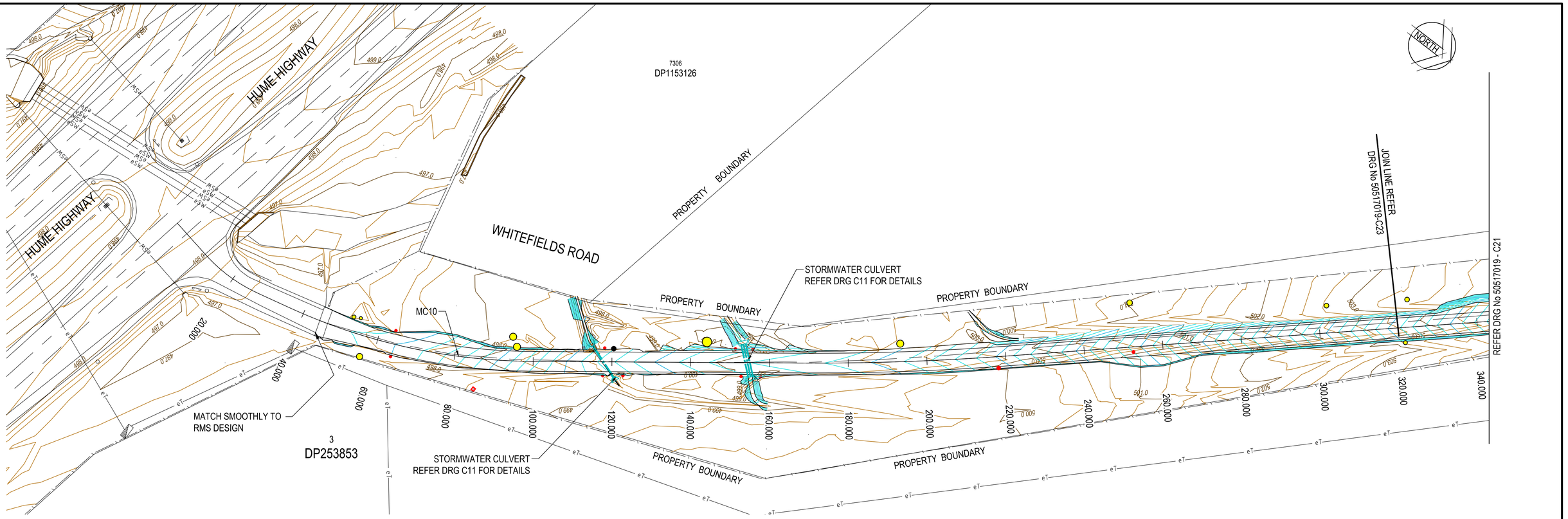
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: GENERAL ARRANGEMENT - SHEET 7 OF 7

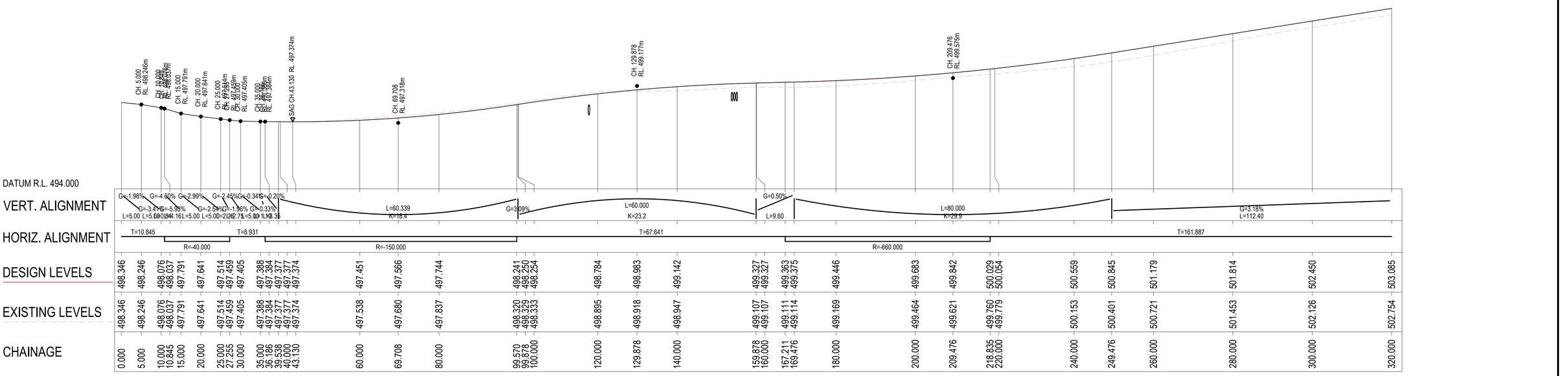
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:250@A1	A1

Drawing Number: 50517019 - C16
Revision: 5



PLAN
SCALE 1:500



LONGITUDINAL SECTION CONTROL MC10
H 1:500
V 1:100

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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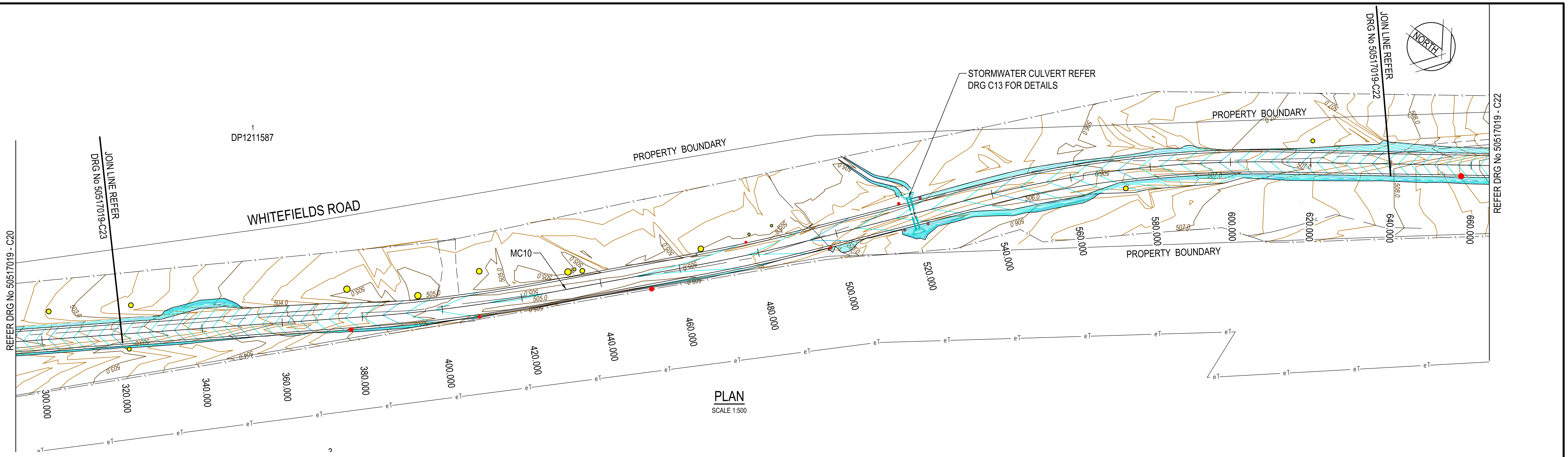
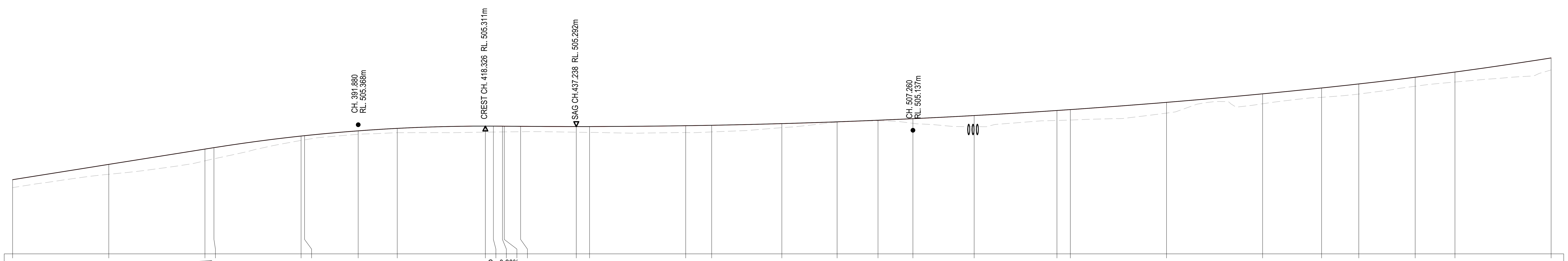
Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS
Title: PLAN AND LONG SECTION (MC10) - SHEET 1 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
DATUM: AHD | Scale: AS SHOWN | Size: A1
Drawing Number: 50517019 - C20 | Revision: 5



PLAN
SCALE 1:500



DATUM R.L. 500.000

VERT. ALIGNMENT: G=3.18% L=112.40 | L=60.000 K=17.8 | G=-0.20% L=0.38 | L=170.000 K=74.9 | G=2.07% | L=114.117 K=44.0

HORIZ. ALIGNMENT: T=161.887 | R=-400.000 | T=39.732 | R=-400.000 | T=45.724 | R=280.000 | T=289.242

CHAINAGE	320.000	340.000	360.000	361.880	380.000	380.722	391.880	400.000	418.326	420.000	421.880	422.260	425.666	437.238	440.000	460.000
DESIGN LEVELS	503.085	503.720	504.355	504.415	504.898	504.913	505.115	505.217	505.311	505.311	505.308	505.307	505.301	505.292	505.293	505.327
EXISTING LEVELS	502.754	503.309	503.868	503.953	504.714	504.738	504.972	505.037	505.060	505.064	505.068	505.069	505.078	505.057	505.048	505.041

CHAINAGE	465.398	480.000	491.492	500.000	507.260	520.000	537.216	540.000	560.000	580.000	592.260	600.000	611.719	620.000	640.000
DESIGN LEVELS	505.345	505.414	505.489	505.555	505.619	505.749	505.959	505.997	506.298	506.653	506.896	507.064	507.342	507.558	508.144
EXISTING LEVELS	505.068	505.246	505.474	505.528	505.428	505.287	505.545	505.562	505.851	506.240	506.508	506.644	506.968	507.144	507.646

LONGITUDINAL SECTION CONTROL MC10
H 1:500
V 1:100

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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Role	Name	Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

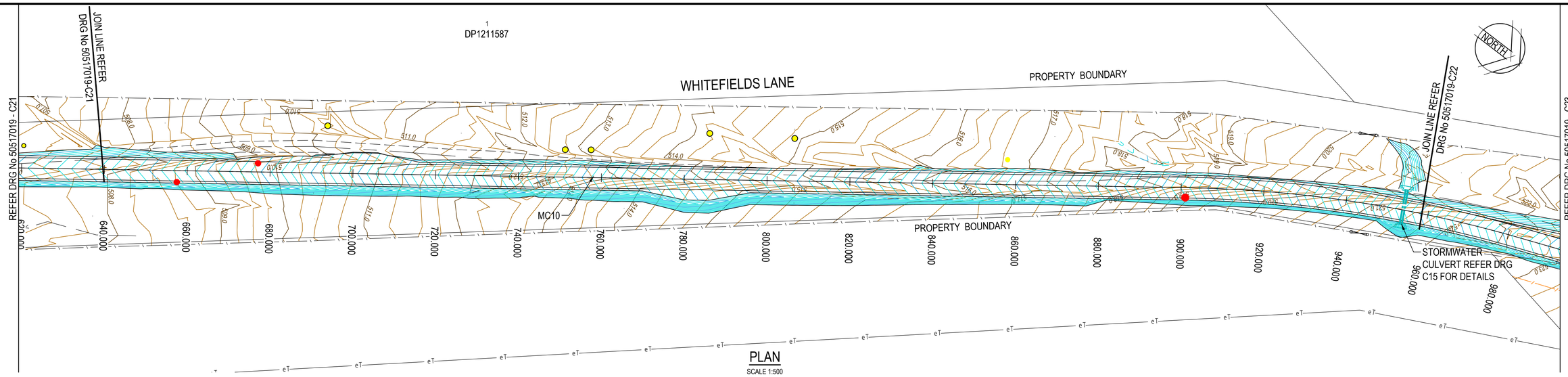
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: PLAN AND LONG SECTION (MC10) - SHEET 2 OF 4

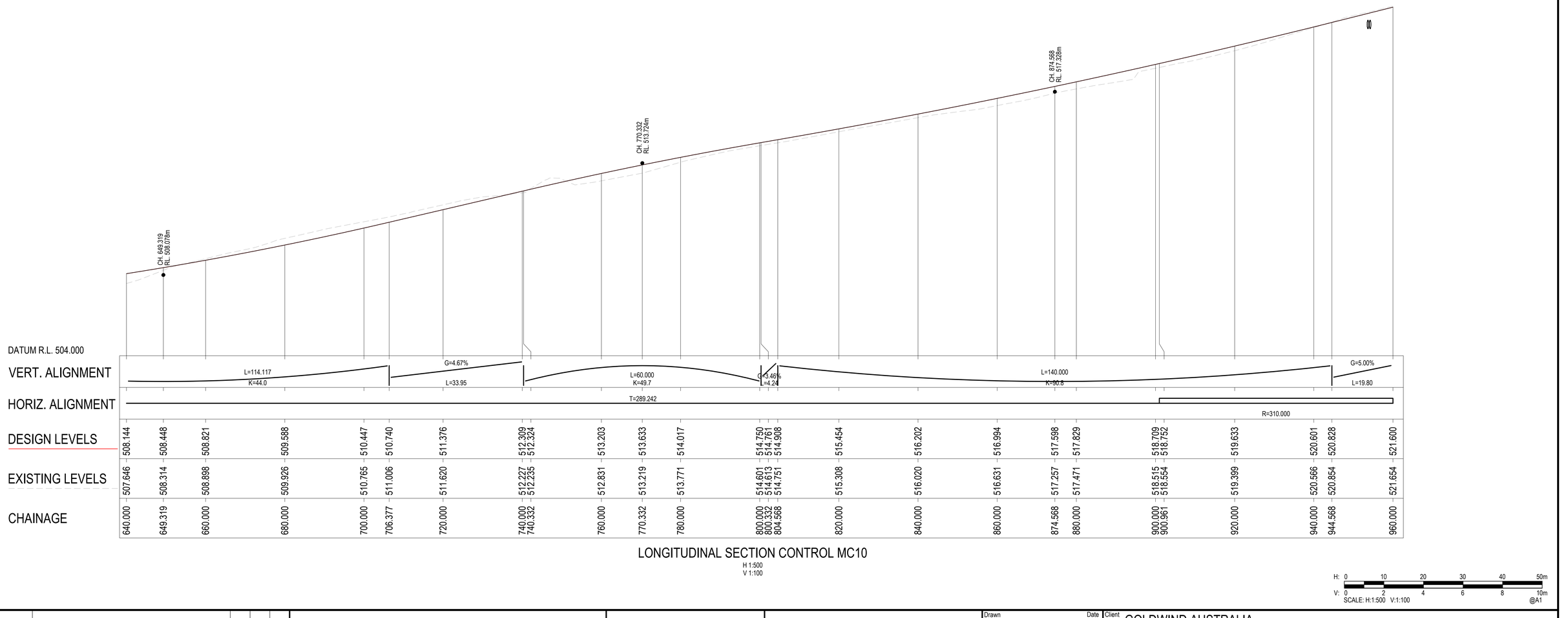
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM: AHD | Scale: AS SHOWN | Size: A1

Drawing Number: 50517019 - C21 | Revision: 5



PLAN
SCALE 1:500



LONGITUDINAL SECTION CONTROL MC10
H 1:500
V 1:100

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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		Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

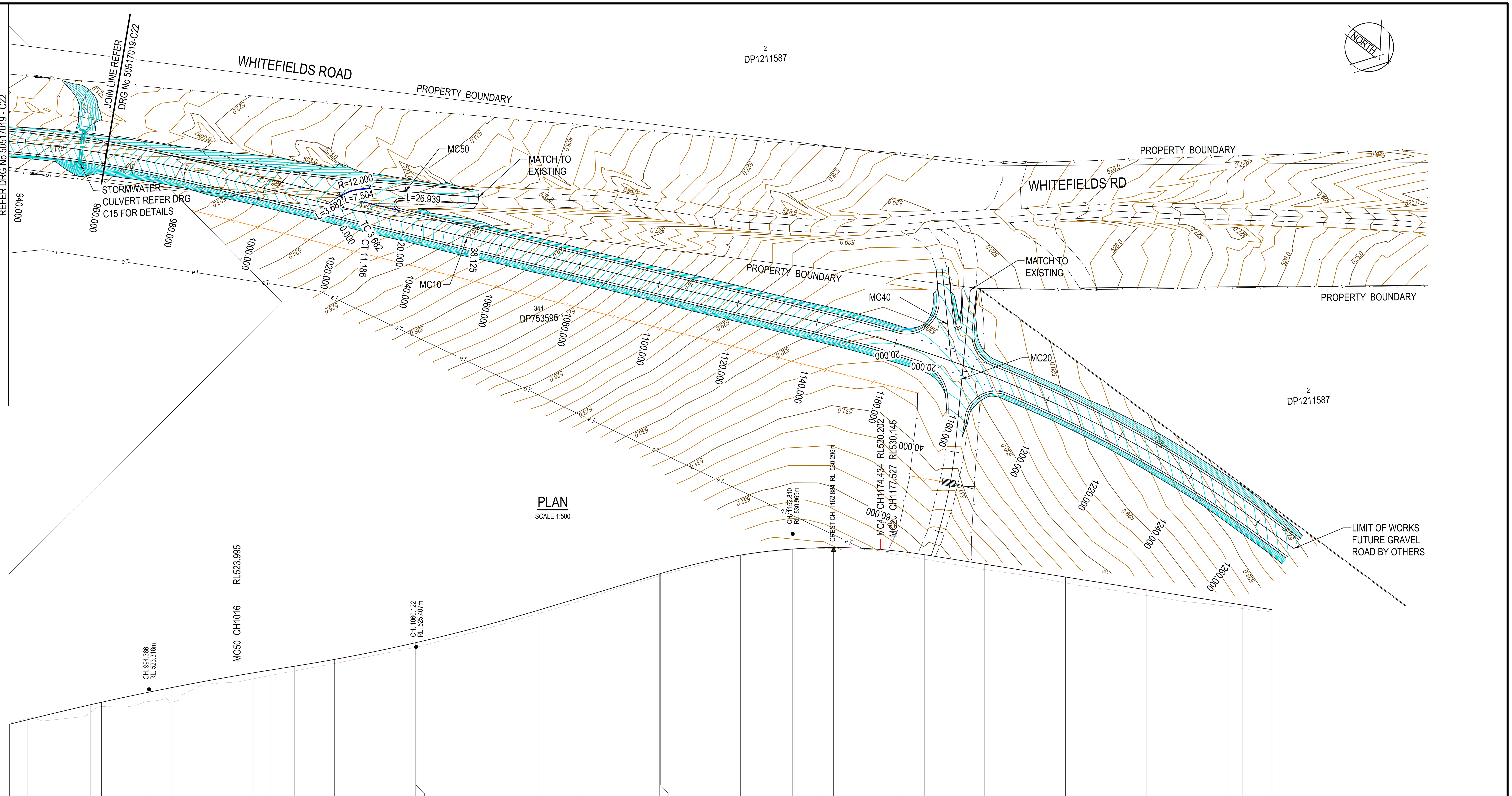
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: PLAN AND LONG SECTION (MC10) - SHEET 3 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		AS SHOWN	A1

Drawing Number: 50517019 - C22
Revision: 5



CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
960.000	521.600	521.654
964.366	521.818	521.869
980.000	522.562	522.197
982.662	522.682	522.482
994.366	523.181	522.723
1000.000	523.407	522.681
1020.000	524.130	523.835
1024.366	524.271	524.006
1030.122	524.454	524.222
1040.000	524.791	524.590
1060.000	525.613	525.386
1060.122	525.619	525.391
1080.000	526.624	526.453
1090.122	527.207	527.045
1100.000	527.800	527.642
1120.000	529.000	528.905
1120.310	529.019	528.925
1140.000	529.927	529.874
1143.334	530.027	530.006
1152.810	530.224	530.208
1160.000	530.290	530.246
1162.884	530.296	530.240
1180.000	530.089	529.946
1185.310	529.941	529.720
1200.000	529.477	529.215
1220.000	528.845	528.558
1240.000	528.213	527.935
1260.000	527.581	527.408
1263.509	527.470	527.297
1270.819	527.239	527.128

LONGITUDINAL SECTION CONTROL MC10

H 1:500
V 1:100

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
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Role	Name	Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

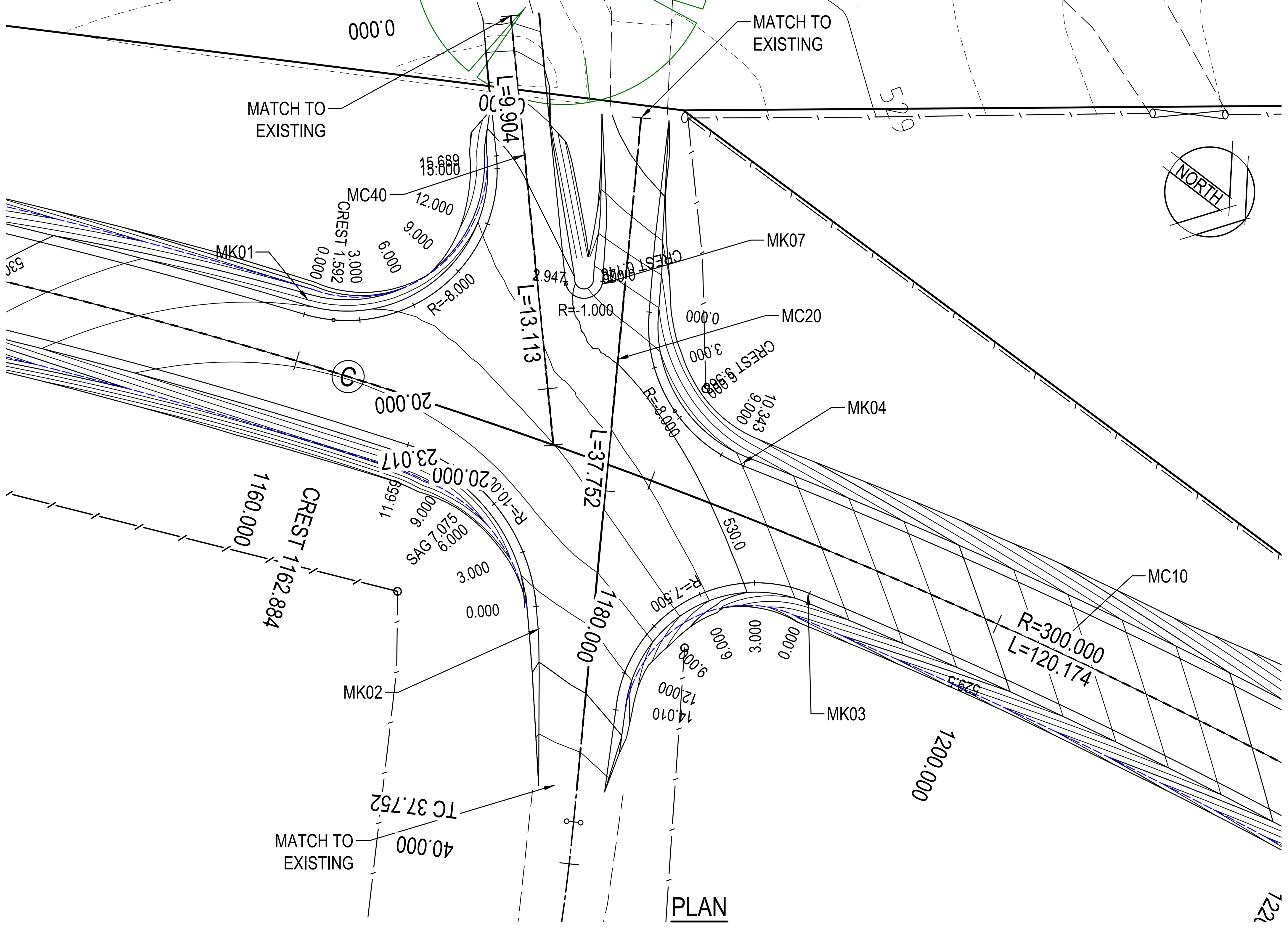
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: PLAN AND LONG SECTION (MC10) - SHEET 4 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

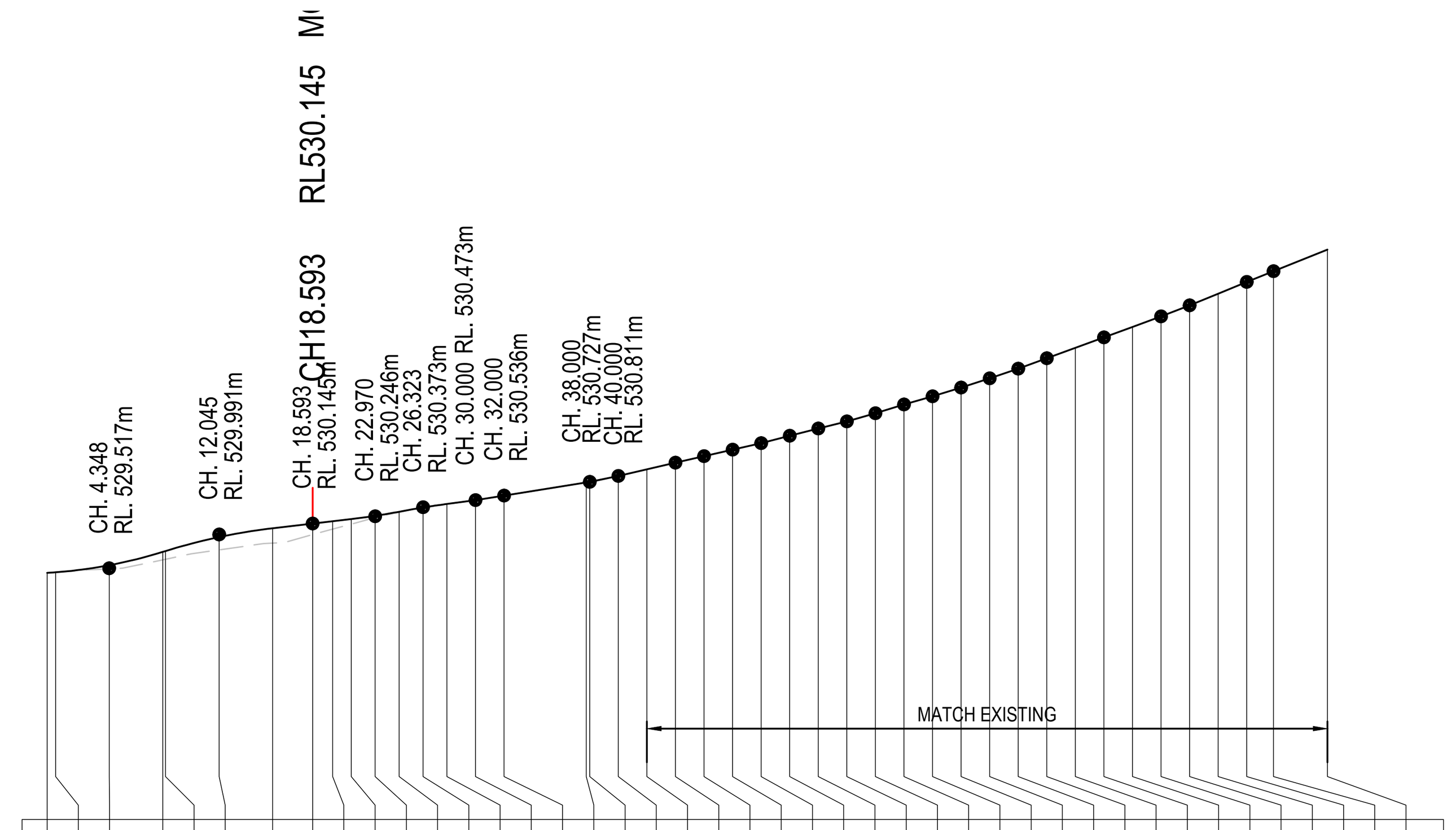
DATUM: AHD | Scale: AS SHOWN | Size: A1

Drawing Number: 50517019 - C23 | Revision: 5



PLAN

SCALE 1:200



DATUM R.L. 526.000

VERT. ALIGNMENT: G=1.45% L=0.60 K=-1.6 G=-6.16% L=0.20 K=2.0 G=2.35% G=2.33% L=2.80 G=3.79% G=3.13% G=2.71% G=3.20% L=6.00 G=4.19% G=4.62% G=4.63% L=2.00 L=2.00

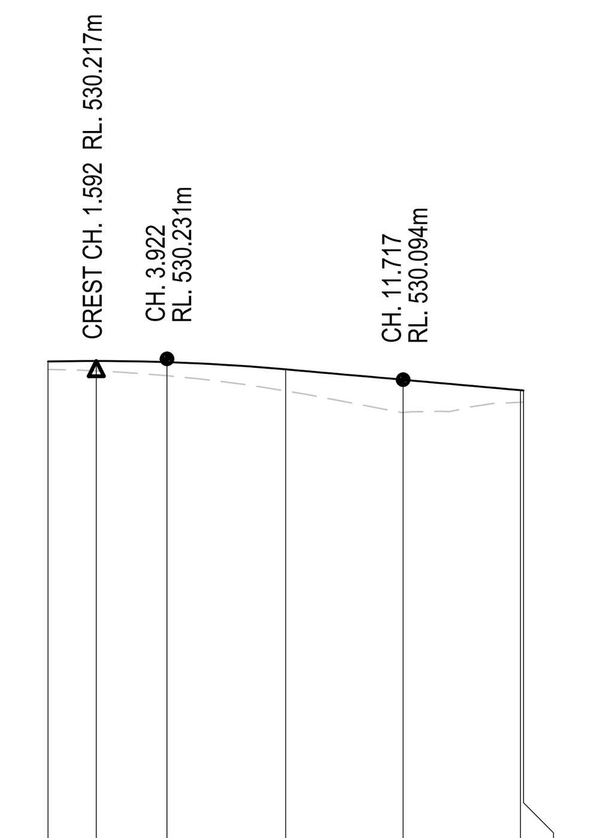
HORIZ. ALIGNMENT: T=37.752 R=119.675 T=3.775

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000	529.453	529.453
0.598	529.462	529.462
4.348	529.561	529.510
8.098	529.748	529.637
8.295	529.760	529.645
12.045	529.955	529.776
15.795	530.079	529.870
18.593	530.145	529.990
20.000	530.177	530.067
21.293	530.207	530.137
22.970	530.253	530.227
24.647	530.310	530.303
26.323	530.369	530.372
28.000	530.419	530.419
30.000	530.473	530.473
32.000	530.536	530.536
37.752	530.719	530.719
38.000	530.727	530.727
40.000	530.811	530.811
42.000	530.904	530.904
44.000	530.996	530.996
46.000	531.088	531.088
48.000	531.180	531.180
50.000	531.271	531.271
52.000	531.374	531.374
54.000	531.476	531.476
56.000	531.575	531.575
58.000	531.689	531.689
60.000	531.812	531.812
62.000	531.926	531.926
64.000	532.048	532.048
66.000	532.179	532.179
68.000	532.314	532.314
70.000	532.459	532.459
72.000	532.606	532.606
74.000	532.752	532.752
76.000	532.899	532.899
78.000	533.045	533.045
80.000	533.200	533.200
82.000	533.364	533.364
84.000	533.528	533.528
85.878	533.679	533.679
89.653	533.981	

LONGITUDINAL SECTION CONTROL MC20

H 1:500
V 1:100

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1



DATUM R.L. 527.000

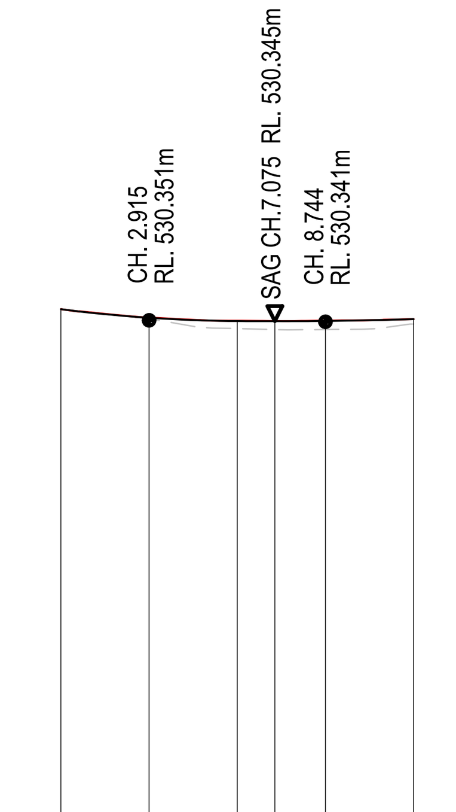
VERT. ALIGNMENT: G=0.45% L=7.844 K=3.5 G=-1.76% L=7.744 K=236.1 L=0.10 G=-1.80%

HORIZ. ALIGNMENT: R=-8.000

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000	530.214	530.161
1.592	530.217	530.152
3.922	530.210	530.120
7.844	530.162	530.020
11.717	530.093	529.879
15.589	530.024	529.945
15.689	530.022	529.946

LONGITUDINAL SECTION CONTROL MK01

H 1:250
V 1:50



DATUM R.L. 527.000

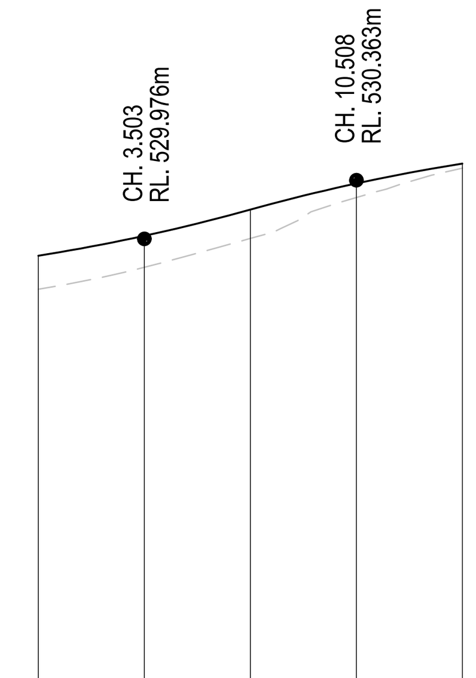
VERT. ALIGNMENT: G=-2.52% L=5.829 K=2.5 G=-0.16% L=5.829 K=7.7 G=0.60%

HORIZ. ALIGNMENT: R=-10.000

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000	530.424	530.424
2.915	530.368	530.361
5.829	530.346	530.294
7.075	530.345	530.289
8.744	530.347	530.288
11.659	530.359	530.326

LONGITUDINAL SECTION CONTROL MK02

H 1:250
V 1:50



DATUM R.L. 527.000

VERT. ALIGNMENT: G=3.16% L=7.005 K=3.0 G=5.53% L=7.005 K=2.9 G=3.13%

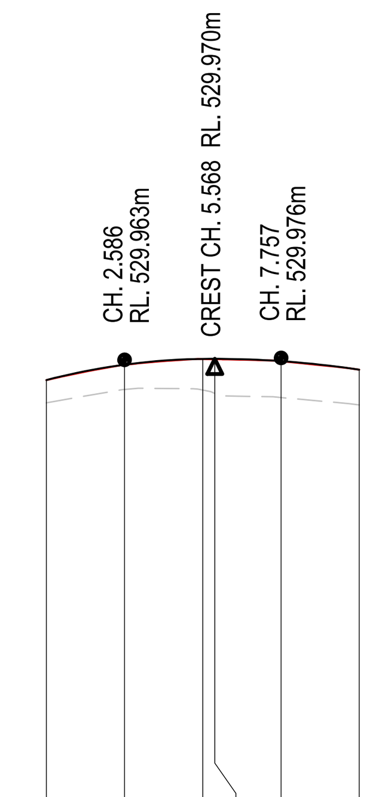
HORIZ. ALIGNMENT: R=-7.500

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000	529.865	529.643
3.503	529.996	529.788
7.005	530.169	529.979
10.508	530.342	530.250
14.010	530.472	530.443

LONGITUDINAL SECTION CONTROL MK03

H 1:250
V 1:50

0 5 10 15 20 25m
SCALE 1:250 @A1



DATUM R.L. 527.000

VERT. ALIGNMENT: G=5.15% L=5.172 K=1.1 G=0.25% L=5.172 K=1.6 G=-3.02%

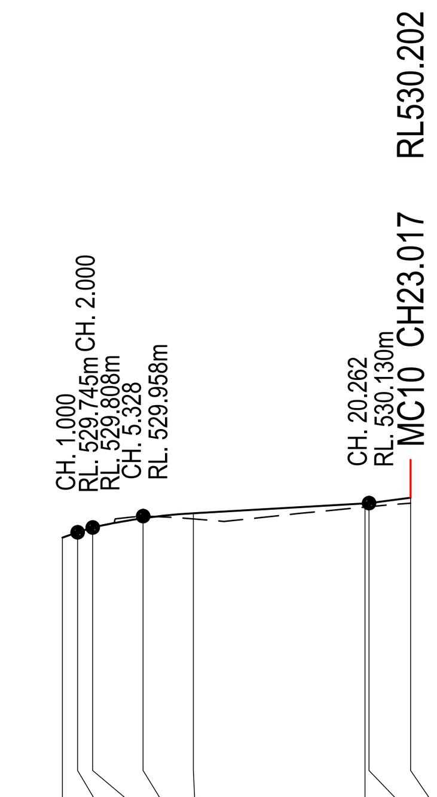
HORIZ. ALIGNMENT: R=-8.000

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000	529.829	529.679
2.586	529.931	529.768
5.172	529.969	529.766
5.568	529.970	529.751
7.757	529.954	529.715
10.343	529.897	529.665

LONGITUDINAL SECTION CONTROL MK04

H 1:250
V 1:50

0 5000 10000 15000 20000mm
SCALE 1:200 @A1



DATUM R.L. 526.000

VERT. ALIGNMENT: G=6.96% G=6.37% L=1.00 L=1.00 G=4.51% L=6.657 K=2.0 G=1.15% L=11.61 G=2.61% L=2.76

HORIZ. ALIGNMENT: T=9.904 T=13.113

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000	529.675	529.675
1.000	529.745	529.745
2.000	529.808	529.808
5.328	529.930	529.957
8.657	529.997	529.922
20.000	530.127	530.077
20.262	530.130	530.082
23.017	530.202	530.130

LONGITUDINAL SECTION CONTROL MC40

H 1:500
V 1:100

0 1 2 3 4 5m
SCALE 1:50 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
1	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

GOLDWIND

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Role	Name	Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: INTERSECTION PLAN AND LONG SECTION (MC20)
SHEET 1 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

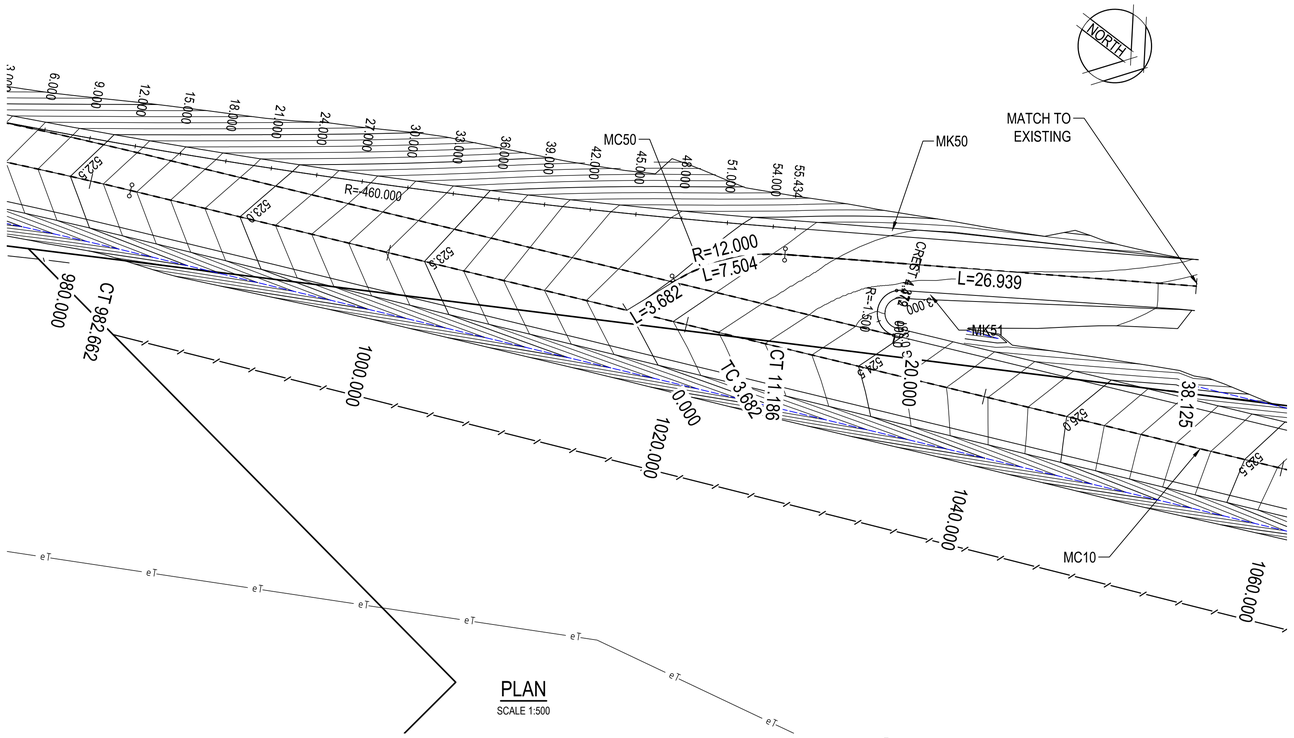
DATUM: AHD | Scale: AS SHOWN | Size: A1

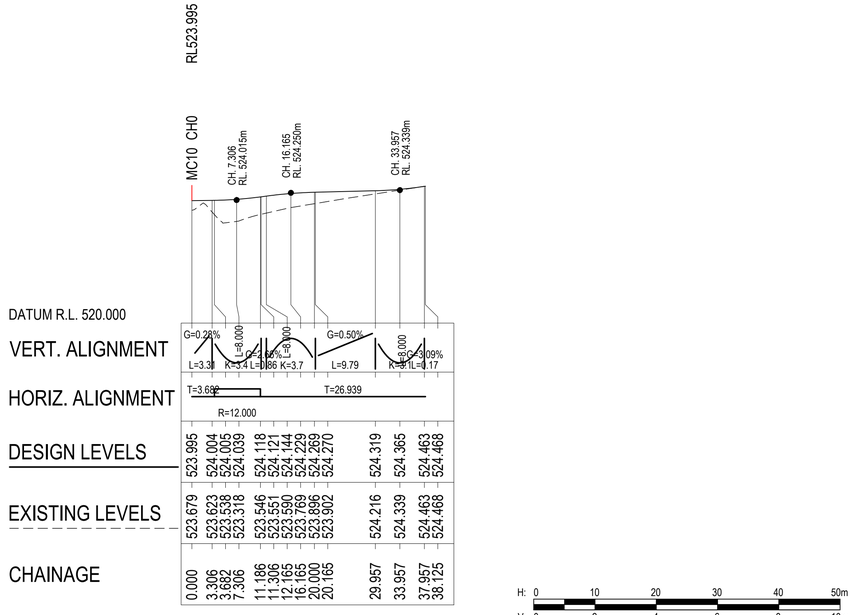
Drawing Number: 50517019 - C24 | Revision: 3

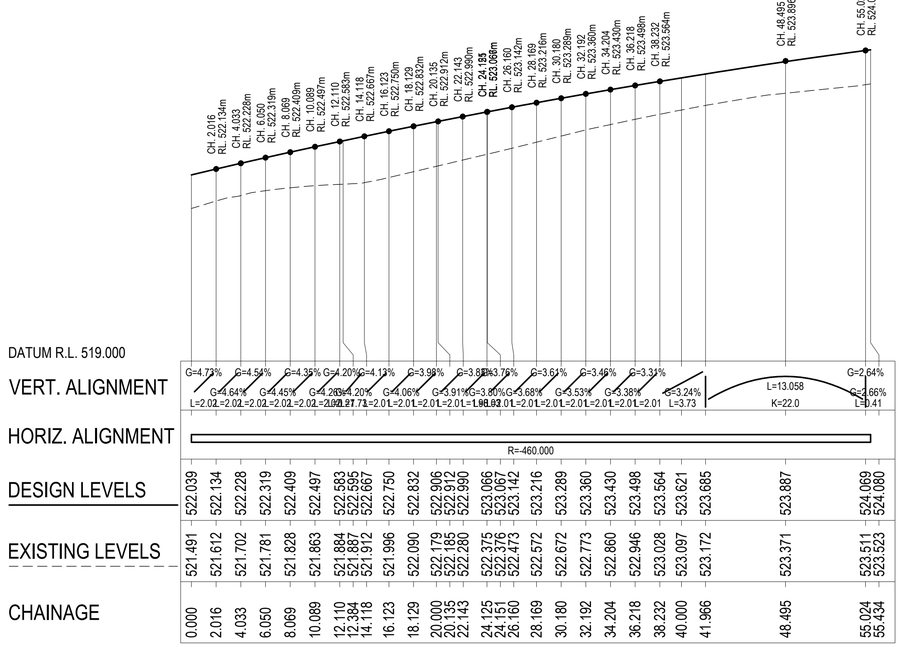
DATE PLOTTED: 25 June 2019 10:09 AM BY : MEHUL VAIDYA

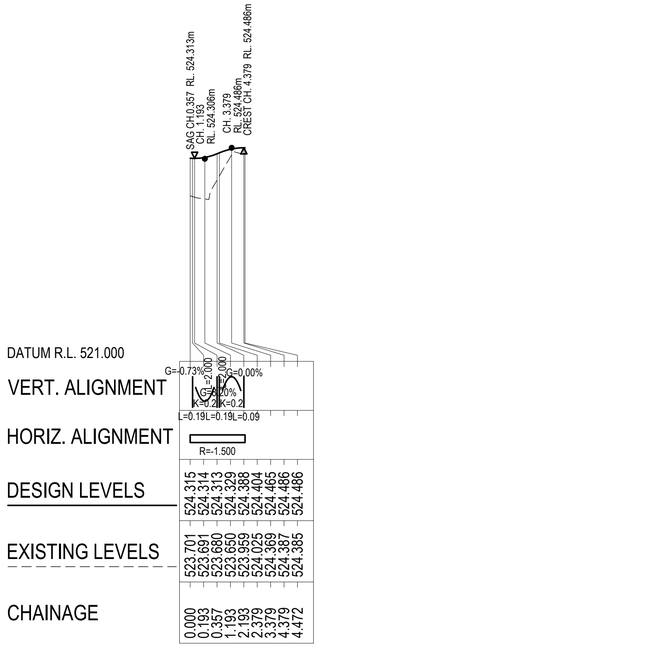
XREF's: X-SW-ROUGH AS GUTS; LS-MK01-01; LS-MK02-01; LS-MK03-01; LS-MK04-01; LS-MC20-01; X-YASS-BASE; X-CVT-2604_DT1; XRF CONTROL KR 250; X-DESCONT250; LS-MC40-01; X-DESIGN; XRF CONTROL MAIN 250; LS-MC50-01; LS-MK50-01; LS-MK51-01

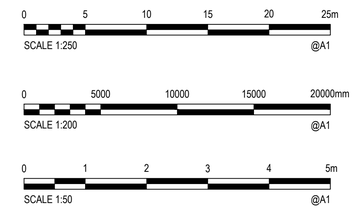
CAD File: N:\Projects\505\FY17\019_YASS VALLEY WIND FARM\Drawings\Build\50517019-C24-SO-LS.dwg











Rev.	Date	Description	Des.	Verif.	Appd.
3	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
1	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

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		Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

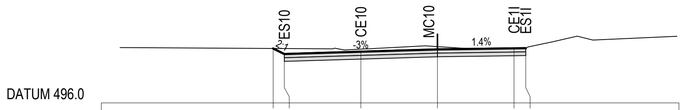
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: INTERSECTION PLAN AND LONG SECTION (MC30)
SHEET 2 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

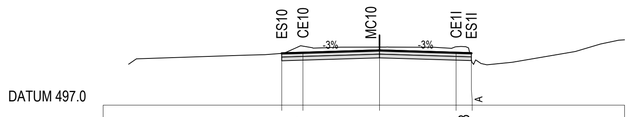
DATUM		Scale	Size
AHD		AS SHOWN	A1

Drawing Number: 50517019 - C25
Revision: 3



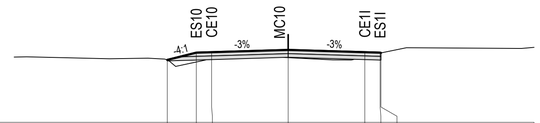
DATUM 496.0						
LEVEL DIFF	0	0.179	0.084	0.093	-0.144	0
DESIGN LEVELS	497.775	497.594	497.669	497.744	497.779	497.784
EXISTING LEVELS	497.775	497.773	497.753	497.837	497.635	497.784
OFFSET	-5.363	-5.000	-2.500	0.000	2.500	2.883

MC10 80



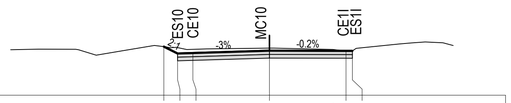
DATUM 497.0						
LEVEL DIFF	-0	0.218	0.11	0.196	-0.218	
DESIGN LEVELS	498.689	498.709	498.784	498.709	498.694	
EXISTING LEVELS	498.689	498.927	498.895	498.906	498.477	
OFFSET	-3.191	-2.500	0.000	2.500	3.000	

MC10 120



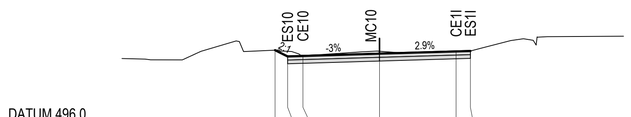
DATUM 497.0						
LEVEL DIFF	0	-0.303	-0.252	-0.108	-0.013	0
DESIGN LEVELS	499.036	499.273	499.363	499.288	499.273	499.266
EXISTING LEVELS	499.036	498.971	499.111	499.18	499.261	499.266
OFFSET	-3.948	-3.000	0.000	2.500	3.000	3.028

MC10 167.211



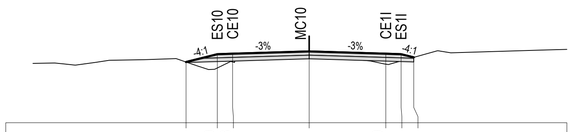
DATUM 496.0						
LEVEL DIFF	0	0.193	0.121	0.086	-0.007	0
DESIGN LEVELS	497.586	497.361	497.376	497.451	497.446	497.446
EXISTING LEVELS	497.586	497.554	497.497	497.538	497.439	497.446
OFFSET	-3.449	-3.000	-2.500	0.000	2.500	2.708

MC10 60



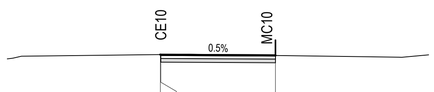
DATUM 496.0						
LEVEL DIFF	0	0.166	0.022	0.079	-0.158	0
DESIGN LEVELS	498.365	498.160	498.175	498.250	498.323	498.337
EXISTING LEVELS	498.365	498.326	498.197	498.329	498.165	498.337
OFFSET	-3.410	-3.000	-2.500	0.000	2.500	2.968

MC10 99.878



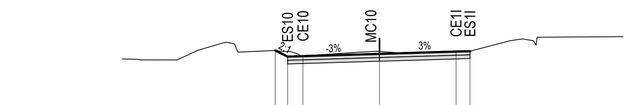
DATUM 497.0						
LEVEL DIFF	0	-0.449	-0.268	-0.22	-0.339	-0.22
DESIGN LEVELS	498.982	499.237	499.252	499.327	499.252	499.237
EXISTING LEVELS	498.982	498.788	498.984	499.107	498.912	499.017
OFFSET	-4.019	-3.000	-2.500	0.000	2.500	3.000

MC10 159.878



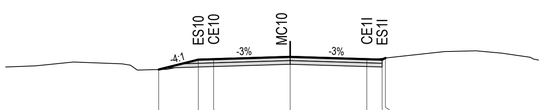
DATUM 496.0				
LEVEL DIFF	0	0.007	-0.002	
DESIGN LEVELS	497.401	497.394	497.374	
EXISTING LEVELS	497.401	497.401	497.373	
OFFSET	-3.757	-3.742	0.000	

MC10 44.397



DATUM 496.0						
LEVEL DIFF	0	0.168	0.023	0.079	-0.155	0
DESIGN LEVELS	498.353	498.151	498.166	498.241	498.316	498.329
EXISTING LEVELS	498.353	498.316	498.189	498.32	498.161	498.329
OFFSET	-3.404	-3.000	-2.500	0.000	2.500	2.956

MC10 99.57



DATUM 497.0						
LEVEL DIFF	0	-0.104	-0.223	-0.195	-0.027	0.042
DESIGN LEVELS	498.729	499.052	499.067	499.142	499.067	499.052
EXISTING LEVELS	498.729	498.948	498.844	498.947	499.04	499.094
OFFSET	-4.294	-3.000	-2.500	0.000	2.500	3.000

MC10 140

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	
4	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	17/05/2017	AMENDED DRAWING CROSS-SECTION 1 OF 8	G.J.	RIC	J.H.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

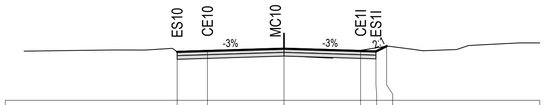
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 1 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:100@A1	A1

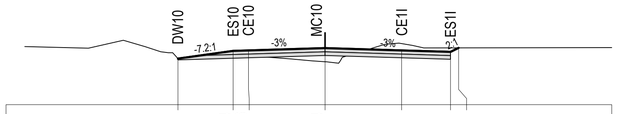
Drawing Number: 50517019 - C30

Revision: 5



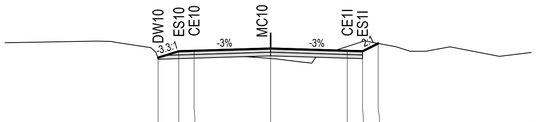
DATUM 498.0						
LEVEL DIFF	0	-0.154	-0.219	0.024	0.118	0
DESIGN LEVELS	499.579	499.608	499.683	499.608	499.593	499.768
EXISTING LEVELS	499.579	499.454	499.464	499.633	499.711	499.768
OFFSET	-3.488	-2.500	0.000	2.500	3.000	3.350

MC10 200



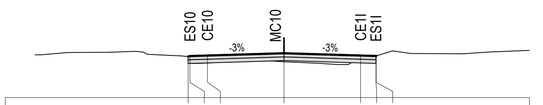
DATUM 499.0						
LEVEL DIFF	0	-0.214	-0.216	-0.444	0.223	0.132
DESIGN LEVELS	500.503	500.755	500.770	500.845	500.770	500.722
EXISTING LEVELS	500.503	500.541	500.554	500.401	500.993	500.854
OFFSET	-4.803	-3.000	-2.500	0.000	2.500	4.095

MC10 249.476



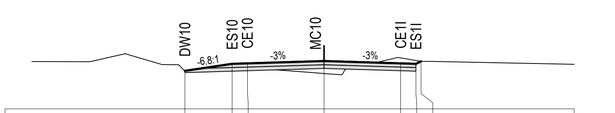
DATUM 500.0						
LEVEL DIFF	0	-0.2	-0.2	-0.323	0.142	0.318
DESIGN LEVELS	502.153	502.360	502.375	502.450	502.375	502.360
EXISTING LEVELS	502.153	502.16	502.175	502.126	502.517	502.678
OFFSET	-3.674	-3.000	-2.500	0.000	2.500	3.000

MC10 300



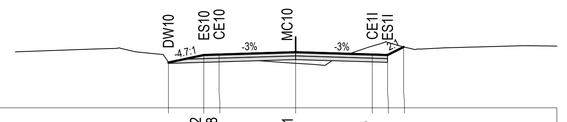
DATUM 498.0						
LEVEL DIFF	0	-0.152	-0.244	-0.277	-0.137	0.002
DESIGN LEVELS	499.339	499.354	499.371	499.446	499.371	499.356
EXISTING LEVELS	499.339	499.202	499.127	499.169	499.234	499.358
OFFSET	-3.130	-3.071	-2.500	0.000	2.500	3.000

MC10 180



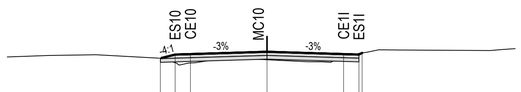
DATUM 499.0						
LEVEL DIFF	0	-0.201	-0.204	-0.406	0.179	0.111
DESIGN LEVELS	500.241	500.469	500.484	500.559	500.484	500.469
EXISTING LEVELS	500.241	500.268	500.28	500.153	500.663	500.58
OFFSET	-4.542	-3.000	-2.500	0.000	2.500	3.000

MC10 240



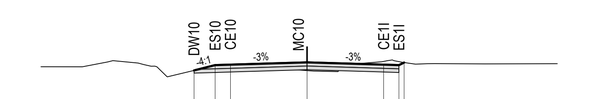
DATUM 500.0						
LEVEL DIFF	0	-0.212	-0.208	-0.361	0.276	0.41
DESIGN LEVELS	501.479	501.724	501.739	501.814	501.739	501.724
EXISTING LEVELS	501.479	501.513	501.531	501.453	502.016	502.134
OFFSET	-4.153	-3.000	-2.500	0.000	2.500	3.000

MC10 280



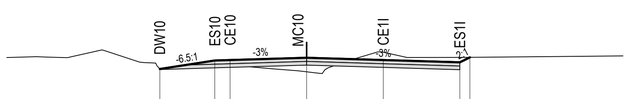
DATUM 497.0						
LEVEL DIFF	0	-0.267	-0.291	-0.26	-0.097	0.037
DESIGN LEVELS	499.164	499.285	499.300	499.375	499.300	499.285
EXISTING LEVELS	499.164	499.018	499.009	499.114	499.202	499.322
OFFSET	-3.482	-3.000	-2.500	0.000	2.500	3.000

MC10 169.476



DATUM 498.0						
LEVEL DIFF	0	-0.138	-0.135	-0.268	0.106	0.114
DESIGN LEVELS	499.766	499.939	499.954	500.029	499.954	499.939
EXISTING LEVELS	499.766	499.801	499.819	499.76	500.06	500.053
OFFSET	-3.689	-3.000	-2.500	0.000	2.500	3.000

MC10 218.835



DATUM 499.0						
LEVEL DIFF	0	-0.214	-0.215	-0.459	0.256	0.162
DESIGN LEVELS	500.812	501.089	501.104	501.179	501.104	501.029
EXISTING LEVELS	500.812	500.875	500.889	500.721	501.36	501.192
OFFSET	-4.793	-3.000	-2.500	0.000	2.500	5.000

MC10 260

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	
4	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	17/05/2017	AMENDED DRAWING CROSS-SECTION 2 OF 8	G.J.	RIC	J.H.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

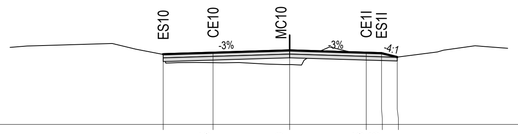
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 2 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:100@A1	A1

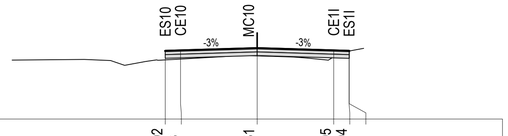
Drawing Number: 50517019 - C31

Revision: 5



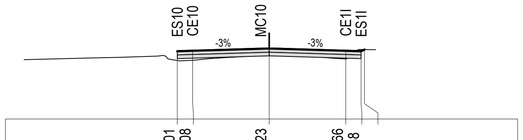
DATUM 502.0							
LEVEL DIFF	0	-0.325	-0.462	-0.045	-0.086	0	
DESIGN LEVELS	504.291	504.340	504.415	504.340	504.325	504.197	
EXISTING LEVELS	504.291	504.015	503.953	504.295	504.239	504.197	
OFFSET	-4.128	-2.500	0.000	2.500	3.000	3.512	

MC10 361.88



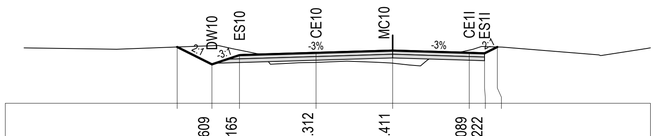
DATUM 503.0							
LEVEL DIFF	-0.292	-0.28	-0.251	-0.205	-0.004	0	
DESIGN LEVELS	505.221	505.236	505.311	505.236	505.221	505.219	
EXISTING LEVELS	504.929	504.956	505.06	505.032	505.217	505.219	
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.009	

MC10 418.326



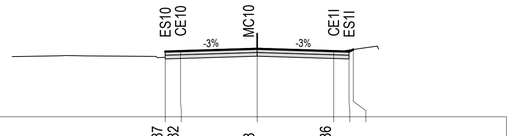
DATUM 503.0							
LEVEL DIFF	-0.301	-0.308	-0.223	-0.266	0.058	0	
DESIGN LEVELS	505.211	505.226	505.301	505.226	505.211	505.267	
EXISTING LEVELS	504.91	504.918	505.078	504.96	505.269	505.267	
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.112	

MC10 425.666



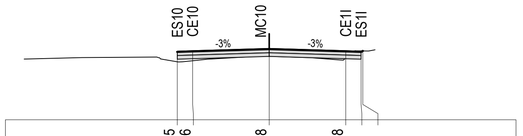
DATUM 502.0							
LEVEL DIFF	0	0.609	0.165	-0.312	-0.411	0.089	0.222	0
DESIGN LEVELS	503.837	503.270	503.570	503.645	503.720	503.645	503.630	503.839
EXISTING LEVELS	503.837	503.879	503.735	503.333	503.309	503.734	503.852	503.839
OFFSET	-7.034	-5.900	-5.000	-2.500	0.000	2.500	3.000	3.417

MC10 340



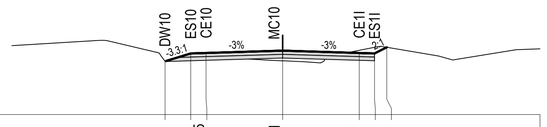
DATUM 503.0							
LEVEL DIFF	-0.187	-0.182	-0.18	-0.036	0.05	0	
DESIGN LEVELS	505.127	505.142	505.217	505.142	505.127	505.196	
EXISTING LEVELS	504.939	504.96	505.037	505.106	505.177	505.196	
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.139	

MC10 400



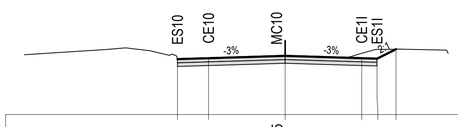
DATUM 503.0							
LEVEL DIFF	-0.325	-0.306	-0.238	-0.218	0.03	0	
DESIGN LEVELS	505.217	505.232	505.307	505.232	505.217	505.246	
EXISTING LEVELS	504.892	504.926	505.069	505.013	505.247	505.246	
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.058	

MC10 422.26



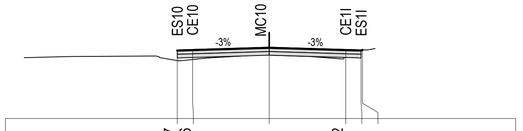
DATUM 501.0							
LEVEL DIFF	0	-0.2	-0.195	-0.331	0.086	0.202	0
DESIGN LEVELS	502.738	502.995	503.010	503.085	503.010	502.995	503.195
EXISTING LEVELS	502.738	502.795	502.815	502.754	503.096	503.196	503.195
OFFSET	-3.839	-3.000	-2.500	0.000	2.500	3.000	3.401

MC10 320



DATUM 503.0							
LEVEL DIFF	0	-0.2	-0.175	0.16	0.302	0	
DESIGN LEVELS	504.808	504.838	504.913	504.838	504.823	505.133	
EXISTING LEVELS	504.808	504.639	504.738	504.999	505.126	505.133	
OFFSET	-3.514	-2.500	0.000	2.500	3.000	3.620	

MC10 380.722



DATUM 503.0							
LEVEL DIFF	-0.327	-0.306	-0.24	-0.212	0.024	0	
DESIGN LEVELS	505.218	505.233	505.308	505.233	505.218	505.241	
EXISTING LEVELS	504.89	504.927	505.068	505.02	505.242	505.241	
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.046	

MC10 421.88

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	
4	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	17/05/2017	AMENDED DRAWING CROSS-SECTION 3 OF 8	G.J.	RIC	J.H.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

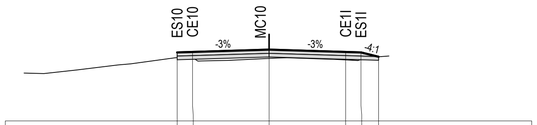
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 3 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:100@A1	A1

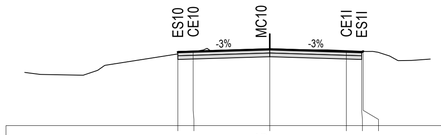
Drawing Number: 50517019 - C32

Revision: 5



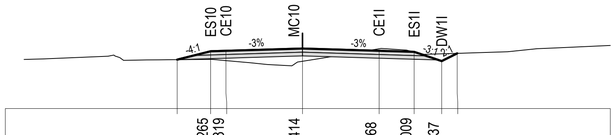
DATUM 503.0						
LEVEL DIFF	-0.166	-0.181	-0.286	-0.26	-0.234	0
DESIGN LEVELS	505.237	505.252	505.327	505.252	505.237	505.093
EXISTING LEVELS	505.07	505.071	505.041	504.991	505.003	505.093
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.575

MC10 460



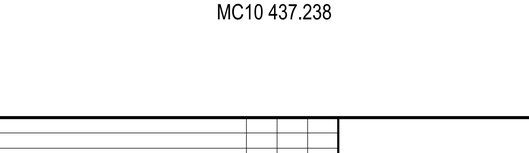
DATUM 503.0						
LEVEL DIFF	-0.06	0.003	-0.015	0.033	0.027	0
DESIGN LEVELS	505.399	505.414	505.489	505.414	505.399	505.423
EXISTING LEVELS	505.338	505.417	505.474	505.446	505.425	505.423
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.050

MC10 491.492



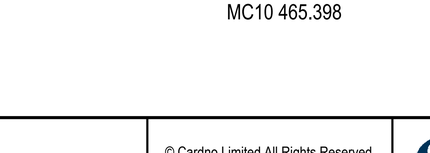
DATUM 504.0							
LEVEL DIFF	0	-0.265	-0.319	-0.414	0.068	-0.009	0.237	0
DESIGN LEVELS	505.596	505.869	505.884	505.959	505.884	505.850	505.550	505.803
EXISTING LEVELS	505.596	505.605	505.566	505.545	505.952	505.841	505.788	505.803
OFFSET	-4.092	-3.000	-2.500	0.000	2.500	3.643	4.543	5.050

MC10 537.216



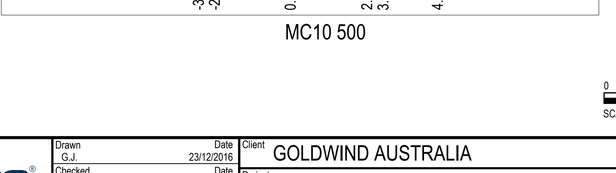
DATUM 503.0						
LEVEL DIFF	-0.215	-0.276	-0.244	-0.237	-0.043	0
DESIGN LEVELS	505.203	505.218	505.293	505.218	505.203	505.173
EXISTING LEVELS	504.988	504.942	505.048	504.981	505.16	505.173
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.117

MC10 440



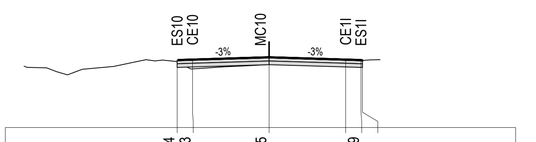
DATUM 503.0						
LEVEL DIFF	-0.144	-0.092	-0.169	-0.065	-0.067	0
DESIGN LEVELS	505.324	505.339	505.414	505.339	505.324	505.247
EXISTING LEVELS	505.18	505.247	505.246	505.274	505.257	505.247
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.307

MC10 480



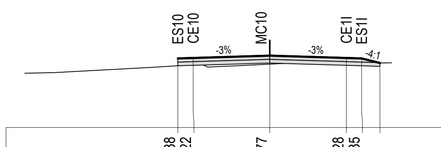
DATUM 503.0							
LEVEL DIFF	0	-0.186	-0.191	-0.462	0.057	0.042	0.623	0
DESIGN LEVELS	505.458	505.659	505.674	505.749	505.674	505.659	504.997	505.667
EXISTING LEVELS	505.458	505.473	505.484	505.287	505.731	505.701	505.619	505.667
OFFSET	-3.804	-3.000	-2.500	0.000	2.500	3.000	4.988	6.329

MC10 520



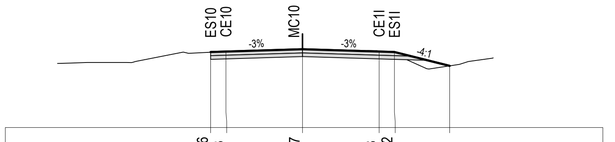
DATUM 503.0						
LEVEL DIFF	-0.064	-0.303	-0.235	-0.23	-0.019	0
DESIGN LEVELS	505.202	505.217	505.292	505.217	505.202	505.190
EXISTING LEVELS	505.138	504.914	505.057	504.987	505.183	505.19
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.049

MC10 437.238



DATUM 503.0						
LEVEL DIFF	-0.238	-0.222	-0.277	-0.228	-0.235	0
DESIGN LEVELS	505.255	505.270	505.345	505.270	505.255	505.106
EXISTING LEVELS	505.017	505.048	505.068	505.042	505.02	505.106
OFFSET	-3.000	-2.500	0.000	2.500	3.000	3.596

MC10 465.398



DATUM 503.0						
LEVEL DIFF	-0.006	0.003	-0.027	0.008	-0.072	0
DESIGN LEVELS	505.465	505.480	505.555	505.480	505.465	505.014
EXISTING LEVELS	505.459	505.483	505.528	505.488	505.393	505.014
OFFSET	-3.000	-2.500	0.000	2.500	3.000	4.805

MC10 500

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	
4	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	17/05/2017	AMENDED DRAWING CROSS-SECTION 4 OF 8	G.J.	RIC	J.H.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

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Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

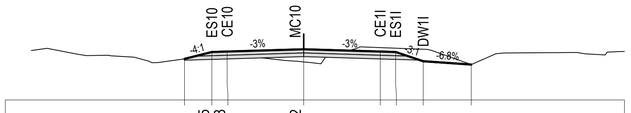
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 4 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:100@A1	A1

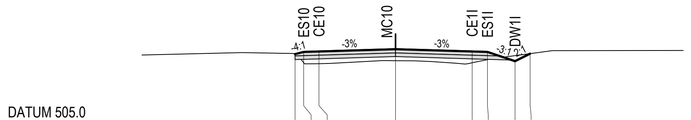
Drawing Number: 50517019 - C33

Revision: 5



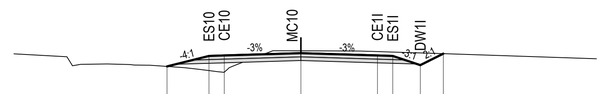
DATUM 505.0												
LEVEL DIFF	0	-0.175	-0.168	-0.412	0.13	0.126	0.391	0				
DESIGN LEVELS	506.339	506.563	506.578	506.653	506.578	506.563	506.263	506.155				
EXISTING LEVELS	506.339	506.388	506.409	506.24	506.707	506.688	506.654	506.155				
OFFSET	-3.893	-3.000	-2.500	0.000	2.500	3.000	3.900	5.470				

MC10 580



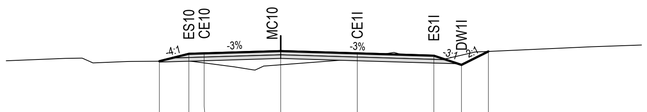
DATUM 505.0												
LEVEL DIFF	0	-0.351	-0.397	-0.374	-0.365	-0.251	0.181	0				
DESIGN LEVELS	507.182	507.252	507.267	507.342	507.267	507.252	506.952	507.199				
EXISTING LEVELS	507.182	506.901	506.871	506.968	506.902	507.001	507.133	507.199				
OFFSET	-3.281	-3.000	-2.500	0.000	2.500	3.000	3.900	4.393				

MC10 611.719



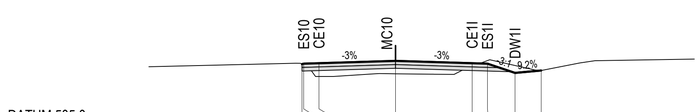
DATUM 507.0												
LEVEL DIFF	0	-0.478	-0.543	0.077	0.127	0.127	0.399	0				
DESIGN LEVELS	508.388	508.731	508.746	508.821	508.746	508.731	508.431	508.806				
EXISTING LEVELS	508.388	508.253	508.203	508.898	508.873	508.858	508.83	508.806				
OFFSET	-4.370	-3.000	-2.500	0.000	2.500	3.000	3.900	4.651				

MC10 660



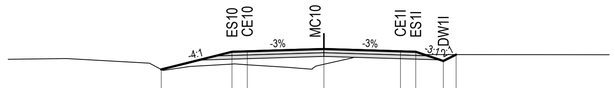
DATUM 504.0												
LEVEL DIFF	0	-0.235	-0.311	-0.447	-0.161	-0.184	0.317	0				
DESIGN LEVELS	505.968	506.208	506.223	506.298	506.223	506.148	505.848	506.287				
EXISTING LEVELS	505.968	505.973	505.912	505.851	506.062	505.964	506.165	506.287				
OFFSET	-3.962	-3.000	-2.500	0.000	2.500	5.000	5.900	6.778				

MC10 560



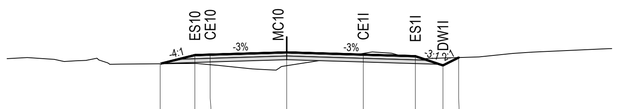
DATUM 505.0												
LEVEL DIFF	0	-0.048	-0.432	-0.419	-0.099	0.101	0.242	0				
DESIGN LEVELS	506.960	506.974	506.989	507.064	506.989	506.974	506.674	506.752				
EXISTING LEVELS	506.96	506.925	506.557	506.644	506.89	507.075	506.915	506.752				
OFFSET	-3.055	-3.000	-2.500	0.000	2.500	3.000	3.900	4.754				

MC10 600



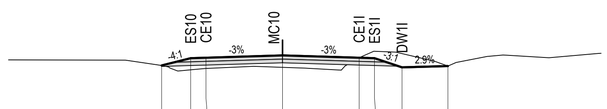
DATUM 506.0												
LEVEL DIFF	0	-0.4	-0.438	-0.498	-0.104	-0.09	0.209	0				
DESIGN LEVELS	507.476	508.054	508.069	508.144	508.069	508.054	507.754	507.963				
EXISTING LEVELS	507.476	507.654	507.631	507.646	507.965	507.964	507.963	507.963				
OFFSET	-5.310	-3.000	-2.500	0.000	2.500	3.000	3.900	4.317				

MC10 640



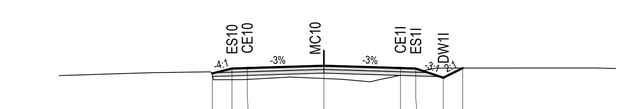
DATUM 504.0												
LEVEL DIFF	0	-0.273	-0.327	-0.435	0.04	-0.087	0.24	0				
DESIGN LEVELS	505.624	505.907	505.922	505.997	505.922	505.871	505.571	505.827				
EXISTING LEVELS	505.624	505.634	505.595	505.562	505.962	505.784	505.811	505.827				
OFFSET	-4.131	-3.000	-2.500	0.000	2.500	4.200	5.100	5.613				

MC10 540



DATUM 505.0												
LEVEL DIFF	0	-0.38	-0.35	-0.388	-0.006	0.226	0.45	0				
DESIGN LEVELS	506.569	506.806	506.821	506.896	506.821	506.806	506.506	506.550				
EXISTING LEVELS	506.569	506.426	506.472	506.508	506.815	507.033	506.956	506.55				
OFFSET	-3.948	-3.000	-2.500	0.000	2.500	3.000	3.900	5.399				

MC10 592.26



DATUM 506.0												
LEVEL DIFF	0	-0.363	-0.37	-0.415	-0.236	-0.121	0.314	0				
DESIGN LEVELS	507.308	507.468	507.483	507.558	507.483	507.468	507.168	507.484				
EXISTING LEVELS	507.308	507.105	507.113	507.144	507.247	507.348	507.482	507.484				
OFFSET	-3.643	-3.000	-2.500	0.000	2.500	3.000	3.900	4.532				

MC10 620

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	
4	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	17/05/2017	AMENDED DRAWING CROSS-SECTION 5 OF 8	G.J.	RIC	J.H.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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		Date
Drawn	G.J.	23/12/2016
Checked	J.H.	23/12/2016
Designed	RIC	23/12/2016
Verified	J.H.	23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

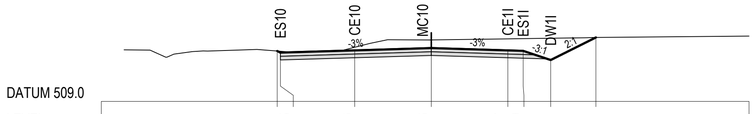
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 5 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:100@A1	A1

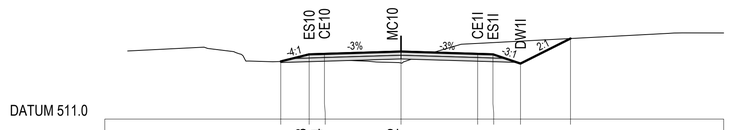
Drawing Number: 50517019 - C34

Revision: 5



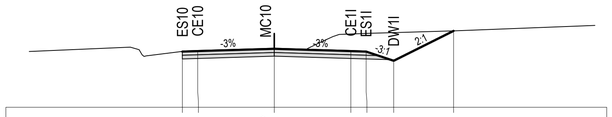
DATUM 509.0											
LEVEL DIFF	0	0.045	0.103	0.266	0.377	0.399	0.711				
DESIGN LEVELS	510.645	510.592	510.665	510.740	510.665	510.650	510.350	511.087			
EXISTING LEVELS	510.645	510.637	510.768	511.006	511.042	511.049	511.061	511.087			
OFFSET	-5.031	-4.925	-2.500	0.000	2.500	3.000	3.900	5.374			

MC10 706.377



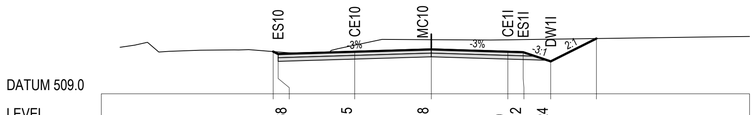
DATUM 511.0											
LEVEL DIFF	0	-0.183	-0.184	-0.372	0.342	0.384	0.731	0			
DESIGN LEVELS	512.881	513.113	513.128	513.203	513.128	513.113	512.813	513.629			
EXISTING LEVELS	512.881	512.93	512.944	512.831	513.47	513.497	513.544	513.629			
OFFSET	-3.927	-3.000	-2.500	0.000	2.500	3.000	3.900	5.533			

MC10 760



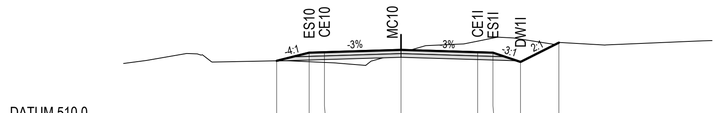
DATUM 513.0											
LEVEL DIFF	0.001	0.003	-0.157		0.56	0.593	0.92	0			
DESIGN LEVELS	514.818	514.833	514.908		514.833	514.818	514.518	515.495			
EXISTING LEVELS	514.819	514.836	514.751		515.392	515.411	515.437	515.495			
OFFSET	-3.000	-2.500	0.000		2.500	3.000	3.900	5.855			

MC10 804.568



DATUM 509.0											
LEVEL DIFF	0	0.068	0.215	0.318	0.39	0.412	0.724	0			
DESIGN LEVELS	510.377	510.297	510.372	510.447	510.372	510.357	510.057	510.802			
EXISTING LEVELS	510.377	510.365	510.587	510.765	510.762	510.769	510.781	510.802			
OFFSET	-5.161	-5.000	-2.500	0.000	2.500	3.000	3.900	5.391			

MC10 700

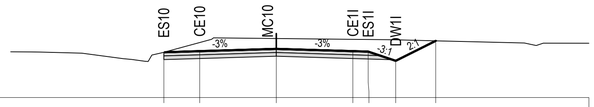


DATUM 510.0											
LEVEL DIFF	0	-0.294	-0.332	-0.089	0.362	0.477	0.745	0			
DESIGN LEVELS	511.969	512.234	512.249	512.324	512.249	512.234	511.934	512.561			
EXISTING LEVELS	511.969	511.94	511.917	512.235	512.611	512.711	512.679	512.561			
OFFSET	-4.060	-3.000	-2.500	0.000	2.500	3.000	3.900	5.154			

MC10 740.332

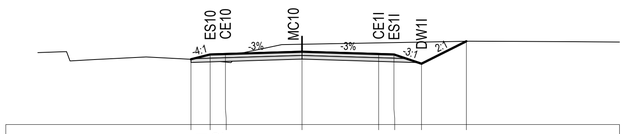
DATUM 513.0											
LEVEL DIFF	0	0.008	0.014	-0.149	0.548	0.582	0.916	0			
DESIGN LEVELS	514.678	514.671	514.686	514.761	514.686	514.671	514.371	515.353			
EXISTING LEVELS	514.678	514.679	514.7	514.613	515.234	515.253	515.287	515.353			
OFFSET	-3.014	-3.000	-2.500	0.000	2.500	3.000	3.900	5.864			

MC10 800.332



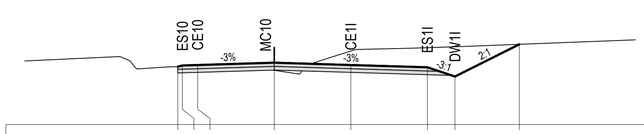
DATUM 508.0											
LEVEL DIFF	-0	0.283	0.338		0.386	0.396	0.685	0			
DESIGN LEVELS	509.478	509.513	509.588		509.513	509.498	509.198	509.851			
EXISTING LEVELS	509.478	509.796	509.926		509.899	509.894	509.883	509.851			
OFFSET	-3.670	-2.500	0.000		2.500	3.000	3.900	5.206			

MC10 680



DATUM 509.0											
LEVEL DIFF	0	-0.201	-0.262	0.245	0.365	0.389	0.705	0			
DESIGN LEVELS	511.129	511.129	511.301	511.376	511.301	511.286	510.986	511.717			
EXISTING LEVELS	511.129	511.085	511.038	511.62	511.666	511.675	511.691	511.717			
OFFSET	-3.626	-3.000	-2.500	0.000	2.500	3.000	3.900	5.364			

MC10 720



DATUM 512.0											
LEVEL DIFF	0	-0.033	-0.032	-0.246	0.458	0.642	0.972	0			
DESIGN LEVELS	513.889	513.927	513.942	514.017	513.942	513.867	513.567	514.618			
EXISTING LEVELS	513.889	513.894	513.91	513.771	514.399	514.509	514.538	514.618			
OFFSET	-3.149	-3.000	-2.500	0.000	2.500	5.000	5.900	8.002			

MC10 780

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
5	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	
4	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	17/05/2017	AMENDED DRAWING CROSS-SECTION 6 OF 8	G.J.	RIC	J.H.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

GOLDWIND

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Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

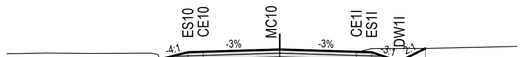
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 6 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:100@A1	A1

Drawing Number: 50517019 - C35
Revision: 5

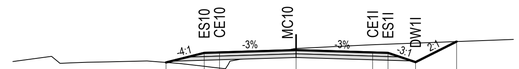


DATUM 515.0											
LEVEL DIFF	0	-0.283	-0.254		-0.363		-0.014	0.119	0.424	0	
DESIGN LEVELS	516.677	516.904	516.919		516.994		516.919	516.904	516.604	517.030	
EXISTING LEVELS	516.677	516.621	516.664		516.631		516.904	517.023	517.027	517.03	
OFFSET	-3.904	-3.000	-2.500		0.000		2.500	3.000	3.900	4.753	

MC10 860

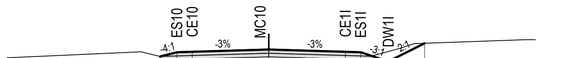
DATUM 518.0							
LEVEL DIFF	0	-0.102	-0.167	-0.234	0.446	0.471	0
DESIGN LEVELS	519.448	519.543	519.558	519.633	519.558	519.543	520.035
EXISTING LEVELS	519.448	519.441	519.39	519.399	520.004	520.014	520.035
OFFSET	-3.380	-3.000	-2.500	0.000	2.500	3.000	3.985

MC10 920



DATUM 519.0											
LEVEL DIFF	0	-0.437	-0.51		0.054		0.251	0.285	0.619	0	
DESIGN LEVELS	521.198	521.510	521.525		521.600		521.525	521.510	521.210	521.880	
EXISTING LEVELS	521.198	521.073	521.014		521.654		521.776	521.795	521.829	521.88	
OFFSET	-4.247	-3.000	-2.500		0.000		2.500	3.000	3.900	5.241	

MC10 960



DATUM 514.0											
LEVEL DIFF	0	-0.246	-0.194		-0.182		-0.365	-0.216	0.326	0	
DESIGN LEVELS	515.976	516.112	516.127		516.202		516.127	516.112	515.812	516.406	
EXISTING LEVELS	515.976	515.866	515.933		516.02		515.762	515.896	516.138	516.406	
OFFSET	-3.543	-3.000	-2.500		0.000		2.500	3.000	3.900	5.089	

MC10 840

DATUM 517.0							
LEVEL DIFF	0	-0.165	-0.19	-0.198	0.561	0.593	0
DESIGN LEVELS	518.487	518.662	518.677	518.752	518.677	518.662	519.303
EXISTING LEVELS	518.487	518.497	518.487	518.554	519.238	519.255	519.303
OFFSET	-3.701	-3.000	-2.500	0.000	2.500	3.000	4.280

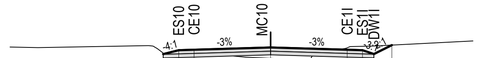
MC10 900.961

DATUM 519.0											
LEVEL DIFF	0	-0.351	-0.423		0.026		0.296	0.337	0		
DESIGN LEVELS	520.496	520.738	520.753		520.828		520.753	520.738	521.114		
EXISTING LEVELS	520.496	520.387	520.33		520.854		521.049	521.075	521.114		
OFFSET	-3.967	-3.000	-2.500		0.000		2.500	3.000	3.753		

MC10 944.568

DATUM 514.0											
LEVEL DIFF	0	-0.041	-0.035		-0.146		0.117	0.255	0.804	0	
DESIGN LEVELS	515.316	515.364	515.379		515.454		515.379	515.364	515.064	515.958	
EXISTING LEVELS	515.316	515.324	515.344		515.308		515.496	515.62	515.869	515.958	
OFFSET	-3.195	-3.000	-2.500		0.000		2.500	3.000	3.900	5.686	

MC10 820



DATUM 516.0											
LEVEL DIFF	0	-0.212	-0.213		-0.358		0.063	0.129	0.263	0	
DESIGN LEVELS	517.612	517.739	517.754		517.829		517.754	517.739	517.615	517.908	
EXISTING LEVELS	517.612	517.528	517.541		517.471		517.818	517.868	517.878	517.908	
OFFSET	-3.508	-3.000	-2.500		0.000		2.500	3.000	3.372	3.958	

MC10 880

DATUM 519.0											
LEVEL DIFF	0	-0.268	-0.328		-0.034		0.312	0.357	0		
DESIGN LEVELS	520.316	520.511	520.526		520.601		520.526	520.511	520.912		
EXISTING LEVELS	520.316	520.243	520.198		520.566		520.838	520.868	520.912		
OFFSET	-3.780	-3.000	-2.500		0.000		2.500	3.000	3.803		

MC10 940

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
4	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
3	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
1	17/05/2017	NEW DRAWING CROSS-SECTION 8 OF 8	G.J.	RIC	J.H.

GOLDWIND

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Drawn	G.J.	Date 17/05/2017
Checked	J.H.	Date 17/05/2017
Designed	RIC	Date 17/05/2017
Verified	J.H.	Date 17/05/2017
Approved	M.P.	17/05/2017

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

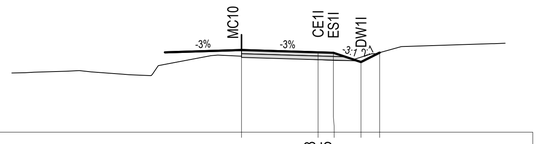
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 7 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:100@A1	A1

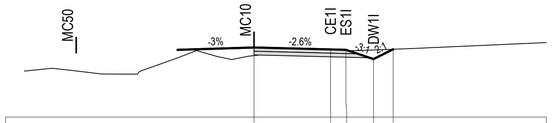
Drawing Number: 50517019 - C36

Revision: 4



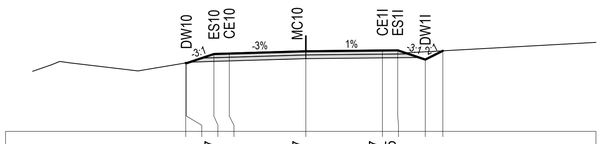
DATUM 520.0							
LEVEL DIFF		-0.2		-0.238	-0.245	0.158	0
DESIGN LEVELS		522.682		522.607	522.592	522.292	522.597
EXISTING LEVELS		522.482		522.369	522.347	522.45	522.597
OFFSET		0.000		2.500	3.000	3.900	4.510

MC10 982.662



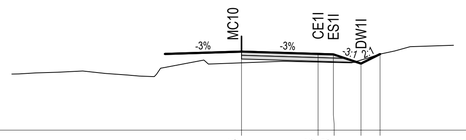
DATUM 522.0							
LEVEL DIFF		-0.265		-0.068	-0.034	0.297	0
DESIGN LEVELS		524.271		524.207	524.194	523.894	524.215
EXISTING LEVELS		524.006		524.139	524.16	524.191	524.215
OFFSET		0.000		2.500	3.000	3.900	4.542

MC10 1024.366



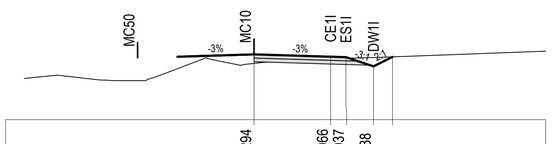
DATUM 523.0							
LEVEL DIFF	0	0.015	-0.22	-0.227		-0.117	-0.095	0.255	0
DESIGN LEVELS	525.234	525.223	525.538	525.613		525.638	525.643	525.343	525.630
EXISTING LEVELS	525.234	525.238	525.319	525.386		525.521	525.549	525.598	525.63
OFFSET	-3.922	-3.900	-2.500	0.000		2.500	3.000	3.900	4.472

MC10 1060



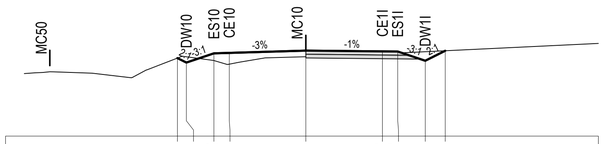
DATUM 520.0							
LEVEL DIFF		-0.365		-0.266	-0.263	0.114	0
DESIGN LEVELS		522.562		522.487	522.472	522.172	522.484
EXISTING LEVELS		522.197		522.221	522.21	522.287	522.484
OFFSET		0.000		2.500	3.000	3.900	4.522

MC10 980



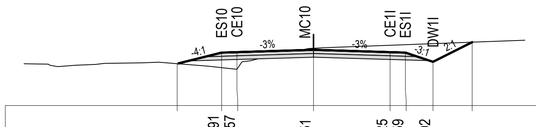
DATUM 522.0							
LEVEL DIFF		-0.294		-0.066	-0.037	0.288	0
DESIGN LEVELS		524.130		524.055	524.040	523.740	524.049
EXISTING LEVELS		523.835		523.988	524.002	524.027	524.049
OFFSET		0.000		2.500	3.000	3.900	4.520

MC10 1020



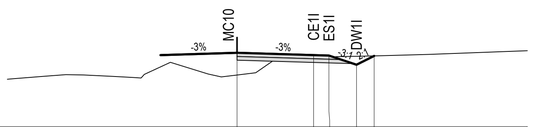
DATUM 522.0							
LEVEL DIFF	0	0.189	-0.367	-0.2		-0.078	-0.049	0.294	0
DESIGN LEVELS	524.547	524.401	524.716	524.791		524.766	524.761	524.461	524.786
EXISTING LEVELS	524.547	524.589	524.349	524.59		524.688	524.712	524.755	524.786
OFFSET	-4.192	-3.900	-2.500	0.000		2.500	3.000	3.900	4.551

MC10 1040



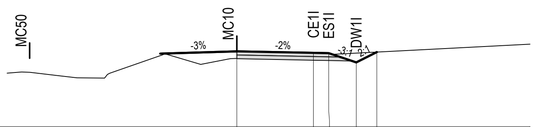
DATUM 520.0							
LEVEL DIFF	0	-0.491	-0.557	0.051	0.225	0.259	0.592	0
DESIGN LEVELS	521.365	521.728	521.743	521.818	521.743	521.728	521.428	522.068
EXISTING LEVELS	521.365	521.237	521.186	521.869	521.968	521.986	522.02	522.068
OFFSET	-4.450	-3.000	-2.500	0.000	2.500	3.000	3.900	5.180

MC10 964.366



DATUM 521.0							
LEVEL DIFF		-0.726		-0.084	-0.058	0.277	0
DESIGN LEVELS		523.407		523.332	523.317	523.017	523.305
EXISTING LEVELS		522.681		523.248	523.259	523.293	523.305
OFFSET		0.000		2.500	3.000	3.900	4.477

MC10 1000



DATUM 522.0							
LEVEL DIFF		-0.232		-0.078	-0.045	0.301	0
DESIGN LEVELS		524.454		524.404	524.394	524.094	524.430
EXISTING LEVELS		524.222		524.326	524.349	524.395	524.43
OFFSET		0.000		2.500	3.000	3.900	4.571

MC10 1030.122

5

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
4	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
3	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
1	17/05/2017	NEW DRAWING CROSS-SECTION 8 OF 8	G.J.	RIC	J.H.

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Drawn	G.J.	Date 17/05/2017
Checked	J.H.	Date 17/05/2017
Designed	RIC	Date 17/05/2017
Verified	J.H.	Date 17/05/2017
Approved	M.P.	17/05/2017

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

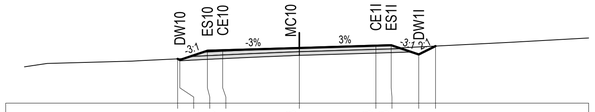
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 8 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:100@A1	A1

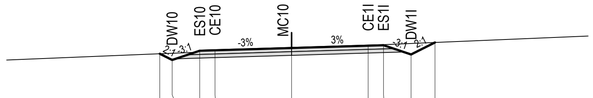
Drawing Number: 50517019 - C37

Revision: 4



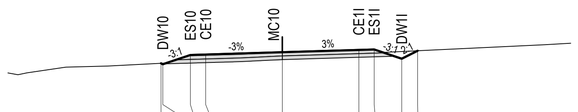
DATUM 526.0										
LEVEL DIFF	0	0.04	-0.217	-0.207	-0.158	-0.108	-0.098	0.246	0	
DESIGN LEVELS	527.446	527.410	527.710	527.725	527.800	527.875	527.890	527.590	527.864	
EXISTING LEVELS	527.446	527.45	527.493	527.518	527.642	527.767	527.792	527.836	527.864	
OFFSET	-3.973	-3.900	-3.000	-2.500	0.000	2.500	3.000	3.900	4.447	

MC10 1100



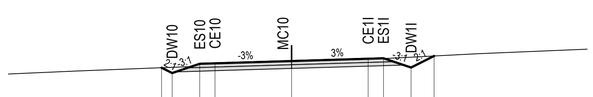
DATUM 528.0										
LEVEL DIFF	0	0.218	-0.046	-0.042	-0.02	0.014	0.02	0.358	0	
DESIGN LEVELS	529.838	529.637	529.937	529.952	530.027	530.102	530.117	529.817	530.207	
EXISTING LEVELS	529.838	529.855	529.89	529.91	530.006	530.115	530.136	530.174	530.207	
OFFSET	-4.303	-3.900	-3.000	-2.500	0.000	2.500	3.000	3.900	4.681	

MC10 1143.334



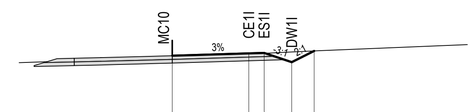
DATUM 525.0										
LEVEL DIFF	0	0.032	-0.223	-0.213	-0.162	-0.117	-0.108	0.235	0	
DESIGN LEVELS	526.846	526.817	527.117	527.132	527.207	527.282	527.297	526.997	527.257	
EXISTING LEVELS	526.846	526.849	526.895	526.92	527.045	527.165	527.189	527.232	527.257	
OFFSET	-3.958	-3.900	-3.000	-2.500	0.000	2.500	3.000	3.900	4.418	

MC10 1090.122



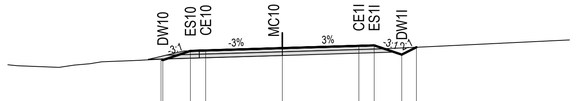
DATUM 528.0										
LEVEL DIFF	0	0.187	-0.079	-0.074	-0.053	-0.02	-0.009	0.337	0	
DESIGN LEVELS	529.710	529.537	529.837	529.852	529.927	530.002	530.017	529.717	530.092	
EXISTING LEVELS	529.71	529.723	529.758	529.778	529.874	529.982	530.008	530.054	530.092	
OFFSET	-4.246	-3.900	-3.000	-2.500	0.000	2.500	3.000	3.900	4.651	

MC10 1140



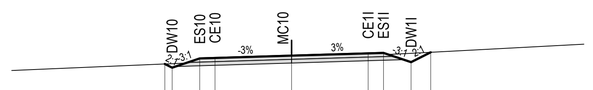
DATUM 528.0					
LEVEL DIFF	-0.056	-0.02	-0.011	0.332	0
DESIGN LEVELS	530.296	530.371	530.386	530.086	530.453
EXISTING LEVELS	530.24	530.351	530.375	530.418	530.453
OFFSET	0.000	2.500	3.000	3.900	4.633

MC10 1162.884



DATUM 524.0										
LEVEL DIFF	0	0.033	-0.22	-0.211	-0.172	-0.132	-0.124	0.217	0	
DESIGN LEVELS	526.264	526.234	526.534	526.549	526.624	526.699	526.714	526.414	526.653	
EXISTING LEVELS	526.264	526.267	526.314	526.338	526.453	526.567	526.59	526.631	526.653	
OFFSET	-3.960	-3.900	-3.000	-2.500	0.000	2.500	3.000	3.900	4.378	

MC10 1080



DATUM 527.0										
LEVEL DIFF	0	0.13	-0.132	-0.126	-0.094	-0.062	-0.056	0.287	0	
DESIGN LEVELS	528.748	528.629	528.929	528.944	529.019	529.094	529.109	528.809	529.130	
EXISTING LEVELS	528.748	528.758	528.797	528.818	528.925	529.031	529.053	529.096	529.13	
OFFSET	-4.139	-3.900	-3.000	-2.500	0.000	2.500	3.000	3.900	4.542	

MC10 1120.31

DATUM 528.0					
LEVEL DIFF	-0.044	-0.003	0.006	0.349	0
DESIGN LEVELS	530.290	530.365	530.380	530.080	530.465
EXISTING LEVELS	530.246	530.362	530.386	530.429	530.465
OFFSET	0.000	2.500	3.000	3.900	4.671

MC10 1160

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
1	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

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Drawn	G.J.	Date 17/05/2017
Checked	J.H.	Date 17/05/2017
Designed	RIC	Date 17/05/2017
Verified	J.H.	Date 17/05/2017
Approved	M.P.	17/05/2017

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

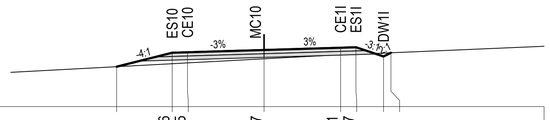
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 9 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:100@A1	A1

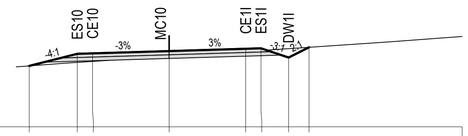
Drawing Number: 50517019 - C38

Revision: 3



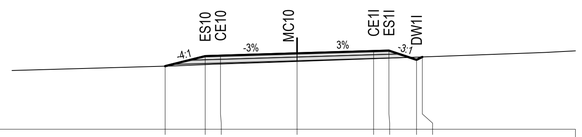
DATUM 527.0						
LEVEL DIFF	0	-0.356	-0.287	-0.231	-0.227	0.111	0
DESIGN LEVELS	528.302	528.755	528.770	528.845	528.920	528.935	528.635	528.756
EXISTING LEVELS	528.302	528.399	528.425	528.558	528.689	528.708	528.746	528.756
OFFSET	-4.814	-3.000	-2.500	0.000	2.500	3.000	3.900	4.142

MC10 1220



DATUM 525.0						
LEVEL DIFF	0	-0.278	-0.261	-0.173	-0.086	-0.068	0.29	0
DESIGN LEVELS	526.988	527.380	527.395	527.470	527.545	527.560	527.260	527.594
EXISTING LEVELS	526.988	527.102	527.134	527.297	527.459	527.492	527.55	527.594
OFFSET	-4.568	-3.000	-2.500	0.000	2.500	3.000	3.900	4.568

MC10 1263.509

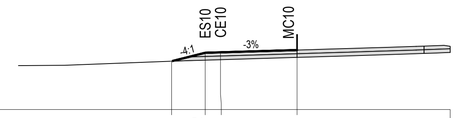


DATUM 527.0						
LEVEL DIFF	0	-0.276	-0.272	-0.263	-0.247	-0.244	0.088	0
DESIGN LEVELS	529.060	529.387	529.402	529.477	529.552	529.567	529.267	529.362
EXISTING LEVELS	529.06	529.111	529.13	529.215	529.305	529.323	529.355	529.362
OFFSET	-4.307	-3.000	-2.500	0.000	2.500	3.000	3.900	4.090

MC10 1200

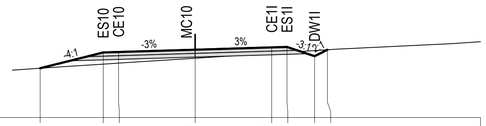
DATUM 526.0						
LEVEL DIFF	0	-0.307	-0.285	-0.173	-0.077	-0.059	0.299	0
DESIGN LEVELS	527.052	527.491	527.506	527.581	527.656	527.671	527.371	527.714
EXISTING LEVELS	527.052	527.183	527.221	527.408	527.579	527.611	527.67	527.714
OFFSET	-4.755	-3.000	-2.500	0.000	2.500	3.000	3.900	4.586

MC10 1260



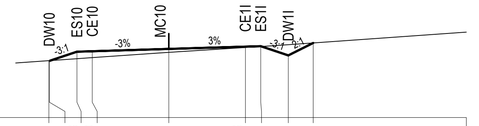
DATUM 528.0				
LEVEL DIFF	0	-0.232	-0.23	-0.221
DESIGN LEVELS	529.577	529.851	529.866	529.941
EXISTING LEVELS	529.577	529.619	529.636	529.72
OFFSET	-4.096	-3.000	-2.500	0.000

MC10 1185.31



DATUM 526.0						
LEVEL DIFF	0	-0.38	-0.363	-0.278	-0.193	-0.176	0.182	0
DESIGN LEVELS	527.608	528.123	528.138	528.213	528.288	528.303	528.003	528.212
EXISTING LEVELS	527.608	527.743	527.775	527.935	528.095	528.127	528.185	528.212
OFFSET	-5.059	-3.000	-2.500	0.000	2.500	3.000	3.900	4.317

MC10 1240



DATUM 525.0							
LEVEL DIFF	0	0.009	-0.228	-0.209	-0.111	-0.028	-0.011	0.349	0
DESIGN LEVELS	526.857	526.849	527.149	527.164	527.239	527.314	527.329	527.029	527.435
EXISTING LEVELS	526.857	526.858	526.92	526.955	527.128	527.286	527.317	527.378	527.435
OFFSET	-3.916	-3.900	-3.000	-2.500	0.000	2.500	3.000	3.900	4.712

MC10 1270.819

0 2 4 6 8 10m

SCALE: 1:100 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
1	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

GOLDWIND

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Level 2, 14 Wormald Street
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Tel: 02 6112 4500 Fax: 02 6112 4599
Web: www.cardno.com.au

Drawn	G.J.	Date 17/05/2017
Checked	J.H.	Date 17/05/2017
Designed	RIC	Date 17/05/2017
Verified	J.H.	Date 17/05/2017
Approved	M.P.	17/05/2017

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

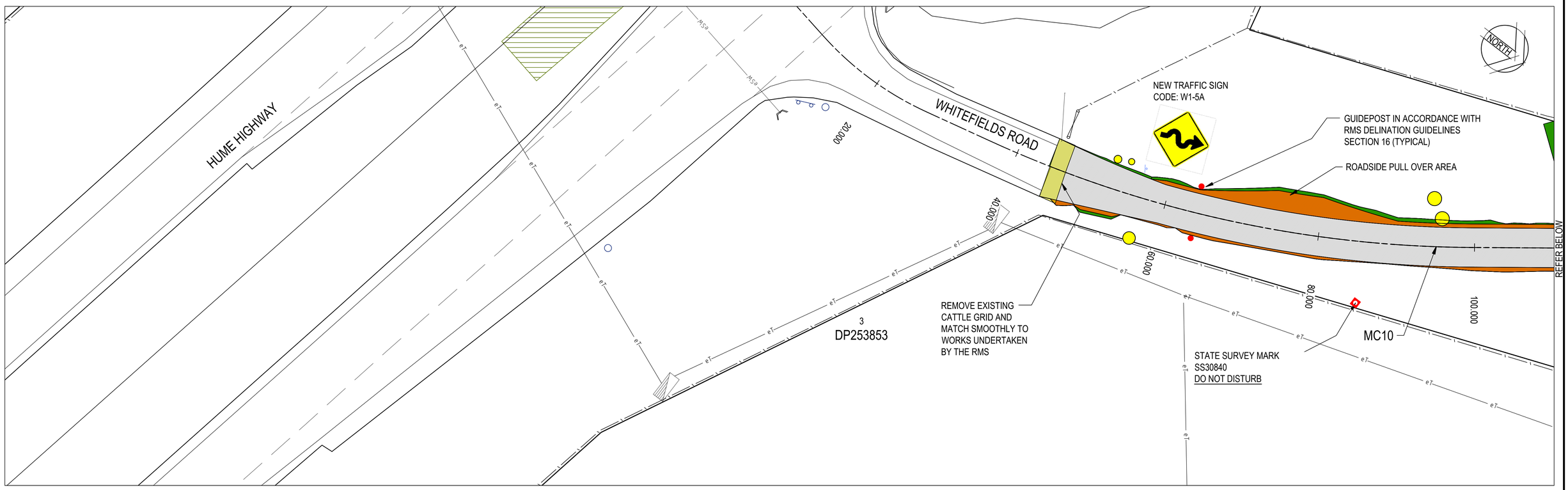
Title: CROSS SECTIONS
WHITEFIELDS RD (MC10) - SHEET 10 OF 10

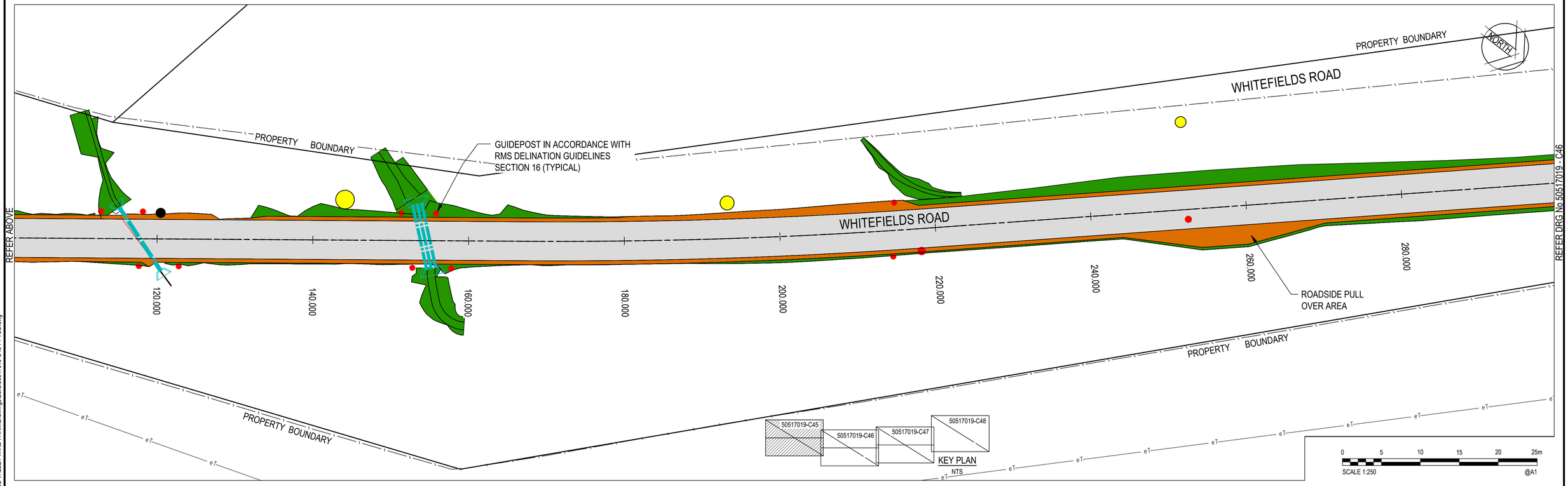
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:100@A1	A1

Drawing Number: 50517019 - C39

Revision: 3





Rev.	Date	Description	Des.	Verif.	Appd.
3	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	20/03/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
1	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

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Web: www.cardno.com.au

		Date
Drawn	P.D.J.	25/10/2018
Checked	S.A.S	25/10/2018
Designed	RIC	25/10/2018
Verified	S.A.S.	25/10/2018
Approved	M.P.	25/10/2018

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

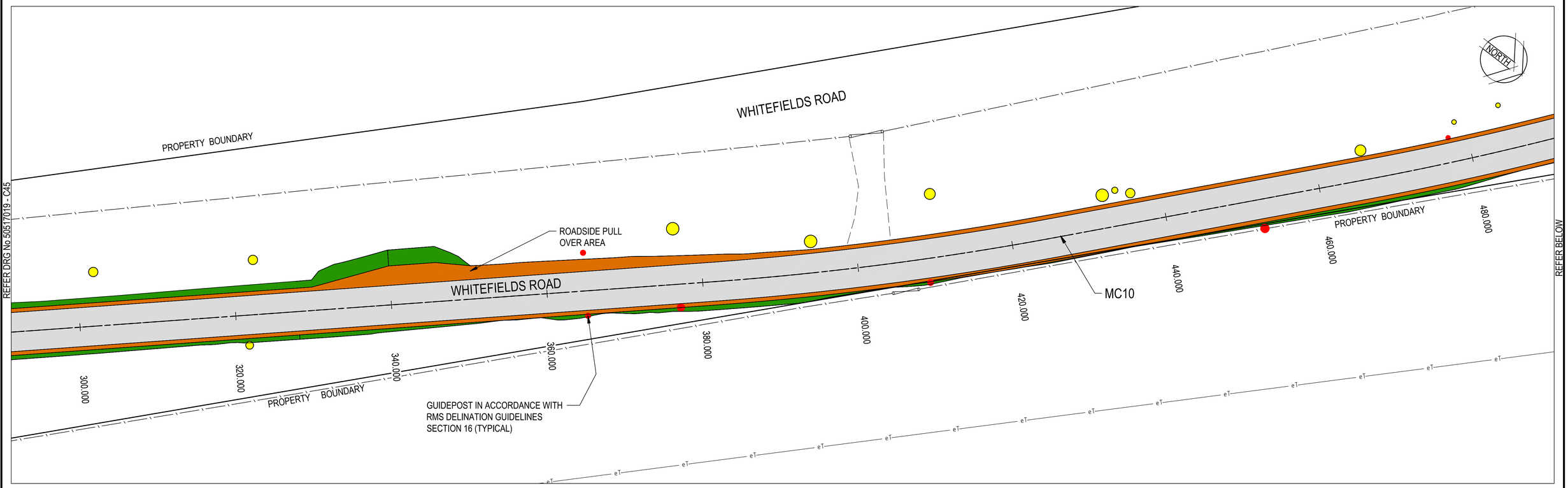
Title: PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES
SHEET 1 OF 4

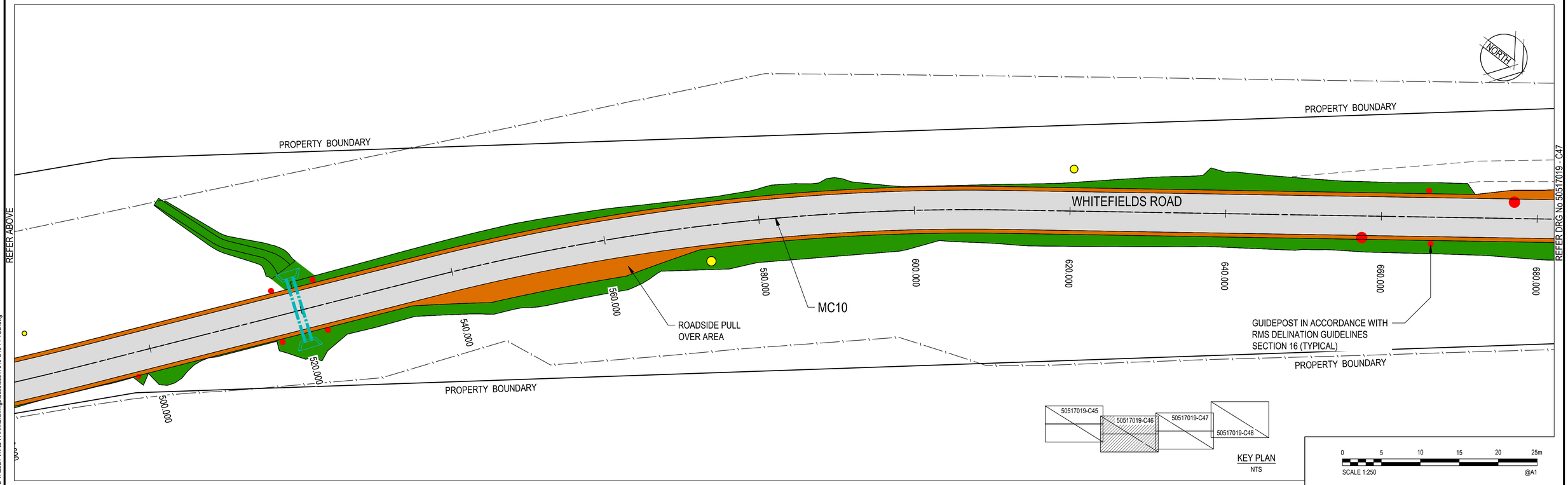
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM		Scale	Size
AHD		1:100@A1	A1

Drawing Number: 50517019 - C45

Revision: 3





KEY PLAN
NTS

SCALE 1:250 @A1

0 5 10 15 20 25m

Rev.	Date	Description	Des.	Verif.	Appd.
3	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	20/03/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
1	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

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Web: www.cardno.com.au

		Date
Drawn	P.D.J.	25/10/2018
Checked	S.A.S	25/10/2018
Designed	RIC	25/10/2018
Verified	S.A.S.	25/10/2018
Approved	M.P.	25/10/2018

Client: GOLDWIND AUSTRALIA

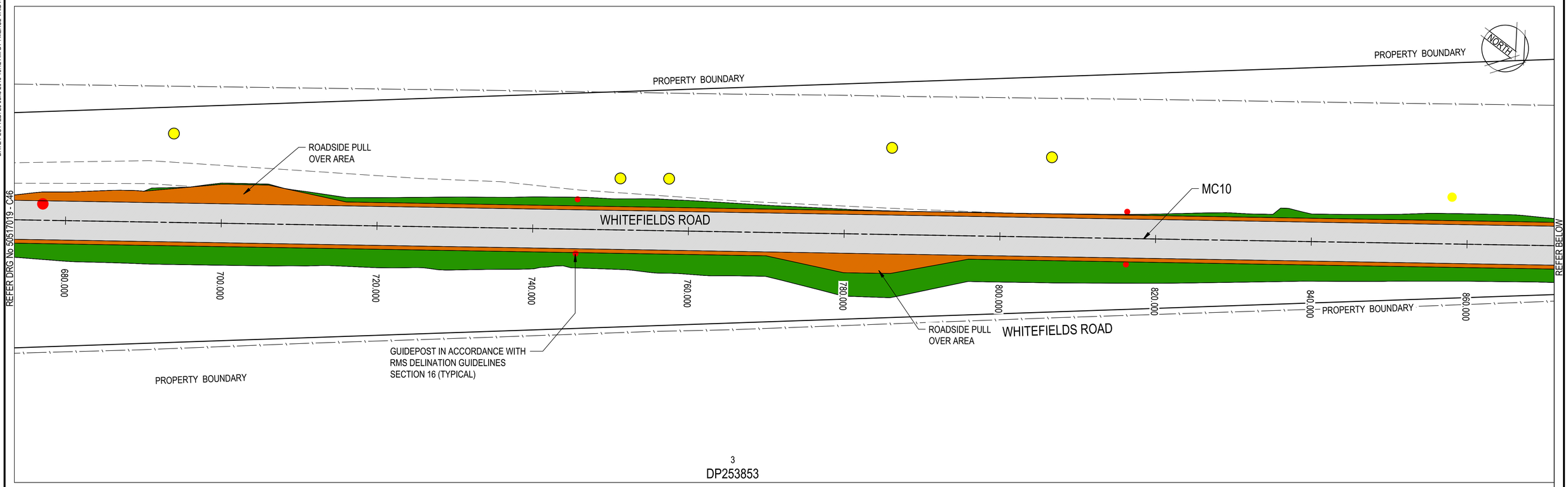
Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

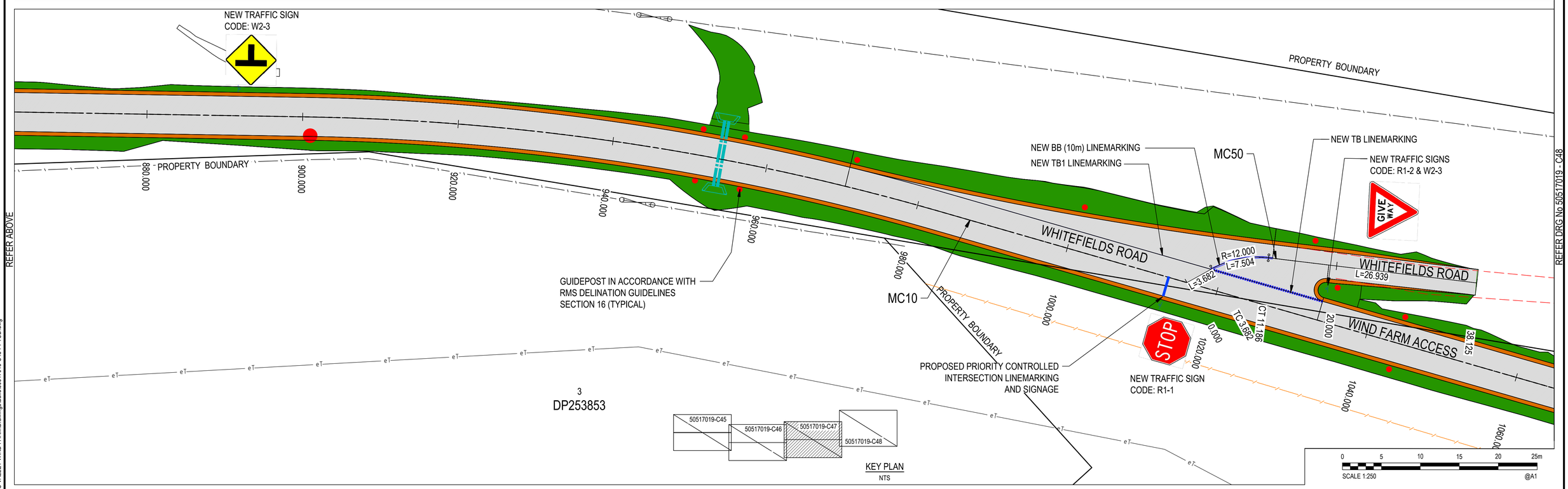
Title: PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES
SHEET 1 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:100@A1	A1

Drawing Number: 50517019 - C46
Revision: 3





Rev.	Date	Description	Des.	Verif.	Appd.
3	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	20/03/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
1	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

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		Date
Drawn	P.D.J.	25/10/2018
Checked	S.A.S	25/10/2018
Designed	RIC	25/10/2018
Verified	S.A.S.	25/10/2018
Approved	M.P.	25/10/2018

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES
SHEET 1 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:100@A1	A1

Drawing Number: 50517019 - C47
Revision: 3

DATE PLOTTED: 25 June 2019 10:12 AM BY: - MEHUL VAIDYA

REFER DRG No 50517019 - C47

XREFs: XRF CONTROL MAIN 250; X-CVT-2604_DT1; X-SW-ROUGH AS GUTS; X-DESIGN; X-YASS-BASE; X-S DESIGN BDY; X-PAVE HATCH

CAD File: N:\Projects\505\FY17\019_YASS VALLEY WIND FARM\Drawings\Build\50517019-C45-PPTCD.dwg

PROPERTY BOUNDARY

2
DP1211587

NORTH

WHITEFIELDS ROAD

PROPERTY BOUNDARY

WIND FARM ACCESS

1060.000

1080.000

1100.000

344
DP753595

1120.000

1140.000

1160.000

1180.000

1200.000

1220.000

1240.000

1260.000

MC40

MC10

MC20

INSTALL "PRIVATE PROPERTY SIGN"

PRIVATE PROPERTY
NO ENTRY

NEW TB1 LINEMARKING

20.000

40.000

60.000

GUIDEPOST IN ACCORDANCE WITH RMS DELINATION GUIDELINES SECTION 16 (TYPICAL)

PROPERTY BOUNDARY

2
DP1211587

PROPERTY BOUNDARY

INSTALL "PRIVATE PROPERTY SIGN"

PRIVATE PROPERTY
NO ENTRY

ACCESS ROAD TO WIND FARM WITHIN PROPERTY BOUNDARY (BY OTHERS)

50517019-C45 | 50517019-C46 | 50517019-C47 | 50517019-C48

KEY PLAN
NTS

0 5 10 15 20 25m
SCALE 1:250 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	22/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
2	20/03/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
1	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.

GOLDWIND

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		Date
Drawn	P.D.J.	25/10/2018
Checked	S.A.S	25/10/2018
Designed	RIC	25/10/2018
Verified	S.A.S.	25/10/2018
Approved	M.P.	25/10/2018

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: PAVEMENT PLAN AND TRAFFIC CONTROL DEVICES
SHEET 1 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	1:100@A1	A1

Drawing Number: 50517019 - C48

Revision: 3

ALIGNMENT->MC10 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644703.848	6147264.490	498.346	10°36'03.77"	LINE		10.845
TC	10.845	644705.843	6147275.150	498.037	10°36'03.77"	ARC	-40.000	16.410
CT	27.255	644705.515	6147291.441	497.459	347°05'44.85"	LINE		8.931
TC	36.186	644703.521	6147300.147	497.384	347°05'44.85"	ARC	-150.000	63.385
CT	99.570	644676.922	6147357.162	498.241	322°53'04.86"	LINE		67.641
TC	167.211	644636.106	6147411.100	499.363	322°53'04.86"	ARC	-660.000	51.624
CT	218.835	644603.378	6147451.007	500.029	318°24'11.31"	LINE		161.887
TC	380.722	644495.904	6147572.071	504.913	318°24'11.31"	ARC	-400.000	44.944
CT	425.666	644464.243	6147603.937	505.301	311°57'55.52"	LINE		39.732
TC	465.398	644434.700	6147630.504	505.345	311°57'55.52"	ARC	-400.000	26.094
CT	491.492	644414.743	6147647.308	505.489	308°13'39.60"	LINE		45.724
TC	537.216	644378.824	6147675.602	505.959	308°13'39.60"	ARC	280.000	74.503
CT	611.719	644327.082	6147728.902	507.342	323°28'23.11"	LINE		289.242
TC	900.961	644154.926	6147961.330	518.752	323°28'23.11"	ARC	310.000	81.701
CT	982.662	644115.460	6148032.597	522.682	338°34'24.60"	LINE		160.672
TC	1143.334	644056.765	6148182.164	530.027	338°34'24.60"	ARC	300.000	120.174
CT	1263.509	644036.137	6148299.741	527.470	1°31'30.45"	LINE		7.311
E	1270.819	644036.332	6148307.049	527.239	1°31'30.45"			

ALIGNMENT->MC20 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644029.934	6148205.474	529.453	60°28'34.07"	LINE		37.752
TC	37.752	644062.784	6148224.077	530.719	60°28'34.07"	ARC	119.675	48.126
CT	85.878	644108.246	6148238.852	533.679	83°31'01.82"	LINE		3.775
E	89.653	644111.997	6148239.278	533.981	83°31'01.82"			

ALIGNMENT->MC30 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644077.302	6148129.831	527.029	269°18'55.59"	LINE		9.466
TC	9.466	644067.837	6148129.718	526.953	269°18'55.59"	ARC	15.000	16.739
CT	26.205	644054.263	6148137.966	526.798	333°15'13.27"	LINE		12.776
E	38.981	644048.513	6148149.375		333°15'13.27"			

ALIGNMENT->MC40 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.LEN
S	0.000	644029.465	6148196.652	529.675	49°19'57.02"	LINE	9.904
TT	9.904	644036.977	6148203.106	530.011	49°19'57.02"	LINE	13.113
E	23.017	644046.924	6148211.652	530.202	49°19'57.02"		

ALIGNMENT->MC50 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644103.281	6148063.631	523.995	293°34'24.60"	LINE		3.682
TC	3.682	644099.907	6148065.103	524.005	293°34'24.60"	ARC	12.000	7.504
CT	11.186	644094.377	6148069.993	524.118	329°24'03.45"	LINE		26.939
E	38.125	644080.664	6148093.181	524.468	329°24'03.45"			

ALIGNMENT KERB RETURN->MK01 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644048.836	6148196.757	530.214	229°19'57.02"	ARC	-8.000	15.689
E	15.689	644036.027	6148200.312	530.022	229°19'57.02"			

ALIGNMENT KERB RETURN->MK02 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644054.504	6148215.837	530.424	163°06'05.81"	ARC	-10.000	11.659
E	11.659	644051.377	6148205.281	530.359	163°06'05.81"			

ALIGNMENT KERB RETURN->MK03 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644045.576	6148227.398	529.865	60°28'34.07"	ARC	-7.500	14.010
E	14.010	644056.594	6148222.494	530.472	60°28'34.07"			

ALIGNMENT KERB RETURN->MK04 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644038.181	6148211.776	529.829	346°23'54.68"	ARC	-8.000	10.343
E	10.343	644042.015	6148220.619	529.897	346°23'54.68"			

ALIGNMENT KERB RETURN->MK05 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644078.397	6148120.197	526.426	271°45'57.04"	ARC	-12.500	14.575
E	14.575	644067.147	6148128.124	526.897	271°45'57.04"			

ALIGNMENT KERB RETURN->MK06 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644053.243	6148143.322	526.934	338°34'24.60"	ARC	-7.500	22.866
E	22.866	644066.923	6148149.437	528.274	338°34'24.60"			

ALIGNMENT KERB RETURN->MK07 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644039.405	6148207.170	530.018	240°28'34.07"	ARC	-1.000	2.947
E	2.947	644038.261	6148208.798	529.831	240°28'34.07"			

ALIGNMENT KERB RETURN->MK50 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644117.878	6148020.262	522.039	329°24'03.45"	ARC	-460.000	55.434
E	55.434	644092.600	6148069.560	524.080	329°24'03.45"			

ALIGNMENT KERB RETURN->MK51 HORIZONTAL SEGMENTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	0.000	644091.912	6148077.600	524.315	338°34'24.60"	ARC	-1.500	4.472
E	4.472	644094.599	6148078.911	524.486	338°34'24.60"			

Rev.	Date	Description	Des.	Verif.	Appd.
5	21/05/2019	ROAD RE-ALIGNMENT	RIC	P.D.J.	S.A.S.
4	6/11/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
3	25/10/2018	ROAD RE-ALIGNMENT	P.D.J.	RIC	S.A.S.
2	17/03/2017	FINAL SUBMISSION	G.J.	RIC	J.H.
1	23/12/2016	90% DOCUMENTATION	G.J.	RIC	J.H.

Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035
Level 2, 14 Wormald Street
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Tel: 02 6112 4500 Fax: 02 6112 4599
Web: www.cardno.com.au

Drawn	G.J.	Date 23/12/2016
Checked	J.H.	Date 23/12/2016
Designed	RIC	Date 23/12/2016
Verified	J.H.	Date 23/12/2016
Approved	M.P.	23/12/2016

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: SETOUT TABLES

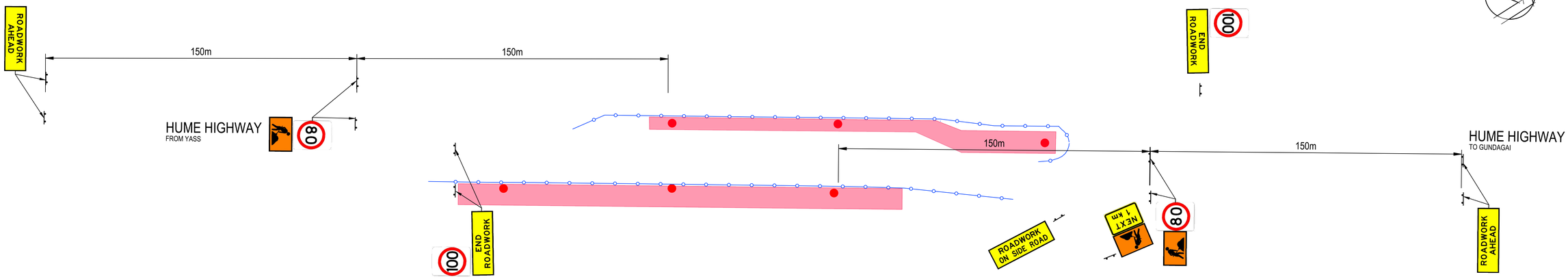
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

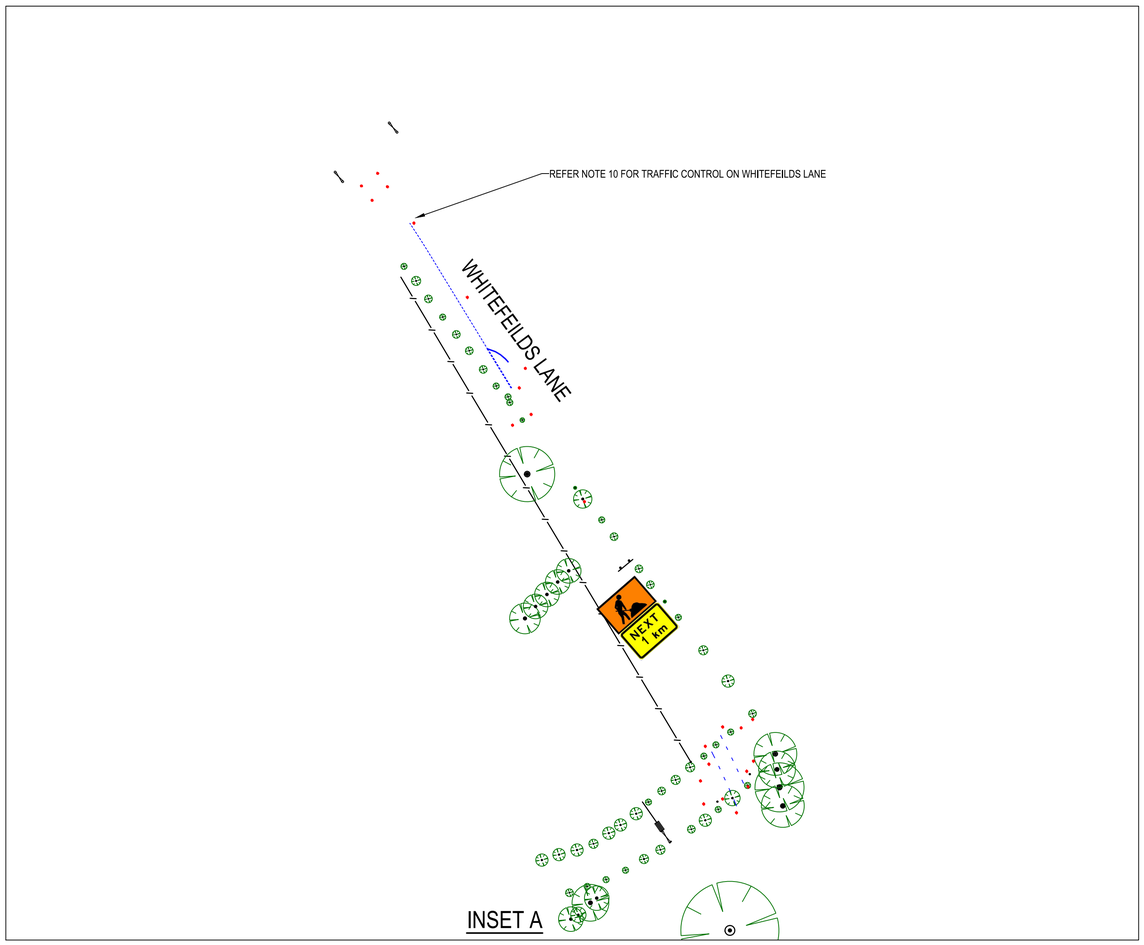
DATUM		Scale	Size
AHD		NTS	A1

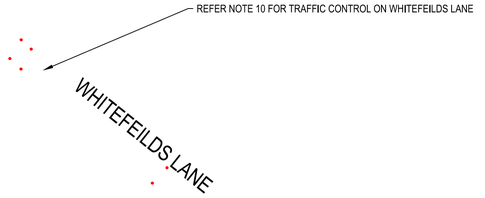
Drawing Number: 50517019 - C50

Revision: 5

DATE PLOTTED: 25 June 2019 10:13 AM BY : MEHUL VAIDYA







LEGEND

WORK ZONE

BOLLARDS

TEST PIT LOCATIONS

SIGN SCHEDULE

SIGNS TO BE ERECTED					
T1-5	WORKMAN AHEAD	-	-	-	3
T1-1	ROADWORK AHEAD	-	-	-	2
T1-25	ROADWORK ON SIDE ROAD	-	-	-	3
T2-16	END OF ROADWORK	-	-	-	2
R4-1	SPEED (80)	-	-	-	2
R4-1	SPEED (100)	-	-	-	2
SIGN NUMBER	DESCRIPTION	L	R	D	N
		NUMBER & HAND			

0 20 40 60 80 100m

SCALE 1:1000 @A1

RMS LICENSE

DESIGNER
LICENCE NUMBER: 39624635
LICENCE EXPIRY: 12/07/2021
NAME: PHILLIP JEWELL

APPROVED
LICENCE NUMBER: 39279354
LICENCE EXPIRY: 10/03/2020
NAME: PANKAJ PATOLE

NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE SITE OF WORKS AND THE TRAFFIC MANAGEMENT WITHIN THE SITE AND SHALL KEEP ALL REQUIRED RECORDS AND UNDERTAKE ALL NECESSARY MAINTENANCE.
2. ALL TEMPORARY TRAFFIC MANAGEMENT SHALL BE IN ACCORDANCE WITH AS 1743 AND QA G10 TRAFFIC MANAGEMENT
3. ALL EMPLOYEES ARE TO WEAR APPROPRIATE SAFETY EQUIPMENT AS DETAILED IN THE RELEVANT AUSTRALIAN STANDARD AND QA G10 TRAFFIC MANAGEMENT.
4. ALL SIGNS CONFLICTING WITH THIS THE TTM PLAN SHALL BE COVERED OR REMOVED DURING THE HOURS OF OPERATION.
5. ALL SIGNS ERECTED IN RELATION TO THIS TTM THAT ARE NOT REQUIRED OUTSIDE THE HOURS OF OPERATION SHALL BE COVERED.
6. ALL EMPLOYEES INVOLVED IN TTM TRAFFIC CONTROL, SETUP, MINOR MODIFICATIONS AND INSPECTIONS SHALL HAVE THE RELEVANT QUALIFICATIONS IN ACCORDANCE WITH CLAUSE 1.5.3 OF QA G10 TRAFFIC MANAGEMENT.
7. ALL TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE ERECTED AS PER THIS TCP AND IN CLEAR LINE OF SIGHT TO ALL ROAD USERS AND PEDESTRIANS. THEY SHALL NOT BE OBSCURED BY ANY VEGETATION, WORK PLANT OR PARKED VEHICLES. THEY SHALL NOT BE PLACED IN A MANOR THAT THEY WILL BECOME A HAZARD TO VEHICULAR TRAFFIC OR PEDESTRIANS.
8. ALL TRAFFIC LANES SHALL BE 3.0m MINIMUM.
9. ALL BOLLARDS SHALL BE PLACED AT 1.8m MINIMUM SPACING AND PLACED ALONG THE EDGE OF BITUMENT TO FORM THE WORK SAFETY ZONE.
10. BOREHOLES ALONG WHITEFIELDS LANE WILL UNDERTAKEN WITHIN THE SHOULDER AREA OF THE LANE. A T1-5 SHALL BE ALSO PLACED BEHIND AND IN FRONT OF THE TEST LOCATION MIN 50m EITHER SIDE. WORK VEHICLE SHALL BE PLACE BEHIND THE TEST LOCATION WITH FLASHING WARNING LIGHTS

FOR CONTINUATION REFER INSET A

Rev.	Date	Description	Des.	Verif.	Appd.
1	10/09/2018	FOR APPROVAL	P.D.J.	S.A.S.	M.P.

GOLDWIND

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		Date
Drawn	P.D.J.	10/09/2018
Checked	P.D.J.	10/09/2018
Designed	RIC	10/09/2018
Verified	S.A.S.	10/09/2018
Approved	M.P.	10/09/2018

Client: GOLDWIND AUSTRALIA

Project: YASS VALLEY WIND FARM
ACCESS ROAD IMPROVEMENTS AT WHITEFIELDS ROAD AND HUME HIGHWAY, BERREMANGRA - CIVIL WORKS

Title: TEMPORARY TRAFFIC MANAGEMENT PLAN
BARTON HIGHWAY

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	Scale	Size
AHD	NTS	A1

Drawing Number: 50517019 - C100
Revision: 1

XREFs: X:\YASS-BASE; X-SW
CAD File: N:\Projects\505\FY17\019_YASS VALLEY WIND FARM\Drawings\Build\50517019-C100-TTM.dwg

Annex D - Hume Hwy / Whitefields Rd Intersection Design

Transport Roads & Maritime Services

YASS VALLEY COUNCIL

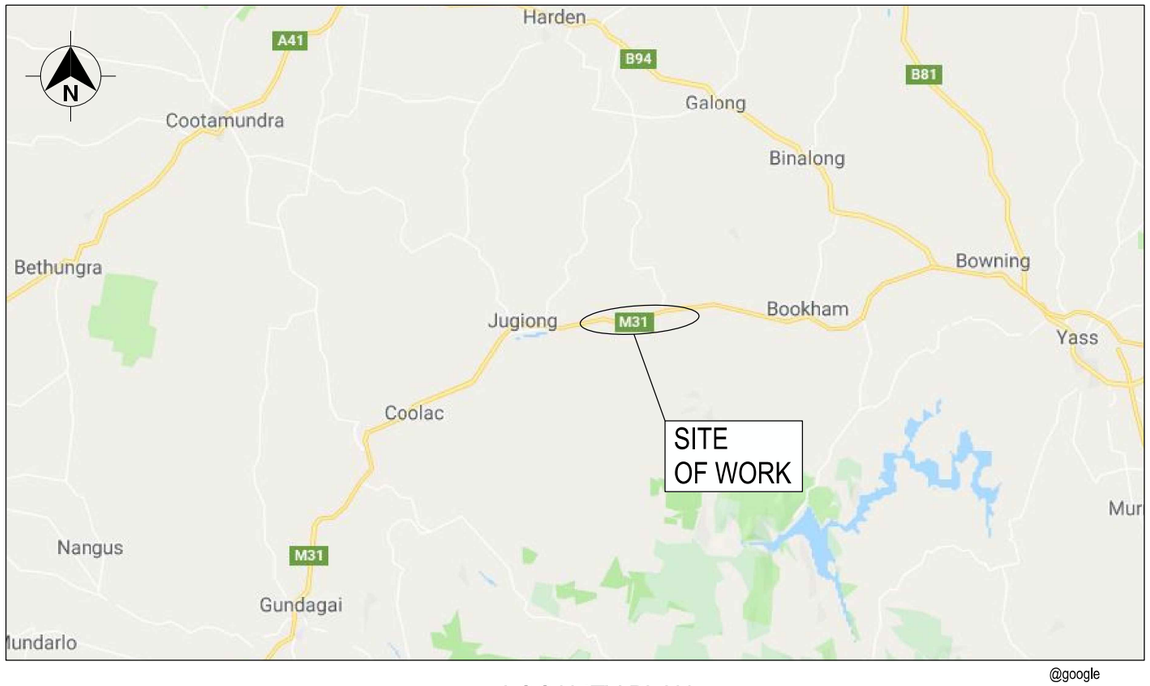
HW2 - HUME HIGHWAY

INTERSECTION UPGRADE WITH WHITEFIELDS RD

37.560km TO 37.935km SOUTH OF YASS

ROAD DESIGN

DETAIL DESIGN



LOCALITY PLAN

NOT FOR CONSTRUCTION

DRAWING FILE LOCATION / NAME K:\Design\0002\SF2018-231209-HW2_Intersection upgrade with Whitefields Rd\3-Microstation\03 Detail\DS2018-001026-01-GE.dgn		LINEAR REFERENCING START: 0002, 1723, B1, 5.546 (E 645026.686, N 6147203.909, MGA55) FINISH : 0002, 1723, B1, 5.921(E 644658.126, N 6147273.101, MGA55)		PLOT DATE / TIME 27/11/2018 2:56:39 PM PLOT BY HasanM	CLIENT Transport Roads & Maritime Services
PREPARED BY ROADS AND MARITIME SERVICES TECHNICAL & PROJECT SERVICES ENGINEERING SERVICES TECHNICAL OPERATIONS AND SUPPORT ROAD DESIGN SOUTH WEST	DESIGNED SIGNED NAME M.HASAN TITLE ROAD DESIGNER DATE 30/11/18	REVIEWED SIGNED NAME J.GOODEN TITLE LEAD ROAD DESIGNER DATE 30/11/18	VERIFIED SIGNED NAME L.CROKER TITLE A.LEAD ROAD DESIGN MANAGER DATE 30/11/18	RMS PROJECT MANAGER NAME P.JOHNSON TITLE PROJECT/CONTRACT MANAGER VALIDATION AND ACCEPTANCE OF THESE DRAWINGS AND THE DESIGN SHOWN THEREON IS TO BE CARRIED OUT UNDER SEPARATE PROCESS	PREPARED FOR REGIONAL & FREIGHT SOUTH WEST REGION PROJECT MANAGEMENT SOUTH WEST

YASS VALLEY COUNCIL
HW2 - HUME HIGHWAY
INTERSECTION UPGRADE WITH WHITEFIELDS RD
37.560km TO 37.935km SOUTH OF YASS

A3

RMS PROJECT No. P.0015534	DESIGN PROJECT No. SF2018/231209		
RMS REGISTRATION No. DS2018/001026			PART
ISSUE STATUS DETAIL DESIGN	EDMS No. SF2018/231209	SHEET No. GE-0101	ISSUE

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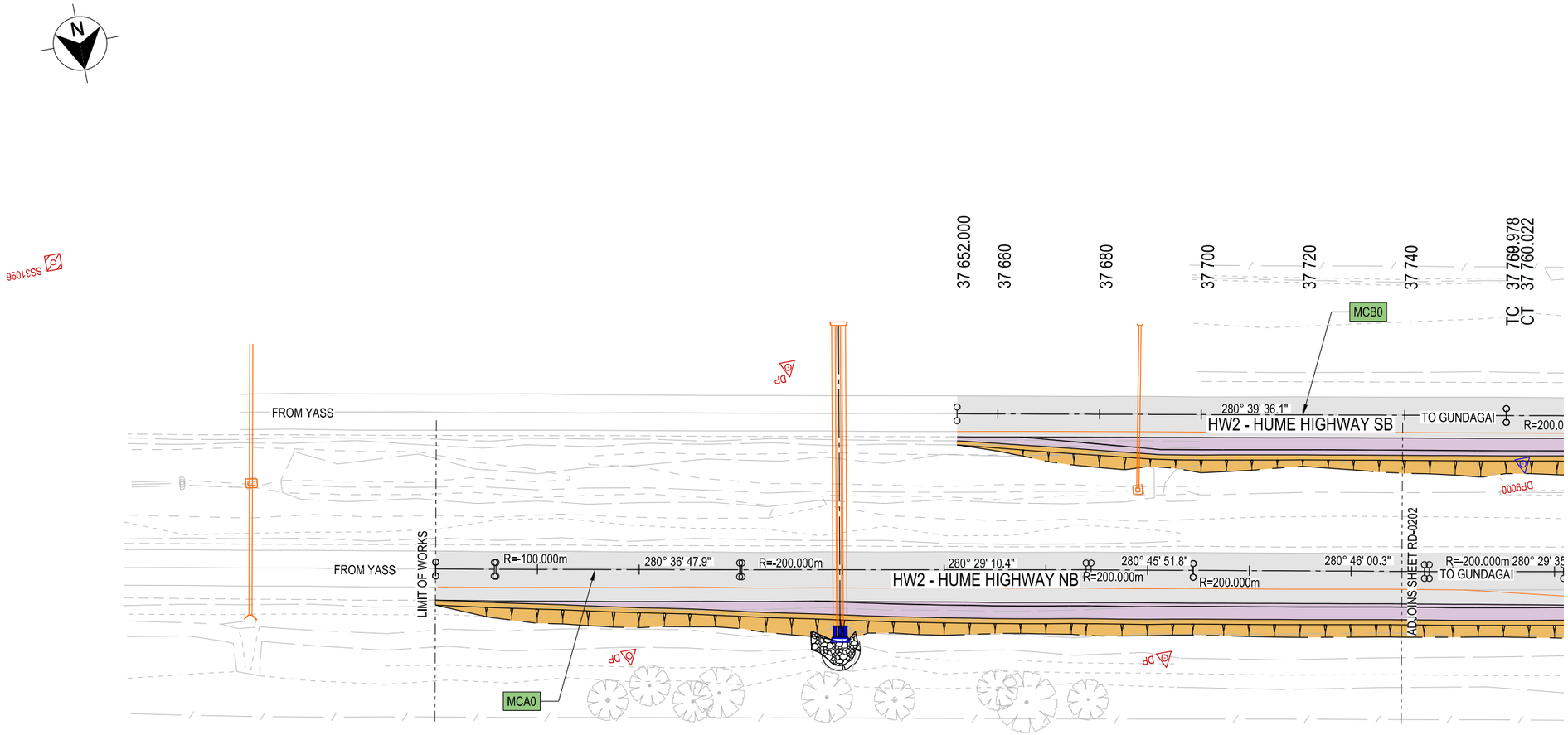

LEGEND

- MCA0 — CONTROL STRING LABEL
- PM — PERMANENT SURVEY MARK - DO NOT DISTURB
- SS — STATE SURVEY MARK - DO NOT DISTURB
- DP — MICELLANEOUS SURVEY MARK
- DP — MICELLANEOUS SURVEY MARK TO BE REMOVED
- TELSTRA CABLE MARKER
- EXISTING PROPERTY FENCE
- NEW PAVEMENT TO BE CONSTRUCTED
- BATTER TO BE TOP SOILED AND HYDROMULCHED
- EXISTING PAVEMENT TO BE RETAINED
- XX — TREES/DENSE VEGETATION TO BE CLEARED
- EXISTING CULVERT TO BE RETAINED
- CULVERT TO BE CONSTRUCTED
- T — EXISTING TELSTRA CABLE

NOTES

1. PERMANENT AND STATE SURVEY CONTROL MARKS ARE NOT TO BE DISTURBED UNLESS ASSESSED BY ROADS AND MARITIME SURVEY IN ACCORDANCE WITH LPI STANDARDS - FINES APPLY
2. REFER TO SHEET RD-0204 FOR ROAD ALIGNMENT SCHEDULE
3. REFER TO SHEET GE-0103 & GE-0104 FOR TYPICAL PAVEMENT DETAILS
4. REFER TO SHEET RD-0205 FOR SURVEY METADATA
5. REFER TO SHEET GE-0104 FOR PAVEMENT DESIGN

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50mm ON A3 SIZE ORIGINAL

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DESIGN LOT CODE

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING

PLOT DATE / TIME: 27/11/2018 2:56:45 PM — PLOT BY: HasanM

CLIENT: Transport NSW GOVERNMENT Roads & Maritime Services

YASS VALLEY COUNCIL
HW2 - HUME HIGHWAY
INTERSECTION UPGRADE WITH WHITEFIELDS RD
37.560km TO 37.935km FROM YASS
DETAIL PLAN
DETAIL PLAN - HW2 - HUME HIGHWAY NB - MCA0 - 37560 TO 37750

A3

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 55 — HEIGHT DATUM: AHD

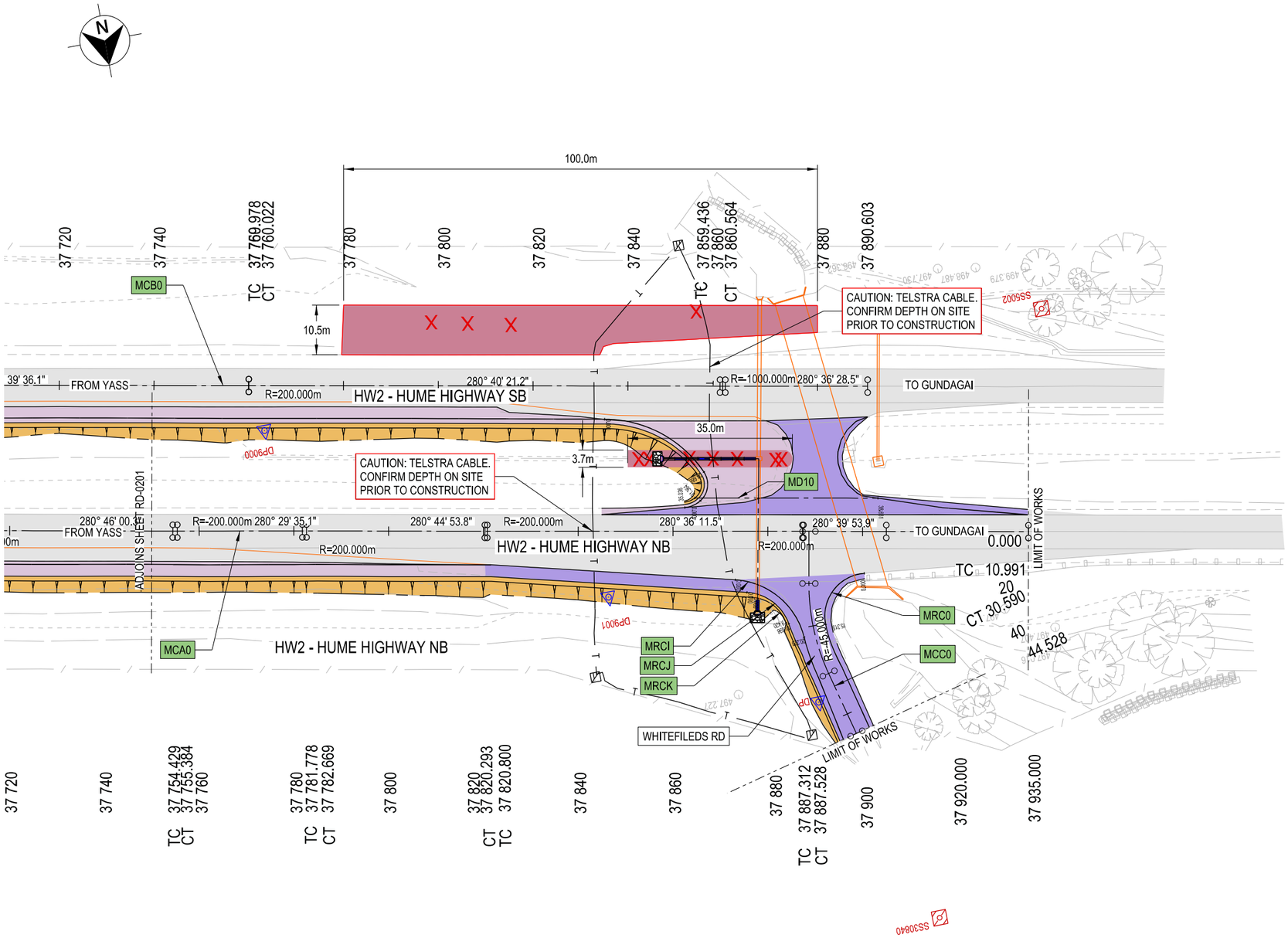
DRAWINGS / DESIGN PREPARED BY: ROADS AND MARITIME SERVICES, TECHNICAL AND PROJECT SERVICES, ENGINEERING SERVICES, DESIGN SOUTH WEST

	NAME	DATE
DRAWN	M.HASAN	30.11.18
DRG CHECK	J.GOODEN	30.11.18
DESIGN	M.HASAN	30.11.18
DESIGN CHECK	J.GOODEN	30.11.18
A. DESIGN MNGR	L.CROKER	30.11.18
PROJECT MNGR	P.JOHNSON	30.11.18

PREPARED FOR: REGIONAL & FREIGHT, REGIONAL MAINTENANCE, PROJECT MANAGEMENT SOUTH WEST

RMS REGISTRATION No. DS2018/001026 — VOL

ISSUE STATUS: DETAIL DESIGN — EDMS No.: SF2018/231209 — SHEET No.: RD-0201 — ISSUE



LEGEND

- MCA0 — CONTROL STRING LABEL
- PM — PERMANENT SURVEY MARK - DO NOT DISTURB
- SS — STATE SURVEY MARK - DO NOT DISTURB
- DP — MICELLANEOUS SURVEY MARK
- DP — MICELLANEOUS SURVEY MARK TO BE REMOVED
- TELSTRA CABLE MARKER
- EXISTING PROPERTY FENCE
- NEW PAVEMENT TO BE CONSTRUCTED
- BATTER TO BE TOP SOILED AND HYDROMULCHED
- EXISTING PAVEMENT TO BE RETAINED
- XX — TREES/DENSE VEGETATION TO BE CLEARED
- EXISTING CULVERT TO BE RETAINED
- CULVERT TO BE CONSTRUCTED
- T — EXISTING TELSTRA CABLE

NOTES

1. PERMANENT AND STATE SURVEY CONTROL MARKS ARE NOT TO BE DISTURBED UNLESS ASSESSED BY ROADS AND MARITIME SURVEY IN ACCORDANCE WITH LPI STANDARDS - FINES APPLY
2. REFER TO SHEET RD-0204 FOR ROAD ALIGNMENT SCHEDULE
3. REFER TO SHEET GE-0103 & GE-0104 FOR TYPICAL PAVEMENT DETAILS
4. REFER TO SHEET RD-0205 FOR SURVEY METADATA
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THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME: K:\Design\0002\SF2018-231209-HW2_Intersection upgrade with Whitefields Rd\3-Microstation\03 Detail\DS2018-001026-03-RD.dgn	DESIGN LOT CODE	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING	PLOT DATE / TIME: 27/11/2018 2:56:46 PM — PLOT BY: HasanM
EXTERNAL REFERENCE FILES	REV / DATE / AMENDMENT / REVISION DESCRIPTION	WVR No. / APPROVAL	SCALES ON A3 SIZE DRAWING: 0 10 20 30 40, SCALE 1:1000m
			CO-ORDINATE SYSTEM: MGA ZONE 55 — HEIGHT DATUM: AHD
			DRAWINGS / DESIGN PREPARED BY: ROADS AND MARITIME SERVICES, TECHNICAL AND PROJECT SERVICES, ENGINEERING SERVICES, DESIGN SOUTH WEST

TITLE	NAME	DATE
DRAWN	M.HASAN	30.11.18
DRG CHECK	J.GOODEN	30.11.18
DESIGN	M.HASAN	30.11.18
DESIGN CHECK	J.GOODEN	30.11.18
A. DESIGN MNGR	L.CROKER	30.11.18
PROJECT MNGR	P.JOHNSON	30.11.18

CLIENT: NSW GOVERNMENT Transport Roads & Maritime Services

PREPARED FOR: REGIONAL & FREIGHT, REGIONAL MAINTENANCE, PROJECT MANAGEMENT SOUTH WEST

YASS VALLEY COUNCIL
HW2 - HUME HIGHWAY
INTERSECTION UPGRADE WITH WHITEFIELDS RD
37.560km TO 37.935km FROM YASS
DETAIL PLAN
DETAIL PLAN - HW2 - HUME HIGHWAY NB - MCA0 - 37750 TO 37935.000

A3

RMS REGISTRATION No.: DS2018/001026 — VOL

ISSUE STATUS: DETAIL DESIGN — EDMS No.: SF2018/231209 — SHEET No.: RD-0202 — ISSUE

Annex E – Over-dimensional Haulage Route from Port Kembla

REX J ANDREWS
ENGINEERED TRANSPORTATION

ROUTE STUDY: GOLDWIND AUSTRALIA

COPPABELLA WIND FARM:

EX PORT KEMBLA.

04/07/2018 REV 01

Rev.	Date	Change	Responsible	Checked
00	02/07/18	Route Assessed	W Andrews	✓
00	02/07/18	Report compiled	W Andrews	✓
00	02/07/18	Report completed	W Andrews	✓
01	04/07/18	Route edited	W Andrews	✓

Index:

1.0 Introduction

This document describes observations and previous experience on sections of this route and explains the Transport of Wind turbine equipment from Port Kembla to Coppabella wind farm.

This Route survey took place on 02-07-18.

2.0 Evaluation

1	No work required
2	Some Work required
3	Moderate amount of works required
4	Large amount of works required

(Mark below boxes with an X)

		1	2	3	4
A	Harbour			X	
B	Road Modification			X	
C	Road Furnishings			X	
D	Trees		X		
E	Site Entrance			X	
F	Bridge Calculations			X	
G	Traffic Control	X			

3.0 Project data.

Date of latest Route Assessment. 04/08/2017
Survey undertaken by. (Rex J Andrews P/L)
Project name. Coppabella Windfarm
Location. Port Kembla (NSW) to Bookham (NSW)
Turbine type.
69 x GW136, 100 metre H/H

4.0 Transport combinations 3.4MW.

Nacelle bodies (10.1l x 5.1w x 4.4h x 38T)
Possible transport configuration. Prime mover with 2x4 dolly 4x4 Low loader.
Overall length: 25.0l x 5.1w x 5.3h x 54.5T.

Generators (5.2 x 5.2 x 2.3h x 82T)
Possible transport configuration. Prime mover with 6x8 Platform trailer.
Overall length: 25.0l x 5.2w x 5.2h x 114.5T.

Hubs (5.4l x 4.7w x 4.0h x 41.0T)
Possible transport configuration. Prime mover with 4x4 Low Loader.
Overall length: 19.0l x 4.0w x 4.9h x 54.5T.

Blades (68.7l x 4.1w x 3.4h x 22T)
Possible transport configuration. Prime mover with 1x4- 4x4 -Blade trailer.
Overall length: 75.0l x 4.1w x 5.2h x 52.5T.

Bottom section (16.2l x 4.6 x 4.3 x 109T)
Possible transport configuration. Prime mover with 9x8 Platform trailer.
Overall length: 30.0l x 4.8w x 5.6h x 108.5T.

Mid lower section (14.0l x 4.3 x 4.3 x 68.5T)
Possible transport configuration. Prime mover with 6x8 Platform trailer.
Overall length: 25.0l x 4.3w x 5.3h x 105.5T.

Mid section (18.0l x 4.3 x 4.3 x 64T)
Possible transport configuration. Prime mover with 6x8 Platform trailer.
Overall length: 29.0l x 4.3w x 5.3h x 102.5T.

Mid upper section (24.4l x 4.3 x 4.3 x 63.2T)
Possible transport configuration. Prime mover with 2x8 3x8 dolly-jinker.
Overall length: 35.0l x 4.3w x 5.3h x 103.5T.

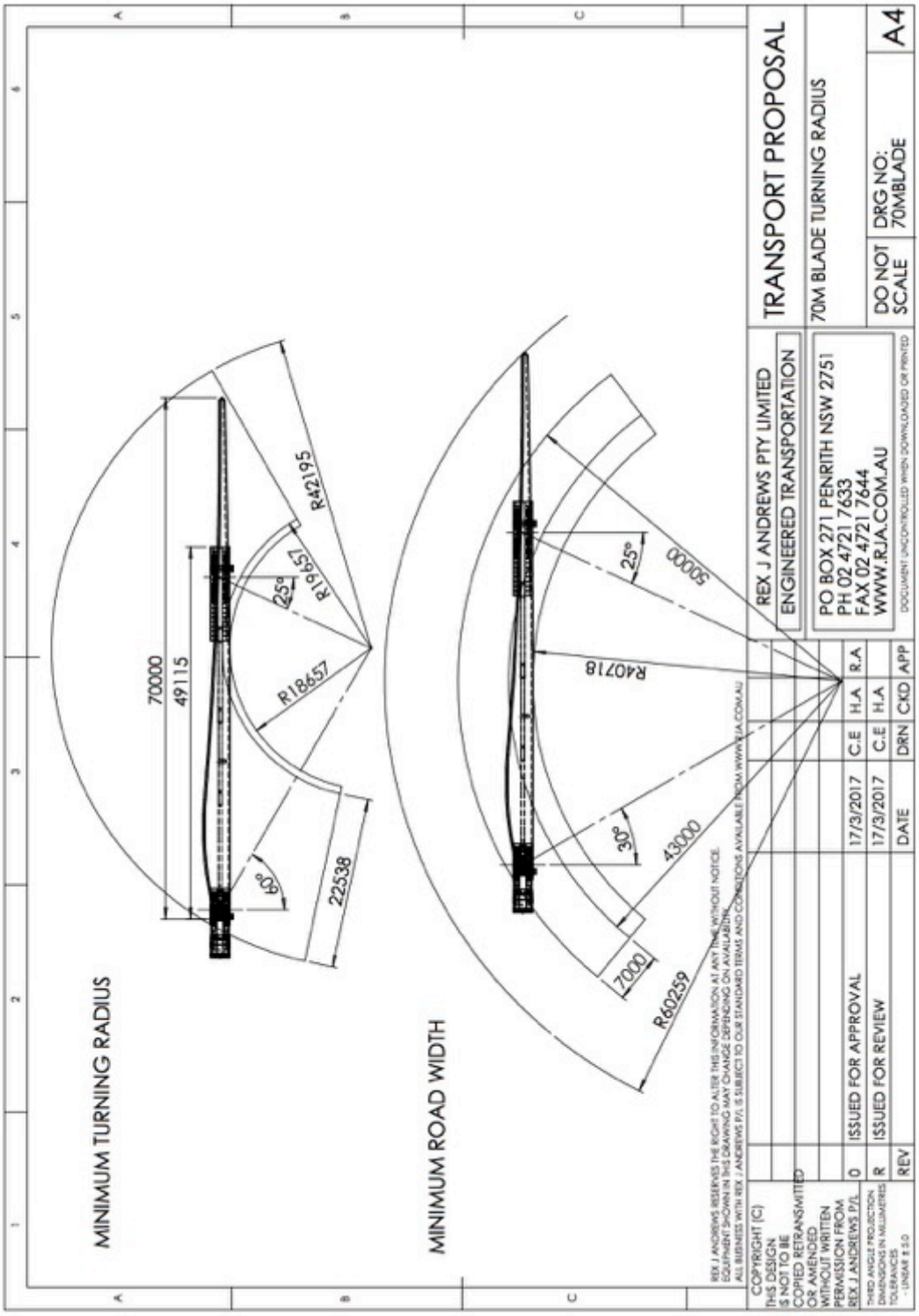
Top section (25.0l x 4.3 x 3.4h x 52.7T)
Possible transport configuration. Prime mover with 2x8 2x8 dolly-jinker.
Overall length: 35.0l x 4.3w x 5.3h x 86.5T.

5.0 Site Location.

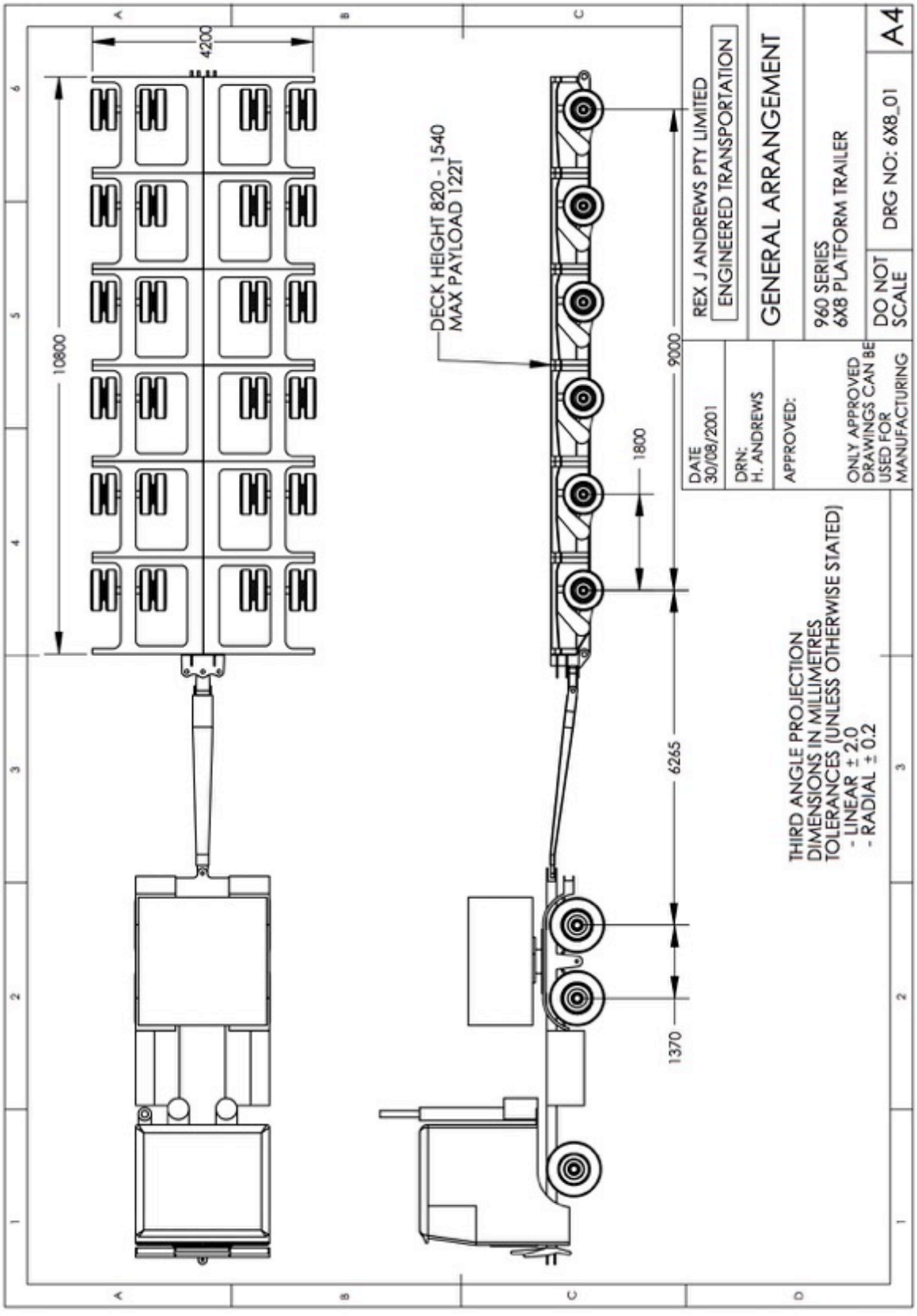
The Coppabella Wind farm is located approx. 300 Kilometers south west of Port Kembla, and approx. 20 Kilometers south of Yass.

6.0 Transport drawings (Examples).

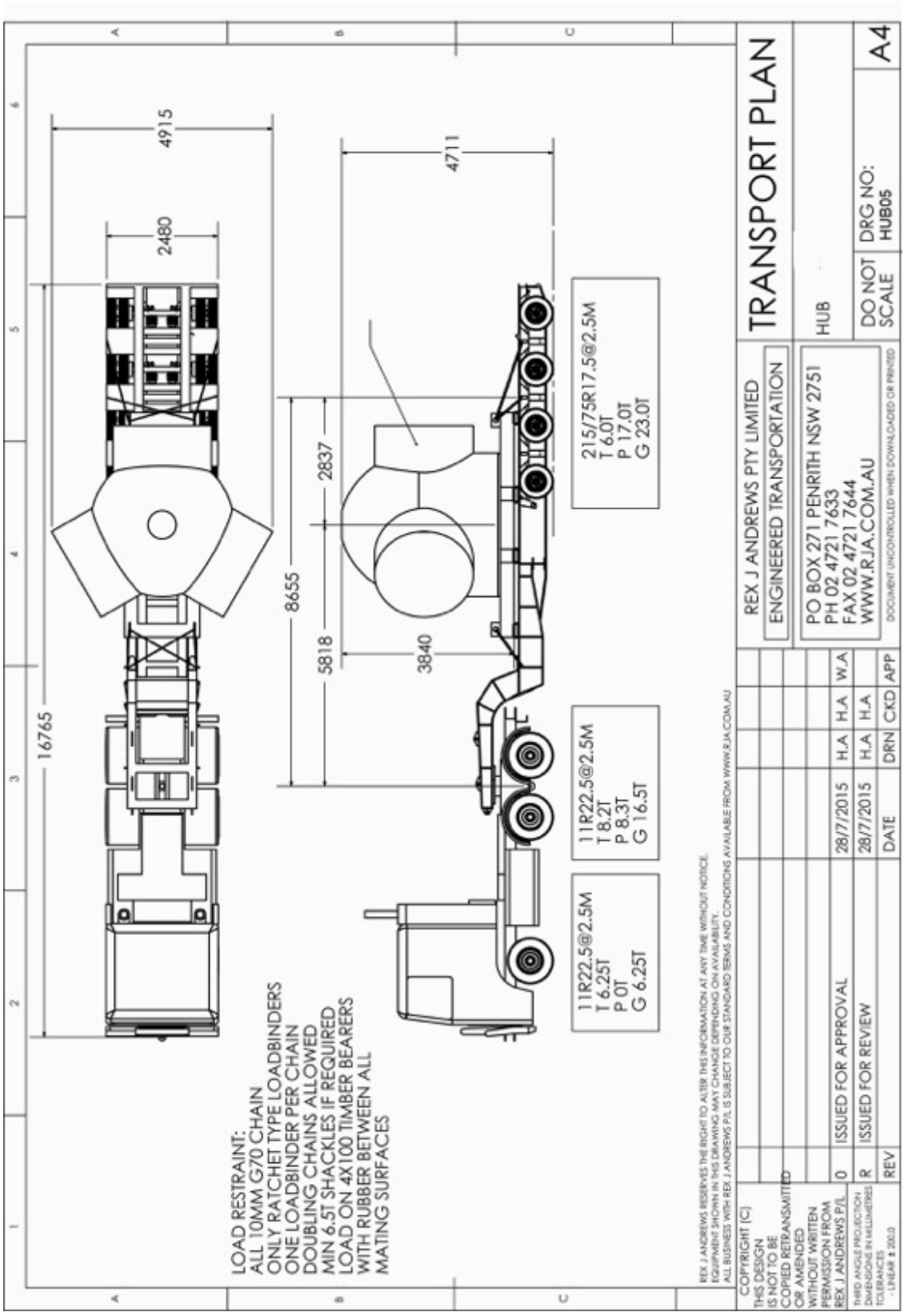
Blade example:



Generator example:



Hub example:


4915
2480
16765
8655
5818
2837
3840
4711
11R22.5@2.5M
T 6.25T
P 0T
G 6.25T
11R22.5@2.5M
T 8.2T
P 8.3T
G 16.5T
215/75R17.5@2.5M
T 6.0T
P 17.0T
G 23.0T
LOAD RESTRAINT:
ALL 10MM G70 CHAIN
ONLY RATCHET TYPE LOADBINDERS
ONE LOADBINDER PER CHAIN
DOUBLING CHAINS ALLOWED
MIN 6.5T SHACKLES IF REQUIRED
LOAD ON 4X100 TIMBER BEARERS
WITH RUBBER BETWEEN ALL
MATING SURFACES
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LINEAR ± 200.0
REV
DATE
DRN
CKD
APP
0 ISSUED FOR APPROVAL 28/7/2015 H.A H.A W.A
R ISSUED FOR REVIEW 28/7/2015 H.A H.A
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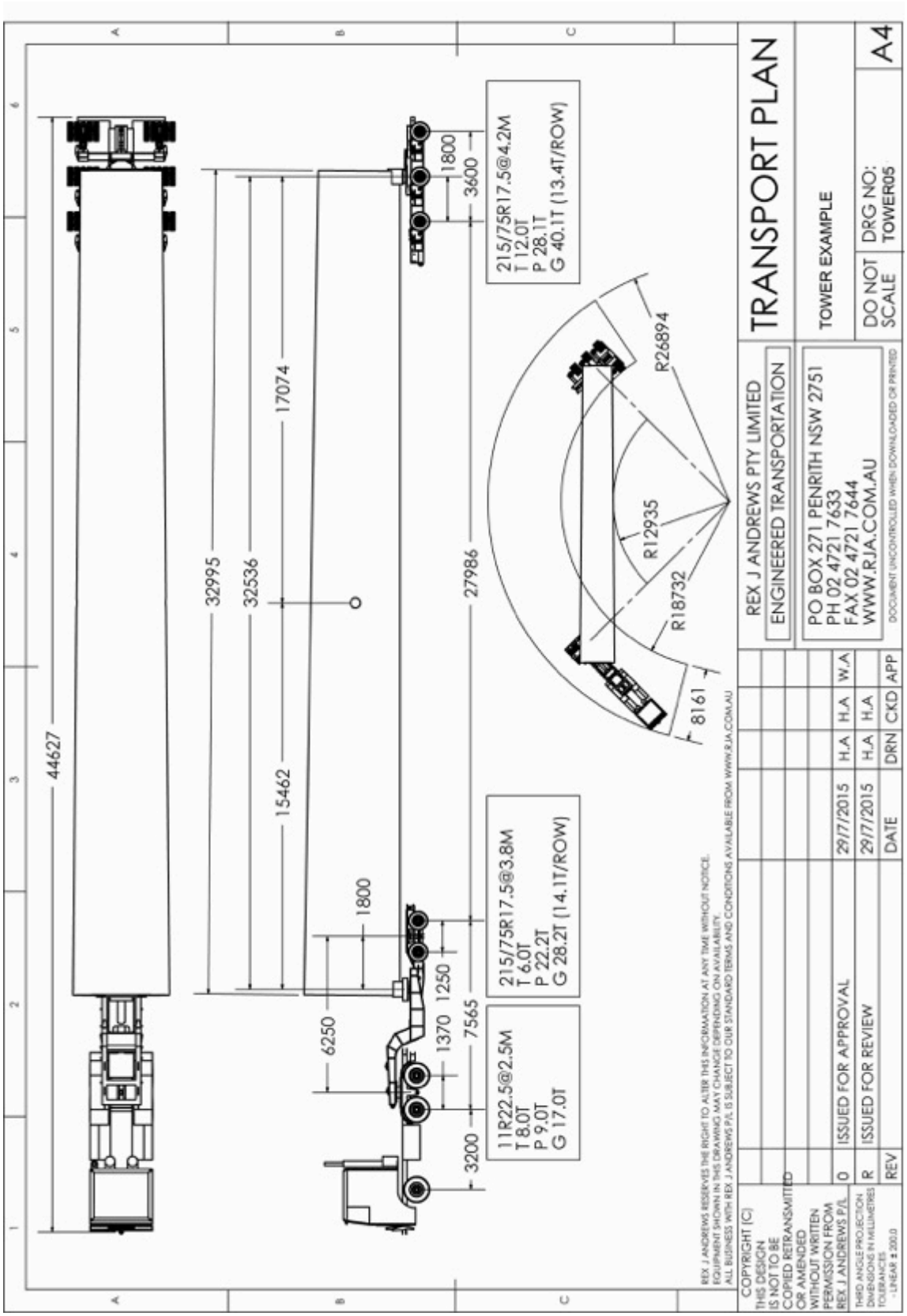
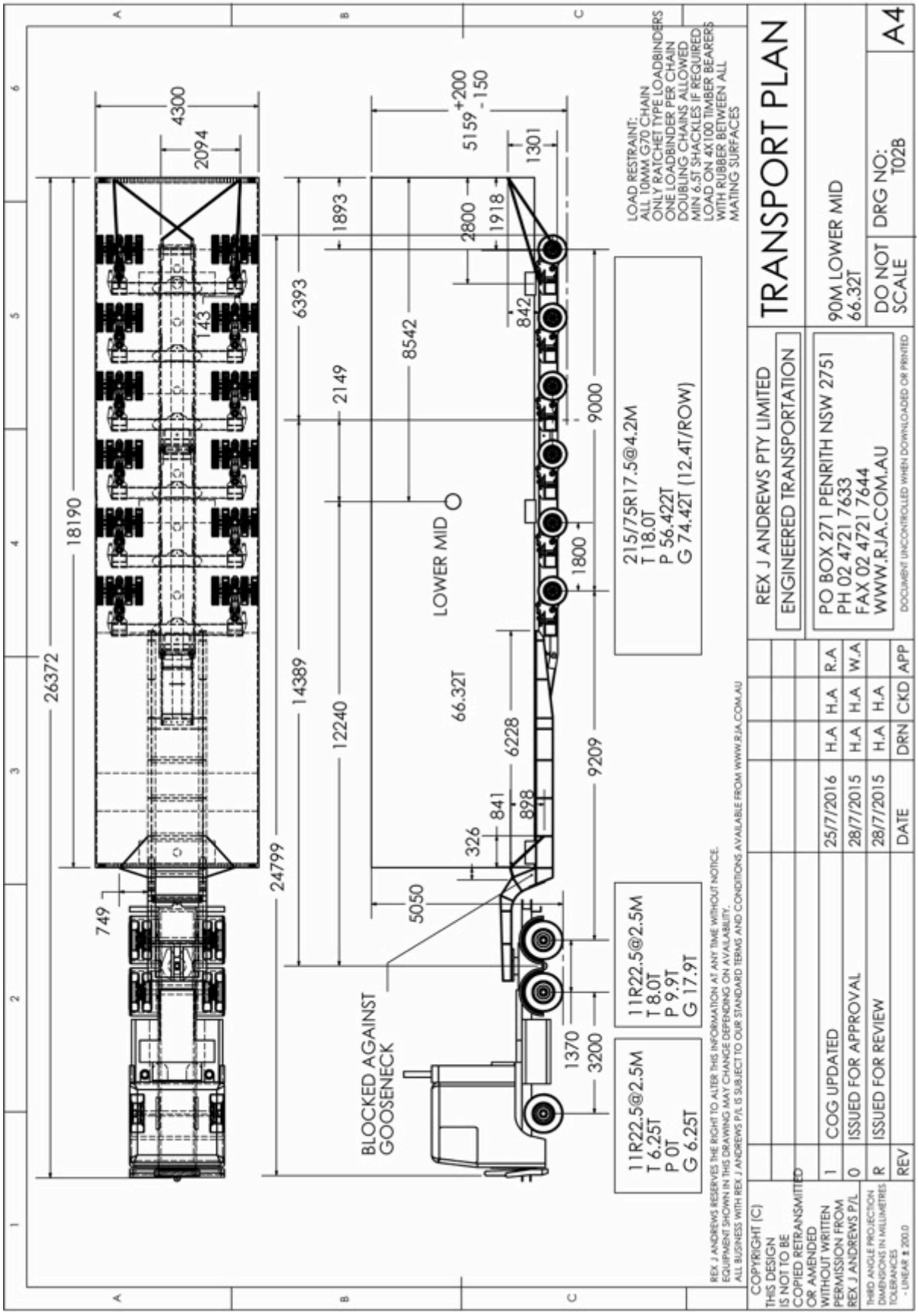
TRANSPORT PLAN
HUB
DO NOT SCALE
DRG NO: HUB05
A4

Tower examples:

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90M LOWER MID
66.32T
DO NOT SCALE
DRG NO: T02B
A4
LOAD RESTRAINT:
ALL 10MM G70 CHAIN
ONLY RATCHET TYPE LOADBINDERS
ONE LOADBINDER PER CHAIN
DOUBLING CHAINS ALLOWED
MIN 6.5T SHACKLES IF REQUIRED
LOAD ON 4X100 TIMBER BEARERS
WITH RUBBER BETWEEN ALL
MATING SURFACES
215/75R17.5@4.2M
T 18.0T
P 56.422T
G 74.42T (12.4T/ROW)
11R22.5@2.5M
T 8.0T
P 9.9T
G 17.9T
11R22.5@2.5M
T 6.25T
P 0T
G 6.25T
BLOCKED AGAINST GOOSENECK
LOWER MID
66.32T
4300
2094
143
749
18190
26372
6393
14389
12240
24799
1893
2149
8542
5159 +200 -150
1301
2800
1918
842
9000
1800
9209
6228
841
898
326
5050
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1 COG UPDATED 25/7/2016 H.A H.A R.A
0 ISSUED FOR APPROVAL 28/7/2015 H.A H.A W.A
R ISSUED FOR REVIEW 28/7/2015 H.A H.A
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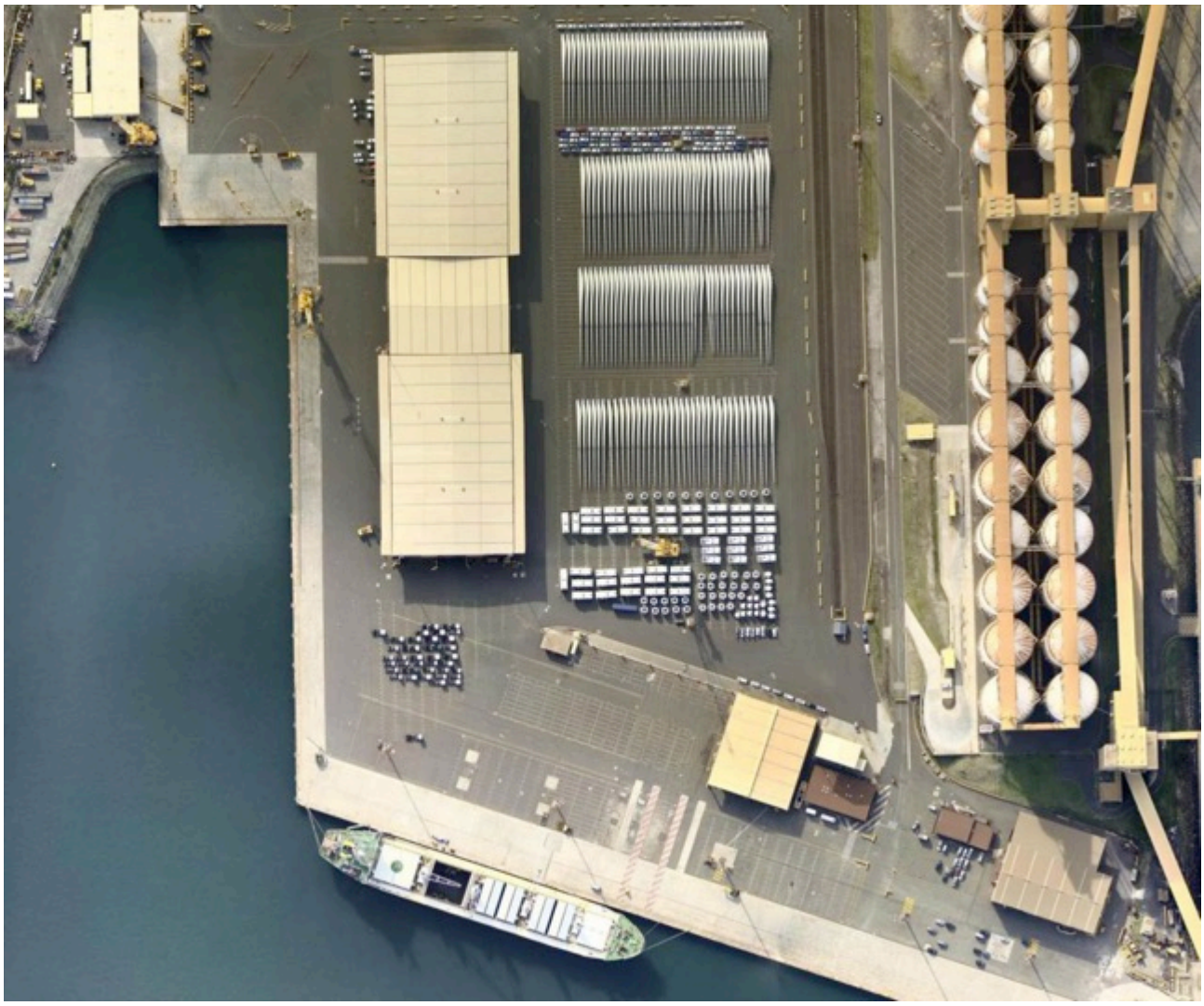
7.0 Port of Import.

The wind turbine equipment will be imported from various countries, and will arrive on ships into Port Kembla. The client may also source local towers. The ideal berth for these shipments is the AAT terminal. The facility has a hardstand storage area of roughly 40,000 s/q metres.

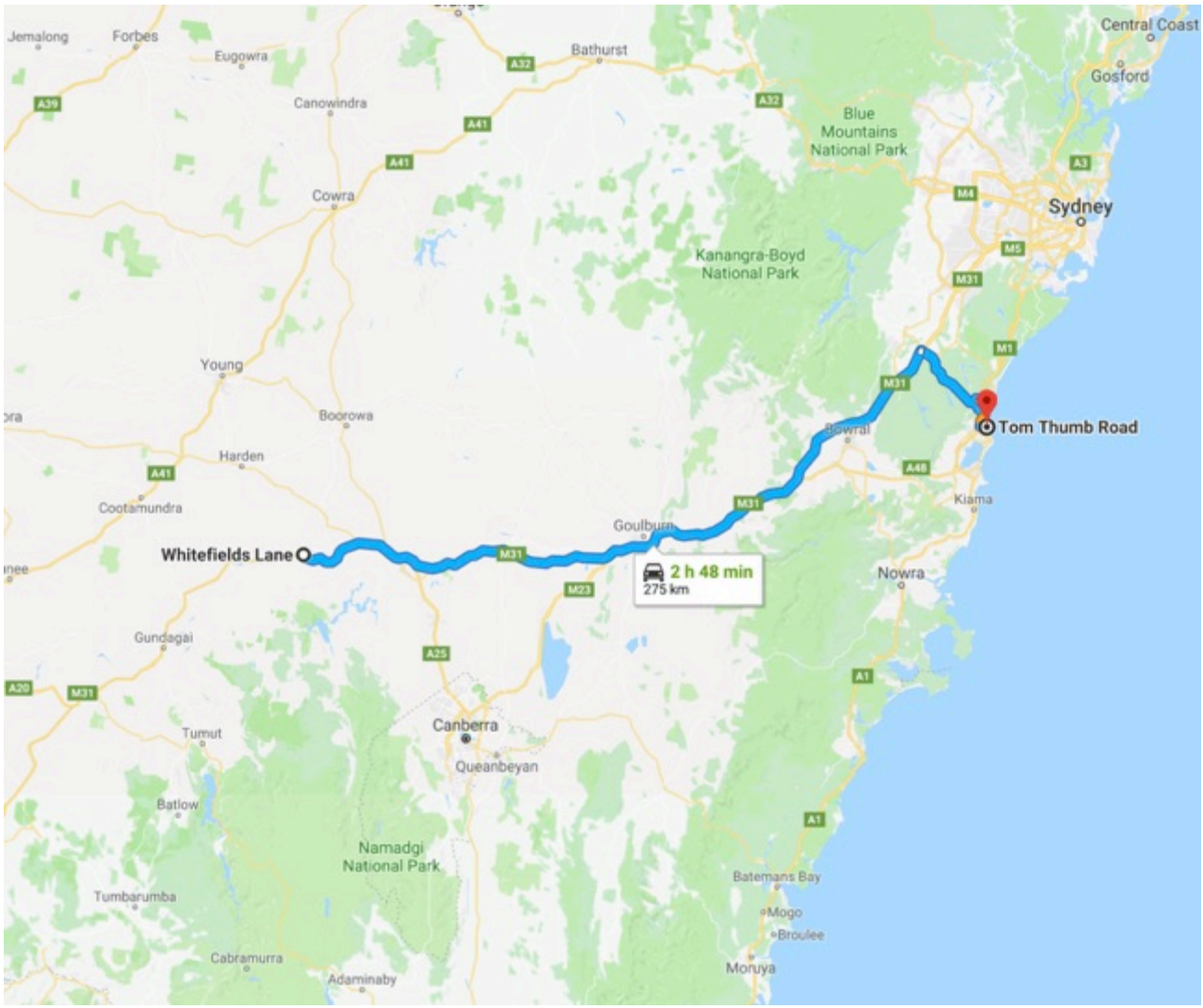


8.0 Route study: Port Kembla to Coppabella.

We have based this study on the turbine components, and all imported towers entering Australia via the AAT terminal at Port Kembla. After accessing a number of options, the following was selected as the most likely route.

ROUTE: Port Kembla to Bookham 275.0 kilometres:

This route took us via Tom Thumb Road, Springhill Road, Masters Road, Southern Freeway, Mt Ousley Road, Picton-Wilton Road, Hume Highway, Whitefields Lane.



Route Index

KEY	
CRITICAL	
CAUTION	
EMERGENCY PARKING	

KM index	Location	Section of road	Critical Measurement	Procedure	Notes
Route: Port Kembla to Coppabella wind farm					
0.0	Port Kembla	Exit port onto Tom Thumb Road	5.5 Metres width	Travel directly ahead	No problems with this section of road
0.2	Port Kembla	Tom Thumb Road onto Springhill Road	A clearance of 70 metres in length is required	Left hand turn	The light pole on the right hand side will need to be relocated to accommodate the tail swing. Some removal and trimming of trees will also be required.
1.4	Port Kembla	Springhill Road onto Masters Road	A clearance of 70 metres in length is required	Right hand turn	Some hardstand will need to be added on the exit of the corner.
2.6	Figtree	Masters Road onto Southern Freeway	70.0 Metres clearance	Right hand sweeping bend	No problems with this section of road
2.7	Figtree	Southern Freeway under The Avenue	5.4 Metres clearance	Travel directly ahead	Loads that exceed 5.3 metres will not be able to use this section of road.
6.4	Keiraville	Southern Freeway onto Mount Ousley Road	5.4 Metres clearance	Travel directly ahead	Loads that exceed 5.3 metres will not be able to use this section of road.
6.5	Keiraville	Mount Ousley Road under the University Bridge	5.0 Metres clearance	Travel directly ahead	Loads that exceed 5.0 metres will not be able to use this section of road. Detour for up to 5.3 metres high via the Princes Highway.
13.0	Mount Ousley	Mount Ousley Road onto Picton-Wilton Road	70.0 Metres clearance	Tight left hand turn	Care to be taken with this procedure. The guardrail on the left hand side will come close to the trailer. The prime mover will need to mount the existing median strip. Police will need to hold southbound traffic so the overhang can pass over the southbound lanes.
40.0	Wilton	Picton-Wilton Road onto the Hume Highway	70.0 Metres clearance	Long Sweeping left Hand Turn	Care to be taken with this procedure. The pole on the inside of the corner will come close to the trailer. The overhang should pass over the signs on the outside of the turn.
104.0	Sutton Forest	Hume Highway	150.0 long x 10.0 wide	Merge to left	Large parking area
153.0	Goulburn	Hume Highway	180.0 long x 15.0 wide	Merge to left	Large parking area

KM index	Location	Section of road	Critical Measurement	Procedure	Notes
273.9	Bookham	Hume Highway	200.0 long x 6.0 wide	Merge to left	Large parking area to be built to hold windfarm components prior to turning into Whitefields Lane
274.0	Bookham	Hume Highway onto Whitefields lane	70.0 Metres clearance	Right hand turn	This corner is planned to be widened in the centre median strip with a turn lane installed. It is recommended that the loads use the parking bay to wait until (Police and or escorts and VMS) have the intersection under traffic control prior to moving.
274.1	Bookham	Whitefields lane		Travel directly ahead	Client to provide a suitable road for the swept path of the largest components.
275.0	Bookham	Whitefields lane into site		Travel directly ahead	Client to provide a suitable road for the swept path of the largest components.

0.0 Km's: Exiting Port Kembla.

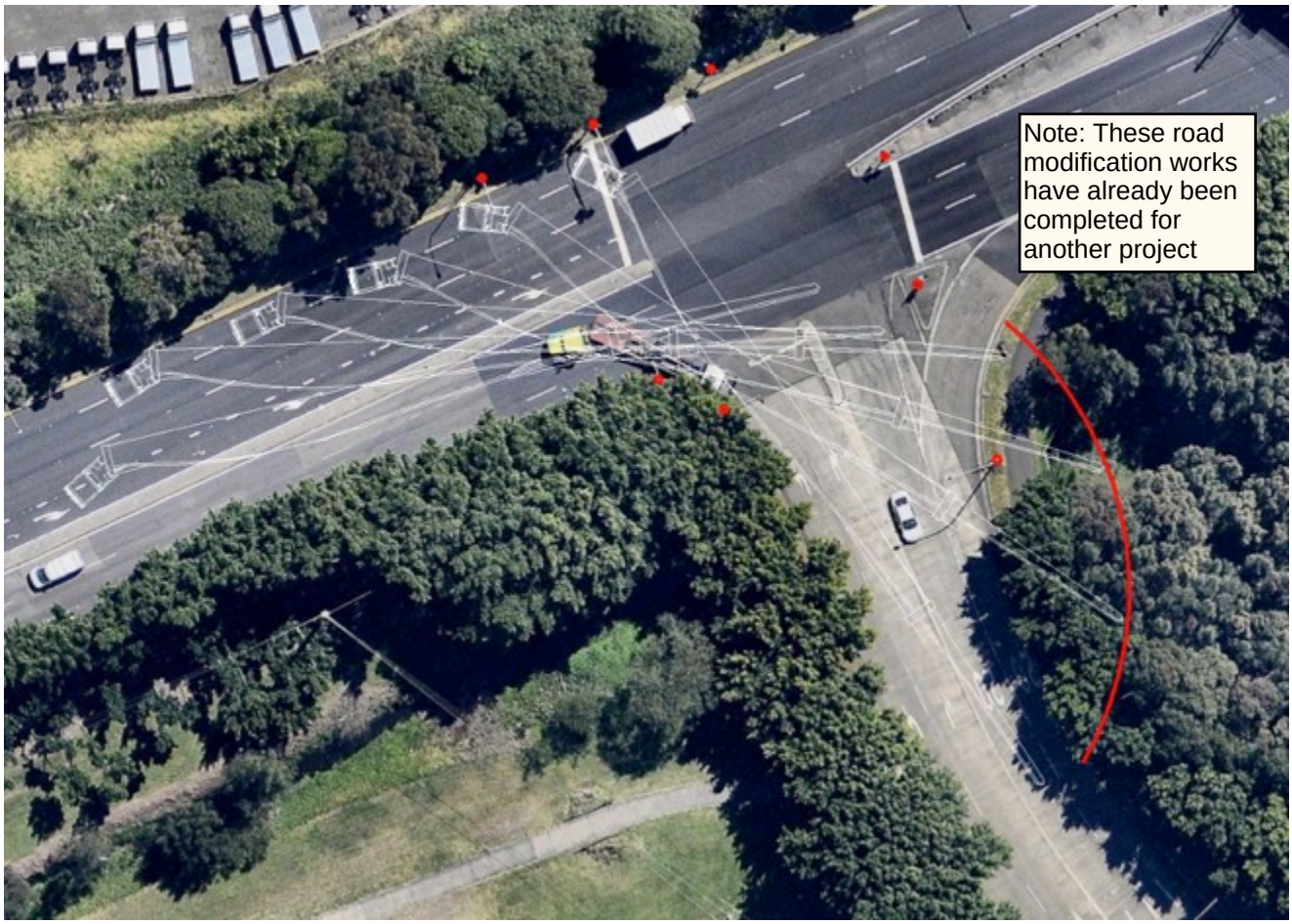
PROCEDURE: Exit port heading north through the security gate.

COMMENTS: Straight ahead. Contact must be made with security guard top ensure the boom remains open until the loads have passed through.

CONCLUSION: No problems with this section of road.

ROAD MODIFICATIONS: No works required.

0.2 Km's: Left turn from Tom Thumb Road onto Springhill Road at Port Kembla.



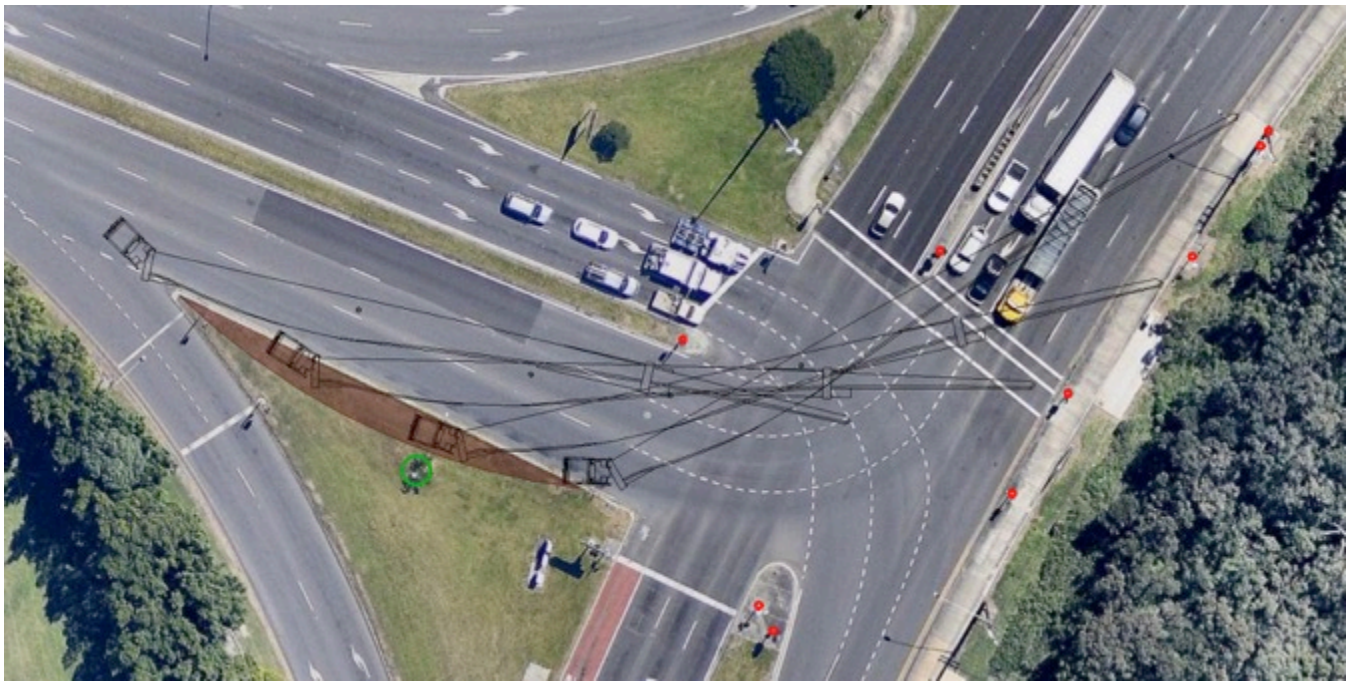
PROCEDURE: Tight left hand turn from Tom Thumb Road onto Springhill Road.

COMMENTS: The blades will need to cross from the incorrect side of Tom Thumb Road onto the incorrect side of Springhill Road, before returning to the correct side approx. 100 metres west of the intersection.

CONCLUSION: The light pole on the right hand side will need to be relocated to accommodate the tail swing. Some removal and trimming of trees will also be required.

ROAD MODIFICATIONS: Yes large amounts of works are required.

1.4 Km's: Springhill Road onto Masters Road at Port Kembla.



PROCEDURE: Sweeping right hand corner.

COMMENTS: The blades will need to cross from the far left hand lane while entering the corner, and cross onto the verge while exiting the turn.

CONCLUSION: Some hardstand will need to be added to the exit of the corner.

ROAD MODIFICATIONS: Small amounts of works are required on this section of road.

2.6 Km's: Masters Road onto the Southern Freeway at Figtree.

PROCEDURE: Gentle right hand merge onto the Southern Freeway.

COMMENTS: This is a large turn with very little problems. The overhead bridge is 5.35 metres high at the lowest point.

CONCLUSION: No problems with this section of road.

ROAD MODIFICATIONS: No works required on this section of road.

6.4 Km's: The Southern Freeway onto Mount Ousley Road at Keiraville.

PROCEDURE: Gentle left hand sweeping bend.

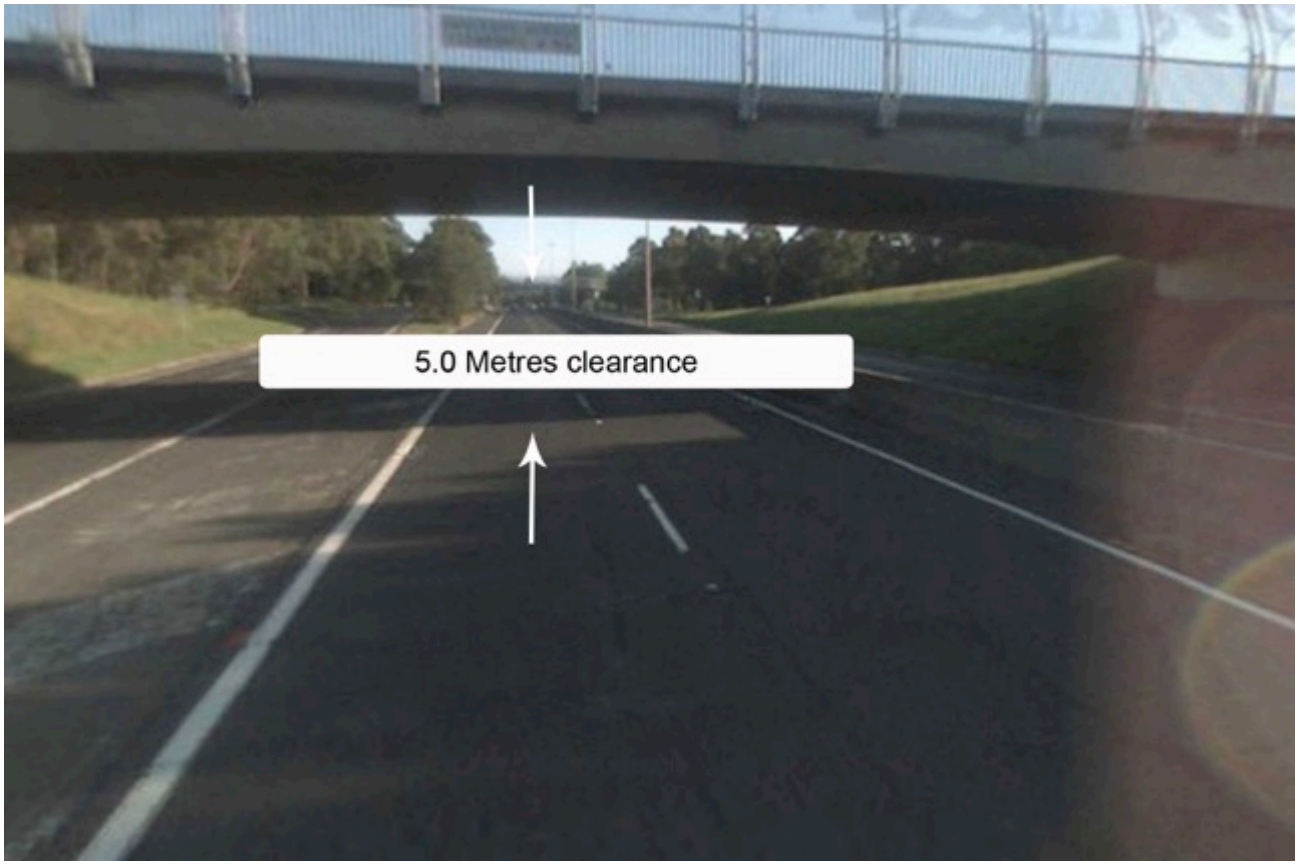
COMMENTS: Large section of road with plenty of room. However the lowest structure on route is on this section of road.

CONCLUSION: Loads over 5.0 metres high will need to take the high load detour.

ROAD MODIFICATIONS: No works required on this section of road.

6.5 Km's: University Overbridge on the Southern Freeway at Keiraville.

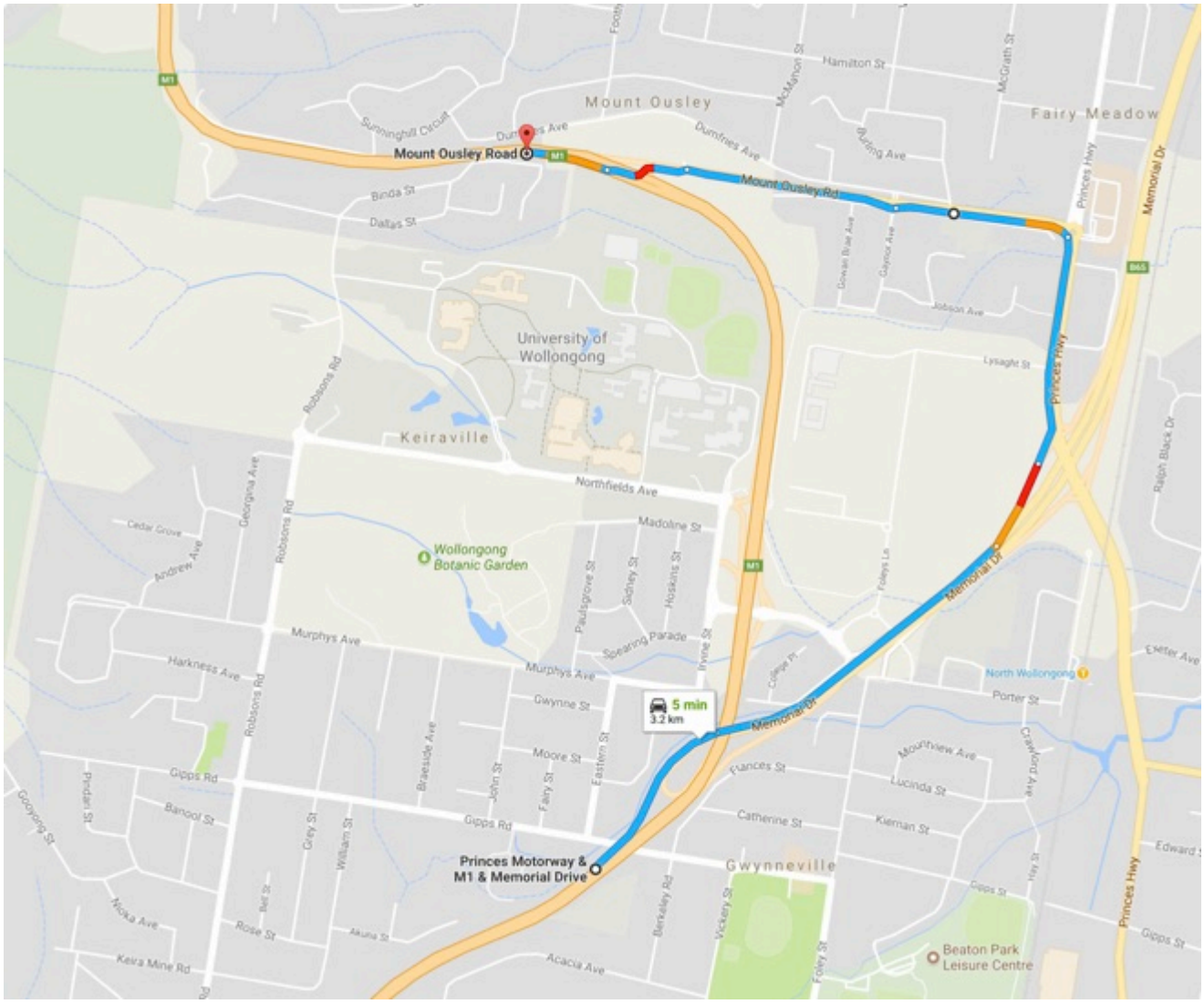
Image 1:



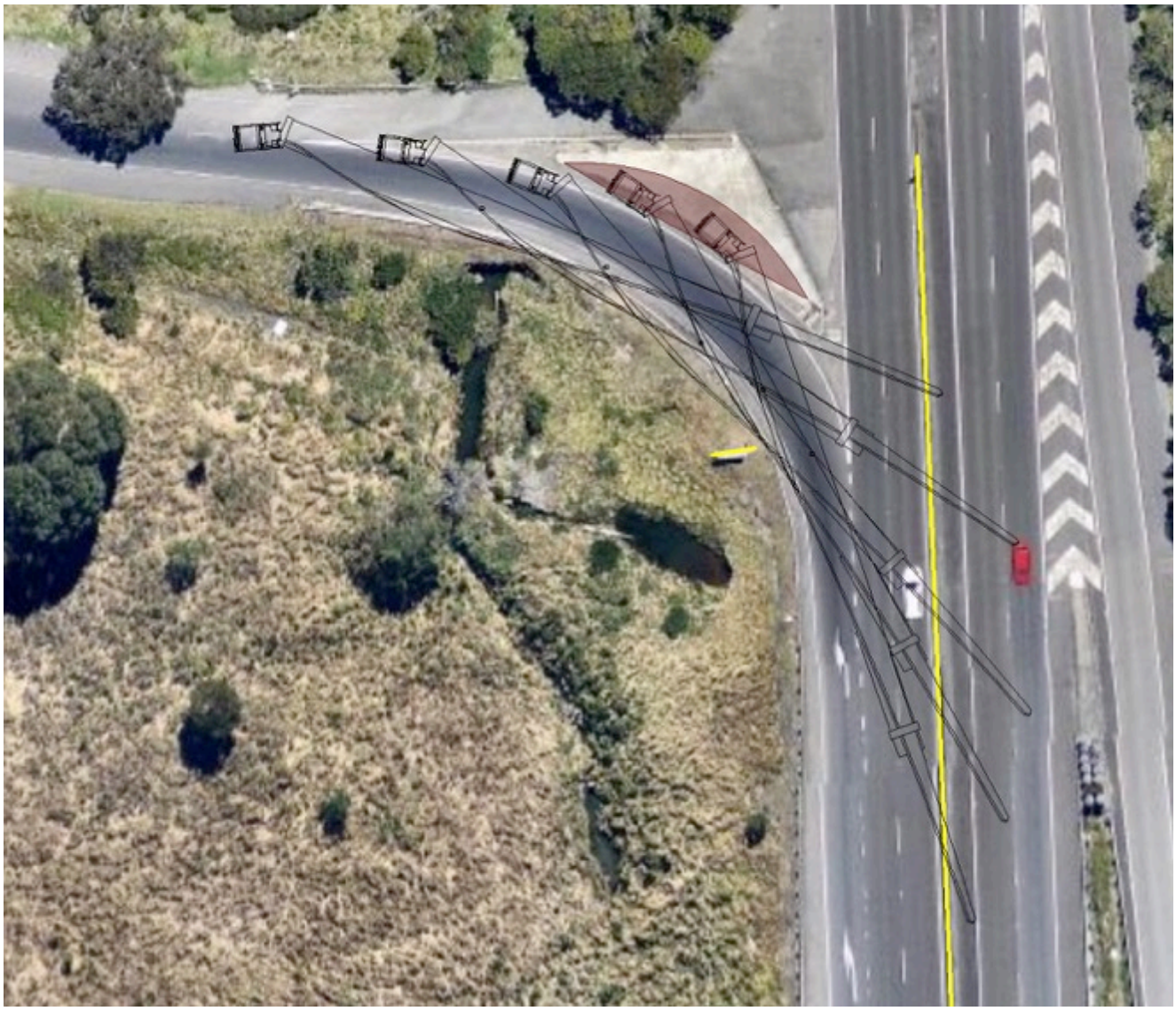
PROCEDURE: Travel under bridge in the left hand lane.
COMMENTS: No loads that exceed 5.0 metres to pass under this structure.
CONCLUSION: Loads that exceed 5.0 metres high will need to use the following detour.
ROAD MODIFICATIONS: No works required on this section of road.

Image 2: (High load detour)

VIA: Southern Freeway, Memorial Drive, Princes Highway, Mount Ousley Road.



13.1 Km's: Mt Ousley Road onto Picton-Wilton Road at Mt Ousley.



PROCEDURE: Tight left hand turn from Mt Ousley Road onto Picton-Wilton Road.

COMMENTS: The truck will need to stay as far to the right while exiting this turn.

CONCLUSION: Care to be taken with this procedure. The guardrail on the left hand side will come close to the trailer. The prime mover will also need to mount the existing median strip. Police may need to hold southbound traffic so the overhang can pass over the southbound lanes. Signs on the median strip will need to be made removable.

ROAD MODIFICATIONS: Small amounts of works are required on this section of road.

40.2 Km's: Picton-Wilton Road onto the Hume Highway at Wilton.

PROCEDURE: Tight left hand turn from Picton-Wilton Road onto Hume Highway onramp.

COMMENTS: The truck will need to stay as far to the right while exiting this turn.

CONCLUSION: Care to be taken with this procedure. The pole on the inside of the corner will come close to the trailer. The overhang should pass over the signs on the outside of the turn.

ROAD MODIFICATIONS: No works required on this section of road.

274.0 Km's: Hume Highway onto Whitefields lane at Bookham.
Image 1:

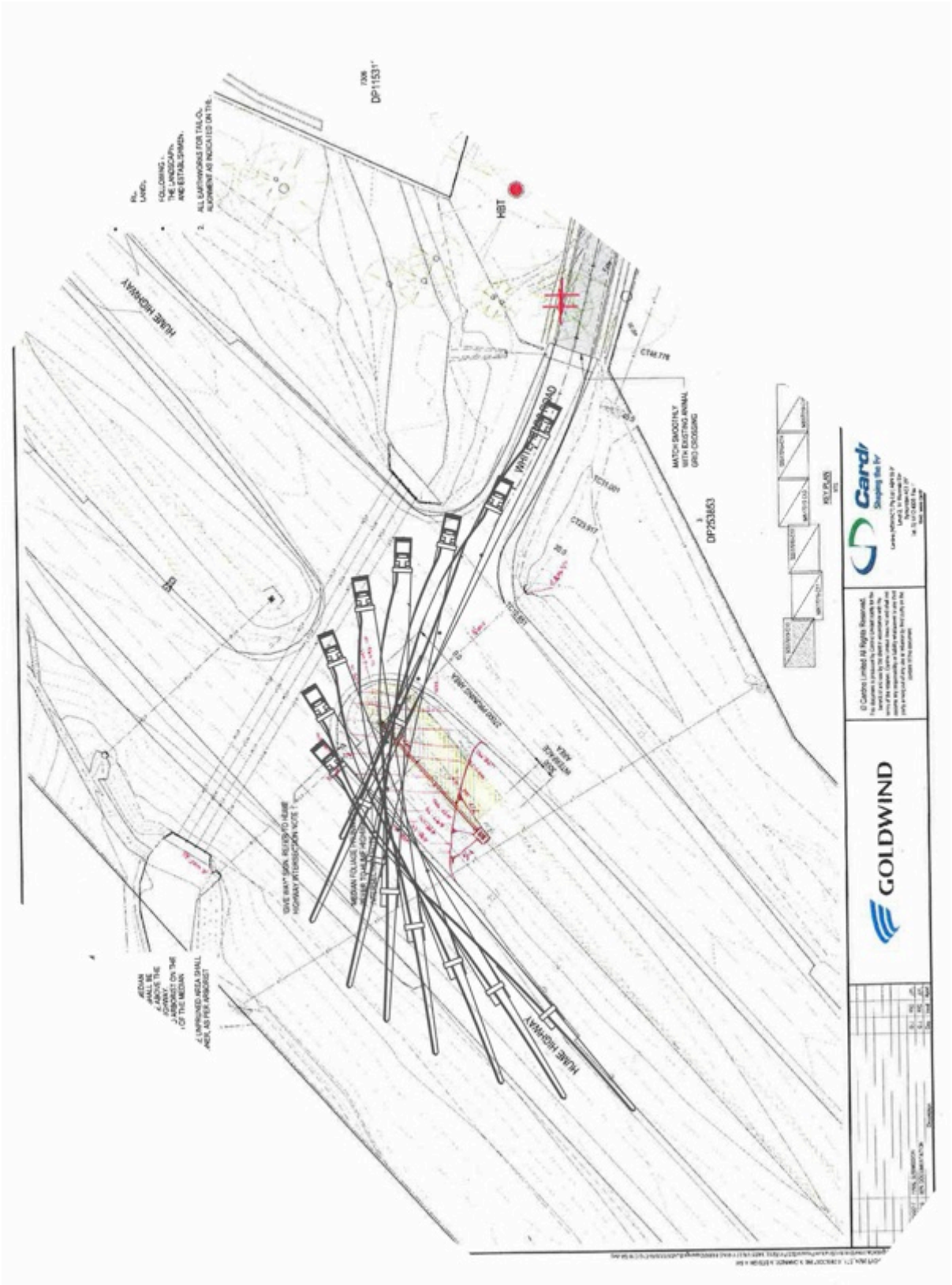
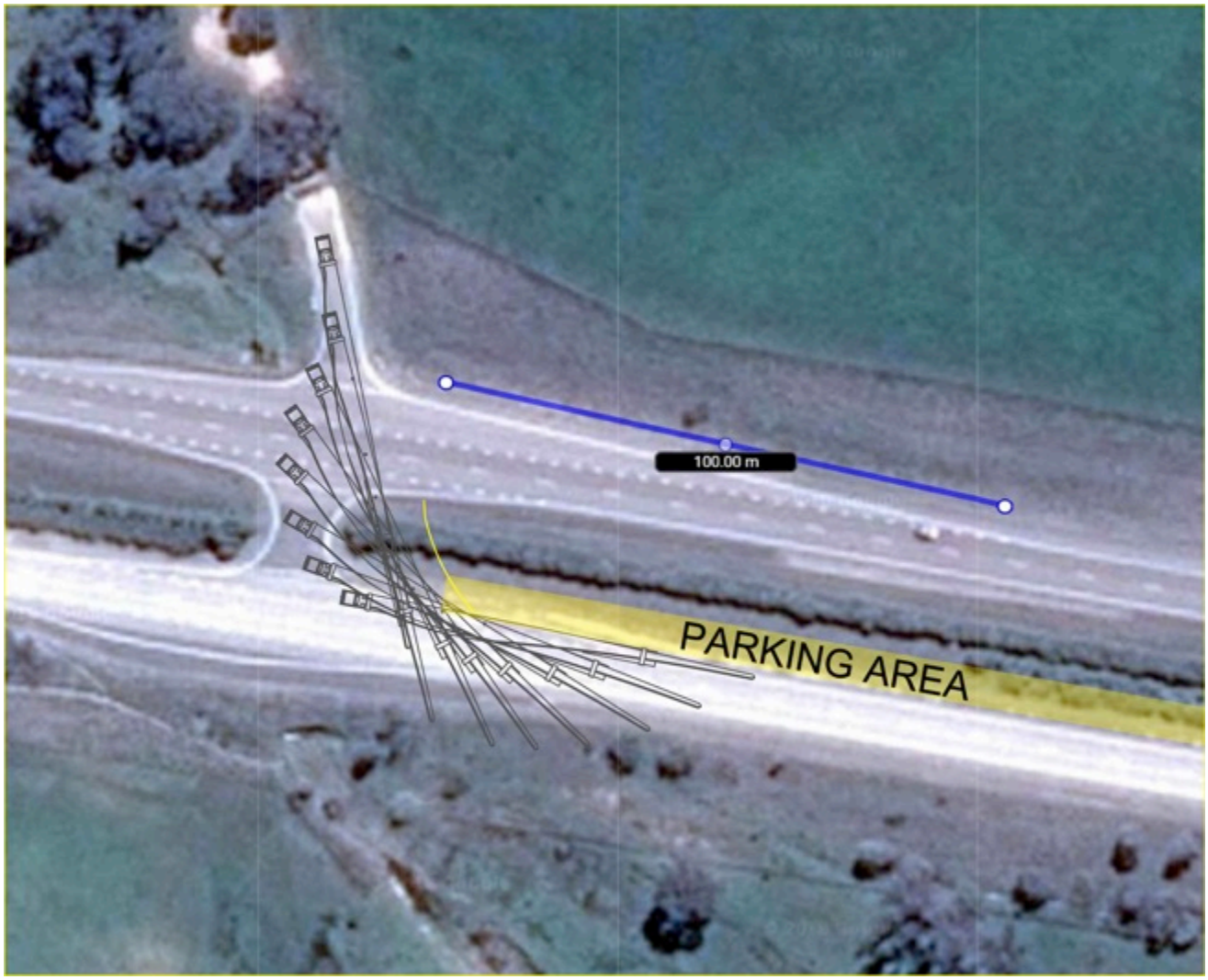


Image 2:



PROCEDURE: Loads to pull over to the parking area prior to the corner. Once intersection is under traffic control, loads will turn to the right.

COMMENTS: The existing intersection will require some hardstand added to the centre median strip, and some widening on Whitefields Lane.

CONCLUSION: Once the works are completed the loads will have adequate clearance on the corner.

Police and or escorts and VMS will need to control local traffic on the Hume Highway as well as Whitefields Lane.

ROAD MODIFICATIONS: Large amounts of works are required.

9.0 Conclusion:

After studying all options and undertaking a route survey, this route in its current condition will require a large amount of upgrades before it could be deemed suitable for transporting the proposed components.

The following are the key points that need to be taken into consideration, if the project moves forward with this route.

BRIDGES:

- There are a number of bridges on route that will require bridge assessments. However the route up till Whitefield's lane has had similar axle weights in the past.

OVERHEAD STRUCTURES: (5.3 Maximum loaded height)

- There are a large number of overhead structures between Port Kembla and Bookham. The lowest of these structures is the University Bridge at Keiraville. This bridge has a maximum safe clearance of 5.0 metres. All loads over 5.0 metres will need to take the high load detour via the Princes Highway. The high load detour will allow loads of up to 5.3 metres in height.

OVERHEAD UTILITIES:

- This route will need to be checked by an authorised scoping company. It is likely that a route of at least 5.3 metres is required for this project.

OVERHEAD TREES:

- This route will need to be checked from Whitefields Lane through to site for a clear passage of at least 5.3 metres for overhead branches. Some trimming is likely on this section route.

PAVEMENT:

- The route up until Whitefields Lane is highway grade asphalt and will be adequate for all loads. The pavement from the Hume Highway through to site is gravel, and would need to be made suitable for all weather conditions.

PORT KEMBLA:

- The light pole exiting the port and the removal of a number of trees are required. This is likely to be a large job. We would recommend discussions with the authorities take place at least 6 month prior to the start of transport.

BOOKHAM:

- Parking bay to be built on the right hand side of the Hume Highway southbound prior to the turnoff onto Whitefields Lane.
- The centre median strip will need to be widened to suit the swept path of the largest components.
- Whitefields Lane to be made suitable for the swept path of the largest components. Road to be made suitable for all weather conditions.

10.0 References:

Australian Load Restraint Guide
Rex J Andrews P/L Drawings
Rex J Andrews route survey # 243
Google Earth/Maps
Nearmaps
NHVR (OSOM)
NHVAS Maintenance Management (NHVAS21193)
NHVAS Basic Fatigue Management (NHVAS21193)

Disclaimer: This route study is a guide only; government approvals would be required before these routes could be deemed suitable for transporting the components over the listed routes.

This study was undertaken using data supplied by Rex J Andrews P/L. Equipment and swept paths might vary if using transport methodology other than the data supplied by Rex J Andrews.