

SILVERTON WIND FARM



TRAFFIC MANAGEMENT PLAN

Project Name:	Silverton Wind Farm
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1.0 INTRODUCTION

1.1 Purpose and Scope

This Traffic Management Plan (TMP) has been developed for the Silverton Wind Farm Works.

The TMP encompasses safety, environmental and social impacts related to traffic generated by the scope of works for the project.

The plan details the minimum arrangements planned by GE-CATCON (the Consortium) to:

- minimise and control wherever possible the interaction and impact between public and project traffic;
- ensure a safe working environment for all personnel working at the project site is provided and maintained;
- implement temporary traffic controls, including detours and signage;
- notify the local community about project-related traffic impacts;
- respond to any emergency repair or maintenance requirements;
- implement a strategy for minimising the traffic impacts associated with the use of over-dimensional vehicles;
- ensure the project does not disrupt the use of any travelling stock route on site; and
- implement protocols that addresses:
 - travelling speeds;
 - procedures to ensure that drivers adhere to the designated heavy and over-dimensional vehicle routes;
 - procedures to ensure that drivers implement safe driving practices, particularly if using roads through Broken Hill or Silverton; and
 - monitoring the effectiveness of these measures.

The plan identifies traffic routes during the project, as well as highlighting traffic control measures for vehicles entering and operating on the project site.

The Plan has been prepared in consultation with Roads and Maritime Services (RMS), Department of Industry – Lands (DI Lands) and Broken Hill City Council and submitted to the Secretary for approval.

Following the Secretary's approval, the Consortium will implement the Traffic Management Plan.

The TMP is supported by the following documentation:

- *Construction Environment Management Plan (CEMP);*
- *Road Upgrade and Maintenance Strategy;*
- *CATCON System Procedure Chain of Responsibility (SPG-12);*
- *Rex J. Andrews Route Survey - Port Adelaide to Silverton; and*
- *Tonkin Consulting Silverton Wind Farm Road Safety Audit Report (this document can be provided upon request).*

1.2 Project Approval Requirements

Condition	Requirements	Addressed How?
CONDITIONS OF APPROVALS		
Schedule 3 Condition 22	The Proponent must ensure that all heavy or over-dimensional vehicles entering or leaving the site use the designated heavy and over-dimensional vehicle route for the project (see the figure in Appendix 7).	Section 8.1
Schedule 3 Condition 23	The Proponent must minimise the use of the designated heavy and over-dimensional vehicle route to the west of the Silverton Road/Daydream Mine Road intersection during the project.	Section 8.1
Schedule 3 Condition 26	The Proponent must ensure that:	Section 6.1.1
	(a) project-related traffic does not track mud or dirt onto the public road network;	Section 6.1.1
	(b) loaded vehicles entering or leaving the site have their loads covered or contained;	Section 6.1.1
	(c) there is sufficient parking on site for all project-related traffic;	Section 6.1.1
	(d) deliveries to the site are scheduled to avoid heavy or over-dimensional vehicles passing through Broken Hill during peak hours (i.e. between 8:30 am and 9:30 am and 2:30 pm and 3:30 pm); and	Section 6.1.1
	(e) construction and decommissioning activities are coordinated to minimise any disruption to local tourist events.	Section 6.1.1
Schedule 3 Condition 27	Prior to the commencement of construction, the Proponent must prepare a Traffic Management Plan for the project, in consultation with RMS, DI Lands and Broken Hill City Council, and to the satisfaction of the Secretary. This plan must detail the measures that would be implemented to:	Section 1.2 and 10.1
	(a) minimise the traffic safety impacts of the project and disruption to local road users during the construction and decommissioning of the project, including: <ul style="list-style-type: none"> ▪ temporary traffic controls, including detours and signage; ▪ notifying the local community about project-related traffic impacts; ▪ responding to any emergency repair or maintenance requirements; ▪ implementing a strategy for minimising the traffic impacts associated with the use of over-dimensional vehicles; 	Section 1.1
	(b) ensure the project does not disrupt the use of any travelling stock route on site;	Section 1.1
	(c) comply with the traffic-related conditions in this approval; and	Section 1.1
	(d) include a drivers' code of conduct that addresses: <ul style="list-style-type: none"> ▪ travelling speeds; ▪ procedures to ensure that drivers adhere to the designated heavy and over-dimensional vehicle routes; ▪ routes; ▪ procedures to ensure that drivers implement safe driving practices, particularly if using roads through Broken Hill or Silverton; and ▪ monitor and report on the effectiveness of these measures and the code of conduct. 	Section 6.1 and 6.1.1
	Following the Secretary's approval, the Proponent must implement the Traffic Management Plan.	Section 1.1

Condition	Requirements	Addressed How?
STATEMENTS OF COMMITMENT		
SOC068	Develop and implement a Traffic Management Plan (TMP) in consultation with roads authorities to facilitate appropriate management of potential traffic impacts. The TMP would include provisions for:	Section 1.1
	<ul style="list-style-type: none"> ▪ Scheduling of deliveries and managing timing of transport through Broken Hill to avoid peak hours (beginning/end of the school day); 	Section 6.1.1
	<ul style="list-style-type: none"> ▪ Limiting the number of trips per day; 	Section 1.1
	<ul style="list-style-type: none"> ▪ Undertaking community consultation before and during all haulage activities; 	Section 10.0
	<ul style="list-style-type: none"> ▪ Designing and implementing temporary modifications to intersections and street furniture; 	Section 4.3
	<ul style="list-style-type: none"> ▪ Installing required signage to direct traffic flows appropriately during haulage through Broken Hill; 	Section 5.0
	<ul style="list-style-type: none"> ▪ The erection of warning signs and/or advisory speed posting prior to isolated curves; 	Table 5-1
	<ul style="list-style-type: none"> ▪ Limiting the delays experienced on haulage routes; 	Section 7.3
	<ul style="list-style-type: none"> ▪ Reinstating pre-existing conditions in the road carriageway and road reserve, including any impact on road pavement, culverts, bridges, causeways, stock grids, signage and traffic islands to the satisfaction of the RTA. 	Section 9.0 and 4.1
SOC069	Submit a detailed Traffic Management Plan for transport of components for RTA approval. Improve any part of the road along the route so that it can cater for length, size and volume of loads (including constructing suitable hard stand areas to allow following vehicle queues to pass) at distances and dimensions to be determined by the RTA. Liaise with RTA Road Safety and RTA Special Permits Unit during planning for transport of components.	Section 6.1.1
SOC070	Adopt route-specific mitigation measures as appropriate based on guidance provided in the attached Traffic impact study. Heavy vehicles associated with construction will not pass within 200m of the Purnamoota homestead.	Section 6.1.1
SOC073	Prepare road dilapidation reports covering pavement and drainage structures in consultation with roads authorities for the route prior to the commencement of construction and after construction is complete. Repair any damage resulting from the construction traffic (except that resulting from normal wear and tear) as required during and after completion of construction at the Proponent's cost or, alternately, negotiate an alternative for road.	Section 4.1
SOC074	Assess the geometric layout of proposed intersections along the Silver City highway to ensure adequate turning paths are available to allow for safe turning of oversize loads and construction vehicles. For any intersection deemed to be unsuitable, provide necessary intersection widening in consultation with the RTA.	Annexure C Silverton Wind Farm Road Safety Audit Section 8.3
SOC077	Provide information signage about the Project and appropriate viewing area at the Mundi Mundi lookout 5 kilometres west of Silverton and on the Silverton Road in the vicinity of Daydream Mine Road to the satisfaction of the RTA.	To be implemented into Community Consultation

1.3 Plan Development

This TMP applies to the project construction area only which is to be used by vehicles servicing the development and its interaction with public traffic.

The Consortium, prior to carrying out any construction, or the decommissioning of the project, will prepare a *Road Upgrade and Maintenance Strategy* for the project in consultation with RMS, Broken Hill City Council and the Silverton Wind Farm Community Consultative Committee and submitted to the Secretary for approval (refer to Section 10.1 for a summary of consultative communications).

The strategy will:

- identify the road upgrades required for the project;
- include a program for the implementation of the road upgrades and the maintenance of the relevant sections of the road network following the upgrades; and
- Designing and implementing temporary modifications to intersections and street furniture.

Other issues, unrelated to the project and specifically referring to public roads, will fall into the remit of the Broken Hill City Council / RMS as part of their ongoing obligations

1.3.1 Plan Revision and Circulation

The TMP shall be reviewed whenever project inputs change and shall be revised and re-circulated as necessary (refer Circulation Table at the front of this plan).

Revisions shall be listed in the Revision History table at the front of this plan.

1.4 Use of Shall, Must, Should and May

Throughout this document the term "shall" and "must" are used when the requirement documented is mandatory and deviation will constitute non-conformance.

The term "should" indicates the requirement is recommended or expected.

The term "may" indicates the requirement is optional or discretionary.

1.5 Abbreviations and Definitions

Abbreviations, acronyms and definitions contained in this document are listed below:

Table 1-1: Abbreviations

CPP	Consolidated Power Projects Australia Pty Ltd
CEMP	Construction Environment Management Plan
RMS	Roads and Maritime Services
TMP	Traffic Management Plan (this document)
WTG	Wind Turbine Generator

Table 1-2: Definitions

Client	The Principal, AGL
Client's Representative	Adam Mackett
Contractor	In this case, the Consortium, being the organisation responsible for the total performance of the works under the EPC Contract
Subcontractor	An organisation responsible for a subcomponent of the total work package employed by CATCON

Contract	Agreement between the Client and the Contractor
Project	The work stipulated by the Contract
Construction Area	Designated area within the project site where personnel must have had a formal site induction to enter and work unaccompanied. <i>Work</i> includes those involved in the delivery and/or off-loading of materials and equipment
Authorised Vehicles	Vehicles involved in work activity with the construction area

2.0 PROJECT OVERVIEW

The Consortium has been engaged by AGL to engineer, procure and construct the Silverton Wind Farm, which is located approximately 27km south of Broken Hill, in New South Wales.

The Wind Farm shall be designed to have a generating capacity of up to 200MW and shall consist of up to 58 wind turbines.

The wind turbines will be connected to a new MV/HV Site Substation, via a new MV Collector System with the required number of MV underground feeder circuits. The MV/HV Substation will include MV/HV transformer/s for stepping up the Collector System voltage from MV to HV for grid connection. The MV/HV Substation will also contain other equipment, such as switchgear and protection, reactive plant (if required) and ancillary systems. The MV/HV Substation will be connected into the National Electricity Market Via a 33kV switchyard.

2.1 Working Arrangements

2.1.1 Arterial Road Network

Any impact to the road furniture that is caused by the loads being transported will be either protected or removed and replaced (to the satisfaction of RMS and the Council) at the cost of the Contractor.

2.1.2 Restrictions on Operations

Festivals in Silverton (i.e. St Patricks Day Celebration), may require construction traffic to cease for the day, in consultation with the Silverton Community Committee.

2.1.3 Shutdowns

Construction will commence mid-February 2017 and be completed June 2018. Therefore, a shutdown period over the Christmas break is anticipated of two (2) weeks. To be clarified closer to the date.

3.0 RESPONSIBILITIES

General responsibilities for achieving TMP outcomes for the project are listed below.

- The **Project Manager** is responsible for:
 - a) Developing, implementing, circulating and maintaining this plan; and
 - b) Providing sufficient resources to implement the requirements of this plan.
- The **Construction Site Manager** has the responsibility of:
 - a) Complying fully with applicable requirements of this plan;
 - b) Controlling general day to day site issues with respect to the movement of 'authorised vehicles' within the project construction area;
 - c) Reporting to the Project Manager issues impacting on the implementation of this plan; and

- d) Logging complaints from members of the public with respect issues covered in the scope of this plan.
- **Vehicle Operators, Employees, Subcontractors and Visitors** are responsible for complying fully with applicable requirements of this plan such as speed limits, access restrictions and road signage advice.

4.0 EXISTING CONDITIONS

4.1 Dilapidation Survey

A dilapidation survey has been jointly undertaken by CATCON and RMS and includes an aerial survey of the existing roads. A copy of this report has been submitted to RMS for information and can be made available on request.

The existing RMS roads that may be utilised by site traffic to access the wind farm at various locations will be maintained, under the direction and approval of asset owner, by the project to the existing standards for all road users.

The Contractor is responsible for establishing the extent to which improvements are required to any existing and new site entrance and access tracks to facilitate the works.

All RMS roads will be reinstated to an equivalent or higher standard upon completion of the project.

4.2 Site Location and Access

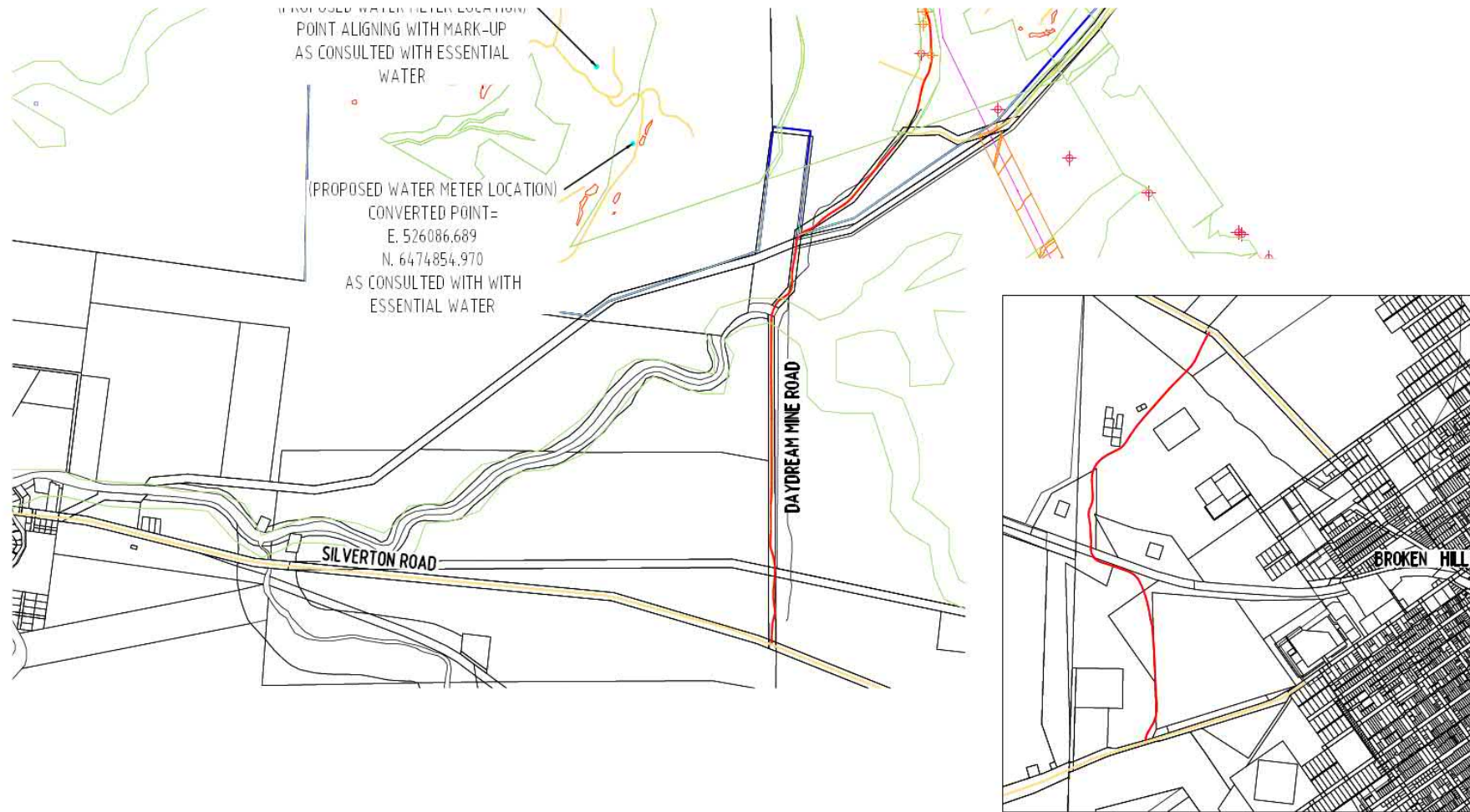
The project site is located approximately 27km north west of Broken Hill, in New South Wales.

Access to the project site for all vehicles including over-dimensional permitted vehicles shall primarily be via Daydream Mine Road. All over-dimensional deliveries from Adelaide will enter Silverton road through Magazine Way (Bypass Road) as shown in Figure 4-1. All other deliveries will utilise the existing road network via Broken Hill.

Construction traffic may only pass through the town of Silverton and enter site on the western boundary only in an event involving the preservation of life (i.e. medical emergency, bushfire). Over dimensional vehicle movements through the town of Silverton will occur only if unavoidable and only under a separate special permit (reviewed and approved by RMS), whilst remaining compliance with this TMP.

The Daydream Mine Road and some wind turbine access roads cross the water pipeline from the Umberumberka Reservoir to Broken Hill and care must be taken to ensure that the pipeline is not damaged during the construction period. A joint Dilapidation Survey by CATCON and Essential Services will be undertaken to establish the current condition of the pipeline prior to construction.

Any permanent signage on the final works will be shown on the final engineering drawings.



INSET
(BY-PASS ROAD)

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Figure 4-1: Site Location and Access Entry Roads (TBA)

4.3 Upgrade of Local Roads

Please refer to Table 7.1 – Transport Routes.

All programmed upgrade works will be completed in accordance with the Silverton Wind Farm Works *Road Upgrade and Maintenance Strategy* and are summarised as follows.

4.3.1 Upgrade of the Broken Hill Bypass Road

The proposed upgrade works will include the following:

- Construction and upgrade of the existing Broken Hill Bypass Road connecting Barrier Highway and Silverton Road for use by over dimensional vehicles only under escort for the durations of the turbine componentry deliveries (i.e. Nov 17 – Jun 18);
- Upgrade the intersections of the Bypass Road with the Barrier Hwy and Silverton Road to enable for swept path of an over dimensional vehicle to turn safely into/from the Bypass Road.

The basis of design for the upgrade of the Bypass Road and the intersections will be as detailed in the *Road Upgrade and Maintenance Strategy*, Section 2.3.1 *Basis of Design* in which comments and recommendations made by RMS have been taken into account. A summary of which are listed below:

- Barrier Highway/Bypass Road intersection:
 - A Basic Right (BAR) turn treatment with the widened shoulder to be sealed and designed for a 110km/hr speed environment to provide reasonable level of safety for vehicles turning right into the Bypass Road and to allow following vehicles an area to pass the right turning vehicle on the left hand side;
 - A Basic Left (BAL) turn treatment with the widened shoulder to be sealed and designed for a 110km/hr speed environment to accommodate the turning paths of over dimensional vehicles requiring access via the intersection;
 - The Bypass Road is to be sealed for a minimum of 40m from the edge of the Barrier Highway’s eastbound travel lane;
 - Safe Intersection Sight Distance (SISD) of 300m for a 110km/hr speed environment;
 - Erection of Size B Gateway “Turning Traffic” signs (by RMS) 300m either side of the intersection on the Barrier Highway; and
 - Addition seal to be added at the intersection to accommodate the swept path of over dimensional vehicles.
- Silverton Road/Bypass Road intersection:
 - A Basic Right (BAR) turn treatment with the widened shoulder to be sealed and designed for a 90km/hr speed environment;
 - An acceleration lane commencing at the intersection and adjacent to the westbound travel lane in Silverton Road providing sufficient length for westbound vehicles to accelerate to a speed of no less than 70km/hr;
 - The Bypass Road is to be sealed for a minimum of 60m from the edge of the Barrier Highway’s westbound travel lane;
 - Safe Intersection Sight Distance (SISD) of 214m for a 90km/hr speed environment;
 - Safe Stopping Distance (SSD) of 139m for a 90km/hr speed environment shall be provided and maintained from and to the east of the intersection; and
 - Erection of Size B Gateway “Side Road Intersection” signs (by RMS) 200m either side of the intersection on the Barrier Highway;

On the completion of the works, the upgraded Bypass Road and any additional pavements added to the Barrier Highway and Silverton Road will be removed and rehabilitated (or will remain a private road), unless otherwise directed by the Principal or relevant authorities.

4.3.2 Upgrade of Daydream Mine Road

The proposed upgrade works will include the following:

- The intersection of Daydream Mine Road and Silverton Road will be upgraded and resealed to accommodate light vehicles and conventional heavy vehicles.
- As a result of consultation with the Silverton Village Committee, no work is planned to the existing cattlegrid located on Silverton Road, just south of the Daydream Mine Road intersection;
- An additional swept path will be constructed to allow over dimensional vehicles only to turn safely onto Daydream Mine Road from Silverton Road;
- Upgrade sections of Daydream Mine Road as required, including reforming, gravel re-sheeting (the removal of corrugations (in areas of existing sufficient pavement materials, area will be graded) and placement and compaction of additional pavement material in areas of exposed rocks and sections of minor erosion), road widening, drainage construction and realignment works to improve the formation of the road. The details of the upgrade works are defined in the *Road Upgrade and Maintenance Strategy* (Section 2.2.2 *Upgrade of Daydream Mine Road*);
- Appropriate non-legislative signage (i.e. construction signs, project notice boards) will be installed along the length of Daydream Mine Road in consultation with RMS;
- The existing 3m wide cattle grid located approximately 3km along Daydream Mine Road will be replaced with a new 6m wide trafficable grid to allow for two lanes of traffic and to accommodate for the over dimensional vehicles;
- Works will be undertaken to provide additional protection to the existing water supply pipe from traffic and the road works during the construction phase and traffic during the operational phase of the project in consultation with Essential Water; and
- The intersection of Daydream Mine Road and Silverton Wind Farm Access Road will be realigned and widened (where required) to allow for the swept path of an over dimensional vehicle to turn safely onto the Silverton Wind Farm Access Road.

4.3.3 Upgrade of Silverton Road

Two (2) passing bays will be constructed to allow larger vehicles to pull over to reduce the risk of side swipe crashes and to allow safe passage for over dimensional vehicles and background traffic along Silverton Road. The location of these passing bays has been developed in consultation with RMS with works to be completed in accordance with RMS specifications and requirements.

Survey of all floodways along Silverton Road (between Broken Hill and Daydream Mine Road) has been completed and formed the basis of a computer modelled road assessment to ensure safe movement of over dimensional loads to and from the Silverton Wind Farm site. The assessment has confirmed that no upgrades to the existing floodways along Silverton Road are required.







5.0 CONSTRUCTION SITE SIGNAGE

A Traffic Control Plan will be developed and construction signs will be installed at work locations.

The erection of warning signs and/or advisory speed posting prior to isolated curves.

Table 5-1 shows in detail the traffic management signage that will be erected on the Silverton Wind Farm construction site.

Table 5-1: Construction Site Signage

Typical Signs	Locations
	Warning – Construction Vehicles Installed at site access points
LOGO ALL VISITORS MUST REPORT TO SITE OFFICE	GE/CATCON/ CPP Logo (All visitors must report to site office) Installed at site access points Includes contact phone numbers for the Project and Site Managers
	15km/hr Speed Restriction Sign Installed at Construction Compound Site Access point
	40km/hr Speed Restriction Sign Installed at Site Access point and along site roadway Other speed limits used where Risk Assessment shows lower speed is warranted, e.g. 25km/hr or 10km/hr
	Stop Sign Will be installed at site road intersections if required
	No Entry Installed at main access
	Parking Sign Installed at entrance to site parking

6.0 ACCESS REQUIREMENTS

6.1 Drivers Code of Conduct

- Operators/Drivers needing to access the construction area of the project site shall comply with the following:
 - a) Access to the project site for ALL vehicles shall be via Daydream Mine Road;
 NOTE: Construction traffic may only pass through the town of Silverton and enter site on the Western boundary if unavoidable while remaining compliant with the TMP.
 - b) Only 'authorised' vehicles and plant are permitted within the construction area. *Authorised vehicles* are those approved and registered by the Site Manager;
 - c) Authorised vehicles parked in the construction area during working hours, must have the keys left in them so that they can be moved if required;
 - d) Vehicles must at all times keep on the designated site roads where established. Off road driving is not permitted other than in emergency situations, or if no roads have been established. Vehicles must not be parked so as to block access roads or tracks;
 - e) Speed limit is 40km/hr on the construction site; 15km/hr in the site compound; other speed limits as determined by risk assessments;

- f) All persons driving on site shall hold a current driving license for the type of vehicle they are driving;
- g) All Drivers shall abide by the rules and regulations in place on the public roads leading to the project site;
- h) Limiting/substituting the trips by site personnel carpooling;
- i) All Operators/Drivers of plant shall hold the appropriate license/competency to operate/drive the plant;
- j) Seatbelts must be worn in vehicles and plant when being operated;
- k) Use of mobile phones while driving vehicles or plant is prohibited unless suitable hands free equipment is utilised;
- l) Vehicles must travel at a safe distance apart with clear visibility;
- m) Extra care should be taken when driving at dawn or dusk, being particularly watchful for wildlife and/or livestock;
- n) Vehicles must give way to pedestrians, cranes, forklifts, mobile plant, emergency vehicles and livestock; and
- o) Handbrakes must be applied at all times whilst the vehicle is stationary. Where parked on a gradient, park across the gradient.

6.2 Vehicle Requirements

- Aim to reduce traffic by sourcing most materials on site i.e. onsite batch plant, aggregate production and onsite crushing of road base material;
- During the construction period, all 'non-authorized' vehicles shall be parked in the 'designated' parking areas prior to the daily commencement of work;
- All vehicles operating within the construction area must be equipped with:
 - an operating amber flashing light;
 - a first aid kit;
 - a two-way radio utilising UHF Channel 26;
 - a reversing beeper;
 - a fire extinguisher; and
 - a supply of drinking water.
- Any vehicles operated off designated site roads must be four-wheel drive equipped; should carry two (2) spare wheels due to terrain; Drivers should carry out national accredited 4WD training; and
- Vehicles are required to be fully road-worthy and maintained in good working order.

6.2.1 Deliveries by Transport Vehicles

- Scheduling of deliveries and managing timing of transport through Broken Hill to avoid peak hours (beginning/end of the school day);
- There is to be sufficient parking on site for all project related traffic;
- Deliveries to site that are over dimensional loads are to utilise the Bypass Road at all times and are to avoid peak hours and that those construction activities are coordinated to minimise any disruption to local tourist events.
 - Hours of over dimensional vehicle operation along Silverton Road and Daydream Mine Road will be in accordance with travel permits.

- Consultation shall occur before and during all haulage activities with the community (commence approx. one (1) month before deliveries) and tourist groups (commence approx. one to two (1-2) weeks before deliveries);
- The access roads have been designed for the transport of WTG installation equipment such as crawler or mobile cranes and other installation facilities, transport of WTG components, civil construction works, personal and similar transport needs;
- Heavy vehicles associated with construction will not pass within 200m of the Purnamoota Homestead;
- The location has been determined based on the layout of the WTG's, geometric constraints and discussions with key stakeholders;
- During the construction period, all deliveries will be received by the Site Manager (or their delegate) in a controlled fashion;
- Transport and delivery vehicles shall initially park in or adjacent to the construction compound. A dedicated holding point may be allocated for over dimensioned/weight heavy or specialised vehicles and this will be clearly sign posted. Drivers shall then contact the Site Manager by mobile phone for instruction. Dependent on the specific delivery point and material type, the vehicle may require an escort through the construction area. Goods and materials delivered must be laid down in the allocated materials storage area, unless needing to be off-loaded directly within the construction area;
- Project-related traffic will not track mud or dirt onto the public road network;
- Loaded vehicles entering or leaving site will have their loads covered or contained;
- Permits to be obtained by the Transportation Subcontractor for traversing over bridges, and structural assessments to be conducted on existing bridges and culverts on the transport route will be required;
- Transport approvals will need to be sought from the following Departments, where required, by the Transportation Subcontractor for over dimensional loads being bought to site:
 - DPTI SA;
 - SA Police Escort Group;
 - NSW Police Escort Group;
 - SA Power Networks;
 - RMS Permits Division;
 - Essential Energy;
 - Telstra; and
 - Optus.

6.2.2 Emergency Services Vehicles

Efforts will be made to maintain clear access within the project site for emergency services vehicles 24/7.

6.3 Pedestrian Access

No specific pedestrian access from outside of the construction site boundary has been included in this TMP as it is not expected to be needed. If one is needed, a dedicated access will be allocated and sign posted accordingly.

6.4 Reference Documents

- **Austrroads:**
 - Guide to Traffic Management
 - Guide to Road Design
 - Guide to Road Safety
 - Guide to Traffic Engineering Practice. Part 2-Roadway Capacity 1999
- **Australian Standards:**
 - AS 1742-Manual of Uniform Traffic Control Devices
 - AS 1743-Road Signs-Specifications
 - AS 2890-Parking Facilities
- **Roads and Maritime Services:**
 - Traffic Control at Worksites (TCAWS) Version 4 (2010)
 - Guide to Traffic Control at Worksites
 - Supplements for Australian Standards
 - Supplements for Guide to Road Design
 - Supplements for Guide to Road Safety
- ARRB Transport Research Document: Unsealed Road Manual – Guideline to Good Practice
- Institute of Engineers, Australia, ACT (1987): Australian Rainfall & Runoff – A Guide to Flood Estimation

7.0 CONSTRUCTION TRAFFIC

7.1 Construction Time Frame

Construction is expected to take approximately 18 months. In terms of transport requirements, this can be broken down as:

- a) Civil Construction: February 2017 – June 2018
- b) Electrical Construction: March 2017 – May 2018
- c) Substation Construction: July 2017 – February 2018
- d) Wind Turbine Construction: November 2017 – June 2018

7.2 Project Commuter Traffic

The following applies to all construction commuter traffic working on the Silverton Wind Farm Works:

- Commuter traffic to and from the project site will consist of light vehicle and delivery vehicles (contractor traffic, subcontractor traffic, courier deliveries, concrete aggregate and sand deliveries, etc.);
- Commuters will travel from Broken Hill to the project site via Silverton Road, onto Daydream Mine Road and onto the site access road;
- Personnel travelling from their accommodation in Broken Hill to the project site will be travelling from approximately 6.30am and will be on site by 7.00am. Commuter traffic will be limited due to carpooling with most traffic leaving site between the hours of 5.00 - 6.00pm

with little or no offsite movement during the working day. Carpooling will be encouraged during Daily Pre-Start and Toolbox Meetings;

- Courier deliveries would be mid-morning with limited deliveries on a weekly basis;
- Driver fatigue should not be impacted due to the construction site hours (of Monday to Friday, 7.00am – 5.00pm and Saturday, 8.00am – 1.00pm) and with an average travelling time of 25 minutes. However, fatigue will be managed as follows:
 - Any signs of fatigue will be risk assessed as with road and inclement weather conditions;
 - Fatigue management education will be presented via the Daily Pre-Start meetings and regular Toolbox meetings. Some examples of discussion topics include:
 - Driving to the conditions including travelling during dawn and dusk, monitoring for wildlife, monitoring weather conditions, etc.;
 - Managing down time between shifts to ensure sufficient rest time has been achieved including minimising alcohol intake (currently 100% BAC testing onsite);
 - Working in the heat, including use of air-conditioned amenities, managing fluid intake and additional rest break;
 - Advantages of carpooling;
 - Driver etiquette and Driver code of conduct; and
 - Monitoring of wildlife black spots and response to wildlife strikes.
 - CATCON encourages self-management of the fitness for work programme by all personnel. Key elements are: limit alcohol intake; get a good night's rest; manage fatigue levels; seek advice if you are not coping; and report unacceptable behaviour to a Supervisor.
- All commuter traffic will adhere to speed limits as follows (which will be highlighted during the project site induction) to assist in minimising potential impacts of unsafe driving:
 - Silverton Road from Broken Hill to Daydream Mine Road: 90km/hr (or as signposted);
 - Daydream Mine Road: 60km/hr and 40km/hr on all bends and over cattle grids;

All Drivers will be required to drive to the conditions.

- Headlights are to be used by all commuter traffic at all times;
- Commuter traffic will not overtake other vehicles on Daydream Mine Road;
- To lessen the impact of dust from construction traffic on Daydream Mine Road, traffic will travel 150m apart to prevent excessive dust impacting on vision when driving;
- Dust suppression along Daydream Mine Road will be managed in consultation and as approved by RMS.
- Upon notification from RMS regarding the closure of Daydream Mine Road to the public due to inclement weather (i.e. rain event) a risk assessment will be conducted by the Principal Contractor, in consultation with RMS, to determine if construction traffic only (light vehicles) could safely use Daydream Mine Road to access the project site. If the outcome of the risk assessment is that the road cannot be used by construction traffic, then the site will be evacuated until such time that RMS provide notification that Daydream Mine Road has been reopened to the public.

The decision to open/close the road remains with RMS.

If RMS approve the use of Daydream Mine Road for construction traffic only, any damage that may occur (e.g. rutting caused by construction traffic) will be repaired by the Principal

Contractor with the approval of RMS in an agreed timeframe as to not unreasonably impact other road users.

The above arrangement is for the construction period only and access to Daydream Mine Road following the completion of the construction works will revert to the existing arrangement whereby the road will be closed during wet weather to all vehicles and then reopened when the conditions are safe and the integrity of the road is not compromised by traffic movements; and

- All weather will be monitored using information available on the Bureau of Meteorology (BOM) website, precautions due to a rain event will be in place and ongoing communication and consultation with RMS will continue until the road is reopened to the public.

7.3 Traffic Volumes

Project specific traffic volumes of heavy vehicles to be expected for repeatable loads either to or from the site have been included in the attached Rex J. Andrews *Route Study – Port Adelaide to Silverton* (refer Attachment A).

Typical traffic volumes (during peak construction times) for light vehicles and material deliveries are as follows:

- Light vehicles (site personnel) and courier deliveries: Approx. 50 – 75 vehicles per day;
- Turbine foundations: Deliveries between July 17 – March 18 including:
 - Foundation reinforcement: Approx. four (4) deliveries per week;
 - Concrete precast elements: Approx. one (1) delivery per week;
 - Cement materials: Approx. 12 deliveries per week;
 - Concrete aggregates and sand: Approx. 27 deliveries per week (refer Section 7.3.1 below);

NOTE: The above numbers are based on conventional single semi-trailer deliveries. Traffic volumes may be reduced by using B-Doubles.

- Diesel deliveries: Approx. one (1) movement per day for the entire project (May 17 – July 18).

Concrete will be batched on site along with the onsite crushing of capping material (approx. 155,000t).

7.3.1 Concrete Aggregates and Sand

Concrete aggregate materials will be sourced from quarries in Broken Hill (as a result of onsite materials not being suitable for incorporation into the works). The resultant additional traffic volumes along Silverton Road and Daydream Mine Road are as follows noting that peak traffic volumes will be during the establishment of onsite stockpiles (as detailed below):

Stockpiling of aggregate and sand during the establishment of the Concrete Batch Plant:

- Estimated stockpile volume: 6,000t
- Concrete aggregates to be sourced from Mawsons' Quarries Broken Hill and transported to site via double road train:
 - Load per road train: 40t
 - Estimated total number of truck movements: 150
 - Estimated duration: 2 weeks, commencing mid-August 17
 - Average truck movements per day based on a 6-day week: 12.5
- Maximum daily truck movements during stockpiling activities is estimated at 15.

Scheduled deliveries during the course of the works:

- Estimated structural concrete volume (58 turbines x 425m³/foundation): 24,650m³
- Estimated volume of concrete aggregates based on 1t/m³ of concrete: 24,650t
- Concrete aggregates to be sourced from Mawsons' Quarries Broken Hill and transported to site via double road train:
 - Load per road train: 40t
 - Estimated total number of truck movements: 617
 - Estimated duration (July 2017 to March 2018): 9 months
 - Average truck movements per month: 69
 - Average truck movements per day based on a 25-day month: 2.7
- Maximum daily truck movements during scheduled concrete aggregate and sand deliveries is estimated at 6.

Sand will also be sourced from quarries in Broken Hill because of the requirement for extensive washing and blending of the natural sand with manufactured sand in order to make it suitable for inclusion into the works.

Along with other environmental of not mining the sand on site, the reduction of traffic along Silverton Road and Daydream Mine Road resulting from no longer needing to exported sand from site is as follows:

- Estimated volume of concrete sand based on 0.7t/m³ of concrete: 17,255t
- Reduction of transport by double road train due no longer exporting sand from site for processing:
 - Load per road train: 40t
 - Estimated total number of truck movements: 431
 - Estimated duration (July 2017 to March 2018): 9 months
 - Average truck movements per month: 48
 - Average truck movements per day based on 25-day month: 1.9

Therefore, the net increase in truck movements per day as a result of importing aggregates and sands to the site will be **0.8** trucks per day.

7.4 Transport Rules

- Limiting the delays experienced on haulage routes.
- Driver behaviour is described in Clause 6.1 above.
- Road conditions will be monitored in accordance with Table 7.1 below.

Table 7-1: Transport Routes

Road	Length (km)	Type	Jurisdiction – Asset Owner	Actions to be taken	Frequency of use	Type
Barrier Highway	43	Sealed	RMS	Monitor	Frequent	Highway
Broken Hill Bypass – Magazine Way	4	Unsealed	Lessee owns middle section of road, RMS and Broken Hill City Council manage the entrances from Barrier Highway and Silverton Road	Repair and Maintain during Construction	Infrequent	Local Access Bypass, will not be used after construction has been completed
Silverton Road	16	Sealed	Broken Hill City Council in the BHCC LGA and RMS in the unincorporated area	Monitor	Frequent	Double Lane Road
Daydream Mine Road	4.2	Unsealed	RMS	Repair and Maintain during Construction	Frequent	Windfarm Access/ Local and Tourist Use

8.0 OVER-DIMENSIONAL LOADS

8.1 General Requirements

The Transport Contractor must ensure that all heavy or over dimensional vehicles entering or leaving the site use the Bypass Road.

The Transport Contractor must minimise construction traffic to the west of the Silverton Road/Daydream Mine Road intersection during the project.

8.2 Risk Management

Where identified risks cannot be controlled through engineering and design measures, administrative controls will be implemented in consultation with and approval from Roads and Maritime Services (RMS).

Examples of risks and the possible mitigation strategies are listed below:

<p>Risk: Poor sight distance towards Broken Hill at the intersection of the Bypass Road and Silverton Road due to existing road curvature and line of trees</p>
<p>Mitigation Strategies:</p> <ul style="list-style-type: none"> ▪ Limit the use of the Bypass Road to over dimensional vehicles only for the duration of the turbine componentry deliveries (i.e. Nov 17 – Jun 18). All other construction traffic is to access the site via Broken Hill: <ul style="list-style-type: none"> ○ At times where the Bypass Road is not in use, signage directing Wind Farm Traffic Only to access the site via Broken Hill. ○ Upon completion of the delivery, all vehicles which become road compliant (i.e. no longer require an escort) will exit the site via Broken Hill. ▪ Use of escort vehicles to manage the egress/access of over dimensional vehicles to/from the Bypass Road onto the Barrier Highway and Silverton Road.

- Detailed engineering design of intersections to account for proposed traffic movements and sight lines;
- The installation of warning signs on Silverton Rd warning road users that construction traffic will be exiting from the Bypass Road.
- Removal of vegetation to increase line of site.
- Where required, the use of local traffic control.
- Community notification of the upcoming traffic movement via project notice boards, project website, etc.

Risk: Over dimensional vehicle access along Silverton Road.

Mitigation Strategies:

- Use of escort vehicles to manage the egress/access of over dimensional vehicles to/from the Bypass Road onto/from Silverton Road.
- Construction of passing bays to allow safe passage of over dimensional vehicles and background traffic.
- CATCON will control 5km (approx.) sections of Silverton Road at a time. Once an over dimensional vehicle reaches a passing bay, police/escort vehicles will determine if the over dimensional vehicle can progress to the next passing bay/control point or if the over dimensional vehicle is required to stop to allow those vehicles in the passing bays to proceed and/or allow those vehicles following to pass the stopped over dimensional vehicle. The over dimensional vehicle will then be allowed to continue once the next 5km section is deemed safe.

CATCON have undertaken a simulated trial from the Broken Hill Bypass Road, along Silverton Road to the turn off at Daydream Mine Road using a light vehicle whereby the light vehicle travelled at a speed of 55 – 60km/hr along the straights and 40km/hr on blind brows and floodways/dips. The simulated trial has predicted travel times of between 5 – 7 minutes per 5km section, which represents an average travel speed of 42km/hr at travel duration of 7 minutes.

- The installation of warning signs on Silverton Rd warning road users that construction traffic will be exiting from the Bypass Road.
- Where required, the use of local traffic control.
- Community notification of the upcoming traffic movement via project notice boards, project website, etc.

8.3 Road Geometry

In order to ensure safe operation for the vehicles used during construction/installation, road bends and junctions shall be constructed by the Contractor according to following requirements:

- **Intersections** are to be designed by a competent Civil Engineering Consultant;
- Road bends sharper than **90 degrees** must be custom built and discussed in detail with reference to the actual transport equipment; and
- Road bends with a cross-fall greater than 3% needs to be analysed for each individual situation.

8.4 Transport Route Study

8.4.1 Transport Drawings

Refer to the attached Rex J. Andrews *Route Study – Port Adelaide to Silverton* (refer Attachment A) for preliminary transportation plans for the wind turbine blades, nacelles and tower sections.

8.4.2 Chain of Responsibility

CATCON Procedure SPG-12 *Chain of Responsibility*.

The purpose of this procedure is to outline how the Consortium will manage the chain of responsibility and the risks associated with the transport of goods via heavy vehicles.

9.0 MONITORING

- This TMP is a live document and may be revised (in consultation with RMS and other relevant authorities) if enhancements are identified that will improve the effectiveness of the traffic management at the project site. The likelihood of identifying enhancement will be increased by regular consultation with stakeholders and subcontractors during site meetings. The Site Manager will remain vigilant for any traffic management problem areas that may arise during the construction of the project.
- All complaints relating to traffic management will be recorded in the complaints register and dealt with in accordance with the procedures laid out in the CEMP and EMP.
- All signage will be inspected weekly for cleanliness and sureness of mounting.
- Deterioration of sites roads will be monitored on a weekly basis and significant deterioration will be reported to the Site Manager.
- During these inspections, if the roads have deteriorated such that they are deemed hazardous to construction and/or public users, the Contractor will be called upon to rectify immediately and returned to pre-construction standards.
- Site entrances shall be kept clear of overgrowth, in accordance with the CEMP and EMP, to ensure clear line of sight for vehicles exiting the project site.
- In the absence of rain, for dust suppression, water carts will run daily in work zones during earthworks.
- Visual inspections of controls are to be undertaken at least once per week, with monthly records maintained.
- Monthly records during the construction period will be via CATCON's *Site Inspection* (form SF-06).
- Visual inspections are to be undertaken after rainfall greater than 10mm during construction periods.

10.0 COMPLAINTS

GE-CATCON expects to be the first point of contact for community complaints. Contact details will be included on the project notice boards, project website and included in local publications (where required). Community complaints will be lodged either in person, by phone or by email as detailed below:

- Phone: 1300 677 423
- Email: silvertonwf@catcon.com.au

Any complaints will be directed to the Site Construction Manager and the following details will be recorded:

- Date and time of the complaint;
- Method by which the complaint was made;
- Personal details of the complainant;
- Nature of the complaint; and

- Action taken in relation to the complaint, including any follow-up contact with the complainant.

GE-CATCON will notify the Principal of all complaints received and will assist the Principal to respond to any complaints or queries relating to the works. This may include taking reasonable and prompt measures to address complaints arising from the works, investigating such complaints and providing assistance to the Principal in preparing a formal response to the complainant.

11.0 CONSULTATION

The Roads and Maritime Services (RMS), Department of Industry – Lands (DI Lands), the Broken Hill City Council (BHCC) and the Silverton Wind Farm Community Consultative Committee (SWFCCC) will be consulted during the development and implementation of this TMP to ensure compliance with RMS and Local Council specifications and requirements in a proactive move to assist in the reduction the risks associated with the movement of construction traffic to access the works.

11.1 Record of Community and Stakeholder Consultation

Consultation with the above-mentioned groups is summarised as follows:

Silverton Wind Farm Community Consultative Committee	
8 Mar 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 2) (to Peter Price) for review and comment.
30 Apr 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 3) (to Peter Price) for review and comment.
19 May 17	Phone call between Paul Busolin (CATCON) and Peter Price to discuss the proposed passing bays along Silverton Road.
14 Jun 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 1) (to Peter Price) for review and comment.
15 Jun 17	Meeting at Silverton between CATCON (Paul Busolin) and SWFCCC (Peter Price and Helen Murray) to discuss the revised Traffic Management Plan.
19 June 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 2) (to Peter Price) for review and comment.
3 Jul 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 3) (to Peter Price) for review and comment.
	Ongoing consultation
Broken Hill City Council	
7 Mar 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 2) (to Andrew Bruggy) for review and comment, followed up with a phone call.
14 Jun 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 1) (to Andrew Bruggy) for review and comment.
19 Jun 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 2) (to Andrew Bruggy) for review and comment.
3 Jul 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 3) (to Andrew Bruggy) for review and comment.
Roads and Maritime Services	
8 Mar 17	Submitted copy of the <i>Traffic Management Plan</i> (Rev 2) (to Andrew McIntyre) for review and comment, followed up with a phone call.
2 May 17	Letter received from RMS providing comments on the submitted <i>Traffic Management Plan</i> for review and action by CATCON.

15 May 17	Meeting with RMS to review the proposed scope of works for the upgrade of Daydream Mine Road.
18 May 17	Email from RMS approving proposed scope of works for the upgrade of Daydream Mine Road.
14 Jun 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 1) (to Andrew McIntyre) for review and comment.
19 Jun 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 2) (to Andrew McIntyre) for review and comment.
21 Jun 17	Comments received from RMS on the submitted <i>Traffic Management Plan</i>
27 June 17	Phone conference with Alistair Lunn to discuss the maintenance requirements of Daydream Mine Road. Phone conference was followed up with email to CATCON from Alistair Lunn granting approval to CATCON to undertake maintenance works only to Day Dream Mine Road
29 Jun 17	Phone conference held between CATCON and RMS to discuss the comments raised by RMS on the submitted <i>Traffic Management Plan</i> .
3 Jul 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 3) (to Andrew McIntyre) for review and comment.
31 Jul 17	Received comments from RMS (Andrew McIntyre) with regards to the <i>Traffic Management</i> (Rev 3)
	Ongoing consultation
NSW Department of Planning and Environment	
29 Mar 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 3) for review and comment.
5 May 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 4) for review and comment.
5 May 17	Letter received from DPE providing approval of the <i>Traffic Management Plan</i> .
14 Jun 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 1) for review and comment.
19 Jun 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 2) for review and comment.
3 Jul 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 3) for review and comment.
DI – Lands	
7 Mar 17	Submitted a copy of the <i>Traffic Management Plan</i> (Rev 2) (to Michael Isaacs) for review and comment.
17 Mar 17	Letter received from DI – Lands with no comments on the submitted TMP.

12.0 ANNEXURES

Annexure A	Rex J. Andrews Route Study – Port Adelaide to Silverton
Annexure B	CATCON Procedure SPG-12 <i>Chain of Responsibility</i>

ANNEXURE A Rex J. Andrews Route Survey – Port Adelaide to Silverton

ROUTE STUDY: CATCON

SILVERTON WINDFARM, GE WTG'S EX PORT ADELAIDE

101/01/2017 REV 00

Rev.	Date	Change	Responsible	Checked
00	11/01/17	Desktop route assessment	W Andrews	✓
00	11/01/17	Report compiled	W Andrews	✓
00	11/01/17	Report completed	W Andrews	✓

Index:

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3.0	PROJECT DATA	5
4.0	SITE LOCATION	6
5.0	TRANSPORT SUMMARY	7
6.0	TRANSPORT APPROVALS REQUIRED	7
7.0	TRANSPORT DRAWINGS: (EXAMPLES)	8
8.0	PORT OF IMPORT	11
9.0	ROUTE TO SITE	12
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11.0	REFERENCES	29

1.0 Introduction

This document describes observations on route and explains the Transport of wind turbine components to the entrance/storage from Factory / Harbour.

The Route survey does not include any studies from Silverton through to site.

The Route survey does not include investigations regarding bearing Capacity of any bridges. This has to be investigated.

The route survey is based on an usual inspection on the date shown on the next page and is not to be regarded as a conclusive statement on Suitability.

A dry run with an extendable trailer may be necessary in order to Determine the extend of possible modification and improvement.

2.0 Evaluation

1	No Cost
2	Some Work
3	Urgent Modification
4	Extreme Amount of Work

12.1.1 (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.
11/01/2017 Survey undertaken by.
(Rex J Andrews P/L) Project name.
Silverton wind farm

Components: 58 x GE 3.4mw 130 rotor, 110mtr HH wind turbine
generators

Transport Combinations:

58 x Nacelles (9.5l x 4.0w x 3.8h x 93T)

Configuration. Prime mover with 2x8
dolly & 8x8 Platform trailer. Overall
length: 30.0l x 4.3w x 4.9h x 170T.

58 x Hubs (4.0l x 3.5w x
3.8h x 34.5T) Configuration.
Prime mover with 4x4 Low
Loader. Overall length: 19.0l
x 3.5w x 4.9h x 54.5T.

174 x Blades (63.7l x 4.0w x 3.0h x 16T)

Configuration. Prime mover with 1x4 dolly 4x4
Extendable Blade trailers. Overall length: 68.0l x
4.0w x 4.9h x 52.5T.

58 x Base Rings (4.8l x 4.8W
X 1.0H x 11.5T) Configuration.
Prime mover with 3x4 Semi
trailer. Overall length: 19.0l x
4.8w x 4.3h x 42.5T. (2 p/load)

58 x Base Towers (12.0l x
4.3W X 4.3H x 63.4T)
Configuration. Prime mover
with 6x8 Platform trailer.
Overall length: 27.0l x 4.5w x
5.2h x 105.5T.

58 x Mid C towers (15.1l x 4.3W X 4.3H x 56.5T)
Configuration. Prime mover with 6x8 Platform trailer.
Overall length: 29.0l x 4.5w x 5.2h x 105.5T.

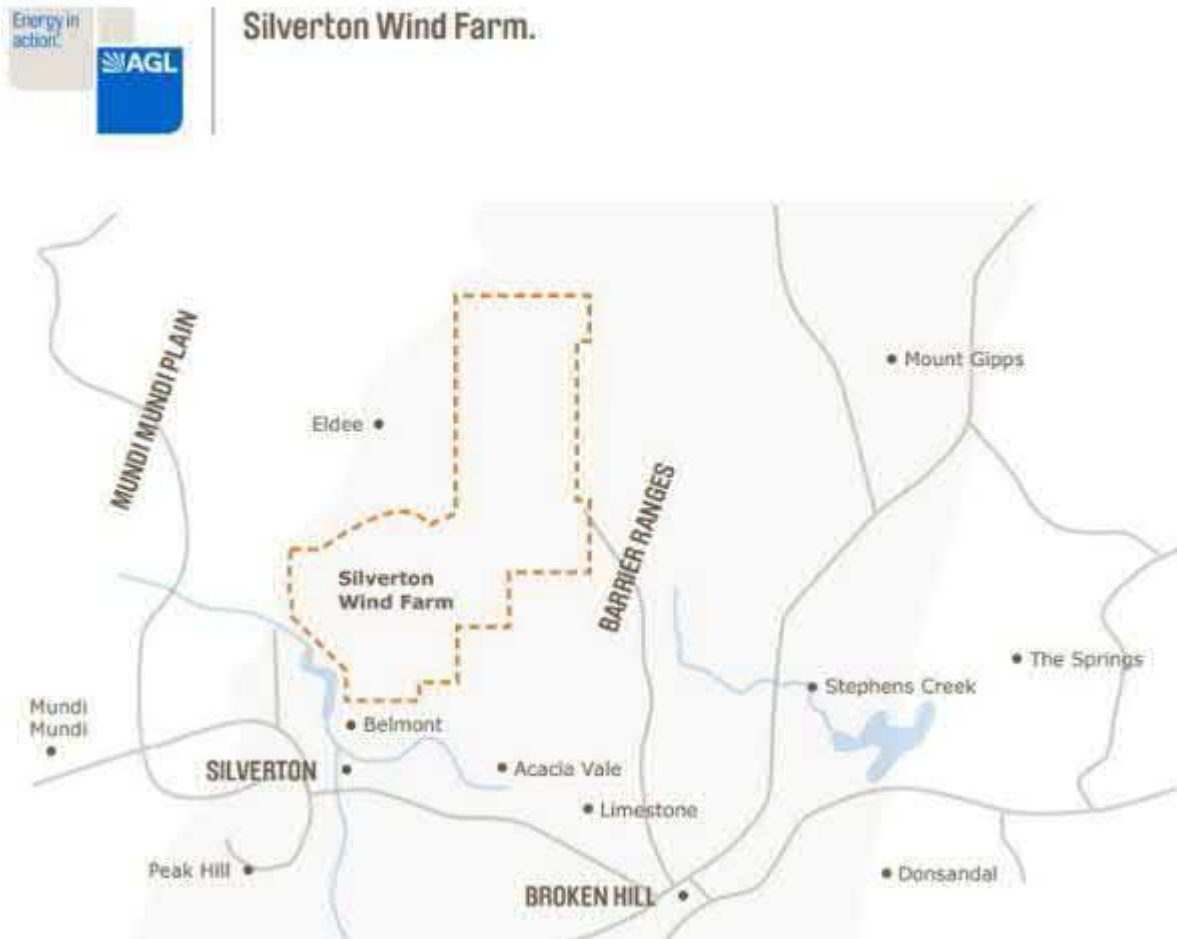
58 x Mid B towers (20.7l x 4.3W X 4.3H x 57.5T)
Configuration. Prime mover with 7x8 Platform trailer.
Overall length: 31.0l x 4.5w x 5.2h x 105.5T.

58 x Mid A towers (28.0l x 4.3W X 4.3H x 57.1T) Configuration. Prime mover with 2x8–3x8 Dolly jinker combo. Overall length: 38.0l x 4.5w x 5.2h x 95T.

58 x Top towers (30.0l x 4.3W X 3.1H x 46.0T) Configuration. Prime mover with 2x8–2x8 Dolly jinker combo. Overall length: 40.0l x 4.5w x 5.2h x 75T

4.0 Site Location.

The Silverton Wind Farm is located in the Barrier Ranges of NSW, with its south-western boundary approximately five kilometres north of Silverton and approximately 25 kilometres north-west of Broken Hill.



5.0 Transport Summary.

We have based our study on the turbine components, and all imported towers entering Australia via the Port of Adelaide. The client may also source local towers from Portland or Whyalla.

Proposed route to Silverton windfarm 523 kilometres:
After completing the route survey, we believe the following is the most suitable option.

This route took us via Ocean Steamers Road, Eastern parade, Port River Expressway, Salisbury Highway, National Highway A1, Northern Expressway, Gawler Bypass, Main North Road, (Burra Bypass- Copperhouse Street, West Street) Barrier Highway, Broken Hill Bypass, Silverton Road, Daydream Road.

The following are the conditions and pinch points for this route:

- No unnecessary noise to be made before 7.00am.
- A pre start meeting to be held between the truck driver, pilots & Police before load departs.
- If for any reason communications fail between any of the pilot, escort of load vehicle occurs, the load is to cease until such time as it can be re-established.
- Loads are to travel in daylight hours only.

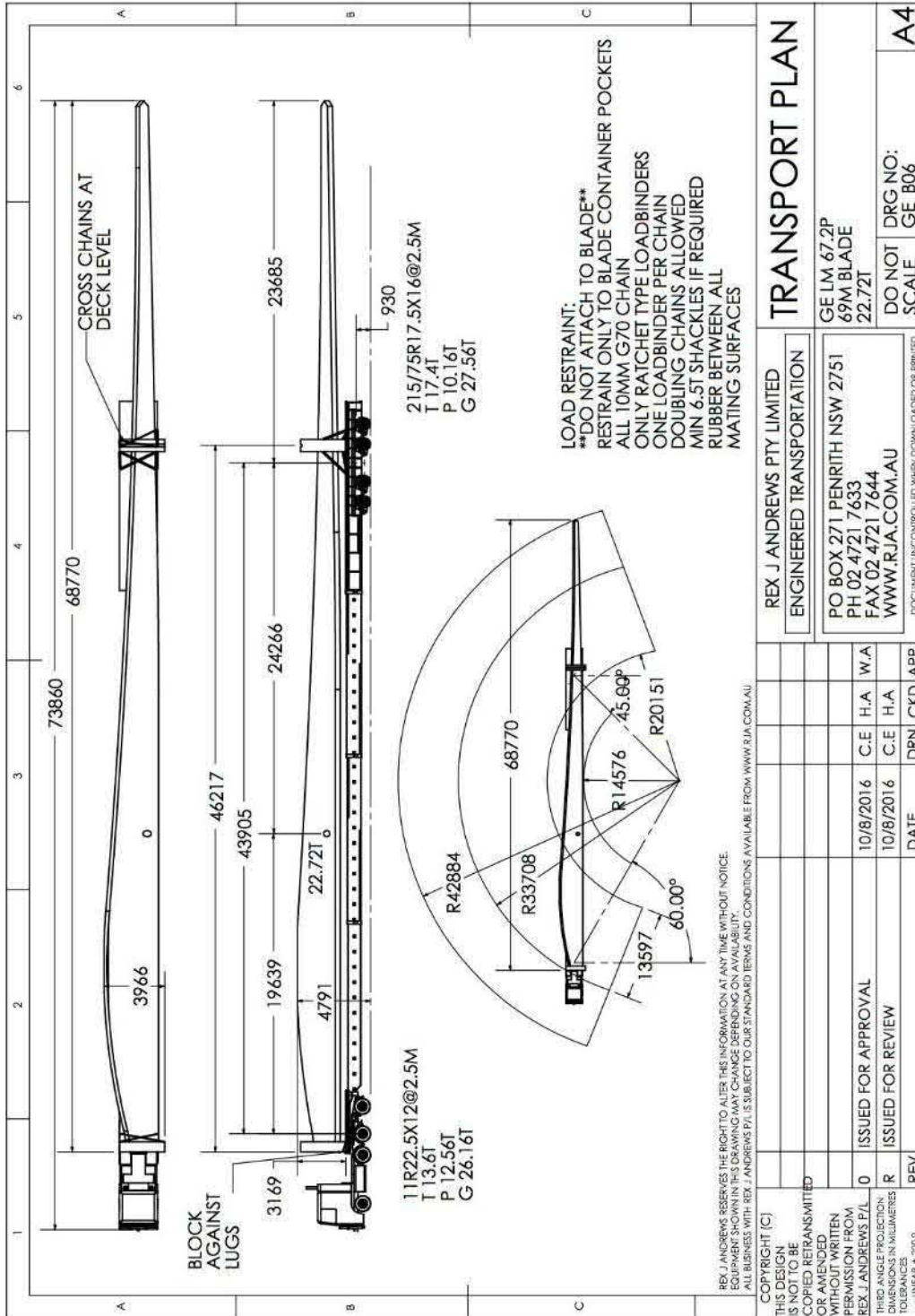
6.0 Transport approvals required.

Approvals will need to be sought from the following departments. Approvals will need to be sought from the following departments.

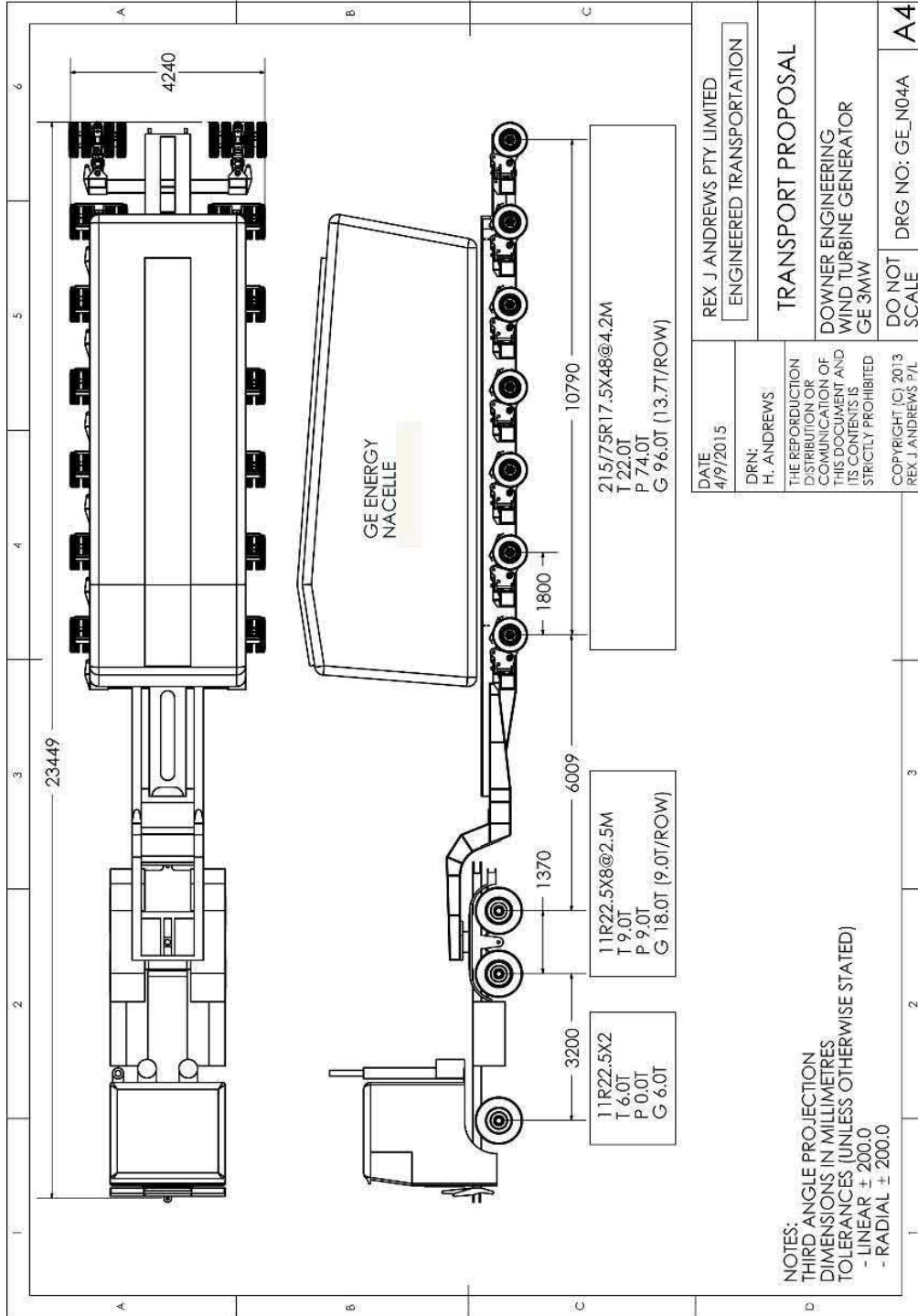
- DPTI SA
- SA Police escort group
- SA Power
- RMS permits division
- NSW Police
- Telstra
- Optus
- Local Councils
- ARTC

7.0 Transport drawings: (Examples)

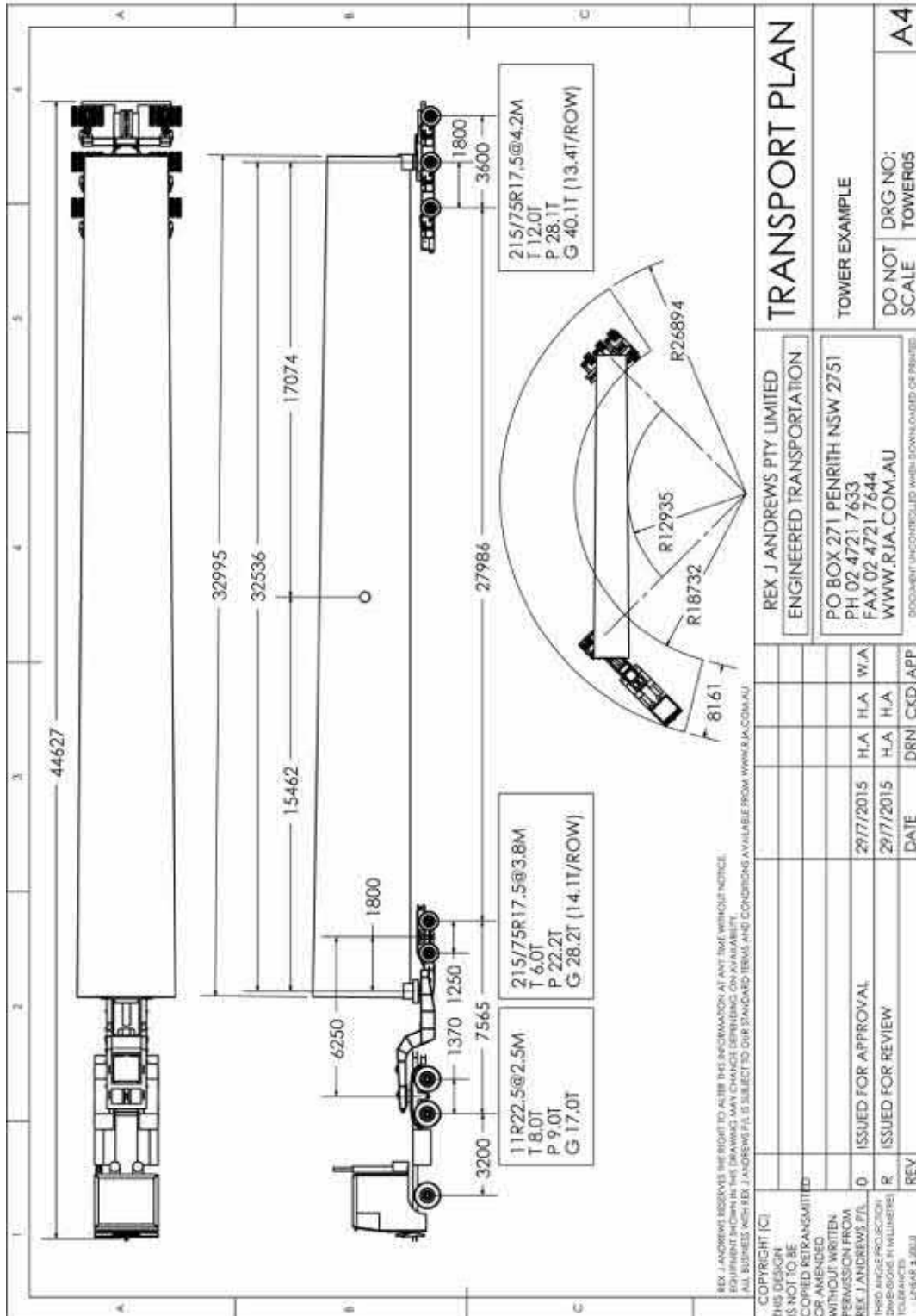
12.1.2 Blade diagram:



12.1.3 Nacelle diagram:



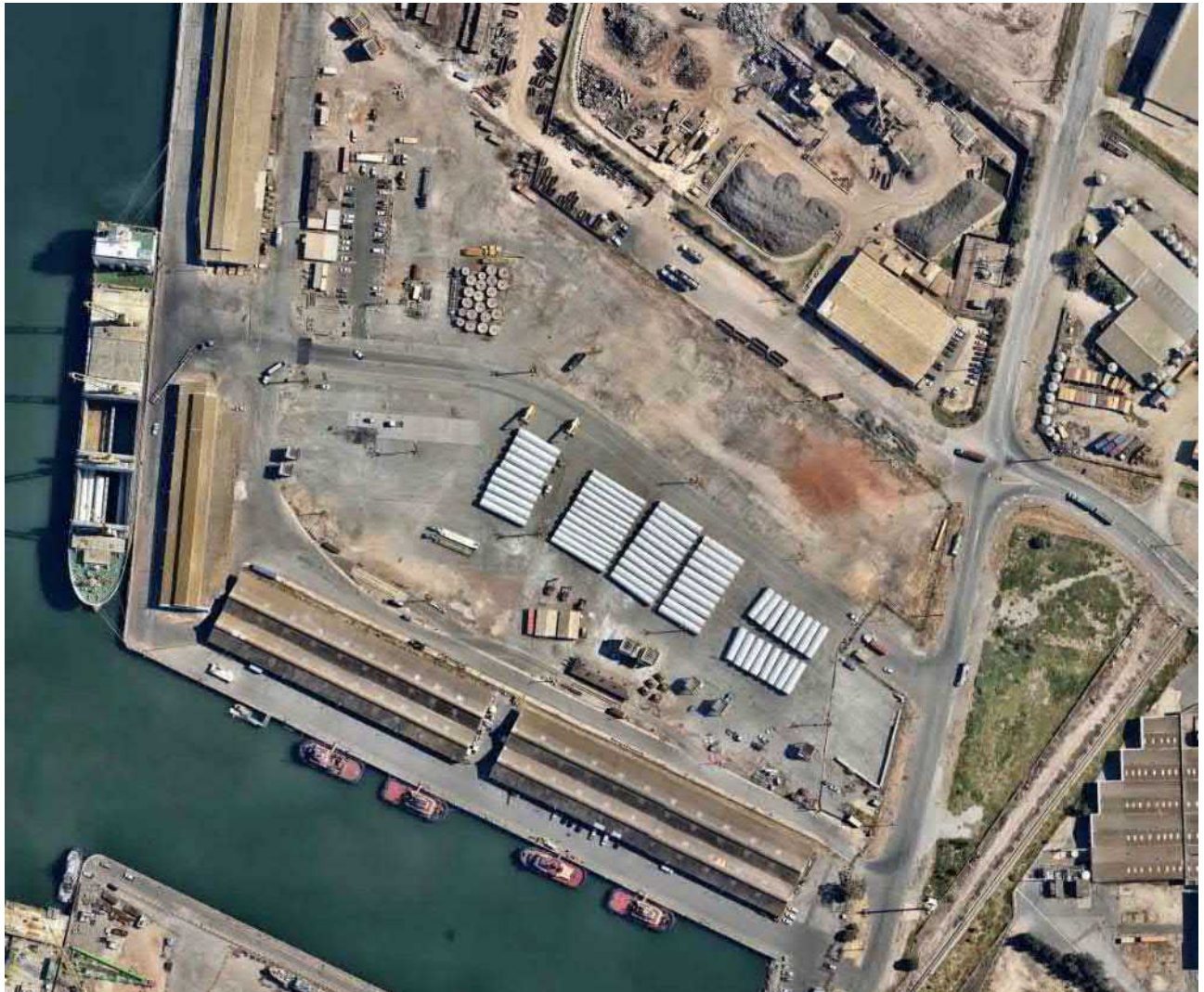
12.1.4 Tower diagram:



8.0 Port of Import.

The wind turbine equipment will be imported from various countries, and will arrive on ships into the Port of Adelaide. The client may alternately source local towers. The ideal berth for these shipments is the Berth 18-20 Inner Harbor. This facility has a hardstand storage area of roughly 20,000 s/q meters, adjacent to the berth.

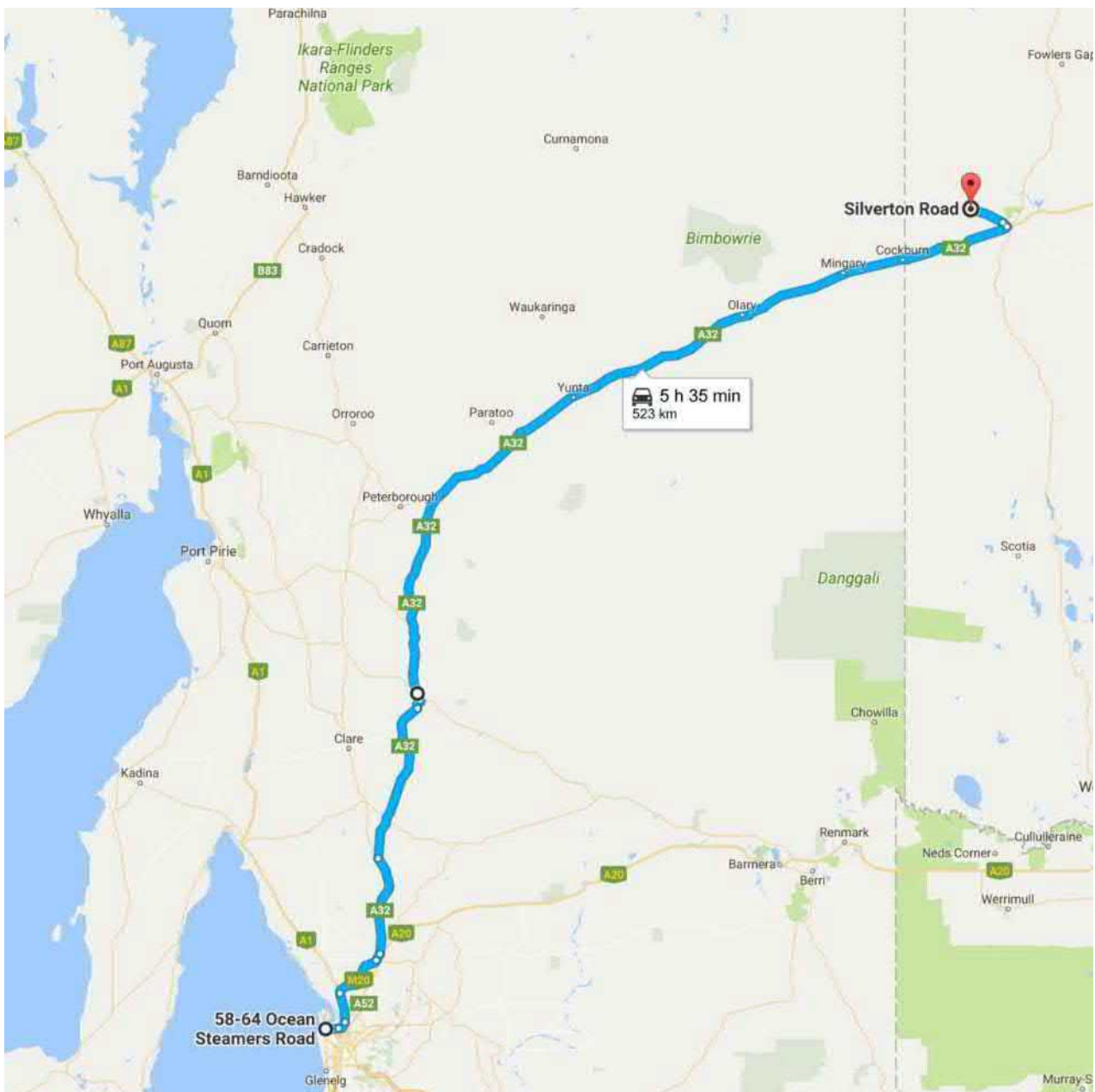
Access from the storage to the Public roads, is via Ocean Steamers drive. This route has no Obstacles, and has accommodated windfarms of the size, in the past.



9.0 Route to site:

Distance of route: 523 Km's

Route: Ocean Steamers Road, Eastern parade, Port River Expressway, Salisbury Highway, National Highway A1, Northern Expressway, Gawler Bypass, Main North Road, (Burra Bypass- Copperhouse Street, West Street) Barrier Highway, Broken Hill Bypass, Silverton Road, Daydream Road.



10.0 ROUTE INDEX

KEY	
CRITICAL	
CAUTION	
RAIL CROSSING	

KM index	Location	Section of road	Critical Measurement	Procedure	Notes
0.0	Port Adelaide	Port access road onto Eastern Parade	75.0 metres long	Directly ahead	Straight ahead through the gate and onto Eastern Parade.
0.2	Port Adelaide	Rail crossing on Eastern Parade	15.0 Metres wide	Travel over crossing	Cross with caution, approval may be required.
0.9	Gilman	Eastern Parade onto the Port River Expressway	10.9 Metres wide	Left hand turn	Spotter to guide load between the poles.
9.4	Dry Creek	Port River expressway onto the A1	6.0 Metres wide	Left hand turn	Large sweeping corner with no problems.
21.0	Waterloo Corner	A1 onto the Northern Expressway	6.0 Metres wide	Left hand merge than right hand bend	Large sweeping corner with no problems.
21.0	Waterloo Corner	Northern Expressway	5.2 metres high	Directly ahead	All loads exceeding 5.2 metres high are not to use the Northern Expressway. An alternate route is available via Heaslip Road.
45.9	Gawler	The Northern Expressway onto the Horrocks Highway.	75.0 Metres long	Left hand turn	Large left hand turn if loads travel over the median and onto the incorrect side.
51.8	Roseworthy	Rail crossing on Horrocks Highway	10.0 Metres wide	Travel over crossing	Cross with caution, approval may be required.
80.4	Tarlee	Rail crossing on Horrocks Highway	10.0 Metres wide	Travel over crossing	Cross with caution, approval may be required.
113.0	Manoora	Rail crossing on Barrier Highway	10.0 Metres wide	Travel over crossing	Cross with caution, approval may be required.
153.0	Burra	The Barrier Highway onto the Burra Bypass	70.0 Metres long	Left hand turn	Load to turn left with care.
153.5	Burra	Rail crossing on the Burra bypass	7.0 Metres wide	Travel over crossing	Cross with caution, approval may be required.
156.0	Burra	Burra Bypass: Copperhouse Street onto West Street	75.0 Metres long	Left hand turn	Load to turn left with care.
157.0	Burra	Burra Bypass: West Street onto the Barrier Highway	80.0 Metres long	Directly Ahead	Load to travel directly ahead with care.
312.0	Ucolta	Rail crossing on Barrier Highway	10.0 Metres wide	Travel over crossing	Cross with caution, approval may be required.
348.0	Cutana	Rail crossing on Barrier Highway	10.0 Metres wide	Travel over crossing	Cross with caution, approval may be required.
461.0	Cockburn	Parking Bay at SA/NSW border	10.0m into 11.0m	Turn off the highway into the parking area.	Load to turn into the parking area with care.
504.0	Broken Hill	Broken Hill bypass	65metres long x 5.5 metres wide	Travel through the detour	A new detour is to be built to accommodate the swept path of all loads.
523.0	Silverton	Silverton Road onto Daydream Road	65metres long x 5.5 metres wide	Right hand turn	The Client required to build a suitable road or upgrade existing road from Silverton Road.



0.0 Km's: Exiting Adelaide Port.

PROCEDURE: Straight ahead across Ocean Steamers Road and onto Eastern Parade.

COMMENTS: Flinders Ports have built an entrance opposite this intersection which allow loads to enter Eastern Parade without having to negotiate the corner.

CONCLUSION: No problems with this section of road. Spotter to guide load through the intersection. Police and pilots to control traffic.

0.9 Km's: Eastern Parade onto the Port River Expressway.



PROCEDURE: Left hand turn from Eastern Parade onto the Port River Expressway.

COMMENTS: This is a large corner if the loads travel from the incorrect side of Eastern Parade onto the Port River Expressway, however the light pole on the inside of the turn and the traffic signal in the centre median will make the corner tighten up as they pass through.

CONCLUSION: As the corner tightens when the loads enter the turn, a spotter will be required to guide the load through the intersection with particular care taken on the light pole and traffic signal. Police and pilots to control traffic.

9.4 Km's: Salisbury Highway onto the A1 .



PROCEDURE: Left hand sweeping turn from the Port River Expressway onto the A1.

COMMENTS: This is a large with no problems.

CONCLUSION: Police and pilots to control traffic.

21.0 Km's: A1 onto the Northern Expressway.



PROCEDURE: Left merge exiting the A1, before a sweeping right hand bend onto the Northern Expressway.

COMMENTS: This is a large with no problems. Please note that all loads exceeding 5.2 metres in overall height are to use an alternative route from this point.

CONCLUSION: Police and pilots to control traffic.

45.9 Km's: The Northern Expressway onto the Horrocks Highway.

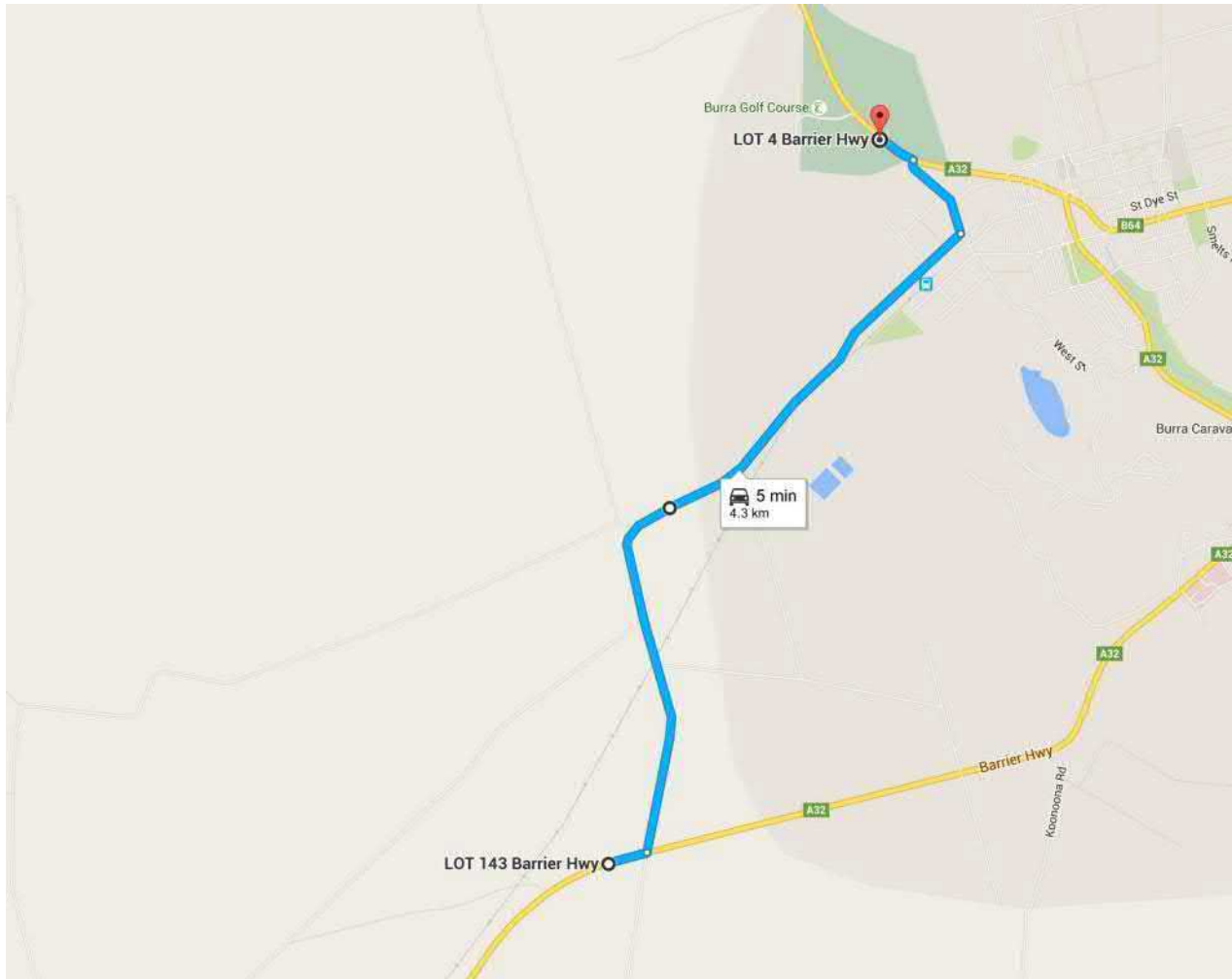


PROCEDURE: Left hand turn from the Northern Distributer onto the Horrocks Highway.

COMMENTS: This is a large corner if the loads travel to the incorrect side of the intersection, before travelling back to the correct side immediately after the turn.

CONCLUSION: The corner is large if the loads cross to the incorrect side, however a spotter will be required to guide the load through the intersection with particular care taken on the light pole on the inside of the turn. Police and pilots to control traffic.

153.0 Km's: Burra Bypass.



COMMENTS: All loads are to turn into Copperhouse Street off the Barrier Highway. This route will travel over a rail crossing (Approval required) before turning left at the intersection of Copperhouse street and West Street, before merging back onto the Barrier Highway.

No significant upgrades required.

153.0 Km's: The Barrier Highway onto Copperhouse Street at Burra.



PROCEDURE: Left hand turn from the Barrier Highway onto Copperhouse Street.

COMMENTS: This is a large left hand corner that if the loads travel from the incorrect side to the incorrect side, than there will be no problems with the corner.

CONCLUSION: Spotter to guide driver through the turn. Police and pilots to control traffic.

156.0 Km's: Copperhouse Street onto West Street at Burra.



PROCEDURE: Left hand turn from Copperhouse Street onto West Street.

COMMENTS: This is a large left hand corner that if the loads travel from the incorrect side to the incorrect side, than there will be no problems with the corner.

CONCLUSION: Spotter to guide driver through the turn. Police and pilots to control traffic.

157.0 Km's: West Street onto the Barrier Highway at Burra.



PROCEDURE: Slight left hand turn from West Street onto the Barrier Highway.

COMMENTS: This is a large left hand corner that if the loads travel from the incorrect side back to the correct side, than there will be no problems with the corner.

CONCLUSION: Spotter to guide driver through the turn. Police and pilots to control traffic.

461.0 Km's: SA/NSW Border at Cockburn.



PROCEDURE: Pull over to the left hand side or into the larger parking area on the right hand side.

COMMENTS: There is enough room at this parking area for storage of several loads at a time.

CONCLUSION: All police escort loads will swap state authorities at this point.

504.0 Km's: Broken Hill.

Image 1:



Image 2:



Image 3:



COMMENTS: Catcon are to build a new detour road of Broken Hill to be put in place for this project. This road starts from the Barrier Highway on the north end of the Speedway, and reenters the road network on Silverton Road at Magazine Way.

This road including the intersections at each end of the detour is to be made suitable for the swept path of all items,

523.0 Km's: Silverton Road onto Daydream Road at Silverton.



COMMENTS: CATCON are to build a suitable access road from this point onwards, including suitable roads to all pad sites.

These roads are to be made suitable for the swept path of all items, taking into account that wider roads are required on corners and embankments. Note if a corner is on an incline or decline it will need to be wider than a standard corner.

11.0 Conclusion.

This route was selected been the most direct route, and also we have had prior experience on sections of this route with similar types of loads making us feel confidant that the loads can safely be delivered to Broken Hill with very little road modifications required.

However from the turnoff of the Barrier Highway through to site, quiet a large volume of works would be required for the detour of Broken Hill and again from the turnoff of Silverton Road onto Daydream Road. These two areas of the route that need upgrades, are to be undertaken by the client.

11.0 References:

Rex J Andrews P/L Drawing
Rex Andrews Engineered Transportation
Pty. Ltd. Rex J Andrews route survey
LL180 REV00 Google Earth/Maps
Nearmaps
AGL Silverton wind farm
NHVAS Maintenance Management
(NHVAS21193) NHVAS Basic Fatigue
Management (NHVAS21193)

ANNEXURE B CATCON Procedure SPG-12 *Chain of Responsibility*

SYSTEM PROCEDURE

**CHAIN OF RESPONSIBILITY
SPG-12**

Rev	Date	Revision Details	Approved by	Position	Review Due
0	Dec 16	Name change from SPS-20; General review	S. Moreau	General Manager	Dec 18

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1.0 PURPOSE

The purpose of this procedure is to outline how CATCON will manage the chain of responsibility and the risks associated with the transport of goods via heavy vehicles.

2.0 OVERVIEW

If a business consigns, packs, loads or receives goods, they could be held legally liable for breaches of the *Heavy Vehicle National Law* (HVNL) even though they have no direct role in driving or operating a heavy vehicle. In addition, corporate entities, Directors, Partners and Managers are accountable for the actions of people under their control. This is the **chain of responsibility** (COR).

The aim of COR is to make sure everyone in the supply chain shares equal responsibility for ensuring breaches of the HVNL do not occur. Under COR laws if a Company (or person) exercises (or have the capability of exercising) control or influence over any transport task, they are part of the supply chain and therefore have a responsibility to ensure the HVNL is complied with.

The law recognises that multiple parties may be responsible for offences committed by the Drivers and Operators of heavy vehicles. A person may be a party in the supply chain in more than one way. For example, they may have duties as the Employer, the Operator and the Consignor of goods.

On account of CATCON's activities in the transport of goods, CATCON and its Employees are a "reasonable person" under the HVNL (Clause 5).

Legal liability applies to all parties for their actions or inactions.

3.0 SCOPE

This procedure applies to all personnel involved in the consignment, packing, loading and receipt of goods by CATCON using heavy vehicles.

4.0 REFERENCES

Heavy Vehicle National Law Act 2012

Heavy Vehicle National Law (South Australia) Act 2013

Heavy Vehicle (General) National Regulation 2013

Heavy Vehicle (Fatigue Management) National Regulation 2013

Heavy Vehicle (Vehicle Standards) National Regulation 2013

Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2013

Road Traffic Act (South Australia) 1961

Load Restraint Guide 2004

Procedure SPG-02 *Assessing Suppliers and Subcontractors*

Procedure SPS-10 *Accidents and Incidents*

Procedure SPG-05 *Non-Conformance*

Work Instruction WIG-14 *Log Book Training and Verification of Competency*

5.0 DEFINITIONS

Consignee: of goods,

- means a person who:
 - has consented to being, and is, named or otherwise identified as the intended consignee of the goods in the transport documentation relating to the road transport of the goods; or
 - actually receives the goods after completion of their road transport; but
- does not include a person who merely unloads the goods

Consignor: Importer, freight Forwarder, Shipping Agent, etc.

Container weight declaration: A written declaration of the weight of a freight container and its contents

Fatigue-regulated heavy vehicle: is a heavy vehicle which is any of the following:

- A motor vehicle with a GVM of more than 12 tonne;
- A combination with a GVM of more than 12 tonne;
- A fatigue-regulated bus; or
- A truck, or a combination including a truck, that has a machine or implement attached to it:
 - if the GVM of the truck or combination with the attached machine or implement is more than 12 tonne; and
 - whether or not the truck or combination has been built or modified primarily to operate as a machine or implement off-road, on a road-related area, or on an area of road that is under construction.

Freight container: A re-usable container that is designed for the transport of goods by one or more modes of transport

Heavy vehicle:

- A vehicle with a GVM or ATM of more than 4.5 tonne; or
- A combination that includes a vehicle with a GVM or ATM of more than 4.5 tonne

Heavy Vehicle National Law (HVNL): Is a national scheme which facilitates and regulates the use of heavy vehicles on roads in a way that:

- promotes public safety;
- manages the impact of heavy vehicles on the environment, road infrastructure and public amenity;
- promotes industry productivity and efficiency in the road transport of goods and passengers by heavy vehicles; and encourages and promotes productive, efficient, innovative and safe business practices.

Party in the chain of responsibility: for a heavy vehicle, includes the following persons:

- an Employer of the vehicle’s Driver if the Driver is an employed Driver;
- a prime contractor for the vehicle’s Driver if the Driver is a self-employed Driver;
- an Operator of the vehicle;
- a Scheduler for the vehicle;
- a Loading Manager for any goods in the vehicle;
- a Commercial Consignor of any goods for transport by the vehicle that are in the vehicle; or
- a Consignee of any goods in the vehicle, if Division 4 applies to the Consignee.

Note that a person may be a party in the COR for a heavy vehicle in more than one (1) capacity.

Responsible Entity: for a freight container, means:

- the person who, in Australia, consigned the container for road transport using a heavy vehicle; or
- if there is no person as described in paragraph (a), the person who, in Australia, for a consignor, arranged for the container's road transport using a heavy vehicle; or
- if there is no person as described in paragraph (a) or (b), the person who, in Australia, physically offered the container for road transport using a heavy vehicle.

13.0 ABBREVIATIONS

1TMTA	1 Tonne Tri-Axle Mass Transfer Allowance
AFM	Advanced Fatigue Management
ATM	Aggregate Trailer Mass
BFM	Basic Fatigue Management
COO	Chief Operating Officer
COR	Chain of Responsibility
CWD	Container Weight Declaration(s)
GAV	General Access Vehicle
GML	General Mass Limits
GVM	Gross Vehicle Mass
HVNL	<i>Heavy Vehicle National Law</i>
NHVR	National Heavy Vehicle Regulator
NHVAS	<u>National Heavy Vehicle Accreditation Scheme</u>
PO	Purchase Order
RAV	Restricted Access Vehicle

14.0 PROCESS

14.1 Vehicle Standards

Heavy vehicles are to be manufactured in accordance with the *Motor Vehicle Standards Act 1989*.

The operation, maintenance and modification (where applicable) of all heavy vehicles is to be in accordance with the *Heavy Vehicle (Vehicle Standards) National Regulation 2013*.

14.2 Classes of Heavy Vehicle

In relation to access to the road network, there are two (2) types of heavy vehicle:

1. General Access Vehicle (GAV): comply with mass and dimension requirements and do not require a notice or permit to operate on the road network.
2. Restricted Access Vehicle (RAV): includes vehicles that operate under a notice or permit and higher mass limits that can only generally access certain parts of the road network. RAV are classified as either one of the following classes:
 - Class 1: Special purpose, agricultural or oversize/over mass vehicles

- Class 2: Freight-carrying vehicles (i.e. B-doubles, B-triples, road trains), buses, vehicle carriers, livestock vehicles, performance based standard (PBS) vehicles
- Class 3: Vehicles which, together with their load, do not comply with prescribed mass or dimension requirements

14.3 Heavy Vehicle Mass and Dimensions

The prescribed mass and dimensions for heavy vehicles are set out under the *Heavy Vehicle (Mass, Dimension and Loading) National Regulations 2013*.

A heavy vehicle shall not be driven if it does not comply with the mass and dimension requirements applying to the heavy vehicle.

14.3.1 General Mass Limits

The general mass limits (GML) state the allowable mass for all types of heavy vehicle axle groups unless the vehicle is operating under an accreditation or an exemption under the HVNL.

Detailed information on axle mass limits and axle spacing has been summarised in a fact sheet developed by the National Heavy Vehicle Regulator (NHVR), *General Mass Limits* (published February 2016) (refer Attachment A) and can be downloaded from: <https://www.nhvr.gov.au/files/201602-0114-general-mass-limits.pdf>

Confirmation of the final loaded vehicle mass shall be the responsibility of the Driver and may be confirmed by either:

- Weighbridge;
- Vehicles 'Weigh-as-you-go' capabilities;
- Calculation (with a safety factor applied);
- Optimum loading chart; or
- Other means.

14.3.2 1-Tonne Tri-Axle Mass Transfer Allowances

The 1-Tonne Tri-Axle Mass Transfer Allowance (1TMTA) provides heavy vehicle Operators with flexibility in loading certain heavy vehicle combinations. The 1TMTA allows increased mass on tri-axle groups so that they may be loaded by up to 1 tonne above the normal tri-axle group 20 tonne GML provided any additional mass loaded onto each tri-axle group is offset onto other non-steer axle or axle groups.

Detailed information on the 1TMTA is available from a fact sheet developed by the NHVR, *1-Tone Tri-Axle Mass Transfer Allowance* (published September 2014)) (refer Attachment B) and can be downloaded from: <https://www.nhvr.gov.au/files/201410-0177-1tmta-fact-sheet.pdf>

14.3.3 Prescribed dimensions

The information contained within the *Heavy Vehicle (Mass, Dimension and Loading) National Regulations 2013* has been summarised in a fact sheet developed by the NHVR, *National Heavy Vehicles Mass and Dimension Limits* (published February 2016) (refer Attachment C) and can be downloaded from: <https://www.nhvr.gov.au/files/201602-0116-mass-and-dimension-limits.pdf>

Requirement	Max Dimension	Excluding
Width	2.5m	1. Rear vision mirrors, signalling devices and side-mounted lamps and reflectors 2. Anti-skid devices mounted on wheels, central tyre inflation systems, tyre pressure gauges 3. Permanently fixed webbing-assembly-type devices, such as curtain-side devices, provided that the maximum distance measured across the body including any part of the devices does not exceed 2.55m
Height	4.3m	4. Vehicle built with at least 2 decks for carrying vehicles - 4.6m

Length requirements are as follows:

Vehicle Type	Description	Max Dimension
General Access Vehicles	Combination other than a B-double, road train or a car carrier	19m
	B-double	25m
	Road train	53.5m
	Bus other than an articulated bus	14.5m
	Another vehicle	12.5m
Trailers	On a semi-trailer or dog trailer the distance from the front articulation point to the rear over hang line	9.5m
	On a semi-trailer or dog trailer the distance from the front articulation point to the rear of the trailer	12.3m
	The maximum forward projection of a semi-trailer, or anything attached to a semi-trailer must not protrude beyond a 1.9m arc from the towing pivot pin (King pin).	1.9m
	The articulation point to the rear of a semitrailer may be up to 13.2m if the trailer has a distance of not more than 9.5m from the front articulation point to the rear overhang line, does not operate in a B-double or road train combination and otherwise complies dimensionally.	13.2m

14.3.4 Rear Overhang and Rear Overhang Line

The rear overhang of a vehicle is the distance between the rear of the vehicle and the rear overhang line of the vehicle.

1. If a vehicle's rear axle group comprises of only one (1) axle, the rear overhang line is the centreline of that axle.
2. If a vehicle's rear axle group comprises of two (2) axles, one (1) of which is fitted with twice the number of tyres as the other, the rear overhang line is located at one-third the distance between the two axles and is closer to the axle with the greater number of tyres.
3. If a vehicle's rear axle group comprises of three (3) or more axles, the rear overhang line is the centreline of the axle group.

Vehicle Type	Rear Overhang Requirement
Rigid truck	The lesser of 3.7m or 60% of wheelbase
Semi-trailer and Dog trailer	The lesser of 3.7m or 60% of 'S' dimension
Pig trailer	The lesser of the length of the load-carrying area, forward of the rear overhang line or 3.7m

14.4 Loading and Restraining of Loads

Loads must be placed and restrained to prevent unsafe movement during all conditions of operation. The load restraint system must, therefore, satisfy the following requirements:

1. the load should not become dislodged from the vehicle; and
2. any load movement should be limited, such that in all cases where movement occurs, the vehicle's stability and weight distribution cannot be adversely affected and the load cannot become dislodged from the vehicle.

Loads that are permitted to move relative to the vehicle include loads that are effectively contained within the sides or enclosure of the vehicle body such as:

1. loads which are restrained from moving horizontally (limited vertical movement is permissible);
2. very lightweight objects or loose bulk loads (limited horizontal and vertical movement is permissible); or
3. bulk liquids (limited liquid movement is permissible).

The *Load Restraint Guide* (prepared by the National Transport Commission) provides transport Drivers, operators, and other participants in the transport COR with basic safety principles which should be followed for the safe carriage of loads on road vehicles.

A copy of the *Load Restraint Guide* can be downloaded from:

[http://www.ntc.gov.au/Media/Reports/\(E62BE286-4870-ED95-1914-1A70F3250782\).pdf](http://www.ntc.gov.au/Media/Reports/(E62BE286-4870-ED95-1914-1A70F3250782).pdf)

Transport Suppliers are to submit method statements for restraining of loads and assessment of loads for review and approval by CATCON as part of the initial Supplier assessment (using form GF-65 *Heavy Vehicle Transport Supplier Prequalification Checklist*).

Load restraints are to be checked by CATCON, either at the Warehouse or on site, during a compliance inspection (using form SF-57 *Site Inspection – Chain of Responsibility Compliance*).

A Safe Work Method Statements (SWMS) or similar is to be prepared, reviewed and accepted by all Transport Supplier and CATCON personnel involved in the loading and unloading of goods on heavy vehicles.

14.5 Permits and Journey Planning

Heavy vehicle Operators are required to obtain a permit if journeys are going to involve conditions that are outside the usual restrictions. For example, a permit is required if a B-double truck needs to travel on roads outside the B-double network.

Permits are available for the following situations/vehicles:

1. Class 1: Over Size Over Mass, Special Purpose vehicle, agricultural
2. Class 2: B-double, Road Train
3. Class 3: Tow Truck, Commodity Scheme permits
4. Higher Mass Limits permits

The permit application needs to be submitted together with a journey plan. The permit that is issued will, amongst other things, nominate the approved journey route. **The Transport Supplier should demonstrate to CATCON that all necessary permits have been obtained.**

CATCON may impose further conditions or restrictions on the journey. For example, there may be restrictions on what local roads can be used for access to projects or there may be times during the day when deliveries are not allowed. **CATCON will advise these restrictions to Transport Suppliers when the purchase order is issued.** They should be included in the *Heavy Vehicle Transport Checklist* when the load is despatched.

14.6 Verification of Driver Qualifications and Competency

All Drivers are to have the appropriate licenses and qualifications/competencies to operate heavy vehicles. Driver's licence classes required to operate heavy vehicles include:

- **C** Car
- **LR** Light Rigid
- **MR** Medium Rigid
- **HR** Heavy Rigid
- **HC** Heavy Combination
- **MC** Multi Combination

Refer to Attachment D *Driver's Licence Classes* for further information on classes of Driver's licences.

Driver qualifications are to be confirmed either during the Supplier Prequalification process (using the *Heavy Vehicle Transport Supplier Prequalification Checklist*) or by CATCON during a COR compliance inspection on site (using the *Site Inspection – Chain of Responsibility Compliance*).

Verification of CATCON personnel who hold heavy vehicle licenses and training shall be completed in accordance with Work Instruction WIG-14 *Log Book Training and Verification of Competency*.

14.7 Heavy Vehicles Registration and Insurances

All heavy vehicles are to have appropriate registration and insurances in accordance with the *Road Traffic Act (South Australia) 2013*, or other relevant State or Territory *Road Traffic Act*.

Vehicle registration and insurance details shall be confirmed by the Supplier during the initial supplier assessment (using the *Heavy Vehicle Transport Supplier Prequalification Checklist*).

14.8 Container Weight Declaration

A container weight declaration (CWD) is a written declaration of the weight of a freight container and its contents. It may be either in hard copy or electronic form, or a placard attached to the freight container. It may consist of one (1) or more documents in different formats (i.e. a sheet of paper and an email) and must be able to be produced in its entirety, to an Authorised Officer, upon request.

14.8.1 What information to include on a Container Weight Declaration?

The CATCON *Container Weight Declaration* (Form SF-55) includes the following information:

- Weight of the container including its contents (the mass may be estimated, however subject to the reasonable steps defence, the Company (or person) may be liable if the estimation is incorrect);
- Container number and other details necessary to identify the container;
- Business name and address in Australia of the responsible entity for the freight container; and
- Date of declaration.

14.8.2 When is a Container Weight Declaration required?

A complying CWD is required when transporting a consigned freight container on a road using a heavy vehicle, regardless if the freight container is empty or loaded.

A complying CWD is not required for a freight container that has been modified so it is no longer fit for use in multi-modal transport or its primary use would no longer be for the transport of freight (i.e. modified for use as a storage shed, portable office, portable plant equipment, etc.).

A party in the COR may be liable if the CWD is inaccurate, false or misleading.

14.9 Fatigue Management

Refer to procedure SPS-17 *Fatigue* for additional information relating to fatigue management.

Driver fatigue or drowsy driving is a safety hazard for the road transport industry. The main causes of fatigue are not enough sleep, driving at night (when you should be asleep) and working or being awake for a long time.

National heavy vehicle Driver fatigue laws apply to fatigue-regulated heavy vehicles, which is a vehicle or combination with a GVM of over 12 tonnes (refer to definition above).

Each person in the COR must take **all reasonable steps** to ensure that the Driver of a fatigue-regulated heavy vehicle:

1. does not drive on a road while impaired by fatigue or breach road transport laws relating to fatigue.
2. can perform his or her duties without breaching road transport laws.

A Driver must not drive a fatigue-regulated heavy vehicle on a road while impaired by fatigue. Drivers may be impaired by fatigue even when complying with work and rest limits.

14.9.1 Work and Rest Requirements

In addition to the general duty to not drive a fatigue-regulated heavy vehicle on a road while fatigued, Drivers must comply with certain maximum work and minimum rest limits.

Parties in the supply chain have to take all reasonable steps to prevent the Drivers from exceeding these limits. This is similar to occupational health and safety laws and means that Drivers must be allowed to stop if they are at risk of exceeding the limits and make alternative arrangements.

The HVNL sets three work and rest options:

1. Standard Hours:

Standard hours are the work and rest hours allowed in the HVNL for all Drivers who are not operating under National Heavy Vehicle Accreditation Scheme (NHVAS) accreditation or an exemption. They are the maximum amount of work and minimum amount of rest possible that can be performed safely without additional safety countermeasures.

Refer Attachment E: *Standard Work and Rest Hour Requirements*

2. Basic Fatigue Management:

Those operating under NHVAS with Basic Fatigue Management (BFM) accreditation can operate under more flexible work and rest hours, allowing for (among other things) work of up to 14 hours in a 24-hour period. BFM gives operators a greater say in when Drivers can work and rest, as long as the risks of Driver fatigue are properly managed.

Refer Attachment F: *BFM Work and Rest Hour Requirements*

3. Advanced Fatigue Management:

Those operating under NHVAS with Advanced Fatigue Management (AFM) accreditation adopt a genuine risk management approach to managing heavy vehicle Driver fatigue. Rather than prescribing work and rest hours, AFM offers more flexibility than standard hours or BFM in

return for the operator demonstrating greater accountability for managing their Drivers' fatigue risks.

Refer Attachment G: *Advanced Fatigue Management*

14.9.2 Work Diaries

All Drivers of fatigue-regulated heavy vehicles who drive more than 100km from their home base or operate under BFM or AFM must complete a work diary to record their work and rest times on a daily basis unless they have a work diary exemption (either through a notice or permit). A work diary is evidence that a Driver's work and rest hours are compliant with the law and that their fatigue is being managed.

Drivers are not allowed to drive or work more than the maximum work hours or rest less than the minimum rest hours in a certain period set out by law.

Work time and rest time must be counted in a certain way. Understanding the rules for counting time will help Drivers manage work and rest times and assist other responsible parties in the supply chain comply with their duties to manage work and rest time and prevent Driver fatigue.

14.9.3 Record Keeping

Record keepers for Drivers of fatigue-regulated heavy vehicles have very specific obligations under the HVNL designed to ensure that Driver's activities are able to be monitored to assist Drivers in the execution of their obligations to manage Driver fatigue and help parties in the COR (e.g. schedulers) to meet their requirements.

A Record Keeper may be the:

1. Employer, if the Driver is employed;
2. Accredited Operator, if the Driver is working under BFM or AFM accreditation; or
3. Driver (as a self-employed or owner Driver).

For each Driver the record keeper must keep:

4. the Driver's name, licence number and contact details;
5. the dates fatigue-regulated heavy vehicles were driven;
6. the registration number of the vehicle(s) driven;
7. the total of each Driver's work and rest times for each day and each week;
8. copies of duplicate work diary daily sheets (if applicable);
9. Driver's rosters and trip schedules (including changeovers);
10. Driver timesheets and pay records; and
11. any other information as required as a condition of an accreditation or exemption (such as Driver training and health assessments).

Drivers must provide their Record Keeper with their relevant work and rest hours totals and any other relevant vehicle information the Record Keeper may not reasonably have access to (registration numbers, dates the Driver worked, etc.).

The record location is determined by the Record Keeper and notified to the Driver. The record location is usually the Driver's base.

All records must be:

1. kept for three (3) years after they are created;
2. kept at a location accessible to an authorised officer for audit or investigation purposes; and
3. in a format that is readable and reasonably assumed it will be readable in at least three years from the date of its creation.

14.10 Chain of Responsibility Hazards and Incidents

A *Hazard and Incident Report* (Form SF-08) shall be completed for any COR related hazards or incidents that may occur. The reporting and investigation of hazards and incidents along with the determination of any corrective actions shall be completed in accordance with procedure SPS-10 *Accidents and Incidents*.

14.11 Transport Supplier Prequalification

Transport Suppliers used by CATCON to transport goods via heavy vehicles will be required to complete the *Heavy Vehicle Transport Supplier Prequalification Checklist* to demonstrate that they are compliant under the HVNL and the requirements of this procedure. This is in addition to the completion of the *Supplier Assessment* (form GF-09), which is required to assess a Supplier's ability to supply goods and services to CATCON specified requirements and terms and conditions.

The *Heavy Vehicle Transport Supplier Prequalification Checklist* will enable CATCON to ensure that the Transport Supplier's internal systems, with regards to the following, are in place, current and implemented:

1. Vehicle standards and maintenance
2. Fatigue management
3. Verification of Driver qualifications
4. Method statements for restraining of loads, assessment of loads and loading and unloading of loads
5. Record keeping (i.e. maintenance logs, work diaries, CWD, etc.)

A review of the completed *Heavy Vehicle Transport Supplier Prequalification Checklist* will be completed by the Project Manager or Plant prior to final approval of the Transport Supplier by the Project Manager/Chief Operating Officer (COO).

An audit of the Transport Supplier's systems may be completed from time to time by the Quality, Safety and Environmental (QSE) Manager or Health, Safety and Environmental (HSE) Advisor.

14.12 Purchase Orders for Heavy Vehicle Transport

Purchasing is to confirm that a Transport Supplier has prequalified for the transport of heavy goods prior to the issue of any purchase orders (PO).

In addition to the standard information included on a PO, the PO for the transport of goods via heavy vehicle shall include the following details:

1. Type of load (i.e. Container, plant, concrete, etc.);
2. Mass of load (in kg);
3. Approximate dimensions of the load;
4. Description of the goods to be transported (i.e. 30T Excavator);
5. Instructions for receipt and delivery of load (i.e. location/address, contact numbers, site specific requirements, if CATCON will assist with loading/unloading, etc.); and
6. Whether or not a CWD is required (if required, issue form SF-55 *Container Weight Declaration* with the PO).

Each PO shall include the following standard clauses:

1. "This work must be performed in compliance with all applicable legislation, including the National Heavy Vehicle Law."
2. "All loads transported via heavy vehicle may be subjected to a Chain of Responsibility compliance inspection, either at the dispatch or delivery location".

A copy of the PO (and any attachments) is to be emailed to the Purchaser.

14.13 Chain of Responsibility Compliance Inspection

The Site Manager/HSE Advisor are to complete random compliance inspections of Heavy Vehicle Transporters using form SF-57 *Site Inspection – Chain of Responsibility Compliance*.

The frequency of inspections is to be determined on a project by project basis, but should be in the order of approximately 5% of all heavy vehicle loads and include at least one (1) inspection per Transport Supplier.

The inspection will cover items including:

1. Transport Company details;
2. Load details (i.e. vehicle type, description of the load, if the load is being dispatched or received);
3. Driver details (i.e. current licence, fit for work)
4. Load details (i.e. CWD needed);
5. Loading and unloading (i.e. review of SWMS, check that the load is restrained appropriately);
6. Permits and journey plan; and
7. Fatigue management (i.e. Driver accreditation, work diary, journey plan).

Any items that require actioning are to be entered onto the project *QSE Improvement Register* (form SF-48) for tracking and closeout. Correspondence is to be sent to the Transport Supplier to action any issues raised resulting from the inspection, with a deadline for compliance.

14.14 Training

CATCON personnel who are involved in heavy transport will be trained according to the needs analysis below:

	Chain of Responsibility	Fatigue Management	Load Restraint	Procedure SPG-12
Project Manager	Yes			Yes
Project/Site Engineer	Yes			Yes
Supervisor	Yes		Yes	Yes
Plant Coordinator	Yes	Yes	Yes	Yes
Warehouse Personnel	Yes	Yes	Yes	Yes
Purchasing Officer				Yes

14.15 Breaches of the Chain of Responsibility

Breaches of the COR shall be reported and investigated in accordance with the CATCON's *Non-conformity* procedure (SPG-05). A *Nonconformity Report* (form GF-12) shall be completed for such breaches as, but not limited to:

1. Inaccurate reporting of vehicle mass and/or dimension;
2. Unsafe loading, restraining or unloading of loads;
3. Non-compliance with fatigue management requirements;
4. False or misleading records; or
5. Lack of records.

Proposed remedial and corrective actions will be identified and with actions implemented and completed by nominated parties within a specified timeframe.

Note that penalties may apply in accordance with the HVNL for breaches of COR requirements.

15.0 RESPONSIBILITIES
15.1 Under the Heavy Vehicle National Law

Under the HVNL everyone in the supply chain has an obligation to ensure breaches of road transport laws do not occur. Duty holders need to make sure that their action or inaction does not contribute to or encourage breaches of the HVNL. If a party's actions, inactions or demands cause or contribute to an offence, they can be held legally accountable.

Put simply: influence = responsibility = legal liability.

Position	Responsibilities
Transport Supplier Operator/Manager/ Scheduler	<ul style="list-style-type: none"> ▪ Rosters and schedules do not require Drivers to exceed driving hours' regulations or speed limits; ▪ You keep records of your Drivers' activities, including work and rest times; ▪ You take all reasonable steps to ensure Drivers do not work while impaired by fatigue or drive in breach of their work or rest options; 1. Make sure your Drivers are medically fit to drive; ▪ Vehicles are roadworthy and regularly maintained and if speed limiters are fitted they are functioning properly; ▪ Vehicles are not loaded in a way which exceeds mass or dimension limits; ▪ Drivers moving freight containers have a valid CWD before commencing the journey; ▪ Provide a complying CWD to another carrier before the container is received, if another carrier transports the container further; ▪ Loads are appropriately restrained with appropriate restraint equipment; and ▪ Keeps full and accurate records as required by law.

Position	Responsibilities
Consignor (Dispatcher of Goods)/ Consignee (Receiver of Goods)	<ul style="list-style-type: none"> ▪ Loads do not exceed vehicle mass or dimension limits; ▪ Goods carried on your behalf are able to be appropriately secured; ▪ Must prepare a complying CWD and provide a copy for the Operator/Driver before carrying freight containers; ▪ Must not encourage or reward a breach of mass, dimension or load restraint requirements; and ▪ The delivery requirements do not require or encourage Drivers to: <ol style="list-style-type: none"> 1. exceed the speed limits; 2. exceed regulated driving hours; 3. fail to meet the minimum rest requirements; and 4. drive while impaired by fatigue
Loading Managers, Loaders and Packers	Must ensure that loading a fatigue-regulated heavy vehicle will not cause or contribute to the Driver driving while impaired by fatigue or in contravention of road transport laws.
Loading Manager	<ul style="list-style-type: none"> ▪ Working with other off-road parties to make reasonable arrangements to manage loading/unloading time slots; ▪ Ensuring vehicles are loaded/unloaded as quickly and efficiently as possible; and ▪ Putting systems in place for unexpected jobs (i.e. where there has been unexpected road delays).
Loader	<ul style="list-style-type: none"> ▪ Does not exceed vehicle mass or dimension limits; ▪ Does not cause the vehicle to exceed mass limits; ▪ Is placed in a way so it does not become unstable, move or fall off the vehicle; and ▪ Provide reliable weight information that allows Drivers to comply with the law.
Packer	<ul style="list-style-type: none"> ▪ Documentation about the vehicle's load is not false or misleading; and ▪ Any goods packed in a freight container do not cause the container's gross weight or safety approval rating to be exceeded.
Driver	<ul style="list-style-type: none"> ▪ Comply with relevant fatigue management work and rest laws and procedures to implement them; ▪ Make sure you make the most of your rest breaks by sleeping in dark, quiet and comfortable places; ▪ Respond to changes in circumstances (such as delays) and report these to your base (if possible) to implement short-term fatigue management measures; ▪ Ensure your vehicle does not exceed mass or dimension limits; ▪ Ensure your load is appropriately restrained; ▪ Ensure that you have a complying CWD for the freight container they intend to transport prior to commencing the journey; and ▪ Keep a copy of the CWD in or about the vehicle at all times, whilst on the road.

Examples of the above position of Load Manager, Loader and Packer, held by CATCON personnel include:

1. Loading Manager: Plant Coordinator, Project Manager, Site Manager, Concrete Batch Plant Manager, Quarry Manager
2. Loader: Supervisor, Labourer, Front End Loader/Excavator Operator
3. Packer: Workshop Manager, Labourer

15.2 CATCON Process and Personnel

Position	Responsibility
Purchaser	<ul style="list-style-type: none"> ▪ Confirm that that GVM is over 4.5 tonne in mass
Purchasing	<ul style="list-style-type: none"> ▪ Issue Transport Supplier <i>Heavy Vehicle Transport Supplier Prequalification Checklist</i> for completion by Transport Supplier ▪ Ensure all relevant information regarding the load are included on the PO ▪ Email copy of PO (with any attachments) to the Purchaser
Transport Supplier	<ul style="list-style-type: none"> ▪ Complete <i>Heavy Vehicle Transport Supplier Prequalification Checklist</i> as part of the Supplier assessment process ▪ Submit SWMS for loading/unloading ▪ Submit SWMS for load restraint and assessment of loads ▪ Obtain permit, where required
Project Manager	<ul style="list-style-type: none"> ▪ Review completed <i>Heavy Vehicle Transport Supplier Prequalification Checklist</i> ▪ Approve/reject Transport Supplier for use ▪ Review SWMS submitted by Transport Supplier
Plant	<ul style="list-style-type: none"> ▪ Review completed <i>Heavy Vehicle Transport Supplier Prequalification Checklist</i> (where required, i.e. if the Transport Supplier has not been previously used and is not project specific)
Consignor (Dispatcher of Goods) (could be Site Manager, Supervisor, HSE Advisor, Project Engineer, Plant)	<ul style="list-style-type: none"> ▪ Confirm that CWD is complete and complying ▪ Visual inspection of the following with any concerns raised with the Driver and/or Transport Supplier: <ul style="list-style-type: none"> ○ Load placement and restraints ○ Vehicle ○ Driver ▪ Monitor loading practices ▪ Provide a secure and safe location for the loading of goods
Consignee (Receiver of Goods)	<ul style="list-style-type: none"> ▪ Visual inspection of the following with any concerns raised with the Driver and/or Transport Supplier: <ul style="list-style-type: none"> ○ Load placement and restraints ○ Vehicle ○ Driver ▪ Monitor unloading practices ▪ Provide a secure and safe location for the unloading of goods
Chief Operating Officer	<ul style="list-style-type: none"> ▪ Review completed <i>Heavy Vehicle Transport Supplier Prequalification Checklist</i> ▪ Approve/reject Transport Supplier for use
QSE Manager	<ul style="list-style-type: none"> ▪ Audit Transport Supplier internal systems and procedures from time to time
Training Manager	<ul style="list-style-type: none"> ▪ Access the training needs for CATCON personnel ▪ Arrange external or internal training as required
Site Manager/ Supervisor/HSE Advisor	<ul style="list-style-type: none"> ▪ Complete compliance inspections using <i>Site Inspection – Chain of Responsibility Compliance</i> form ▪ Ensure that all action items raised during the compliance inspections are tracked and closed out

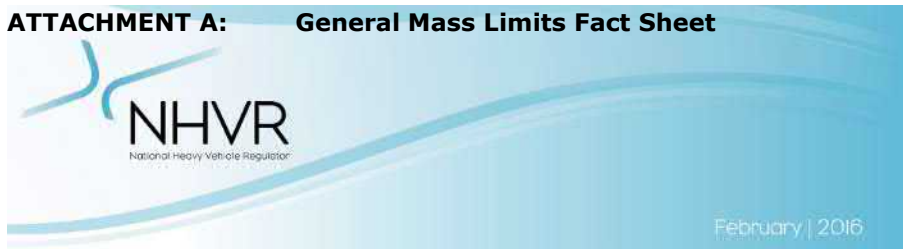
16.0 DOCUMENTATION

Form GF-12	<i>Nonconformity Report</i>
Form GF-65	<i>Heavy Vehicle Transport Supplier Prequalification Checklist</i>
Form SF-08	<i>Hazard and Incident Report</i>
Form SF-48	<i>QSE Improvement Register</i>
Form SF-55	<i>Container Weight Declaration</i>
Form SF-57	<i>Site Inspection – Chain of Responsibility Compliance</i>

17.0 ATTACHMENTS

Attachment A	<i>General Mass Limits Fact Sheet</i>
Attachment B	<i>1-Tonne Tri-Axle Mass Transfer Allowance Fact Sheet</i>
Attachment C	<i>National Heavy Vehicles Mass and Dimension Limits Fact Sheet</i>
Attachment D	<i>Driver’s Licence Classes</i>
Attachment E	<i>Standard Work and Rest Hour Requirements</i>
Attachment F	<i>Basic Fatigue Management – Work and Rest Hour Requirements</i>
Attachment G	<i>Advanced Fatigue Management</i>

ATTACHMENT A: General Mass Limits Fact Sheet



General Mass Limits (GML)

What is GML?

General Mass Limits (GML) apply to all heavy vehicles. The GML state the allowable mass for all types of heavy vehicle axle groups unless the vehicle is operating under an accreditation or an exemption under the Heavy Vehicle National Law (HVNL).

▼ The table below describes the axle mass limits.

Note: All axles in an axle group must be load sharing (except for non-load sharing twin steer axle groups).

Table 1.0
Axle mass limits

Description of single axle or axle group	Mass limit (t)
Single axles and single axle groups	
Steer axles on -	
a. a complying bus	6.5
aa. a complying steer axle vehicle	6.5
b. a hauling unit or prime mover forming part of a road train fitted with tyres with section widths of -	
i. at least 295mm	6.5
ii. at least 375mm	6.7
c. another motor vehicle	6.0
Single axle or single axle group fitted with single tyres with section widths of -	
a. less than 375mm	6.0
b. at least 375mm but less than 450mm	6.7
c. at least 450mm	7.0
Single axle or single axle group fitted with dual tyres on -	
a. a pig trailer	8.5
b. a complying bus, or a bus authorised to carry standing passengers under an Australian road law	10
c. an ultra-low floor bus with no axle groups and only 2 single axles	11
d. another vehicle	9.0

Description of single axle or axle group	Mass limit (t)
Tandem axle group	
Tandem axle group fitted with single tyres with section widths of -	
a. less than 375mm	11
b. at least 375mm but less than 450mm	13.3
c. at least 450mm	14
Tandem axle group fitted with single tyres on 1 axle and dual tyres on the other axle on -	
a. a complying bus	14
b. another motor vehicle	13
Tandem axle group fitted with dual tyres on -	
a. a pig trailer	15
b. another vehicle	16.5
Twinsteer axle groups	
Twinsteer axle group without a load-sharing suspension system	
	10
Twinsteer axle group with a load-sharing suspension system	
	11
Tri-axle groups	
Tri-axle group on a vehicle fitted with -	
a. single tyres with section widths of less than 375mm on all axles	15
b. single tyres with section widths of less than 375mm on some axles and dual tyres on the other axles	
Tri-axle group on a pig trailer fitted with -	
a. single tyres with section widths of at least 375mm on all axles	18
b. dual tyres on all axles	
c. single tyres with section widths of at least 375mm on some axles and dual tyres on the other axles	
Tri-axle group on a vehicle other than a pig trailer fitted with -	
a. single tyres with section widths of at least 375mm on all axles	20
b. dual tyres on all axles	
c. single tyres with section widths of at least 375mm on some axles and dual tyres on the other axles	

General Mass Limits

Description of single axle or axle group	Mass Limit (t)
Quad axle groups	
Quad-axle group fitted with single tyres with section widths of less than 375mm	15
Quad-axle group fitted with single tyres with section widths of at least 375mm or dual tyres	20

What documents must be carried in the vehicle?

No particular documents are required to be carried in the vehicle specific to GML.

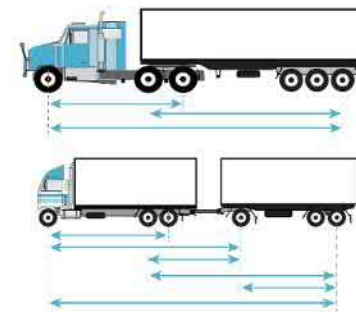
However, if a vehicle combination requires a notice or permit to allow access to the road network, this permit or notice may be required to be carried in the vehicle.

Mass limits axle spacing

Conforming vehicles must have at least the minimum axle group spacing. The below diagram shows the measurement points to determine mass limits axle spacing of a heavy vehicle, including the:

- distance from the centre-line of single axle to the centre-line of another single axle;
- distance from the centre-line of single axle to the centre-line of the furthest axle in any axle group
- greatest distance between the centre-line of axles in any 2 axle groups.

Axle spacings of a heavy vehicle



For the mass limits please refer to Table 2-Axle Spacing Mass Limits General Table in the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2013, Schedule 1 Part 2* at <https://www.nhvr.gov.au>

In addition, the loaded mass of a vehicle must not exceed the manufacturer's rating, in particular the Gross Vehicle Mass (GVM) for a rigid vehicle or the Gross Combination Mass (GCM) for combinations or Aggregate Trailer Mass (ATM) for trailers. Also the manufacturer's mass rating on any component such as a tyre, wheel or axle must not be exceeded.

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Please note: While every effort has been made to ensure the accuracy of the content of this fact sheet, it should not be relied upon as legal advice.

How is compliance with CML monitored?

State and territory police and authorised officers monitor compliance with the HVNL.

About the NHVR

The National Heavy Vehicle Regulator (NHVR) is Australia's dedicated independent regulator for heavy vehicles over 4.5 tonnes gross vehicle mass.

The NHVR was created to administer one set of rules for heavy vehicles under the Heavy Vehicle National Law (HVNL), improve safety and productivity, minimise the compliance burden on the heavy vehicle transport industry and reduce duplication and inconsistencies across state and territory borders.

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ATTACHMENT B: 1-Tonne Tri-Axle Mass Transfer Allowances Fact Sheet



1. What is the 1-Tonne Tri-Axle Mass Transfer Allowance (ITMTA)?

The ITMTA provides heavy vehicle operators with flexibility in loading certain heavy vehicle combinations.

The ITMTA allows increased mass on tri-axle groups so that they may be loaded by up to 1 tonne (t) above the normal tri-axle group 20t General Mass Limit (GML) provided any additional mass loaded onto each tri-axle group is offset onto other non-steer axle or axle groups.

The ITMTA does not permit any increase to a vehicle's maximum (total) mass, but gives more flexibility in how mass may be distributed across axle groups.

2. What type of vehicles can operate under the ITMTA?

The ITMTA can be applied to heavy vehicle combinations that have a tri-axle group(s) which qualify under GML to be loaded up to 20t.

3. What vehicles cannot operate under the ITMTA?

The ITMTA does not apply to heavy vehicles operating under:

- Concessional Mass Limits (CML)
- Higher Mass Limits (HML)
- a permit or notice that provides for increased mass, such as a Grain Harvest Mass Management Scheme
- Performance Based Standards (PBS), unless the PBS vehicle has been specially approved to operate under the ITMTA.

4. May a tri-axle pig trailer operate under the ITMTA?

No. The tri-axle group on a pig trailer is not entitled to operate at 20t under GML (only 18t) and therefore is not a qualifying tri-axle group.

5. If I'm operating under the ITMTA does the vehicle need to be identified or am I required to carry a notice or any other documentation?

No. Vehicles operating under the ITMTA do not need to be specifically identified by a sticker or any other means and there is no requirement for drivers to carry any specific ITMTA documentation.

6. What roads can I use when I'm operating under the ITMTA?

Vehicles operating under the ITMTA allowance can access all roads in the ACT, NSW, SA, Tas and Vic unless travel is restricted by load limiting signs.

For vehicles operating in Queensland the ITMTA only applies to certain declared routes or areas. For details of approved ITMTA routes/areas in Queensland, see the Department of Transport Main Roads (Qld) website www.tmr.qld.gov.au.

The ITMTA does not apply to vehicles operating in WA or NT.



7. What are the ITMTA conditions?

Operating under the ITMTA is conditional upon:

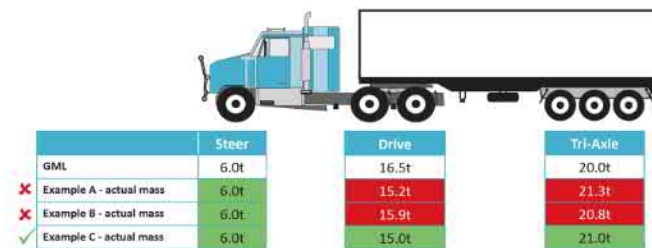
- There is no change to the allowable GML for the whole combination. The total of all new axle mass limits must not exceed the total of the GML for all the axles.
- Any increase in mass on a tri-axle group above the 20t mass limit cannot exceed 1t.
- Any extra mass carried on a tri-axle group above its 20t mass limit will decrease the mass limit allowed for other non-steer axle or axle groups.
- The maximum reduction that can be applied to the mass limit of a non-steer axle or axle group is 1t.
- The mass limits across a vehicle's non-steer axle or axle groups must be decreased by an amount equal to the total of any extra mass being carried on all tri-axle groups.
- Any decrease in axle mass limits **cannot** be applied to a steer axle or axle group.

The ITMTA makes changes to the allowable mass limits for the vehicle's axle groups where a **decreased mass limit** on any axle or axle group is required to **offset any increased mass** on a tri-axle group or groups. While the decreased mass limit on an axle or axle group cannot be reduced by more than 1t, the actual loaded mass may be less than the new decreased mass limit.

For example on a 6-axle prime mover semitrailer combination operating under the ITMTA, an additional mass of 1t has been loaded onto the tri-axle group and has been offset on by a 1t reduction to the mass limit on the drive axle group.

The new reduced mass limit on the drive axle group is now 15.5t, however when the vehicle is weighed the mass on the drive axle is only 15t. This is not breach of ITMTA conditions because the actual mass on the drive axle group is less than the reduced mass limit of 15.5t. (see Figure 1, Example C)

Figure 1 – 6-axle prime-mover semitrailer combinations operating under the ITMTA



Example A – The tri-axle has been loaded to 21.3t, and the full 1.3t has been offset onto the drive axle group. This exceeds the allowed 1t mass transfer, both for the increase on the tri-axle group and the decreased mass limit on the drive axle group and therefore the ITMTA does not apply.

Example B – The tri-axle has been loaded to 20.8t, an increase of 0.8t but the mass offset on the drive axle group is only 0.6t. The ITMTA conditions require that the increased mass on the tri-axle must be offset onto another axle or axle group. There has only been a mass offset of 0.6t to the drive axle group, rather than the required 0.8t, therefore the ITMTA does not apply.

Example C – A vehicle operating in compliance with the conditions of the ITMTA, the additional 1t mass on the tri-axle has been offset to the drive axle group. Note the actual mass on the drive axle group is less than the reduced mass limit of 15.5t.

8. When the mass is increased on a tri-axle group does the mass have to be offset on an adjoining axle group?

No. The increased mass on a tri-axle group can be offset over a number of axles or axle groups (other than a steer axle or steer axle group).

I-Tonne Tri-Axle Mass Transfer Allowance

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Figure 2 – Compliant 9-axle B-doubles operating under the 1TMTA



	Steer	Drive	Tri-Axle	Tri-Axle
GML	6.0t	16.5t	20.0t	20.0t
✓ Example A - actual mass	6.0t	16.5t	21.0t	19.0t
✓ Example B - actual mass	6.0t	16.0t	21.0t	19.5t
✓ Example C - actual mass	6.0t	15.5t	20.7t	20.3t

9. In a multi combination vehicle such as a B-double or road train, can the increased mass be offset from one tri-axle group to another tri-axle group?

Yes. Under the 1TMTA, mass can be offset between multiple axles and axle groups including tri-axle group to tri-axle group, noting that the amount of mass reduced on any axle or axle group cannot exceed 1t.

10. Can more than one tri-axle group benefit under the 1TMTA?

Yes. The mass transfer allowance can apply to all tri-axle groups in the combination as long as any additional mass applied to tri-axle group(s) is offset onto other axle group(s) and does not exceed 1t. The 1TMTA does not allow for additional total vehicle mass.

Figure 3 – Non-compliant 9-axle B-doubles operating under the 1TMTA



	Steer	Drive	Tri-Axle	Tri-Axle
GML	6.0t	16.5t	20.0t	20.0t
✗ Example A - actual mass	5.5t	16.5t	20.5t	20.0t
✗ Example B - actual mass	6.0t	16.5t	21.0t	20.0t
✗ Example C - actual mass	6.0t	14.5t	21.0t	21.0t

Example A – The vehicle has been loaded with an additional 0.5t on the first tri-axle group which has been offset onto the steer axle. The 1TMTA conditions do not allow for any mass to be offset to a steer axle or steer axle group, therefore the 1TMTA does not apply.

Example B – The vehicle has been loaded with an additional 1t on the first tri-axle group without any mass being offset onto another axle group or groups. The 1TMTA conditions require that the additional mass loaded onto a tri-axle group must be offset onto another axle or axle group, therefore the 1TMTA does not apply.

Example C – The vehicle has been loaded with an additional 1t on both tri-axle groups but the increased mass from both tri-axle groups has been offset onto the drive axle. The 1TMTA conditions only allow for a maximum of 1t reduction of the mass limits on an axle or axle group to offset any increased mass on a tri-axle group, therefore the 1TMTA does not apply.

I-Tonne Tri-Axle Mass Transfer Allowance

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11. Can vehicles operate under the 1TMTA and the 6.5t steer axle mass exception at the same time?

Yes. Vehicles operating under the 1TMTA can also operate under the 6.5t steer axle mass exception. In this instance the vehicles total allowable mass would be increased by 0.5t.

The 6.5t steer axle mass exception is in addition to any other mass exceptions applicable to non-steer axles (e.g. CML and HML).

12. What happens if the vehicle does not comply with all the conditions of the 1TMTA?

Non-compliance of any condition of the 1TMTA will result in the mass exception no longer applying and the vehicle or combination will be assessed against GML.

13. Does the manufacturer's rating of the trailer and the tri-axle group need to allow for the increased mass on the tri-axle up to 21t?

Yes. The 1TMTA does not override any relevant manufacturer's specifications.

14. Is Mass Measurement Adjustment applied to vehicles operating under the 1TMTA?

Yes. Mass measurement adjustment is applied in the same manner as it would to a heavy vehicle not operating under the 1TMTA. The difference will be that the assessed mass will be compared against the increased or decreased 1TMTA mass limits, rather than GML.

15. What law allows me to operate under the 1TMTA?

The 1TMTA applies as a mass exception under the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation – Schedule 5(A)* and will be cited as *Heavy Vehicle (Mass, Dimension and Loading) National Amendment Regulation 2014*.

About the NHVR

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ATTACHMENT C: National Heavy Vehicle Mass and Dimension Limits Fact Sheet



National heavy vehicle mass and dimension limits

National heavy vehicle mass and dimension limits

Heavy Vehicle National Law

The Heavy Vehicle National Law (HVNL) provides General Mass Limits (GML), Concessional Mass Limits (CML) and Higher Mass Limits (HML) for heavy vehicles operating on the national road network. This fact sheet summarises the conditions for operating general access and restricted access vehicles, relating to axle mass and configurations.

High productivity vehicles, such as B-doubles and HML vehicles are important to the efficiency of the freight task in Australia. The larger capacity of these vehicles also reduces the number of vehicles required to transport a given amount of freight.

National heavy vehicle dimension requirements

The prescribed dimension requirements for heavy vehicles are set out under the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2013 (the Regulation)*.

The information contained within this fact sheet has been extracted from the regulation.

Index

GML	General Mass Limits
CML	Concessional Mass Limits
HML	Higher Mass Limits
HVNL	Heavy Vehicle National Law
GVM/GCM	Gross Vehicle Mass/Gross Combination Mass
NHVAS	National Heavy Vehicle Accreditation Scheme
NLS	Non Load Sharing
LS	Load Sharing
PBS	Performance Based Standard
'S' dimension	Measurement from the front articulation point to the rear overhang line



The information contained in this fact sheet is accurate at the time of publication and in the unlikely event of any conflict the HVNL prevails.

This document does not cover the authorised access. Some vehicles are not permitted to operate in some states.

This document does not cover PBS Vehicles, if you require this information about PBS vehicles, please refer to the PBS Fact Sheet.

Prescribed dimensions

Width

The width limit for heavy vehicles is 2.5 metres, excluding:

- rear vision mirrors, signalling devices and side-mounted lamps and reflectors
- anti-skid devices mounted on wheels, central tyre inflation systems, tyre pressure gauges
- permanently fixed webbing-assembly-type devices, such as curtain-side devices, provided that the maximum distance measured across the body including any part of the devices does not exceed 2.55 metres.



Height

The height limit for heavy vehicles is 4.3 metres unless it is a:

- vehicle built to carry cattle, horses, pigs or sheep - 4.6 metres
- vehicle built with at least 2 decks for carrying vehicles - 4.6 metres
- double-decker bus - 4.4 metres



Length

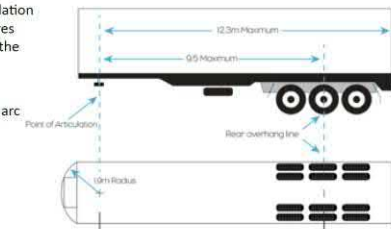
For overall vehicle lengths, refer to the axle mass tables on pages 5-10.

Length for trailers

On a semitrailer or dog trailer the distance from the front articulation point to the rear overhang line must not be more than 9.5 metres and the distance from the front articulation point to the rear of the trailer must not be more than 12.3 metres.

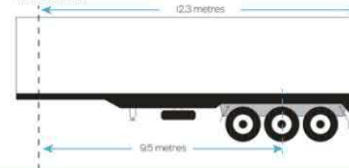
The maximum forward projection of a semi-trailer, or anything attached to a semi-trailer must not protrude beyond a 1.9 metre arc from the towing pivot pin (King pin).

The articulation point to the rear of a semitrailer may be up to 13.2 metres if the trailer has a distance of not more than 9.5 metres from the front articulation point to the rear overhang line, does not operate in a B-double or road train combination and otherwise complies dimensionally.

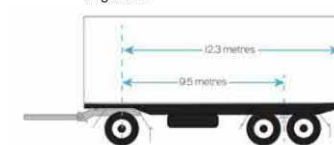


Examples

Semi trailer



Dog trailer



National heavy vehicle mass and dimension limits

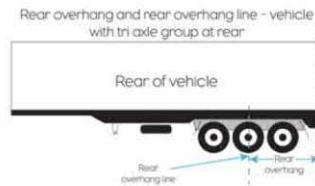
Rear overhang and rear overhang line

The rear overhang of a vehicle is the distance between the rear of the vehicle and the rear overhang line of the vehicle.

If a vehicle's rear axle group comprises of only 1 axle, the rear overhang line is the centre-line of that axle.

If a vehicle's rear axle group comprises of 2 axles, 1 of which is fitted with twice the number of tyres as the other, the rear overhang line is located at one-third the distance between the 2 axles and is closer to the axle with the greater number of tyres.

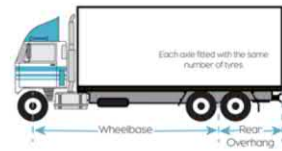
If a vehicle's rear axle group comprises of 3 or more axles, the rear overhang line is the centre-line of the axle group.



- Note: Any steerable axle is to be disregarded unless—
- the group comprises of only 1 axle and that axle is a steerable axle; or
 - all the axles in the group are steerable axles.

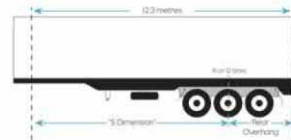
Rear overhang on rigid trucks

Lesser of 3.7 metres or 60% of wheelbase.



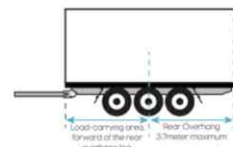
Rear overhang on a semi-trailers and dog trailers

Lesser of 3.7 metres or 60% of 'S' dimension.



Rear overhang on a pig trailer

Rear overhang on a pig trailer must not exceed the lesser of the length of the load-carrying area, forward of the rear overhang line or 3.7 metres.



National heavy vehicle mass and dimension limits

Dimensions relating to specific trailer types

Livestock carriers

- A trailer built to carry cattle, horses, pigs or sheep on two or more partly or completely overlapping decks must not have more than 12.5 metres of its length available to carry cattle, horses, pigs or sheep.
- In a 8-double built to carry cattle, horses, pigs or sheep, the two semi-trailers must not have more than 18.8 metres of their combined length available to carry cattle, horses, pigs or sheep.

Note – the length available for the carriage of cattle, horses, pigs or sheep on a trailer is measured from the inside of the front wall or door of the trailer to the inside of the rear wall or door of the trailer, with any intervening partitions disregarded



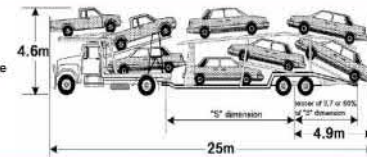
Refrigerated van trailers

The front articulation point to the rear of a semi-trailer may be up to 13.6 metres if the trailer is designed and constructed for the positive control of temperature through the use of refrigerated equipment. Also, the distance from the front articulation point to the rear overhang line of not more than 9.9 metres does not operate in a B-double or road train combination and otherwise complies dimensionally.



Car carriers

The distance measured at right angles between the rear overhang line of a trailer carrying vehicles on more than one deck and the rear of the rearmost vehicle on the trailer must not exceed 4.9 metres.



Axle mass limits comparison tables

- The Mass limits for single axles and axle groups table denotes the GML that applies under the HVNL
- For CML and HML refer to the tables on pages 6-10.
- Dog and pig trailers must not be heavier than the truck towing them.
- The maximum GML for a combination is 42.5 tonnes unless operating under a notice permit or specific scheme.
- CML heavy vehicles must be accredited under the NHVAS.
- HML heavy vehicles must be fitted with road friendly suspension and accredited under the NHVAS.
- Additional information is available from the HVNL or the NHVR website: www.nhvr.gov.au

Table disclaimers

*Heavy vehicles with a GVM over 15 tonnes fitted with specified technologies, including an engine complying with ADR 80/01 (Euro IV), Front Under-run Impact Protection that meets UN LCE Regulation no 93 or ADR 84, and cabin strength that meets the requirements of UN ECE Regulation no 29, are permitted up to 6.5 tonnes on the steer axle provided it does not exceed the manufacturers rating. Allowable GVM/GCM may then also be increased by up to 0.5 tonnes.

*The type of Road train configurations may vary between jurisdictions.

Under the Queensland Class 3 Heavy Vehicle additional concessional mass limits exemption notice.

*Heavy vehicles may travel on roads throughout Queensland with an additional 250kg on a single front steer axle and an additional 1tonne on a twin steer front axle when operating under a CML Class 3 Notice (to be advised).

*Steer axle mass limit can be increased to 6.7t for a prime mover forming part of a road train fitted with tyres of at least 375mm.

*Heavy Vehicles may travel on roads throughout Queensland with an additional 3 tonnes above General Mass Limits, if the maximum mass permitted under GML is > 80 tonnes and an additional 4 tonnes if it is > 120 tonnes.

National heavy vehicle mass and dimension limits

*, a, b For disclaimer clarification please refer to page 4

Mass limits for single axles and axle groups

Axle/s	Axle group/tyres	Axle/vehicle details	Mass limit (tonnes)
	Single axle Single tyres	Steer axle ^{*, a, b} Non steer axle, tyres less than 375mm Non steer axle, tyres 375mm to 449mm Non steer axle, tyres at least 450mm	6.0t 6.0t 6.7t 7.0t
	Single axle Dual tyres	Pig trailer Any other vehicle A complying bus, or a bus authorised to carry standing passengers under an Australian road law An ultra-low floor bus with no axle groups, only 2 single axles	8.5t 9.0t 10.0t 11.0t
	Twin-steer axle group Single tyres	Non load-sharing suspension system Load-sharing suspension system	10.0t 10.0t
	Tandem axle group Single tyres	Less than 375mm 375mm to 449mm At least 450mm	11.0t 13.3t 14.0t
	Tandem axle group Dual/single tyres	Single tyres on one axle and dual tyres on the other axle A complying bus	13.0t 14.0t
	Tandem axle group Dual tyres	Pig trailer Any other vehicle	15.0t 16.5t
	Tri-axle group Single tyres	Single tyres on all axles with section width less than 375mm, or single tyres on one or two axles and dual tyres on the other axle or axles Pig trailer with either single tyres with at least a 375mm section width, dual tyres on all axles or a combination of those tyres	15.0t 18.0t
	Tri-axle group Dual tyres	Vehicle other than a pig trailer with either single tyres with at least a 375mm section width, dual tyres on all axles or a combination of those tyres	20.0t

National heavy vehicle mass and dimension limits

*, a For disclaimer clarification please refer to page 4

Common 2 Axle Rigid Truck



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCLM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	12.5m	15.0t	6.0t [*]	N/A	9.0t	N/A	N/A
CML not permitted	12.5m	N/A	N/A	N/A	N/A	N/A	N/A
HML not permitted	12.5m	N/A	N/A	N/A	N/A	N/A	N/A

Common 3 Axle Rigid Truck



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCLM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	12.5m	22.5t	6.0t [*]	N/A	N/A	16.5t	N/A
CML	12.5m	23.0t	6.0t ^{a, b}	N/A	N/A	17.0t	N/A
HML	12.5m	23.0t	N/A	N/A	17.0t	N/A	N/A

Common 4 Axle Twin Steer Rigid Truck



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCLM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	12.5m	26.5t NLS 27.5t LS	N/A	10.0t NLS 11.0t LS	N/A	16.5t	N/A
CML	12.5m	27.0t NLS 28.0t LS	N/A	10.0t NLS 11.0t ^a LS	N/A	17.0t 17.0t	N/A
HML	12.5m	27.0t NLS 28.0t LS	N/A	10.0t NLS 11.0t ^a LS	N/A	N/A	N/A

Common 2 Axle Rigid Truck and 2 Axle Dog Trailer



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCLM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	30.0t	6.0t [*]	N/A	9.0t per single axle	N/A	N/A
CML not permitted	19.0m	N/A	N/A	N/A	N/A	N/A	N/A
HML not permitted	19.0m	N/A	N/A	N/A	N/A	N/A	N/A

National heavy vehicle mass and dimension limits

* For disclaimer clarification please refer to page 4

Common
3 Axle Rigid Truck and
3 Axle Dog Trailer



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	42.5t	6.0t*	N/A	N/A	16.5t per tandem axle group	N/A
CML	19.0m	43.5t	6.0t**	N/A	N/A	17.0t per tandem axle group	N/A
HML not permitted	19.0m	N/A	N/A	N/A	N/A	N/A	N/A

Common
3 Axle Rigid Truck and
4 Axle Dog Trailer



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	42.5t	6.0t*	N/A	N/A	16.5t per tandem axle group	N/A
CML	19.0m	43.5t	6.0t**	N/A	N/A	17.0t per tandem axle group	N/A
HML not permitted	19.0m	N/A	N/A	N/A	N/A	N/A	N/A

Common
3 Axle Semitrailer



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	24.0t	6.0t*	N/A	9.0t per single axle	N/A	N/A
CML not permitted	19.0m	N/A	N/A	N/A	N/A	N/A	N/A
HML not permitted	19.0m	N/A	N/A	N/A	N/A	N/A	N/A

Common
5 Axle Semitrailer



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	39.0t	6.0t*	N/A	N/A	16.5t per tandem axle group	N/A
CML	19.0m	40.0t	6.0t**	N/A	N/A	17.0t per tandem axle group	N/A
HML	19.0m	40.0t	6.0t*	N/A	N/A	17.0t per tandem axle group	N/A

National heavy vehicle mass and dimension limits

* ** For disclaimer clarification please refer to page 4

Common
6 Axle Semitrailer



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	42.5t	6.0t*	N/A	N/A	16.5t	20.0t
CML	19.0m	43.5t	6.0t**	N/A	N/A	17.0t	21.0t
HML	19.0m	45.5t	6.0t*	N/A	N/A	17.0t	22.5t

Common
7 Axle B-double

*Combination must meet mass limits relating to axle spacings for the full mass entitlement.



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	19.0m	50.0t General access 55.5t Restricted access	6.0t*	N/A	N/A	16.5t per tandem axle group	N/A
CML	19.0m	57.0t Restricted access	6.0t**	N/A	N/A	17.0t per tandem axle group	N/A
HML	19.0m	57.0t Restricted access	6.0t*	N/A	N/A	17.0t per tandem axle group	N/A

Common
9 Axle B-double

*20m is available for eligible vehicles.
*Combination must meet mass limits relating to axle spacings for the full mass entitlement.



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	25.0m*	62.5t	6.0t*	N/A	N/A	16.5t	20.0t per tri axle group
CML	25.0m*	64.5t	6.0t**	N/A	N/A	17.0t	21.0t per tri axle group
HML	25.0m*	68.0t	6.0t*	N/A	N/A	17.0t	22.5t per tri axle group

Common
Road train (Type I)



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CXM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Triaxle Group (tonnes)
GML	36.5m	79.0t	6.0t**	N/A	N/A	16.5t per tandem axle group	20.0t per tri axle group
CML	36.5m	81.0t	6.0t**	N/A	N/A	17.0t per tandem axle group	21.0t per tri axle group
HML	36.5m	85.0t	6.0t*	N/A	N/A	17.0t per tandem axle group	22.5t per tri axle group

National heavy vehicle mass and dimension limits

National heavy vehicle mass and dimension limits

*, a, b, c For disclaimer clarification please refer to page 4

Common
B Triple Road train



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Tricyle Group (tonnes)
GML	36.5m	82.5t	6.0t ^{*a}	N/A	N/A	16.5t	20.0t per tri axle group
CML	36.5m	84.5t ^c	6.0t ^{*a}	N/A	N/A	17.0t	21.0t per tri axle group
HML	36.5m	90.5t	6.0t [*]	N/A	N/A	17.0t	22.5t per tri axle group

Common
AB Triple Road train



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Tricyle Group (tonnes)
GML	36.5m	99.0t	6.0t ^{*a}	N/A	N/A	16.5t	20.0t per tri axle group
CML	36.5m	101.0t ^c	6.0t ^{*a}	N/A	N/A	17.0t	21.0t per tri axle group
HML	36.5m	107.5t	6.0t [*]	N/A	N/A	17.0t	22.5t per tri axle group

Common
Road train (Type 2)



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Tricyle Group (tonnes)
GML	53.5m	115.5t	6.0t ^{*a}	N/A	N/A	16.5t per tandem axle group	20.0t per tri axle group
CML	53.5m	118.5t ^c	6.0t ^{*a}	N/A	N/A	17.0t per tandem axle group	21.0t per tri axle group
HML	53.5m	124.5t	6.0t [*]	N/A	N/A	17.0t per tandem axle group	22.5t per tri axle group

Common
BAB Quad Road train



Type of Mass Limits	Maximum Length (metres)	Allowable CVM/CCM (tonnes)	Single Steer Axle (tonnes)	Twin Steer Axle Group (tonnes)	Single Axle (tonnes)	Tandem Axle Group (tonnes)	Tricyle Group (tonnes)
GML	53.5m	119.0t	6.0t ^{*a}	N/A	N/A	16.5t per tandem axle group	20.0t per tri axle group
CML	53.5m	121.0t ^c	6.0t ^{*a}	N/A	N/A	17.0t per tandem axle group	21.0t per tri axle group
HML	53.5m	130.0t	6.0t [*]	N/A	N/A	17.0t per tandem axle group	22.5t per tri axle group

About the NHVR

The National Heavy Vehicle Regulator (NHVR) is Australia's dedicated independent regulator for heavy vehicles over 4.5 tonnes gross vehicle mass.

The NHVR was created to administer one set of rules for heavy vehicles under the Heavy Vehicle National Law (HVNL), improve safety and productivity, minimise the compliance burden on the heavy vehicle transport industry and reduce duplication and inconsistencies across state and territory borders.

For more information

subscribe www.nhvr.gov.au/subscribe

visit www.nhvr.gov.au

email info@nhvr.gov.au

fax 07 3309 8777

post PO Box 492, Fortitude Valley Q 4006

tel 1300 MYNHVR (1300 696 487)

Standard 1300 call charges apply. Please check with your phone provider.

201602-016



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ATTACHMENT D: Driver's Licence Classes

Additional information is available from:

<https://www.sa.gov.au/topics/transport-travel-and-motoring/motoring/drivers-and-licences/driver-s-licence-classes>

Driver's licence classes and condition codes are uniform across all states and territories of Australia.

The driver's licence classifications table below provides a full description of the classes (excluding motorcycle classes), age and driving experience requirements.

Licence Class	Motor Vehicles Authorised to be Driven	Minimum Driving Experience
C	1. A motor vehicle with a GVM not greater than 4.5 t but not including: <ol style="list-style-type: none"> 1. a bus designed to carry more than 12 seated persons. 2. a motor bike or motor trike. Examples of vehicles which may be driven: sedans, station wagons, panel vans, utilities, light delivery vans, small trucks, quad bikes, special purpose vehicles (e.g. farm machines, small tractors, forklifts, or other like machinery) 2. A motor vehicle included in 1 towing a single trailer, subject to the combination mass limits fixed under the Road Traffic Act 1961. For example, small truck towing a horse float, trailer, or caravan. MAY TOW: trailer, horse float, caravan or farm implement.	Must be at least 17 years old. <ol style="list-style-type: none"> 1. if you are under the age of 25 you must have held your learner's permit for at least 12 months 2. if you are aged 25 or over you must have held your learner's permit for at least 6 months.
LR	1. A motor vehicle authorised to be driven by a licence of the preceding class. 2. A motor vehicle with a GVM greater than 4.5 t but not greater than 8 t. (e.g. trucks, vans, tippers, special purpose vehicles, and buses designed to carry 13 or more seated persons) 3. A bus with a GVM not greater than 8 t. 4. A motor vehicle included in 2 or 3 towing a single trailer, subject to the combination mass limits fixed under the Road Traffic Act 1961. MAY TOW: - any farm implement. Any trailer provided the overall mass is within the Gross Combination Mass (GCM) of the towing vehicle. DRIVER'S LICENCE MUST BE CARRIED IF DRIVING A VEHICLE OVER 4.5 TONNE GVM	Must have held a class C for at least one year.

Licence Class	Motor Vehicles Authorised to be Driven	Minimum Driving Experience
MR	1. A motor vehicle authorised to be driven by a licence of a preceding class. 2. A motor vehicle with two axles and a GVM greater than 8 t (e.g. two axle trucks, tippers and buses). 3. A motor vehicle included in 2 towing a single trailer (other than a semi-trailer) with a GVM not greater than 9 t, subject to the combination mass limits fixed under the Road Traffic Act 1961. 4. A special purpose vehicle with a GVM not greater than 15 t. MAY TOW: Any farm implement. Any trailer with a GVM not exceeding 9000 kg provided it is within the GCM of the towing vehicle. DRIVER'S LICENCE MUST BE CARRIED IF DRIVING A VEHICLE OVER 4.5 TONNE GVM	Must have held a class C for at least one year.
HR	1. A motor vehicle authorised to be driven by a licence of a preceding class. 2. A motor vehicle (including an articulated bus but not including any other articulated motor vehicle) with three or more axles and a GVM greater than 8 t (e.g. any bus (including articulated buses) trucks and tippers). 3. A motor vehicle included in 2 towing a single trailer (other than a semi-trailer) with a GVM not greater than 9 t, subject to the combination mass limits fixed under the Road Traffic Act 1961. MAY TOW: - any farm implement. Any trailer with a GVM not exceeding 9000kg provided it is within the GCM of the towing vehicle. DRIVER'S LICENCE MUST BE CARRIED IF DRIVING A VEHICLE OVER 4.5 TONNE GVM	Must have held: a class C for at least two years; or a class LR or MR for at least one year.
HC	1. A motor vehicle authorised to be driven by a licence of a preceding class. 2. A prime mover to which is attached a single semi-trailer (whether or not any unladen converter dolly or low loader dolly is also attached). 3. A rigid motor vehicle to which is attached a single trailer with a GVM greater than 9 t (whether or not any unladen converter dolly or low loader dolly is also attached). DRIVER'S LICENCE MUST BE CARRIED IF DRIVING A VEHICLE OVER 4.5 TONNE GVM	Must have held a class MR or HR for at least one year.
MC	1. Any motor vehicle or combination of motor vehicles except a motor bike or motor trike (Includes B doubles; road trains) DRIVER'S LICENCE MUST BE CARRIED IF DRIVING A VEHICLE OVER 4.5 TONNE GVM	Must have held a class HR or HC for at least one year.

ATTACHMENT E: Standard Work and Rest Hour Requirements

Additional information can be found on the NHVR website:

<https://www.nhvr.gov.au/safety-accreditation-compliance/fatigue-management/work-and-rest-requirements/standard-hours>

The below table applies to **Solo Drivers**.

TIME	WORK	REST
In any period of...	A Driver must not work for more than a maximum of...	And must have the rest of that period off work with at least a minimum rest break of...
5½ hours	5 ¼ hours work time	15 continuous minutes rest time
8 hours	7 ½ hours work time	30 minutes rest time in blocks of 15 continuous minutes
11 hours	10 hours work time	60 minutes rest time in blocks of 15 continuous minutes
24 hours	12 hours work time	7 continuous hours stationary rest time*
7 days	72 hours work time	24 continuous hours stationary rest time
14 days	144 hours work time	2 x night rest breaks# and 2 x night rest breaks taken on consecutive days

The below table applies to **Two-up Drivers**.

TIME	WORK	REST
In any period of...	A Driver must not work for more than a maximum of...	And must have the rest of that period off work with at least a minimum rest break of...
5½ hours	5 1/4 hours work time	15 continuous minutes rest time
8 hours	7 1/2 hours work time	30 minutes rest time in blocks of 15 continuous minutes
11 hours	10 hours work time	60 minutes rest time in blocks of 15 continuous minutes
24 hours	12 hours work time	5 continuous hours stationary rest time* or 5 hours continuous rest time in an approved sleeper berth while the vehicle is moving
52 hours		10 continuous hours stationary rest time
7 days	60 hours work time	24 continuous hours stationary rest time and 24 hours stationary rest time in blocks of at least 7 continuous hours of stationary rest time
14 days	120 hours work time	2 x night rest breaks# and 2 x night rest breaks taken on consecutive days

* Stationary rest time is the time a Driver spends out of a heavy vehicle or in an approved sleeper berth of a stationary heavy vehicle.

Night rest breaks are seven (7) continuous hours stationary rest time taken between the hours of 10pm on a day and 8am on the next day (using the time zone of the base of the Driver) or a 24 continuous hours stationary rest break.

ATTACHMENT F: Basic Fatigue Management – Work and Rest Hour Requirements

Additional information can be found on the NHVR website:

<https://www.nhvr.gov.au/safety-accreditation-compliance/fatigue-management/work-and-rest-requirements/basic-fatigue>

The below table applies to **Solo Drivers**.

TIME	WORK	REST
In any period of...	A Driver must not work for more than a maximum of...	And must have the rest of that period off work with at least a minimum rest break of...
6 ¼ hours	6 hours work time	15 continuous minutes rest time
9 hours	8 ½ hours work time	30 minutes rest time in blocks of 15 continuous minutes
12 hours	11 hours work time	60 minutes rest time in blocks of 15 continuous minutes
24 hours	14 hours work time	7 continuous hours stationary rest time*
7 days	36 hours long/night work time**	No limit has been set
14 days	144 hours work time	24 continuous hours stationary rest time taken after no more than 84 hours work time and 24 continuous hours stationary rest time and 2 x night rest breaks# and 2 x night rest breaks taken on consecutive days.

The below table applies to **Two-up Drivers**.

TIME	WORK	REST
In any period of...	A Driver must not work for more than a maximum of...	And must have the rest of that period off work with at least a minimum rest break of...
24 hours	14 hours work time	No limit has been set
82 hours	No limit has been set	10 continuous hours stationary rest time
7 days	70 hours work time	24 continuous hours stationary rest time and 24 hours stationary rest time in blocks of at least 7 continuous hours of stationary rest time
14 days	140 hours work time	4 night rest breaks#

* *Stationary rest time is the time a Driver spends out of a regulated heavy vehicle or in an approved sleeper berth of a stationary regulated heavy vehicle.*

** *Long/night work time is any work time in excess of 12 hours in a 24 hour period or any work time between midnight and 6 am (or the equivalent hours in the time zone of the base of a Driver).*

Night rest breaks are 7 continuous hours stationary rest time taken between the hours of 10pm on a day and 8am on the next day (using the time zone of the base of the Driver) or a 24 continuous hours stationary rest break.

ATTACHMENT G: Advanced Fatigue Management

Additional information can be found on the NHVR website:

<https://www.nhvr.gov.au/safety-accreditation-compliance/fatigue-management/work-and-rest-requirements/advanced-fatigue>

Advanced Fatigue Management (AFM) accreditation brings a risk management approach to managing Driver fatigue. Rather than setting work and rest hours, AFM offers the flexibility to propose your own hours as long as the fatigue risks of those hours are offset by sleep, rest and other management practices in a compliant fatigue management system.

Risk Classification System

The NHVR assesses proposed AFM work and rest arrangements under a Risk Classification System (RCS). The RCS helps to assess the levels of fatigue risk associated with combinations of work, rest and sleep, and is based on fatigue science and research. It enables operators to submit work schedules with higher risk potentials (such as longer or more frequent shifts) that are alleviated by offsetting across seven key fatigue management principles (for example, increased work related breaks).

Fatigue Management Principles

The seven principles are grouped into three categories:

Work-related rest breaks (such as short rest breaks):

1. Reduce the time spent continuously working in the work opportunity
2. The more frequent breaks from driving, the better

Recovery breaks (such as major rest breaks):

3. Ensure an adequate sleep opportunity in order to obtain sufficient sleep
2. Maximise adequate night sleep
3. Minimise shifts ending between 00:00-06:00
4. Minimise extended shifts

Reset breaks (such as long periods of rest or extended leave):

1. Prevent accumulation of fatigue with reset breaks of at least 30hrs (and include two night periods, 00:00 – 06:00) between work sequences