

Appendix E

Traffic Impact Assessment



Proposed Solar Farm,
Seatonville Road,
Maryvale, near
Wellington

pitt and sherry (Operations) Pty Ltd

Traffic Impact Assessment
and Management Plan

October 2018

SECAsolution >>>

Solar Farm Project, Maryvale NSW

Traffic Assessment Report

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Contents

1 Introduction..... 2

1.1 Consultation and Authority Requirements 5

2 Existing Road Network and Local Characteristics 7

2.1 Traffic Volumes and Road Operation 10

2.2 Road Safety..... 10

3 Construction Activities 16

3.1 Timing..... 17

3.2 Working Hours..... 17

3.3 Construction staff numbers..... 17

3.4 Heavy vehicle requirements 17

3.5 Vehicle movements 19

4 Traffic Management Assessment..... 21

Appendix A. Safe Construction Activities 26

Appendix B. Drivers Code of Conduct 30

Appendix C. Concept Road Designs..... 36

1 Introduction

Seca Solution has been commissioned by ptt and sherry (Operations) Pty Ltd to review the traffic impacts associated with the construction and operational phase of a new Solar Farm development and to determine traffic management measures associated with the construction activities for the project. Photon Energy (Photon) propose to construct and operate a 125 megawatt (MW) solar farm (the "Proposal") using photovoltaic (PV) technology in Maryvale, NSW. The solar farm would occupy 375 hectares (the "Site")

An estimated 450,000 PV panels would be installed on a single axis tracker system across the Site.

Single Axis Tracker System

The single axis tracker system option would consist of groups of east-west facing PV modules (each approximately 2m x 1m in area) on mounting structures approximately 4m in height. The mounting structure would be piled steel posts that would extend approximately 2m below ground and there would be 11m between posts.

The following works and infrastructure would be required to support the construction and operation of the solar farm:

- Upgrade and partial sealing of Seatonville Road
- Construction of a main access to the construction site office, laydown area and parking, with a second access to the substation off Seatonville Road
- Installation of Electrical infrastructure including:
 - A 132kV Substation including two transformers and associated 132kV switchgear.
 - Inverters to collect and convert DC to AC.
 - Cabling and other electrical infrastructure (e.g. security systems).
- Ancillary works at Wellington Substation and the existing 132kV transmission line adjacent to the site.
- A maintenance compound and buildings.
- Fencing, landscaping and environmental works.

Power generated by the facility will be transmitted via existing 132kV transmission lines, in an easement owned by Essential Energy that runs through the site in a north-west to south-east direction and extends through to Wellington approximately 12 kilometres to the south-east of the Maryvale Solar Farm Site.

A tee off connection will be used to connect the existing Essential Energy 132kV transmission line. A section of high capacity fibre wire will then connect the new Maryvale Solar Farm Substation to Essential's 132kV network.

The operational life of the solar farm is expected to be 25 years at which point the panels are either replaced and operations continue or removed and the site is decommissioned and rehabilitated.

Construction of the site will take approximately 12 months.

As part of the development consent and prior to work on site a Traffic Management Plan will be prepared to the satisfaction of the road authorities (Dubbo Regional Council and the Roads and Maritime Services (RMS)). The busiest period associated with the development with regards to traffic is during construction, with the operational phase of the project requiring less than 10 staff on site for the majority of the time. Seca Solution has prepared this Traffic Impact Assessment for the project to ensure traffic issues can be safely and efficiently managed during the construction activities on site.

This document has been developed for the construction activity for the project and the potential decommissioning element for the project, which may occur in 25 years time. The potential decommissioning of the project site will require a similar level of activity, although will probably require less staff and would be completed over a shorter timeframe. The requirements and protocols for the decommission stage of the project will be as per the construction phase, although it is acknowledged these may need to be reviewed and altered in 25 years to suit the road conditions at that time as well as the specific work requirements.

The site is located within the locality of Maryvale to the north of Wellington and is shown in Figure 1-1 and 1-2 below.

The site is currently arable land and has road frontage to Maryvale Road and Seatonville Road.

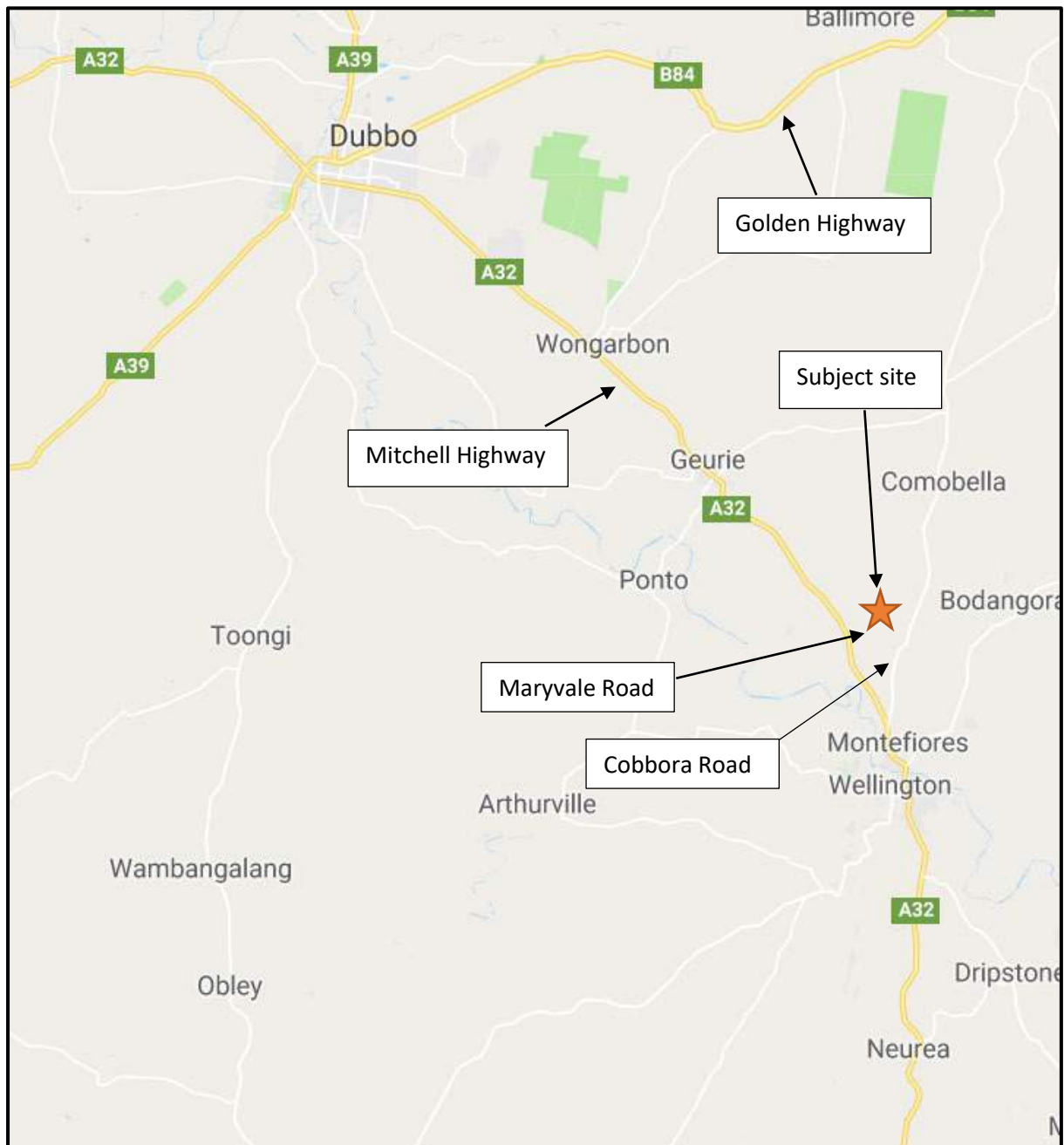


Figure 1-1 – Site Location within the greater road network

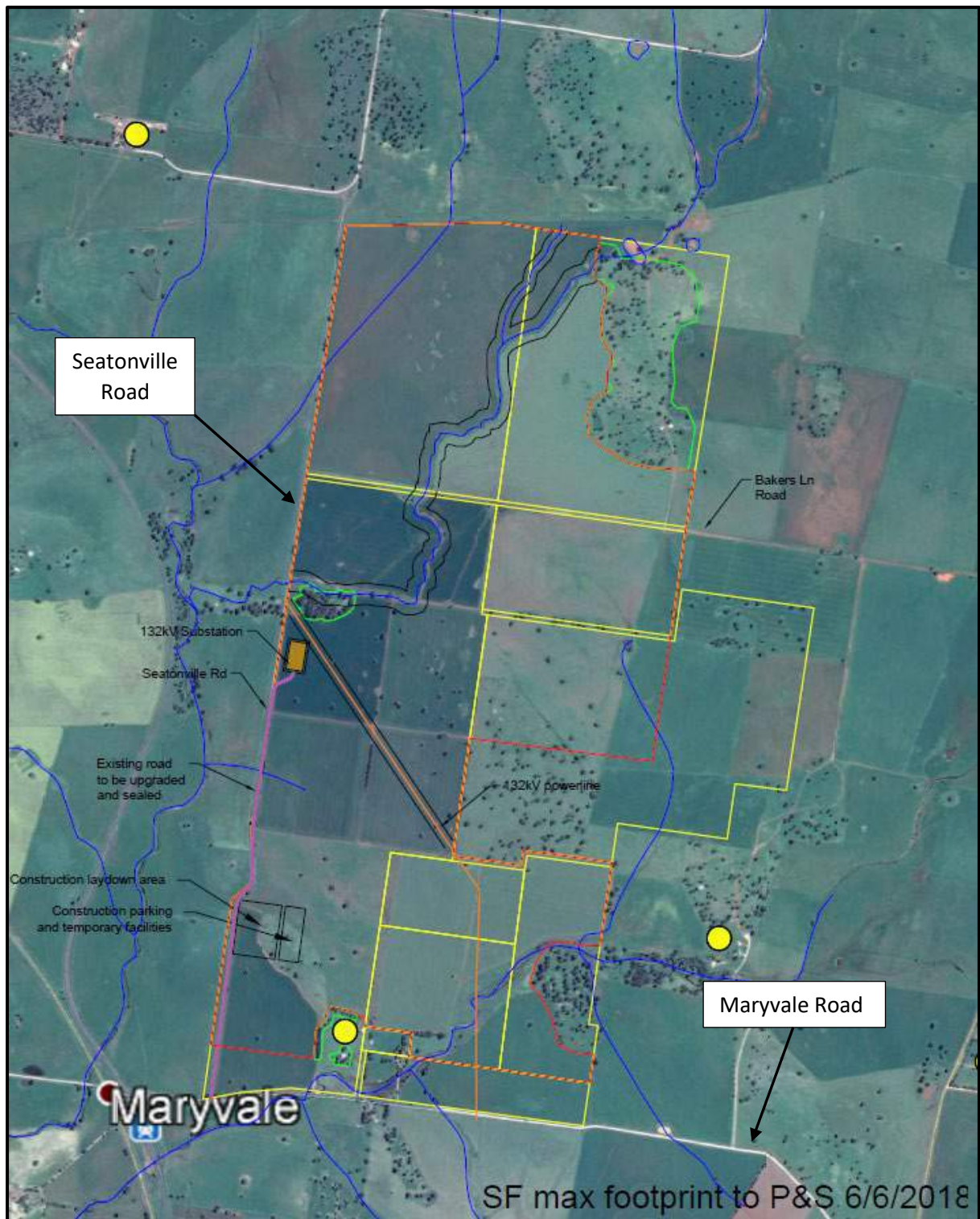


Figure 1 -2 – Detailed site location

1.1 Consultation and Authority Requirements

As part of the project, there has been consultation with the Department of Planning and Environment by the project manager and SEARs have been issued. A summary of the SEARs as they relate to traffic and access issues is presented below and the response is provided within this table.

SEARs issue	Response / Section of report
The total impact of the existing and proposed development on the road network and 10 year horizon	<p>The major impact of the project is during the construction phase which will be over approximately 12 months. The impact of this construction phase has been assessed based on current traffic flows.</p> <p>For the 10 year horizon the traffic will be that associated with the on-going maintenance / operation of the facility. Up to 10 staff will be located on the site once the facility is operational.</p> <p>Refer Section 4.1.1</p>
The volume and distribution of traffic	<p>The volume of traffic has been assessed for both the construction and operational phase.</p> <p><i>Construction:</i> 75 light vehicles and 20 heavy vehicle inbound movements per day and similar outbound.</p> <p><i>Operational:</i> 10 light vehicles per day inbound and outbound. Infrequent heavy vehicle for specific maintenance work only</p> <p><i>Distribution:</i> Heavy vehicles via the designated heavy vehicle route to connect with Golden Highway and Mitchell Highway to Maryvale then via the designated route via Cobbora Road, Maryvale Road and Seatonville Road.</p> <p>Refer Section 3.3, 3.4, 3.5, 4.1.1</p>
Intersection sight distances at key intersections on the haulage route	<p>Sight distances have been assessed on site during the site visit along the haulage route between the Mitchell Highway and the site access.</p> <p>Refer Section 2.2.1/2/3/4</p>
Existing and proposed site access arrangements	<p>A new access will be provided for the construction work direct off Seatonville Road. Existing access will be upgraded as part of the project construction work.</p> <p>Refer Section 2.2.5</p>
Servicing and parking	<p>Once operational the servicing demands will be met with 10 staff located on site.</p> <p>All parking will be contained on site within a temporary parking area adjacent to the site office.</p> <p>Refer Section 2</p>
Impact on public transport (public and school bus routes) and consideration of walking and cycling	<p>Drivers will be advised of presence of any school bus run and will drive in accordance with all road rules.</p> <p>Location of the site is relatively remote and no footpaths available for walking to the site. Cycling to the site is an option as site is within 30 minutes of centre of Wellington. Cyclists can ride on the road due to low traffic flows and can park bikes on site as required.</p> <p>Refer Section 4.1.1, 4.1.3</p>

<p>Transport Management Plan to manage impacts of construction and operational traffic. Include any Traffic Control Plans. A Driver Code of Conduct:</p> <ol style="list-style-type: none"> Map of primary access routes Safety initiatives for transport through residential and school zones Consideration of coordination of construction traffic with seasonal agricultural haulage Induction process for vehicle operators Complaint resolution and discipline process Any community consultation measures during peak construction 	<p>Map of route for heavy vehicles provided – Refer Figure 2.1.</p> <p>All drivers will sign code of conduct which specifies all road rules must be obeyed including driving through school zones - Refer Appendix A</p> <p>Given the volume of vehicle movements associated with the construction phase of the project no coordination with agricultural haulage is considered necessary - Refer Section 4.1.1</p> <p>All staff and delivery drivers will be inducted to site and sign a driver code of conduct – Refer Appendix A.</p> <p>The contractor on site shall establish a complaint handling process and resolution process.</p> <p>During construction activities all properties along the local haulage route from the Mitchell Highway will be notified via a letter drop of on-going construction work on a fortnightly basis – Refer Appendix A.</p>
Road Safety Audit at any specific locations identified as safety concern on haulage route	No specific road safety issues were identified along the haulage route.

RMS Consultation

Consultation has been held via a phone conversation with Andrew McIntyre, Manager Land Use Assessment, Western Region with regard to a number of solar farms proposed to be constructed across rural NSW. The relevant outcome of the discussion with Andrew McIntyre is provided below:

- The critical phase for the assessment is the construction activities as this involves heavy vehicle access to the site along regional and local roads as well as a high number of workers;
- Consideration to the movement of staff to and from the site must be given. In remote areas where the solar farms are constructed, there are a large number of staff who can be fly in and fly out locating for temporary work from the established east coast centres such as Sydney and Newcastle. This requires staff to drive a long distance home after working on the site for long hours for a week or more – consideration to controls for staff driving home after working on site should be considered;
- Provide details on the access routes to the site for heavy vehicles and the size / number of heavy vehicle movements associated with the construction and operation of the site;
- Provide details on the operational characteristics of the project – it is recognised that the staff levels and traffic volumes for the operational stage of the project are low;
- Provide comment with regard to the decommissioning stage of the project and the potential traffic impacts;
- Prepare a driver code of conduct for the project to control vehicle access and maintain safety;
- Assess impacts on road safety, including pedestrians and cyclists and any bus routes impacted
- Review alternative transport options for the site including pedestrians, cyclists and bus use
- Provide details on any road upgrades identified as part of the project and include a Road Safety Audit as required

2 Existing Road Network and Local Characteristics

Access to the site is available off **Seatonville Road**, which provides an unsealed surface with a width in the order of 4 metres. Whilst designated as a public road it operates primarily as a farm access track and is not suitable for 2-way traffic movements in its current form. At its southern end Seatonville Road intersects with Maryvale Road. **Maryvale Road** is a local road (managed by Dubbo Regional Council) which runs along the southern border of the Site. The north, east and west boundaries of the Subject lands are defined by neighbouring agricultural lots. To the west of the subject site Maryvale Road connects with the Mitchell Highway via a simple give way controlled intersection with the Mitchell Highway being the priority road. There are no turn lanes provided at this intersection and it is located within an existing 110 km/h speed zone. Maryvale Road provides a sealed surface for approximately 1.4 kilometres to the east of this intersection allowing for 2-way traffic movements as required, with an unsealed surface (refer Photo 1 below) for approximately 2 kilometres thereafter until the approach to the intersection with Cobbora Road where the surface is sealed for 90 metres on the approach to this intersection.



Photo 1 – View along Maryvale Road in the vicinity of the proposed site access

Cobbora Road to the east of the site is a sealed two-way road with an overall width in the order of 7 metres (refer Photo 2 and 3 below), operating under a speed limit of 100km/hr. It intersects with Maryvale Road via a simple give way controlled intersection, with Cobbora Road being the priority road. In this location Cobbora Road provides a flat alignment to the north of the intersection allowing for good visibility in this direction. To the south there is a vertical and horizontal curve that partially impacts upon the visibility available for drivers turning in and out of Maryvale Road.



Photo 2 – Cross section of Cobbora Road at intersection with Maryvale Road (to the south)



Photo 3 – Cross section of Cobbora Road at intersection with Maryvale Road (to the north)

Cobbora Road runs generally in a north south direction and connects with the Mitchell Highway to the south at a T intersection. The Mitchell Highway is the priority road and provides access to Wellington and Dubbo.

A sheltered right turn lane is provided along the Mitchell Highway for north-westbound vehicles to turn into Cobbora Road, whilst an auxiliary left turn treatment is provided for south-eastbound vehicles. The intersection layout is shown below in Photo 4 and 5.



Photo 4 – Cross section of the Mitchell Highway to the north-west at the intersection with Cobbora Road



Photo 5 – Cross section of the Mitchell Highway to the south-east at the intersection with Cobbora Road

The **Mitchell Highway** forms part of the regional and State road network that is a key freight route in NSW and forms part of the road network designated by the Roads and Maritime to carry oversize, over mass vehicles. It typically provides a single lane of travel in both directions and typically operates under the posted speed limit of 110 km/h outside of the urban areas where the alignment permits. As part of the regional road network, the Mitchell Highway carries a mixture of local and regional traffic with a significant number of trucks including B-double combinations. Based on RMS data from the count station on the Mitchell Highway to the south of Wellington (station I.D 6170) the road carries a high level (23%) of heavy goods vehicles.

The Mitchell Highway runs through the centre of Wellington with no bypass for heavy vehicles. Staff and local supplies may be sourced from Dubbo and access to Dubbo is provided via the Mitchell Highway to the north-west.

As part of the project, it is proposed that all heavy vehicles will travel via the roads identified above. There are a number of rural residential lots and farms located along this route between the subject site and Wellington. During the site work, a number of heavy vehicles were observed on this road including semi-trailers associated with farm activities.

2.1 Traffic Volumes and Road Operation

Traffic volumes in the immediate vicinity of the subject site are very low, reflective of the rural environment. Maryvale Road provides access to a small number of rural land holdings, with an unsealed surface for much of its length. As such the traffic flows on this road are considered to be less than 100 vehicles per day two-way. Cobbora Road similarly carries low traffic flows but does provide a north-south link between the Golden Highway and the Mitchell Highway. Based on observations during the site work it is still considered that it would carry less than 1000 vehicles per day two-way.

As part of the regional road network, it can be seen that the Mitchell Highway carries higher traffic flows, associated with both local and regional demands. The RMS Traffic Volume Viewer shows that in 2017 the 2-way traffic flow south of Wellington was 2,428 vehicles per day (count I.D 6170) with 23% heavy vehicle content. As expected, the traffic data shows that the split in traffic flows north and south in this location are even.

Observations on site during a typical morning peak period (22nd November 2017) shows that the current road network in the vicinity of the subject site and around Wellington operates very well with minimal delays and congestion. The route proposed to be used for the project carries relatively low traffic flows and operates with no delays except for those associated with drivers slowing down to observe traffic flows on the approaches to the various intersections and negotiating the intersections. The only delays noted were along the Mitchell Highway through the centre of Wellington, mainly associated with semi-trailers and B-doubles manoeuvring through the two roundabouts on the Mitchell Highway through town.

2.2 Road Safety

It is recognised that as part of the project work there will be a significant number of both light and heavy vehicle movements associated with the construction work which will impact along the local road network. All vehicle access to the project site will be via the Mitchell Highway – Cobbora Road – Maryvale Road to Seatonville Road. No alternative route for heavy delivery vehicles has been considered nor is appropriate.

The major road safety impact is associated with the delivery trucks accessing the site and their impact upon the operation of the intersections. The trucks will be accessing the site from the port at either Newcastle or Port Botany in Sydney, where the solar panels will be offloaded from ships. The trucks will then access Wellington via the regional road network which will include the M1 Motorway, the Hunter Expressway, New England Highway to the Golden Highway to then travel through to Dubbo. From Dubbo the trucks will then travel south along the Mitchell Highway towards Wellington. These regional roads currently provide a high standard of road and allow for the movement of local, regional and national road freight and carry B-double trucks. It is considered that the additional truck movements associated with the construction activities for the project will have a minimal and acceptable impact upon road safety along these roads.

For the local traffic impacts, consideration has been given to the existing alignment of the road, intersection layouts, current traffic flows and existing users along the route between the Mitchell Highway through to the site. Observations on site with regard to road safety are summarised below:

- Existing traffic flows on Cobbora Road, Maryvale Road and Seatonville Road are very low
- The sealed width of Cobbora Road allows for safe two-way traffic movements including heavy vehicles;
- The alignment of Maryvale Road is good and allows for safe two-way heavy vehicle movements. As an unsealed road it does not encourage drivers to travel at an inappropriate speed;
- The intersection of Maryvale Road and the Mitchell Highway is poorly laid out and as such will not be used by any vehicles associated with the project site for entry or exit movements;
- A number of heavy vehicles were observed travelling along Cobbora Road associated with farm requirements which included semi-trailers and farm related machinery.

The intersection of Maryvale Road and the Mitchell Highway has been assessed on site and it is considered that this intersection is not suitable for use by traffic associated with the project site. The Mitchell Highway in this location operates at 110 km/h and this intersection provides no left turn deceleration lane nor sheltered right turn lane. This creates significant safety concerns for road users and without a significant upgrade it is considered that the impacts at this intersection are not acceptable. Further, it is noted that there is an at-grade train level crossing within 60 metres of the Mitchell Highway. The lack of stacking space between the Mitchell Highway and this level crossing could create further safety concerns due to vehicles waiting at this crossing potentially blocking back to the Mitchell Highway.

The proposed access route for all vehicles (inclusive of light vehicles) is provided below (Figure 2-1) and will be included within the Driver's Code of Conduct which will form part of the project inception meeting for the project for all staff and drivers.

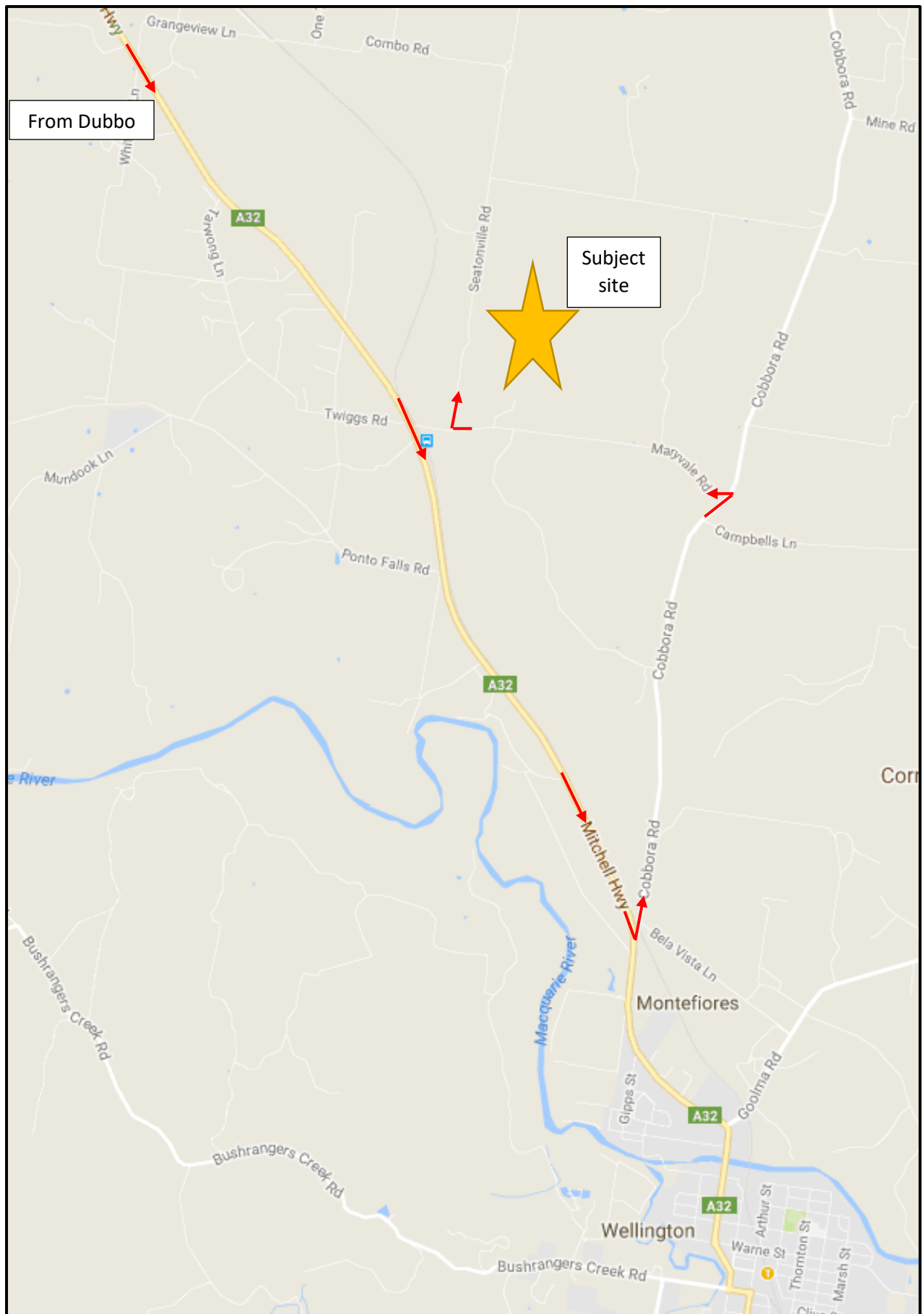


Figure 2-1 – Designated Heavy Vehicle route to project site

2.2.1 Intersection of Mitchell Highway and Cobbora Road

The intersection of the Mitchell Highway and Cobbora Road is give way controlled and is well laid out. It allows for all turning movements, with the road widening at the intersection to cater for the swept path of B-double combinations in/out of Cobbora Road. The sight line requirements for this intersection have been assessed against the requirements of Austroads Guidelines, with safe intersection sight distance (SISD) being the critical measure. At this location, for the speed limit of 80km/hr along the Mitchell Highway in this location SISD of 181 metres is required. Visibility to the left and right out of Cobbora Road extends at least 300 metres, thereby satisfying Austroads requirements for site distance. This intersection provides a left turn deceleration lane for traffic entering Cobbora Road as well as a sheltered right turn lane for traffic turning into Cobbora Road.

Overall it is considered that this intersection provides a high level of control and operates to a high safety standard and as such no upgrade works are required at this intersection to accommodate the traffic movements associated with the proposed solar farm (construction and operation phase).

2.2.2 Intersection of Cobbora Road and Maryvale Road

This intersection operates as a T intersection with Maryvale Road being the minor approach road. All traffic movements associated with the project will be left turns into Maryvale Road and then right turns out onto Cobbora Road. The drivers turning right out require visibility to the left and right in accordance with Austroads Guidelines and based on the speed limit of 100 km/h the sight distance requirement is 248 metres.

The sight lines have been assessed on site, with visibility to the left being 185 metres and visibility to the right being 200 metres (refer Photo 5 and 6 below). It is noted the presence of vegetation can impact on visibility to the right, with this discussed further below.



Photo 6 – View to left for drivers turning out of Maryvale Road onto Cobbora Road



Photo 7 - View to right for drivers turning out of Maryvale Road onto Cobbora Road

The provision of a left turn deceleration lane on Cobbora Road is required on road safety grounds for the project works. A preliminary concept plan for this upgrade has been provided in Attachment C and has been designed in accordance with Austroads Guidelines for a AUL (S) type upgrade. This is considered appropriate given the traffic flows in this location. It is noted above that roadside vegetation can impact on visibility to the right out of Maryvale Road and the provision of this deceleration lane in this location will remove this vegetation, thereby improving visibility.

Whilst this intersection does not provide a sheltered right turn lane, the traffic associated with the project will be turning left off Cobbora Road and right out of Maryvale Road and as such will not be turning right into Maryvale Road. Given the low overall traffic flows at this location it is considered that there is no requirement for a sheltered right turn lane to be provided at this location associated with the project traffic movements.

As part of the construction phase of the project, it is proposed that temporary traffic controls will be installed at this location to reduce the posted vehicle speeds to 80 km/h through this intersection together with signage to advise drivers of turning trucks. The sight lines available at the Maryvale Road and Cobbora Road intersection are satisfactory for an 80km/hr speed limit. This temporary speed limit and controls will apply during daytime construction hours only and this restriction will be removed overnight.

2.2.3 Maryvale Road

The unsealed section of Maryvale Road does not allow sufficient width for opposing heavy vehicles to pass in some locations. Where required Maryvale Road is to be widened to allow for the passing of semi-trailers, with 4 locations identified as shown on the concept plan provided in Attachment C. The waterway crossing approximately 450 metres east of Seatonville Road shall also be strengthened as required to accommodate the movement of semi-trailers.

2.2.4 Intersection of Maryvale Road and Seatonville Road

The intersection of Maryvale Road and Seatonville Road is a give way controlled T intersection with Seatonville Road being the minor road. Trucks associated with the project will be turning right onto Seatonville Road off Maryvale Road (laden) and then left turn from Seatonville Road (unladen) onto Maryvale Road.

It is considered that this intersection layout is satisfactory, however sealing of Seatonville Road on the approach to this intersection is required given the turning movements of trucks turning could see the surface deteriorate. A concept plan for these works is provided in Attachment C.

Signs will be erected as part of the construction work to advise drivers of the movement of trucks and given the very low traffic flows in this location this is considered adequate at this location.

2.2.5 Site access on Seatonville Road

The length of Seatonville Road to the site access will be upgraded to cater for the two-way movements of heavy vehicles, with the road to remain unsealed with the exception of the approach to Maryvale Road outlined previously. There will be two accesses off Seatonville Road, with the first being to the construction site office, laydown area and parking and the second being to the electricity substation. Access into the site will allow for the swept path requirements of semi-trailers as appropriate.

2.2.6 Light Vehicle Route

For light vehicles associated with workers, the proposed access route will be via the designated vehicle route shown in Figure 2-1 previously. This route provides an acceptable route for light vehicles which can safely and conveniently access the site.

All staff will be advised to use this route only with no staff vehicles to use the intersection of Maryvale Road and the Mitchell Highway.

The project will aim to maximise utilising workers local to the site from the main centres e.g. Wellington and Dubbo who will use this route. Additional specialist staff may be required, and these staff members would be located in temporary accommodation in either Dubbo or Wellington. These workers would also use the designated vehicle route to the site.

3 Construction Activities

The construction and commissioning phase is expected to last approximately 12 months with expected commencement in the 1st or 2nd quarter of 2019. The main construction activities would include:

- Site establishment and preparation for construction:
 - Installation of security measures including fencing.
 - Establishment of site compound, material layout and wash down areas.
 - Ground preparation.
- Installation of environmental controls
 - A detailed Construction Environmental Management Plan (CEMP) would outline the environmental controls required.
- Minor vegetation clearing (grasses, shrubs and isolated trees).
 - Targeted clearance of low laying vegetation around trenching areas to steel post installation to minimise disturbance to existing ground cover.
 - Establishment of tree and vegetation protection measures as required.
 - Clearance of larger vegetation such as bushes and isolated trees.
 - Establishment of additional sedimentation and erosion controls as required.
- Preliminary civil works including:
 - Setting up foundations for the substation and inverter stations
 - Drainage works (as required)
 - Intersection upgrade works
- Installation of steel post and rail foundation system for the solar panels.
- Installation of PV panels and DC wiring beneath the panels.
- Installation of underground cabling (trenching) and installation of inverter stations.
- Construction of 132kV substation.
 - Site Establishment and clearing (if required).
 - Bulk earthworks via a range of plant that may include scrapers, bulldozers, excavators, rollers, trucks and loaders.
 - Detailed civil works including drainage, earthing, foundations etc. generally using excavators, piling rigs, trucks and cranes.
 - Erection of steelwork, equipment, demountable buildings and transformer generally using trucks, EWP's and cranes.
 - Electrical connections generally EWP's and other minor plant.
 - Install new poles.
 - Transmission line stringing for new conductor and OPGW from substation to existing 132kV transmission line.
- Testing of electrical infrastructure
- Removal of temporary construction facilities and rehabilitation of disturbed areas.
- Landscaping works based on the landscape plan

The project does not require any concrete footings to be provided for the solar panels construction. The substation will be constructed on a concrete pad, approximately 60m x 80m, with material imported for this.

A site office and compound will be established on site for the duration of the works with temporary access tracks provided to allow for access across the site as required.

All staff vehicles will be able to park within the site adjacent to the site office with no external parking demands. The car park area will allow for all required vehicles to park within this compound area. As part of the project construction it is proposed to maximise the local workers content (from Wellington and Dubbo) and car-pooling will be encouraged and supported as part of these trips. Based on similar construction projects, it is considered that 2-

3 people arriving in a single vehicle is appropriate due to the fixed hours of operation allowing for carpooling. This would see typical demand for 50-75 parked vehicles during peak activities.

As a worst-case scenario, 2 people per vehicle on average has also been assessed, which could see parking demand for approximately 75 vehicles during peak activities on site. There will be no formal parking area constructed for the project, but given the overall footprint of the project site it can be seen that the parking demands for the construction staff and any visitors will be contained within the site.

3.1 Timing

The construction of the solar farm is expected to commence in the 1st or 2nd quarter of 2018 and be completed within a 12 month timeframe.

The first stage of the project works requires the road upgrades to be completed prior to commencement of construction activities on site.

3.2 Working Hours

Construction hours are in accordance with the *Interim Construction Noise Guidelines* (DECC 2009) (ICNG) with standard construction hours being

- 7:00am and 6:00pm Monday to Friday
- 8:00am to 1:00pm on a Saturday
- No construction work is to be carried out on a Sunday or public holiday.

No out of hours works are proposed and as such, no lighting will be required during construction. In the event that construction is required outside of these normal working hours, this would only be undertaken pending approval from relevant authorities.

3.3 Construction staff numbers

The number of construction staff will vary over the project construction phase with a peak of 150 people. The staff will be sourced locally where possible with some specialist and project management staff being temporarily located in Dubbo or Wellington. Staff will be encouraged to car pool as appropriate with other staff transferred to and from the site via mini coaches to reduce vehicle demands. Due to the size of the site footprint, these same vehicles will also be used on site to move staff across the site.

With a peak of 150 staff, a conservative vehicle occupancy rate of 2 people per vehicle based upon carpooling would generate 75 vehicles accessing the site, giving 75 vehicle movements inbound and outbound for staff movements. This is considered to be a worst case scenario, with actual numbers being much lower as car pooling and the use of mini buses for staff could increase vehicle occupancy rates to 4 which would decrease traffic movements to less than 40 inbound and outbound per day.

All construction light vehicles will be able to park on site within the office compound area as required.

3.4 Heavy vehicle requirements

The level of heavy vehicles accessing the site will vary throughout the project timeframe. At the beginning of the project there will be a requirement for some earthwork moving equipment to construct the access tracks and some minor earthworks across the site as required. This may require a scraper or bull dozer which will be transported to site on a low loader. This machinery will remain on site for the duration of the earthworks portion of the project construction work.

While extensive earthworks are not proposed, some land forming (including localised cut and fill areas) may be undertaken to achieve more consistent gradients beneath the PV modules. Additionally, earthworks are required for trenching works.

A range of plant and equipment would be used during construction including earth-moving equipment, with machinery including:

- Pile driver (10)
- All terrain fork-lift (10)
- All terrain utility vehicles (10)
- Backhoe (5)
- Excavator (4)
- Bulldozer (4)
- Scraper (2)
- Winches (4)
- Flatbed trucks (5)
- Mobile crane (1 - 2)
- Elevated work platforms (1)
- Semi-trailers and tipper trucks (5)
- Tree chipper (1)

All of the plant will be located on site and will therefore be only required to access the site once for the construction works.

The solar panels are expected to be all delivered from the Port of Newcastle or Port Botany in Sydney. Other specialist equipment is generally sourced from Newcastle or Greater Sydney as required whilst consumables such as concrete and general material supplies will be local from the Dubbo or Wellington area.

3.5 Vehicle movements

A summary of the predicted vehicle movements is provided below.

Phase	Purpose	Vehicle Type / Trailer Type	No. of one-way vehicle movements
Site Set-Up and Demobilisation	Portacabin delivery and removal	Low loader	20
	Skip delivery and removal	Low loader	40
	Generator delivery and removal	Semi-trailer	4
	General deliveries	Semi-trailer	30
	Crane mobilization and demobilization	Crane	4
	Water tank delivery and removal		4
Roads and hardstands	Delivery of imported capping for road laydowns and crane hardstands	Truck and dog	400
	Plant delivery and removal: excavators, compactors drill rig	Low loader	30
	Concrete deliveries for maintenance container hardstands	Concrete agitator	90
Generating Equipment	Tool container delivery and removal	Low loader	4
	Module deliveries	Semi-trailer	1,300
	Mounting structure and pile deliveries	Semi-trailer	1,000
	Inverter Station deliveries	Low loader	26
	DC cabling trays and combiner boxes	Semi-trailer or B-double	200
AC Cable Installation	AC Cable delivery	Semi-trailer or B-double	180
	Backfill material delivery	Dump Truck	1,400
Plant delivery and removal	Telescopic handler and excavator	Low loader	28
Overhead Line	Conductor delivery	Semi-trailer	20
	Pole deliveries	RAV	5
	Pole dressing delivery	Semi-trailer	1
Other	Employee vehicle movements	Light vehicle / mini bus	40-75
	Monitoring equipment fibre SCADA servers etc	Truck	2
	Waste Collection	Truck	200
	Consumables (Oil and Fuel)	Truck	20
	Miscellaneous deliveries	Light vehicle	20
		TOTAL	5,103

In summary, average vehicle movements are in the order of 75 light and 20 heavy vehicles two-way (75/20 inbound, 75/20 outbound) per day. For the light vehicles, the vast majority of these will be inbound movements in the morning bringing workers to the site with these vehicles then remaining on site for the full working day before leaving at the end of the working day. It is expected that there will be limited light vehicle movement outside of these periods, other than support staff e.g. office staff or the occasional visitor to the site.

For the heavy vehicles, these will typically be spread out across the working day. For the solar panel deliveries, these trucks are arriving from either the Port of Sydney or the Port of Newcastle and the journey length will be over 5 hours, seeing a spread of these vehicles not all arriving at the same time. Allowing for each truck to be emptied on site one at a time, the outbound movements will also be spread out and not all leave at the same time. All other heavy vehicles will also be spread out over the normal working day with no concentration of heavy movements expected. It is considered that there will be some peak demands for trucks associated with certain aspects of the project e.g. fill material however the overall construction pattern will generate reasonably consistent levels of truck movements over the entire construction phase of the project.

4 Traffic Management Assessment

The proposed traffic management measures allow for all access off Seatonville Road only. The access to be used will be for the construction traffic movements as well as the future on-site operational demands. This access is to be provided in accordance with the requirements for the site operations (including swept path requirements for delivery vehicles) and take into account the design requirements of Dubbo Regional Council.

The designated access route to the site will be used by both light and heavy vehicles. All vehicle movements in and out of the site are as shown below in Figure 4-1.

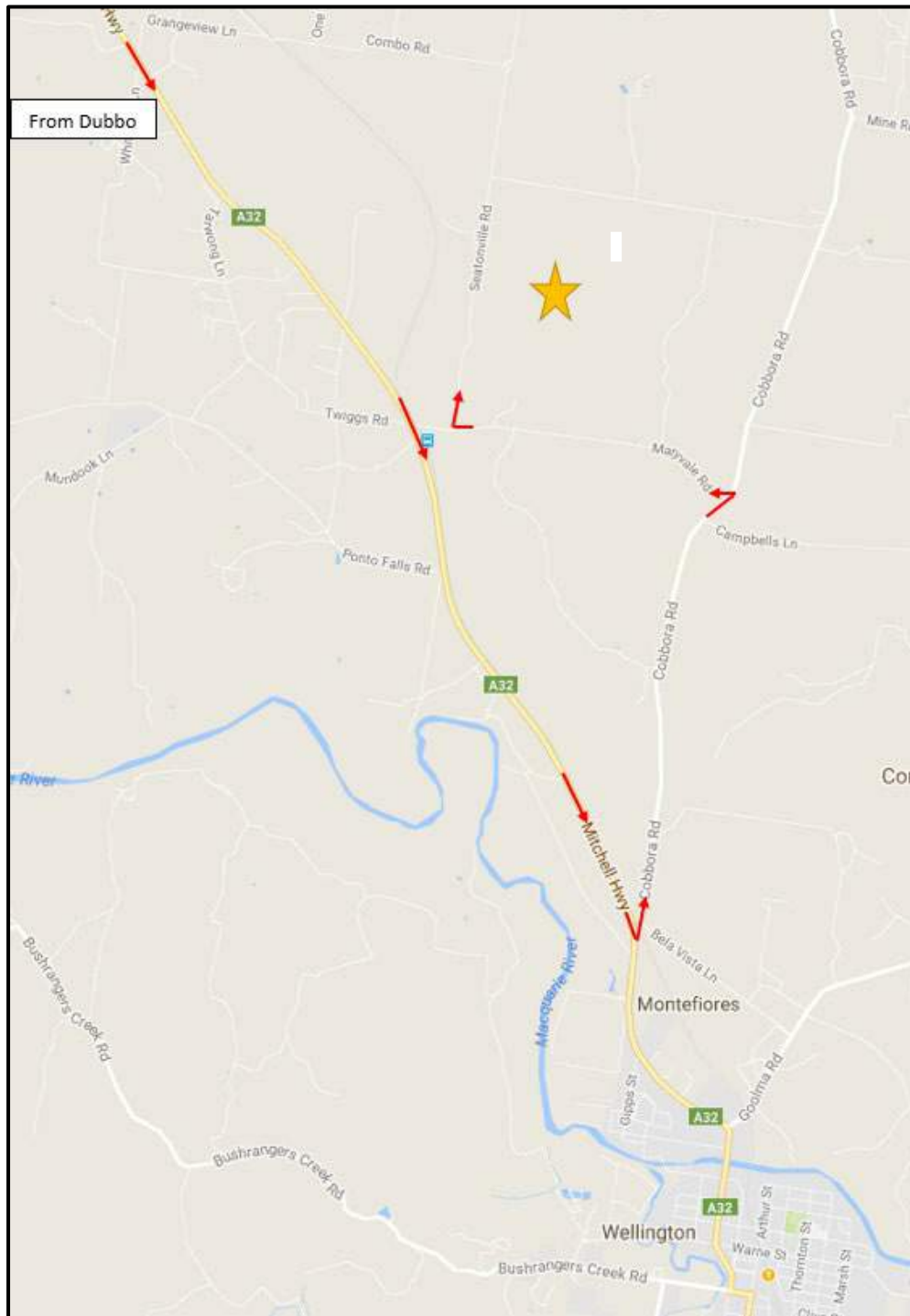


Figure 4-1 – Heavy and Light Vehicle access route to subject site

4.1.1 Impact Assessment

The project will require the delivery of the solar panels and other specialist equipment from Newcastle or Sydney with the access route via:

- Newcastle or Sydney metropolitan regional road network;
- M1 Motorway to Hunter Expressway (Sydney source);
- Hunter Expressway / New England Highway
- New England Highway to turn off for the Golden Highway;
- Golden Highway to Dubbo;
- Mitchell Highway from Dubbo towards Wellington
- Travel along Cobbora Road and Maryvale Road to access the site off Seatonville Road.

The majority of the route other than Cobbora Road and Maryvale Road all form part of the road freight routes within the State road network and all currently carry heavy vehicle movements including B-double access for the full length of the routes. These routes will be documented as the Haulage Route for all delivery vehicles to enter and exit the site for the vehicles associated with haulage of the solar panels and all deliveries for the project site.

These roads carry a high number of heavy vehicles, including B-doubles associated with local and regional agricultural demands. These agricultural demands are seasonal in nature and occur 24 hours a day often involving night travel and operations. There are a number of farms in the general locality of the project site as well as in the wider Wellington area that use these local and regional roads during these seasonally high demand periods. Due to the seasonal nature of this work and the requirement for quick turnaround of crop deliveries it is considered that it is not appropriate to limit truck movements for these existing farms. Similarly, it is considered that it is not appropriate to limit truck movements to and from the project site at these times as the traffic movements on the local roads will continue to remain low.

For the regional road network e.g. Mitchell Highway, Golden Highway and New England Highway / Hunter Expressway the total traffic flows will remain well within acceptable limits and as such will continue to operate to a good level of service for all road users. Current daily traffic flows on these highways are summarised below, based on data available from the RMS web page:

Road	Location	Daily flow	Heavy vehicle content (%)	Peak hour flows (based on 10% daily flows)
Mitchell Highway	South of Wellington	2,428	23	243
Golden Highway	East of Merriwa	2,086	21	209
Hunter Expressway	Sawyers Gully	18,334	15	1,833
Hunter Expressway	Buchanan	30,180	11	3,018
M1 Motorway	Somersby	66,114	15	6,611

The RMS Guide to Traffic Generating Developments indicates that for rural roads, allowing for 15% heavy vehicles the 2-way flow for a level of service of B is 530 vehicles. This value is considered appropriate for both the Mitchell and Golden Highway, with existing flows of 243 and 209 vehicles per hour respectively. The additional traffic associated with the critical construction period on the site will see the level of service on these roads will remain at B.

The traffic flows along the local roads giving access for the heavy and light vehicle movements associated with the project are currently very low based on observations on-site. Therefore, the potential additional 75 light vehicle movements (per direction) associated with the staff movements and 20 daily truck movements (per direction) will have a minimal and acceptable impact upon the operation of these local roads during construction. Once operational, the traffic movements are much lower with 10 staff based on site and as such the impact will be negligible.

For the length of the Hunter Expressway, the additional truck movements will have a minimal and acceptable impact on the daily and hourly flows. The increase in flows created by the construction work will be less than 1% and as such existing drivers will experience a negligible increase in any delays. The impact upon the M1 Motorway is less as the existing traffic flows are higher than on the Hunter Expressway.

There is minimal background traffic growth in this location. The RMS count data from the station south of Wellington on the Mitchell Highway (Station I.D. 6170) shows traffic flows of 2,428 in 2017 and 2,380 in 2015, representing an increase of around 0.7% per annum. Other counts along the regional road network show similar or lower increases in values. For the assessment of the future impacts in 10 years-time, it can be seen that the site at that time will be operational with 10 staff located on the site. The impact of these 10 staff will be very low on the local road network.

The site is expected to be operational for more than 10 years so that the impact of the decommissioning of the site cannot be assessed in detail at this stage. The site could remain operational beyond 10 years and the impact will remain low beyond the 10 year design horizon.

There will be no public vehicle access within the work site during the construction works, with a fence provided at the commencement of the project along the entire site boundary. This fence will remain once the project is constructed for security purposes with a locked gate to be provided at the site access off Seatonville Road.

There will be no pedestrian access to the site for the general public. There are no pedestrian paths in the locality of the site or expected demands in this remote rural area so there will be no impacts for pedestrians created by the project works.

There is no school within the general locality of the subject site that will be impacted upon by the project. The majority of the heavy vehicle route proposed for the project does not form part of the local school bus run. On the regional and state road network all school zones will be delineated in accordance with RMS Guidelines with reduced speed limits in accordance with normal NSW road rules. All drivers associated with the project construction work will adhere to the road rules as applicable.

There is an existing school bus run that operates along Cobbora Road and all drivers associated with the project, including delivery drivers, will be advised of this and the hours of operation of this school bus run. Drivers will be reminded of the road rules associated with school buses and the requirements associated with these buses when they are loading or unloading passengers. This will ensure that road safety is not compromised for these users. As part of the construction work the local bus company will also be advised of the construction activity and impacts along Cobbora Road.

There will be no impact upon public transport services with no diversions required. There are no bus stops impacted upon by the proposal. Wellington is not serviced by a train and is reliant upon a coach link with infrequent operation.

There will be minimal impact for emergency vehicles and heavy vehicles with no diversions required.

There will be minimal impact upon any other development within the locality of the site.

There will be minimal impact upon adjoining Council areas. Traffic routes in and out of the locality will be along the arterial road network which will experience minimal impacts due to the works.

There are no residential dwellings in the immediate locality of the site access that will be impacted upon by the project and construction work. There are a number of residences along the designated vehicle access route and these residents will be notified in writing of the construction works and the activities as required.

Construction vehicle movement on internal roads could lead to dust generation. A water truck or organic polymer agent will be used for dust suppression to minimise the production of dust, with the amount of water spreading adjusted accordingly to reflect the conditions. Additionally, any significant deposits of dirt and other construction materials will be promptly removed from public roadways.

Post construction, the traffic numbers generated by the project are very low, with a maximum on-site workforce of 10 people. There will not be any need for regular heavy vehicle access to the site once the solar farm is operational except for the occasional heavy vehicle for emergency repairs or irregular maintenance.

4.1.2 Delivery vehicles

All deliveries for the project will be via 19 metres semi-trailers. Whilst the regional road network permits the use of B-double combinations it is not considered appropriate to use these vehicles along Maryvale Road or Seatonville Road in its current condition. The access routes along the regional / state road network to the site are all along approved B double routes whilst the local roads between the Mitchell Highway and the project site carries semi-trailers associated with local agricultural demands and as such the use of semi-trailer trucks for deliveries to the site are considered appropriate.

Delivery vehicles would be required throughout the project period. The travel time between the ports (Newcastle or Sydney) and the site for the solar panels is approximately 4 to 6 hours and these deliveries will be spaced out over the construction period, to minimise the impact upon the road network and to reduce the need to store the panels on site. Other deliveries will include the metal structures for the solar panels, sand and gravel for the foundations and internal tracks and cabling. There will also be some deliveries of specialist equipment such as photovoltaic boxes or skids and delivery stations.

The trucks associated with the delivery of the supplies will all travel along the State and regional road network. There are a number of schools located along these routes, however all have marked school zones and speed limit restrictions as per State guidelines. As these routes are all on the State and regional road network it can be seen that heavy vehicles currently operate on these roads safely. It is considered that there will be no noticeable impact upon road safety adjacent to these schools associated with the additional truck movements associated with the construction work.

There is no requirement to divert traffic as part of this construction work.

4.1.3 Construction staff movements

For the construction work, the staffing levels will peak at 150 on site and as part of the project, staff will be encouraged and supported to carpool and use mini buses provided to allow for shared trips from shared accommodation in Wellington and Dubbo to the site, approximately 10 and 40 kilometres respectively. There will be a maximum of 75 light vehicles inbound in the morning associated with on-site staff and a similar number departing at the end of the working day. With increased car pooling above an occupancy rate of 2 people it is considered that this value could in fact be much lower.

The site is located approximately 10 kms from the centre of Wellington (further to Dubbo) and with no footpaths provided on any of the local roads construction staff are unlikely to walk to the site. Some construction staff however could cycle to the site from Wellington, as the 10 km ride would take 30 minutes or less to complete. The route to the site could be used by cyclists, with cyclists able to park their bikes on site close to the site office and showers should be provided together with work lockers to cater for cyclists. It is however considered that this demand would be very low.

The vehicle numbers associated with the construction work are relatively low and it is considered that the movement of vehicles in and out of the site for construction works can occur in a safe manner. No limitation on truck access times is considered appropriate for the project. Given the journey length between the port and the subject site, the vehicles as they are approaching the site will be spread out ensuring the impact is not occurring all together. With unloading of vehicles taking 30 minutes or more, trucks exiting the site will also be spread out.

4.1.4 Impacts on road pavement

A protocol will be provided for both undertaking dilapidation surveys and making any necessary repairs following construction to Cobbora Road and Maryvale Road (refer Figure 4-2 below). The dilapidation surveys will assess the existing condition of road surface prior to construction and the repair of the road surface should it be identified in the dilapidation surveys to have been damaged during construction.

With regards to any emergency repairs required, the contractor on site would contact the relevant authorities and will ensure the road is safe. Repairs will be made in accordance with the relevant authority standard.

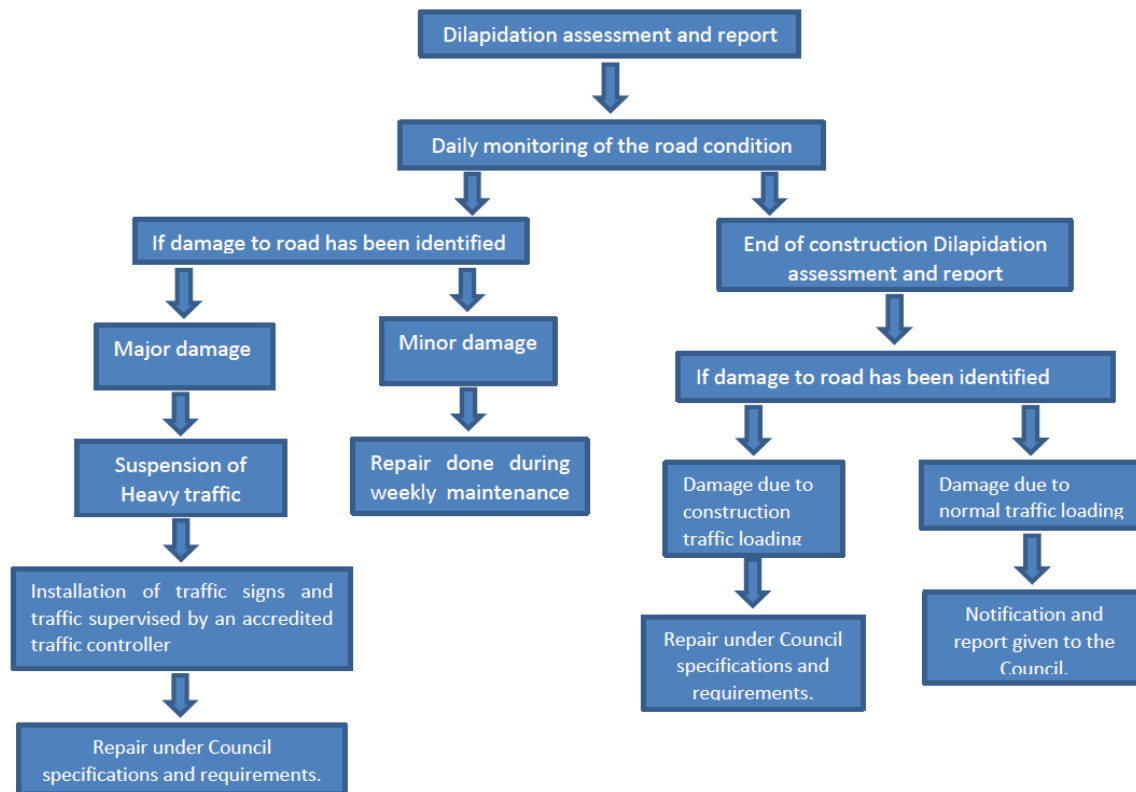


Figure 4-2 Dilapidation Assessment Protocol

Appendix A. Safe Construction Activities

The contractor on site is responsible for the management of all traffic in connection with its activities and the construction works conducted on the site. The Contractor will provide all traffic management, safety warnings and signage including such persons as necessary to direct traffic, as required by AS 1742:2009 – Manual of uniform traffic control devices.

External traffic movements

The Contractor will:

Ensure traffic management controls are established, maintained and monitored to underpin the safety of workers, other personnel and the general public

Establish traffic management controls in consultation with relevant stakeholders

Ensure traffic management controls comply with regulatory and legislative requirements

Ensure traffic management controls comply with the contract

Ensure traffic management controls maintain the flow of traffic within the site and on surrounding public roads

Reinstate any areas affected by the temporary construction access requirements to their original condition

The primary drivers for determining the traffic management controls during the construction period are:

- Safety of personnel, the general public and construction workers
- Minimising impact (if any) on operations
- Contractual requirements (including site access)
- Road traffic authority and local government requirements
- OHS requirements in relation to the movement of all vehicular traffic and pedestrians either within or adjacent to sites
- Environmental management requirements
- The impact construction traffic has on the local community in the surrounding area, and
- The need to meet construction requirements (including any schedule and cost constraints)

The traffic management controls will be communicated to appropriate stakeholders which will include the local community in the site vicinity via a letter box drop.

The Contractor will ensure:

Any significant deposit of dirt and other materials caused by construction traffic and other operations (in relation to the works) will be promptly removed from existing public roadways

Suitable precautions are taken to ensure no rock is dislodged onto any roadway from construction vehicles

Construction plant and equipment do not park on or within the pavement or shoulders of any existing trafficked roadway

Construction vehicles (when loaded) comply with the mass, loading and access requirements of the road traffic authority

Construction traffic will cause the least possible obstruction to public and other traffic

Directional signage will be installed to direct construction traffic and warn other motorists of construction traffic.

This signage is positioned in accordance with the approved Traffic Control Plans.

All drivers will be provided with a copy of the access routes to and from the site as part of their induction for the project;

A Vehicle Movement Strategy has been developed to eliminate the impact on local roads arising from additional construction traffic (e.g. solar panel delivery vehicles). The Vehicle Movement Strategy directs all drivers to access the site from the Mitchell Highway via Cobbora Road and Maryvale Road at Wellington to eliminate the impact on the local roads. There is no requirement to restrict the direction of flow and/or time of day for movements.

ALL workers including delivery drivers will be instructed to NOT use the intersection of Maryvale Road and Mitchell Highway but to use the designated access route only.

The Contractor will comply with any client or Road Traffic Authority signage requirements for traffic control. Where construction work is to be undertaken either on or adjacent to a public roadway that is open to traffic, the work must be undertaken in accordance with all regulatory and legislative requirements that govern the movement of vehicles and pedestrians on any public roadway.

Within the Worksite

All employees, subcontractors, suppliers and any other persons connected with the project must adhere to all such Statutory Requirements and comply with all lawful directions. Any breach of such requirements may result in disciplinary action of the persons concerned.

The maximum speed limits within the Worksite are:

- 40 kph on formed roads
- 20 kph during foggy/dusty conditions with headlights on
- 10 kph when passing pedestrians

The Contractor will manage access to and from the site by all employees, subcontractors, suppliers and any other persons connected with its activities and the works; and all occupants within the worksite and through each area of the site.

The Contractor shall provide for safe and continuous operation of normal pedestrian and vehicular traffic along all roads, pedestrian paths and vehicular access to the worksite and must provide and maintain all necessary watchmen, lights, barriers, notices and signs.

The Contractor will not unnecessarily obstruct any side road, branch track, drain or watercourse and will not break down or remove any fences or gates without prior notification to the client. If unavoidable, the Contractor will remove such obstruction or repair such breakage as soon as possible, or as directed by the Client.

A Vehicle and Traffic Management Procedures briefing will be included in the Project Site Induction.

Pedestrian Traffic

The Contractor may encounter pedestrian traffic at and near to the site. The Contractor will ensure that sites are appropriately isolated and secured from unauthorised entry; and that the Site is appropriately sign-posted and controlled. Given the location of the site it is considered that any pedestrian activity will be negligible.

Site Construction Traffic

Traffic within the Site will be managed in accordance with the Site Management Plan. The Sites Layout Plans will indicate site access and egress points and detail any required separation of construction plant and personnel. These plans will be communicated during Tool Box Meetings and/or Daily Pre-start Meetings.

The Site Layout Plan will incorporate details of parking arrangements for the site construction workers, speed limits within the construction works or through access roads established for vehicular and plant construction traffic.

The Sites Layout Plan will detail traffic management controls that are appropriate within each site.

Traffic controls shall be regularly reviewed for effectiveness and will be amended to maintain or improve a safe work environment. Traffic management controls established for sites will be inspected at ***weekly intervals*** to verify that a safe work environment is being maintained. Records of inspections shall be maintained.

Access Roads and Site Movement

Unless sign-posted otherwise, load limits on public roads adjoining the sites apply within them.

If required the Contractor shall request approval from the client prior to any over-dimensional load, or load in excess of load limits entering the site, or using the roads within the site.

All workers must travel to and from the site via the nominated access roads.

Parking

All workers must park in the Designated Parking Areas as specified in the Site Management Plan. The Contractor shall ensure no persons (in connection with its activities) parks in any other area of the site or in any other area without prior written consent.

Monitoring, Measurement and Review

The purpose of Monitoring and Measurement is to ensure that all construction works, including subcontracted activities, are being performed in accordance with the contract requirements, statutory requirement and in a controlled and safe environment. Ongoing monitoring and audit of Traffic Management procedures and the worksite implementation of traffic control shall be conducted.

Audits of the Traffic Control measures under differing operating conditions are to be carried out including during overcast and rainy weather, at night or at any other restrictive times where conditions may change in accordance with the requirements of AS1742.3.

Results of audits, inspections and improvements are to be reported in the reporting cycle of the contract to enable assessment of the adequacy of the implementation of the Traffic Control within contract performance and system review meetings.

Inspection and Auditing of Traffic Control Plan (TCP)

Regular Site Inspections by designated supervisory and field staff of worksite protection are to be arranged on a **daily frequency** depending on the complexity of traffic control on the site.

Site Inspections will be carried out and the following Traffic Management Forms completed:

Traffic Control Daily Checklist
Traffic Control Weekly Checklist

A daily record of the inspections should be kept. This should include:

- When traffic controls were erected
- When changes to controls occurred and why the changes were undertaken
- Any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties
- Where significant changes to the work or traffic environment or adverse impacts are observed, the controls should be reviewed as a matter of urgency.

The monitoring program should generally incorporate inspections:

- Before the start of work activities on site
- During the hours of work
- Closing down at the end of the shift period

The inspection program shall be adjusted to suit changing circumstances and/or risk environment such as during times of increased traffic flows or speeds, contra-flow arrangements or when changed controls are introduced.

The Audits of the implemented Traffic Management features will be undertaken following setup in accordance with the TCP and prior to the TCP being put into service.

Appendix B. Drivers Code of Conduct

1.1 General Requirements

All vehicles / drivers accessing the site must:

- i) Be registered and hold a valid driver's licence for the class of vehicle being operated;
- ii) Operate the vehicle in a safe and appropriate manner whilst travelling to / from the site or when operating within the site. This includes obeying all New South Wales state road rules.
- iii) ALL heavy vehicles must adhere to the designated heavy vehicle routes as far as practical;
- iv) Comply with the directions of authorised personnel when operating within the site and obey any relevant signage installed along the internal roads.
- v) Not use a mobile phone while operating any vehicle.
- vi) Must always wear a seatbelt when operating any vehicle.

1.2 Vehicle Speeds

Drivers shall observe the posted speed limit along the designated transport route and adjust their vehicle speed as required to suit the road environment and prevailing weather conditions. Vehicle speeds must be appropriate to ensure the safe movements of the vehicle with consideration to the vehicle configuration.

Maximum speeds limits within the project site shall be as follows:

- i) 40 km/hr along formed roads.
- ii) 20 km/hr during foggy / dusty conditions. Headlights must be on.
- iii) 10 km/hr when passing pedestrians or any plant equipment.

1.3 Driver Fatigue

Drivers shall not be permitted to operate a vehicle or plant equipment when impaired by fatigue. If you suspect that you or someone else is experiencing fatigue, please inform your supervisor.

Operators of heavy vehicles shall be aware of the requirements relating to fatigue as outlined in the Heavy Vehicle National Law. Drivers shall also be aware of their adopted fatigue management scheme (shown below) and ensure that they are operating within its requirements.

- i) Standard Hours of Operation
- ii) Basic Fatigue Management (BFM)
- iii) Advanced Fatigue Management (AFM)

Basic Fatigue Management (single driver)

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 1/2 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.

Advanced Fatigue management:

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):

1. 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

ALL details relating to fatigue management for delivery vehicles are covered by the National Heavy Vehicle Regulator

1.4 Operating Hours

Construction

Construction is to be completed in accordance with the *Interim Construction Noise Guideline* (DECC 2009) which defined standard construction work hours as:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm
- Sunday and Public holidays: No work

The following construction, upgrading and decommissioning activities may be undertaken outside these hours without the approval of the secretary:

- The delivery of materials as requested by the NSW Police Force or other authorities for safety reasons; or
- Emergency work to avoid loss of life, property and / or material harm to the environment.

Vehicle movements shall be undertaken during standard construction hours (or just before to allow workers to get to site). Oversize vehicles up to 26 metres long may require access to the site after hours however this would be subject to the requirements of Roads and Maritime, Gunnedah Shire Council or NSW Police.

Normal Operations

Daily operations and maintenance by site staff would be undertaken during standard working hours:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm
- Sunday and Public holidays: No work

During normal operations, all vehicle movements shall be undertaken during the standard operating hours (or just before to allow workers to get to site). There may be a requirement for vehicles to access the site after hours during an emergency however these would be infrequent.

Vehicles which arrive at the site prior to commencement of working hours shall have the engine turned off to minimise noise impacts on surrounding residences.

1.5 Transport Routes

All vehicles must travel to and from the project site via the route as shown below (Figure 1).

NO vehicles are to enter or exit the site via the intersection of Maryvale Road and the Mitchell Highway.

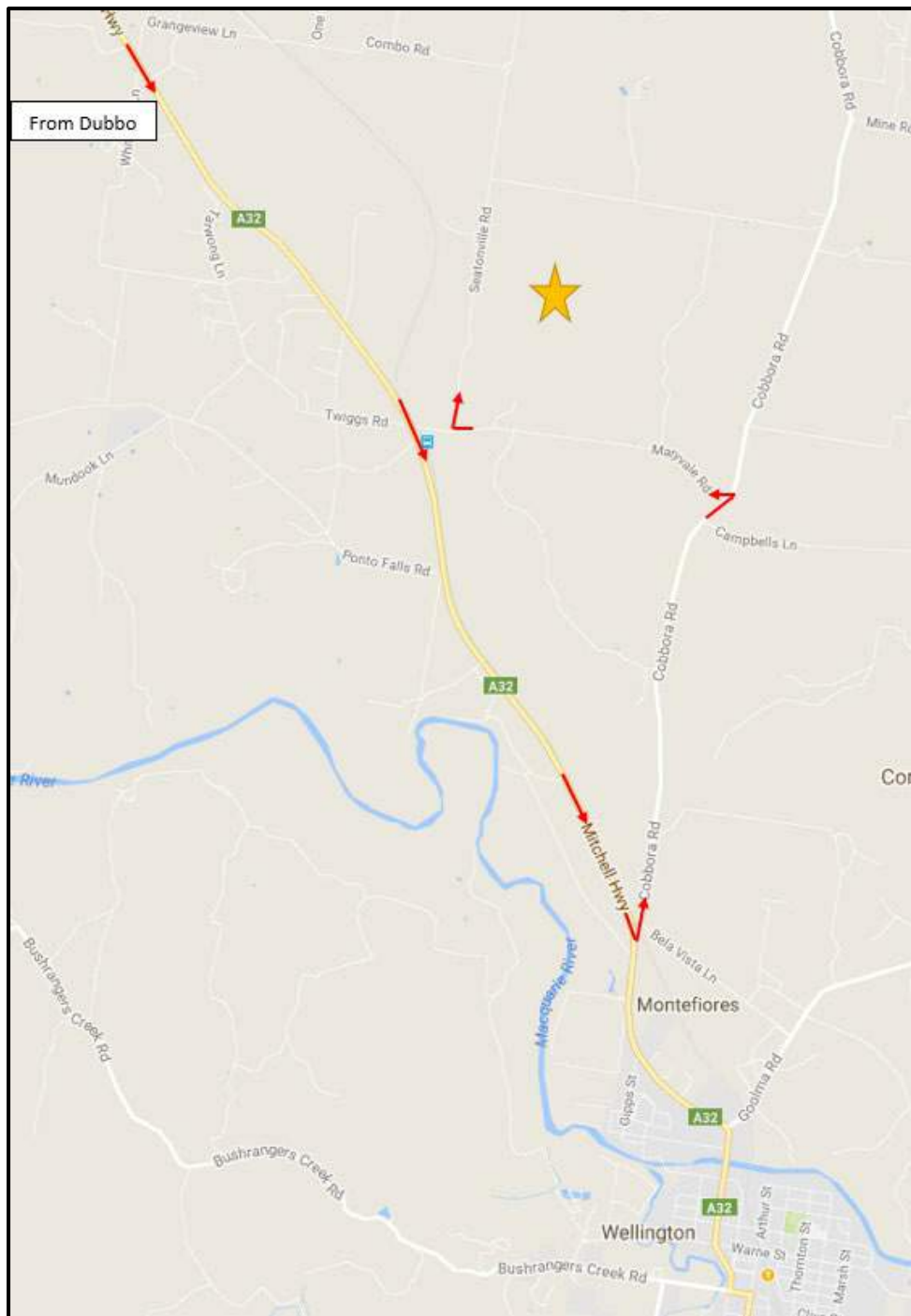


Figure 1 - Transport route to/from the site for ALL

1.6 Vehicle Departure and Arrival

Heavy vehicles departing the site shall have a minimum 5 minute separation to reduce the impacts upon the local road network.

Always maintain a minimum separation of at least 50 metres between vehicles when travelling within the site.

Drivers must contact the site supervisor upon arrival and await further instructions or direction before proceeding.

Drivers must also report to the site supervisor prior to departure.

All vehicles must enter and exit the site in a forward direction.

1.7 Overtaking

Overtaking shall not be permitted within the site unless the intention to overtake has been communicated to the driver of the leading vehicle and consent to overtake granted.

1.8 Breakdowns and Incidents

Heavy Vehicles

In the case of a breakdown, the vehicle must be towed to the nearest breakdown point as soon as possible. All breakdowns must be reported to the RMS Transport Management Centre on 131 700 and the vehicle protected in accordance with the Heavy Vehicle Drivers Handbook. The relevant shift manager on site shall also be notified.

If a breakdown occurs on-site please remain inside your vehicle, notify the shift manager of your location and await further instruction.

If you are involved in an accident, please notify the shift manager immediately and contact emergency services if required.

Light Vehicles

In the case of a breakdown, ensure that the vehicle is secure, notify the shift manager of your location and await further instruction.

If you are involved in an accident, please notify the shift manager immediately and contact emergency services if required.

1.9 Penalties and Disciplinary Action

Any driver who fails to comply with the above requirements will have their details recorded and may be subject to disciplinary action.

1.10 Emergency Contact Numbers

i)	RMS Transport Management Centre	131 700
ii)	Dubbo Regional Council	(02) 6801 4000
iii)	NSW Police Service (Wellington)	(02) 6840 2099
iv)	Site Office	_____
v)	Shift Manager on Duty	_____

1.11 Driver Declaration

I, the undersigned, hereby agree to abide by this Driver Code of Conduct for the transport of equipment or personnel to / from the Maryvale Solar Farm, located off Seatonville Road, Maryvale, NSW. I have read and understand the requirements outlined in the attached document and will, to the best of my ability, comply and assist with their implementation, requirements or ongoing administration.

The subject document to which this declaration relates is included as part of this overall document and signing of this declaration confirms that the signee has read and understood their requirements as outlined throughout.

Driver Details

Full Name	
Organisation	
Signature	
Date	

Representative of:

Full Name	
Signature	
Date	

Appendix C. Concept Road Designs

