



26 September 2019

SF2018/193074; WST18/00088/04

Rob Beckett
Resource & Energy Assessments
Department of Planning, Industry and Environment
Level 30, 320 Pitt Street
SYDNEY NSW 2001

Dear Sir

**SSD-9358: Lots 2 DP 586990 and 21-23 DP 1174848; 330-362 Logans Lane, Narrabri
Proposed 120 MW Solar Farm 'Silverleaf'**

Thank you for the notification via the Major Projects Planning Portal dated 26th August 2019, requesting Roads and Maritime Services' consideration of the Environmental Impact Statement (EIS) for State Significant Development application SSD-9358.

From review of the EIS, Roads and Maritime notes that:

- The proposal is to construct a 120 megawatt (MW) solar farm 5km north of Narrabri with a site area of approximately 360 ha and an operating life of 35 years.
- A 132 kV transmission line will also be constructed from the site, crossing and running along the Newell Highway (HW17) a State classified road, across Killarney Gap Road (MR133) a classified Regional road, along Old Cemetery Road (local road) and to the existing TransGrid substation on Stoney Creek Road (local road).
- Construction duration is estimated at 12 months, with up to 120 employees required during peak activity. A workforce of 50 is anticipated for the remainder of construction.
- The applicant has sought up to 60 heavy vehicle (HV) movements per day at maximum (30 in, 30 out). Roads and Maritime's assessment is based on an average number of truck movements around 120 per week (20 per working day) rather than the applicant's stated 80 per week, to allow for the additional mass of water, cable, solar panels and mounting racks (see EIS sections 3.3.8 and 3.3.9).
- During operation, up to six employees would be onsite on any given day and up to 30 vehicles (including trucks) during major maintenance shutdown periods. Traffic associated with demolition at the facility's end of life would be similar to the construction phase but shorter in duration.

Roads and Maritime Services

- Previous written responses from Roads and Maritime were made on 6 June 2018 as part of a request for Secretary's Environmental Assessment Requirements (SEARs), on 5 July 2019 as pre-DA advice, and on 11 September 2019 for consent to lodgement and property advice.

Roads and Maritime notes the proponent has not at this time committed to types, volumes and origin and destination of traffic generated by the proposal amongst other items as being noted to be covered under a Construction Traffic Management Plan.

Based on the information provided in the EIS, Roads and Maritime does not object to the proposal subject to the following conditions being included in any consent issued in relation to SSD 9358 by the consent authority.

- The site has direct vehicular access to the Newell Highway to the east, and the Kamilaroi Highway (via Logans Lane) to the southwest. As noted in the SEARs submission, Roads and Maritime does not object to a single vehicular access from the intersection of the Kamilaroi Highway (via Logans Lane). The Newell Highway access is not to be used by development traffic but is to remain open for general agricultural use.
- Prior to commencement of onsite solar farm construction, the proponent is required to upgrade the intersection of Kamilaroi Highway and Logans Lane to the satisfaction of Roads and Maritime including:
 - A Basic Right (BAR) turn treatment as shown in Figure A 28 in *Austroads Guide to Road Design Part 4 2017* (copy enclosed), and relevant Roads and Maritime *Supplements to Austroads*.
 - A Basic Left (BAL) turn treatment as shown in Figure 8.2 in *Austroads Guide to Road Design Part 4A 2017* (copy enclosed), and relevant Roads and Maritime *Supplements to Austroads*.
 - Installation of 'Advance truck warning signs' (W5-22 Size B) with distance plates (W8-5 Size B) under, 250m from the intersection on both approaches along the highway. These are to be removed once construction has been completed.
 - Safe Intersection Sight Distance (SISD) requirements as per *Austroads Guide to Road Design Part 4A* and relevant Roads and Maritime *Supplements to Austroads* is to be provided and maintained in both directions at the intersection. For a 100 km/h operating speed a minimum SISD of 262 metres should be provided.
 - Any ancillary works, such as relocation of services, vegetation removal, transitions for drainage, batter slopes and arrangements being made for any required road reserve widening acquisition.
- The intersection upgrade is located on a State road and the Developer will be required to undertake private financing and construction of works on a road in which Roads and Maritime has a statutory interest. A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the Developer and Roads and Maritime prior to works commencing.
- A Road Occupancy Licence (ROL) is required prior to any works commencing within three (3) metres of the travel lanes of a State classified road, or work that has potential to impact traffic flow such as the use of traffic control devices or signage. A Traffic Control Plan prepared by an RMS-accredited person is to be submitted as part of the ROL application.
- A temporary speed zone authorisation for use in connection with any oversize or special vehicle deliveries should form part of a Traffic Management Plan and ROL application.

- Prior to construction, detailed designs for works within the classified road reserves will need to be submitted and approved by Roads and Maritime for concurrence pursuant to Section 138(2) of the *Roads Act 1993*. This includes transmission line work within the Newell Highway (HW17 / A39) and Killarney Gap Road (MR133), and road intersection work within the Kamilaroi Highway (HW29).
- Above-ground structures in roads including transmission line poles or towers are to be located as per Roads and Maritime's Requirements for Overhead Power Lines (see copy attached), and:
 - Be located as far as practicable from the road, and outside the clear zone as set out in *Austrroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers*, which at this location on the Newell Highway is 10m from the edge of traffic lane. If the road reserve is not wide enough to locate poles outside the clear zone, it may be necessary to design the poles to be frangible or otherwise locate poles within private property.
 - Minimum heights (clearances) above the road surface are to be no less than those set out in the attachment or Essential Energy's requirements (whichever is greater), plus an additional 1m to allow for future pavement overlays (including at Killarney Gap Road).
- The proponent should engage a suitably experienced surveyor and/or solicitor to review the physical location of the proposed high voltage transmission line relative to road and rail corridors and existing cadastral boundaries. It is noted that the historic road formation along the proposed transmission alignment may not be contained entirely within public road reserve.
- A Construction Traffic Management Plan (including a broader Traffic Management Plan for the entire life cycle of the project) is to be prepared in consultation with the Roads and Maritime and Narrabri Shire Council. This should outline measures to manage traffic related issues associated with the delivery and construction of solar plant and ancillary structures, any construction or excavated materials, machinery and personnel involved in the construction, operation and decommissioning process.
- The Plan is to detail the potential impacts associated with the development, measures to be implemented and the procedures to monitor and ensure compliance. The plan should address but not be limited to:
 - The origin, number, size, frequency and destination of vehicles accessing/exiting the site. Although there were some estimations of traffic volumes identified, until greater detail on vehicle size is known this will impact the subsequent traffic volumes.
 - Loads, weights and lengths of haulage and construction related vehicles and number of movements of such vehicles.
 - Existing background traffic, peak hour volumes and types and their interaction with project development related traffic.
 - The management and coordination of construction and staff vehicle movements to the site and measures to limit disruption to other motorists.
 - Scheduling of haulage vehicle movements to minimise convoy length or platoons. Consideration is to be given to minimise the route length for road transport of all over size and over mass loads.
 - Policies and procedures for addressing concerns raised by the community of project related matters.

- Local climatic conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the project (e.g. dust, fog, wet weather).
 - In particular consideration as raised by the local community regarding the current provision of a school bus stop near the intersection of Logans Lane and the Kamilaroi Highway and the impacts to this once the intersection is upgraded.
 - The safety of children accessing school bus pick up/drop off locations along the proposed haulage route should be avoided.
 - A commitment by the proponent for the use of buses to commute employees to and from the site, particularly during the construction phase.
 - Dust mitigating measures by way of an appropriate length of seal along Logans Lane to limit dust impacts on surrounding sensitive receivers.
 - Toolbox meetings to facilitate continuous improvement initiatives and incident awareness.
 - Truckloads are to be covered at all times when being transported, to minimise dust and loss of material onto roads which may form a traffic hazard.
 - Measures to ensure responsible fatigue management and discourage driving under the influence of alcohol and/or drugs, dangers of mobile phone use and driving to the conditions, and adherence to posted speed limits.
- The EIS mentions creation of an easement in favour of the private transmission line operator. Generally Roads and Maritime will not support provision of an easement or lease which would burden the public domain for a private purpose, and so as not to inhibit the powers of Council or Roads and Maritime in ensuring the safety, efficiency or integrity of the classified road network and the travelling public.

Please forward a copy of the Department's determination of SSD-9358 to Roads and Maritime at the same time it sent to the applicant. Should you require further information please contact Ainsley Bruem, A/Manager Land Use Assessment on 02 6861 1449.

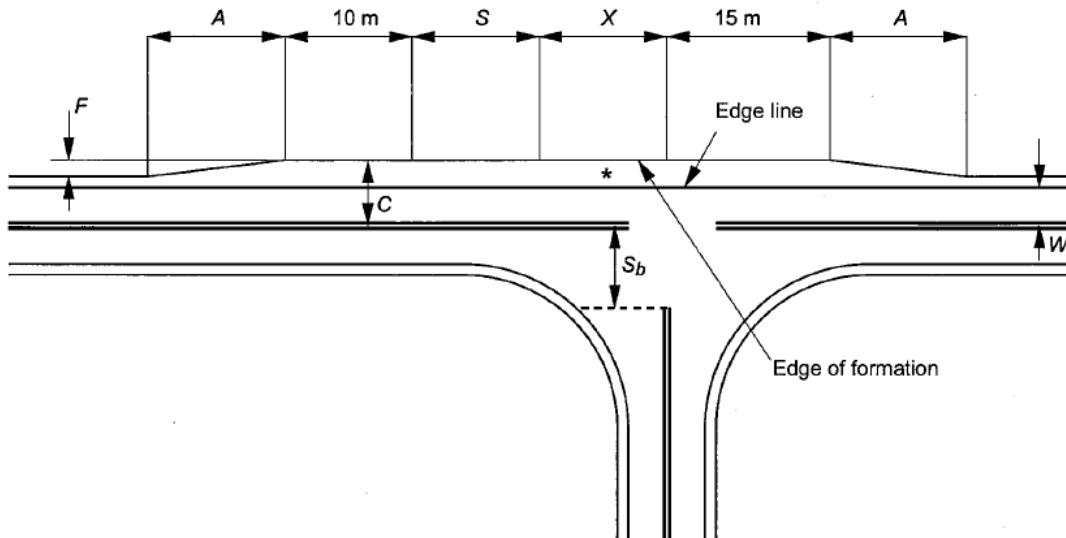
Yours faithfully



Dane Hendry
Senior Manager, Regional Customer Services
Western Region

Figure A 28: Basic right (BAR) turn treatment on a two-lane rural road

* It is preferred that the widened shoulder is sealed, unless the shoulder can be maintained with a sound and even surface



Notes:

This treatment applies to the right turn from a major road to a minor road.

The dimensions of the treatment are:

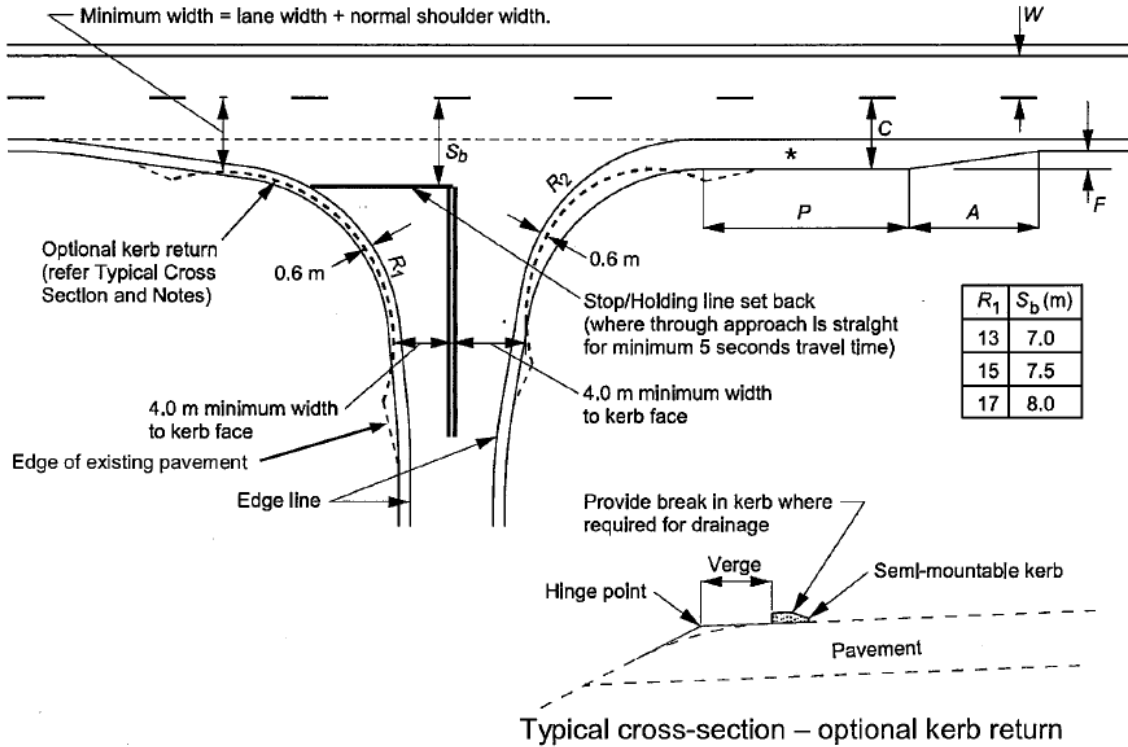
- W = Nominal through lane width (m) (including widening for curves). Width to be continuous through the intersection.
- C = On straights – 6.5 m minimum
7.0 m minimum for Type 1 & Type 2 road trains
On curves – widths as above + curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle)
- $A = \frac{0.5VF}{3.6}$
Increase length A on tighter curves (e.g. those with a side friction demand greater than the maximum desirable). Where the design through vehicle is larger than or equal to a 19 m semi-trailer the minimum speed used to calculate A is 80 km/h
- V = Design speed of major road approach (km/h)
- F = Formation/carrageway widening (m)
- S = Storage length to cater for one design turning vehicle (m) (minimum length 12.5 m)
- X = Distance based on design vehicle turning path, typically 10–15 m

Source: Department of Main Roads (2006)²⁵.

25 Department of Main Roads (2006) has been superseded and Figure A 28 has not been carried forward into Queensland Department of Transport and Main Roads (2016).

Figure 8.2: Rural basic left-turn treatment (BAL)

* It is preferred that the widened shoulder is sealed, unless the shoulder can be maintained with a sound and even surface.



Notes:

- R_1 and R_2 are determined by the swept path of the design vehicle.
- The dimensions of the treatment are defined thus:
 - W = Nominal through lane width (m) (including widening for curves).
 - C = On straights – 6.0 m minimum.
On curves – 6.0 m plus curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle).
 - $A = \frac{0.5VF}{3.6}$
 - V = Design speed of major road approach (km/h).
 - F = Formation/carriageway widening (m).
 - P = Minimum length of parallel widened shoulder (Table 8.1).
 - S_b = Setback distance between the centre of the major road and the give way or stop line in the minor road.

Source: Department of Main Roads (2006)³⁵.

35 Department of Main Roads (2006) has been superseded and Figure 8.2 has not been carried forward into Queensland Department of Transport and Main Roads (2016).

**Roads and Maritime Services General Requirements for Overhead Power Lines
within the Classified Road Reserve**

- All line structures, including poles and bollards, within the road reserve are to be located well clear of the highway formation (outside of clear zone, as defined by current Roads and Maritime Western Region Route Standards) and as close to the boundary fence as is practicable. A minimum distance of 10m or the clear zone width at that location (whichever is the greater of the two) is required between the edge of travel way and structure. Any new poles if unable to be located clear of this minimum distance should be located either above a cut batter or behind guard fence to ensure maximum motorist safety in the event of an errant vehicle. Otherwise if this is not practical a joint site meeting should be organised with an RMS representative (Area Maintenance Manager) to determine an alternative suitable location.
- Any vegetation clearing required (in rural areas) should be carried out in liaison with the relevant local Council and Rural Lands Protection Board (if applicable).
- Prior to commencement of construction works, the proponent is to contact Roads and Maritime's Traffic Operations on 02 6861 1461 to determine if a Road Occupancy Licence (ROL) is required. In the event that an ROL is required, the proponent will obtain the ROL prior to works commencing.
- All new overhead lines that are to be erected and connected to Essential Energy's network shall have as a minimum requirement the clearances and spacing provided in publication AS/NZS7000, Essential Energy's Overhead Construction Manual documents CEOM7106.25, CEOM7106.26, CEOM7106.27 and Table 3.5.6.6.1 of this document.

Nominal System Voltage	Distance to Ground in Any Direction (m)		
	Over the Carriageway of Roads	Over Land Other than the Carriageway of Roads	Over Land Which Due to its Steepness or Swampiness is not Traversable by Vehicles
Bare low voltage (400/230 Volt) Mains	6.0	6.0	5.0
Insulated low voltage (400/230 Volt) Mains	6.0	6.0	5.0
Insulated conductor without earthed screen, bare conductor or covered conductor:			
11, 22 and 33kV	7.3	6.0	5.0
66 and 132kV	8.0	7.3	6.0

Table 3.5.6.6.1 – CEOM7097 Clearance from Ground for Overhead Lines other than Insulated Service Lines