APPENDIX G

RoadNet Pty Ltd
ABN 89 070 034 347

Specialists in Traffic Engineering, Civil Design and Road Safety Audits

Queensland Office
8 Sixth Avenue,
PALM BEACH QLD 4221
p: 07 5525 7377
e: gold.coast@roadnet.net.au

New South Wales Office
Level 12, 1 Pacific Highway
NORTH SYDNEY NSW 2060
p: 02 9959 1080
e: sydney@roadnet.net.au
www.roadnet.net.au

Reference: 15006P/SGM

19 August 2015

SLR Consulting Australia Pty Ltd
2 Lincoln Street
LANE COVE NSW 2066

Attention: Eryn Bath, Principal – Environmental Management, Planning & Approvals

Re: EUROLEY POULTRY PRODUCTION COMPLEX (SSD 6882) – RESPONSE TO SUBMISSIONS ON TRAFFIC AND ROAD DESIGN-RELATED MATTERS

Dear Eryn,

I refer to your email dated 11 August 2015 requesting RoadNet's assistance to prepare a Response to Submissions on traffic and road design-related matters arising out of the recent public exhibition of the Euroley Poultry Production Complex development proposal (SSD 6882).

Specifically, RoadNet has been requested to provide a response to the following items:

- Traffic issues raised in Item 7 of Attachment 1 of the Department of Planning and Environment's (DP&E's) Response to Submissions letter addressed to the applicant (ProTen) and dated 24 July 2015.
- Traffic and road design issues raised in a confidential letter dated 26 June 2015 submitted to DP&E from a member of the public which was redacted by DP&E prior to its publication.

The following sections address the relevant items from each of those documents.

1. DP&E traffic-related issues

The traffic-related issues raised by DP&E in their letter dated 24 July 2015 are reproduced below as separate points in italics, with RoadNet's response to each issue provided beneath these for direct comparison.

a) Provide details of the basis and source(s) of traffic data used in the Traffic Impact Assessment (TIA)

Details of the existing (background) traffic volumes used by RoadNet in the assessment of the proposed development were documented in Section 2.4 of the TIA report prepared to accompany the development application (DA) and Environmental Impact Statement (EIS). In summary, hourly data was provided by Roads and Maritime Services (RMS) from an Infra-Red Traffic Logger (TIRTL) located just east of the proposed development on the Sturt Highway for the period 1 January 2011 to 9 June 2012. A separate manual traffic count was also conducted by RoadNet on the Sturt Highway at the location of the proposed access on Friday 25 July 2014. This data was analysed and compared to provide a suitable baseline (i.e. without development) scenario against which the impacts of the additional traffic generated by the proposed development could be assessed.

The traffic generation associated with the proposed development was calculated and provided by ProTen from first principles based on their extensive experience in the poultry industry and knowledge gained from the operation of other similar poultry production facilities. ProTen currently owns and operates eight poultry production complexes within Australia, including seven in NSW near Griffith and Tamworth and one in Western Australia near Serpentine. Cumulatively, these complexes comprise 172 poultry sheds and have an annual capacity of close to 42 million birds.

The traffic generation volumes for the Euroley Poultry Production Complex were provided by identifying all of the key activities that arise during a typical 9 week production cycle and calculating the number of traffic movements (trips) required to complete each activity based on the type of vehicle to be used (and hence its capacity) and the number of birds or amount of product (bedding material, feed, fuel, gas, shed litter material, refuse, etc) that needs to be transported during each phase of the operation. The volume of traffic generated during each production cycle is then extrapolated to annual figures for each activity based on approximately 5.7 production cycles per year. Full details of the operational traffic generation volumes used in the assessment are provided in Section 3.3 of the TIA report.

It is important to recognise that the method used to assess the traffic generation is not only comprehensive, but also necessary in the absence of any specific data being available for this type of development in the *2002 RMS Guide to Traffic Generating Developments* and its supplements. The same assessment methodology has previously been used successfully for other developments in the region, including Rothdene Poultry Production Complex, which ProTen has been operating since 2012, and Jeanella Poultry Production Complex, which ProTen has been operating since 2013.

b) *Provide additional detail on the potential impacts and potential road treatment for the intersection upgrades for the existing driveway to Lot 30 DP 7500876. Management measures for potential traffic impacts on the driveway during construction and operation are required.*

A new intersection between the Sturt Highway and the access driveway to the proposed development is proposed on the southern side of the Sturt Highway opposite the existing access driveway to Lot 30 DP 7500876 (Lot 30). In accordance with *Austroads Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections*, the new intersection requires a BAL treatment to be provided for westbound traffic turning left into the proposed development's access driveway and a BAR treatment for eastbound traffic to pass a vehicle waiting to turn right into the driveway.

The proposed intersection will be designed and constructed to Austroads standards and will need to be approved by RMS. The proposed location of the intersection in relation to the existing access to Lot 30 has already been discussed with RMS on site and agreed to in-principle. The design will include any modifications to the existing access driveway to Lot 30 that are required to accommodate the wider sealed shoulder on the northern side of the Sturt Highway associated with the BAR treatment for the access driveway to the proposed development.

The existing driveway serving Lot 30 does not currently include any turn bays or widening on the Sturt Highway approaches and takes the form of an unsealed road up to the edge of seal on the Sturt Highway. These features will not change as a result of the proposed development and the existing access will be retained at its existing location along the Sturt Highway. It will still be able to service the same types and sizes of vehicles that it currently accommodates. The only change will be that the existing access driveway will need to be upgraded, as part of the works for the proposed development, to tie into the more northerly edge of seal arising from the wider sealed shoulder. It is noted that this wider sealed shoulder will also be beneficial for traffic turning left into the existing access driveway.

The new intersection will retain the lane widths currently provided for through traffic on the Sturt Highway in each direction commensurate with its designation as both a B-Double Route and an Approved Road Train Route. The intersection will also be designed to allow vehicles up to the size of B-Doubles to turn in and out of the proposed access driveway simultaneously without impacting on the safety of other road users.

A Construction Traffic Management Plan and associated Traffic Control Plan satisfying the requirements of AS1742.3 will be developed prior to undertaking works on the Sturt Highway, which will

set out in detail the requirements to manage any impacts on existing road users during the construction of the new intersection. Short term shoulder and lane closures may be required at times. This will be undertaken in accordance with the appropriate traffic control guidelines and by approved traffic control contractors. The impact of this traffic control, in terms of delays and queuing, is expected to be minimal due to the relatively low existing traffic volumes on this section of the Sturt Highway as detailed in the TIA. Importantly, access to Lot 30 will be maintained at all times to minimise any adverse impacts to the affected landowner. For the scale of works required at the intersection it is envisaged that only a couple of weeks would be required to complete the construction activities, weather permitting. These works would be completed prior to undertaking substantial construction activities within the proposed development site, thereby ensuring that a safe intersection layout is available to accommodate the traffic movements generated during construction of the proposed development. Further, an Operational Environmental Management Plan will be developed prior to the site becoming operational which will include details of any site-specific requirements to manage and mitigate the potential environmental impacts of the proposed poultry development over the life of operation, including any traffic-related requirements.

The volume of traffic generated by the proposed development once fully operational will average 96 trips per day (including both heavy and light traffic), with an estimated 20 trips in the AM peak hour and 20 trips in the PM peak hour. This level of traffic is not expected to cause any significant impacts to other road users (including traffic entering/exiting Lot 30) in terms of road safety or operation, provided the recommendations included in the TIA are implemented and the RMS' recommended conditions of consent are implemented (see RMS submission dated 26 June 2015).

c) *Provide an estimate of traffic volumes during construction and potential construction traffic routes.*

The construction period for the project is expected to be approximately 18 months. An estimate of the traffic volumes generated during the construction period was previously provided in the EIS and is reproduced below.

Estimated Construction Traffic Volumes

	Daily (two way trips)	Weekly (two way trips)
Light Vehicles		
ProTen Staff	3 (6)	15 (30)
Tradespeople	15 (30)	75 (150)
Sub-total light vehicles	**18 (36)**	**90 (180)**
Heavy Vehicles		
Tradespeople – trucks	-	3 (6)
Construction material delivery	-	3 (6)
Equipment delivery	-	2 (4)
Roading material	12 (24)	60 (120)
Concrete materials	2 (4)	10 (20)
Other	2 (4)	10 (20)
Sub-total heavy vehicles	**16 (32)**	**88 (176)**
Total	**34 (68)**	**178 (356)**

The estimates are based on all construction activities being undertaken during standard daytime construction hours, which in accordance with the NSW Industrial Noise Policy (DECC, 2009) are:

- Monday to Friday - 7.00 am to 6.00 pm;
- Saturday - 8.00 am to 1.00 pm; and
- No construction work on Sunday and public holidays.

The estimates allow for heavy vehicle movements associated with the delivery of materials and equipment to the site as well as light vehicle movements associated with construction employee trips. It is proposed that the concrete required for construction of the concrete slab for each poultry shed will be batch-mixed on site, thereby substantially reducing the number of heavy vehicle movements that might otherwise arise.

The estimated daily construction traffic volumes are low and not expected to impact on the operation or safety of the external road network.

The majority of the construction trips are expected to have an origin/destination from/to Griffith in the west and Narrandera in the east, and will follow the Sturt Highway to the site. Volumes along this route are low as discussed in the TIA, and the highway alignment has the capacity to accommodate the anticipated construction traffic.

d) The sight line diagram at Appendix B of the TIA should be provided at A3 size for legibility.

The sight line diagram at Appendix B of the TIA is reproduced at A3 size in Attachment A to this letter, as requested.

2. Public Submission dated 26 June 2015

The issues raised in this public submission relate to the existing access driveway located on the northern side of the Sturt Highway opposite the new access driveway proposed to service the Euroley Poultry Production Complex development. The key traffic and road design-related issues raised in this submission can be broadly summarised as follows:

- Ability of the proposed intersection design to accommodate road train manoeuvres at the intersection
- Ability of the proposed intersection design to cater for the additional drainage and runoff requirements created by the larger road surface area
- Impacts of road works during construction phase on operation of nearby properties/businesses
- Proposed biosecurity measures, ensuring that weeds do not enter nearby properties via drainage runoff at the intersection
- Proposed erosion control measures
- Ability of the new intersection to manage vehicles entering from both access roads north and south of the Sturt Highway, and associated impacts on road safety for the driving public (i.e. general traffic)
- Visibility of the intersection due to its presence in a depression and occurrence of fog

The issues raised in relation to biosecurity and erosion control measures are to be addressed directly by SLR Consulting Australia Pty Ltd in their overarching Response to Submissions document (of which this letter will form an input) and are not specifically addressed here.

Each of the other issues is addressed below under the relevant headings.

e) Ability of the proposed intersection design to accommodate road train manoeuvres at the intersection

As advised in the TIA, the proposed intersection layout will retain the lane widths currently provided in each direction along the Sturt Highway for through traffic commensurate with its designation as both a B-Double Route and an Approved Road Train Route. The intersection will also be designed to allow vehicles up to the size of B-Doubles to turn in and out of the proposed access driveway simultaneously without impacting on the safety of other road users.

The design features of the existing access driveway for Lot 30 will also be retained as part of any modifications required to accommodate the new intersection layout, such that the existing driveway will continue to be able to service the same types and sizes of vehicles that it currently accommodates.

f) *Ability of the proposed intersection design to cater for the additional drainage and runoff requirements created by the larger road surface area*

The proposed intersection will be designed and constructed to Austroads standards and will need to be approved by RMS. The need to cater for additional drainage and runoff requirements will be considered as part of the design process and appropriate provisions will be incorporated in to the design as required.

One of the RMS' recommended conditions of consent is "*The intersection of the proposed access road with the Sturt Highway is to be designed, constructed and maintained to prevent water from proceeding onto, or ponding within, the carriageway of the highway…"* The intersection design will comply with this requirement.

g) *Impacts of road works during construction phase on operation of nearby properties/businesses*

This issue has been previously addressed at item b).

h) *Ability of the new intersection to manage vehicles entering from both access roads north and south of the Sturt Highway, and associated impacts on road safety for the driving public (i.e. general traffic)*

This issue has also been discussed to some extent previously at item b). It is important to recognize that the intersection between the access driveways and the Sturt Highway is not a cross-roads intersection. The two 'side-roads' are private access driveways serving independent sites, with no cross-movements between the two access roads needing to be catered for. The intersection design therefore only needs to cater for turning movements between each of the access roads and the Sturt Highway.

For traffic exiting from either of the access driveways, normal road rules will apply in the event that traffic arrives at the same time on each of the approaches (e.g. right turning traffic will give way to left turning traffic from the opposing driveway). For unopposed movements (i.e. left turns only or right turns only from each access driveway), sufficient width will be provided at the mouth of each access driveway to enable these movements to occur simultaneously when required for the applicable design vehicle(s).

For traffic entering the access driveways from the Sturt Highway, in addition to the BAL and BAR treatments proposed as part of the new access driveway, the intersection will be designed to allow for right turning movements to occur simultaneously from either approach of the Sturt Highway should the need arise. Turn path assessments will be undertaken for the proposed intersection design to ensure that the required turn paths can be accommodated satisfactorily.

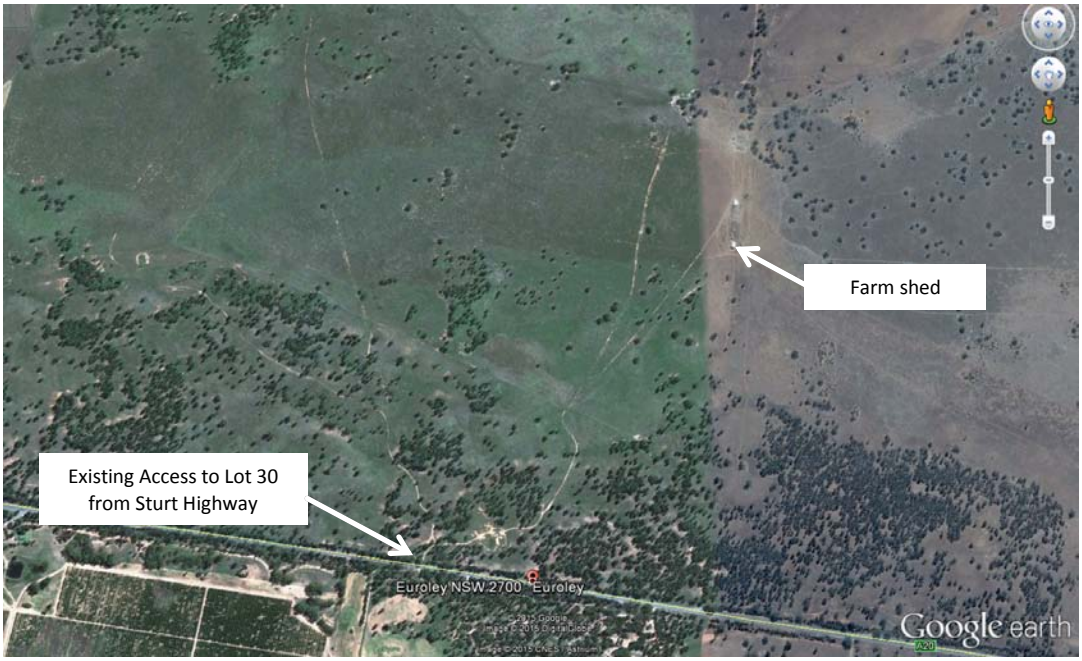
Traffic turning right from the Sturt Highway into the existing access driveway will need to give way to opposing eastbound traffic as it does now. On some occasions this opposing traffic may be using the BAR widening on the northern side of the carriageway, but the same requirement will apply. Westbound through traffic following a right-turn vehicle will be momentarily delayed on these occasions in the same way that it is now.

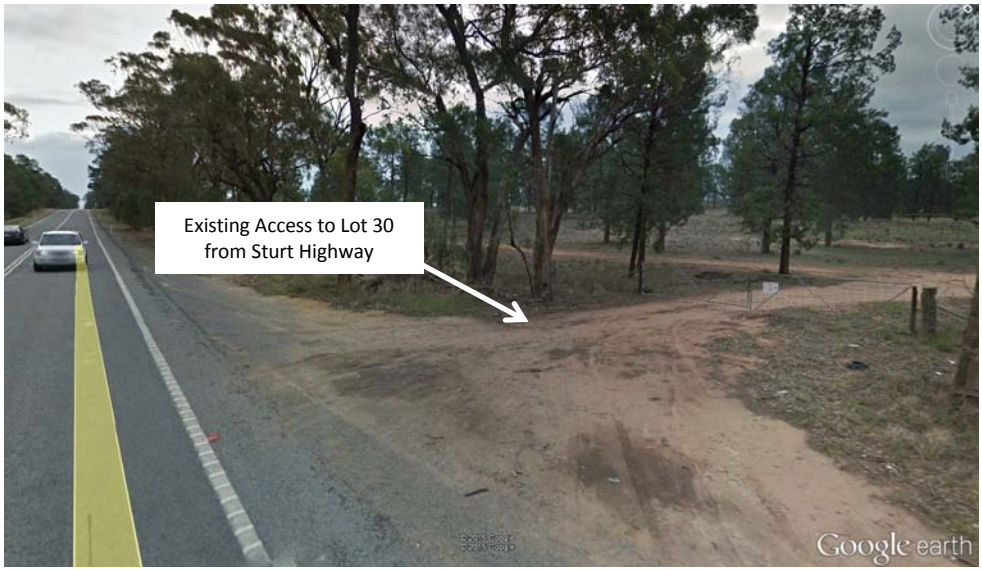
Traffic turning left from the Sturt Highway into the existing access to Lot 30 will most of the time benefit from being able to use the wider sealed shoulder, constructed as part of the BAR treatment, to decelerate out of the path of eastbound through traffic. On those occasions when the BAR treatment is being used by through traffic, the situation will be similar to what it is at present.

The proposed development once fully operational will generate, on average, 96 trips per day (including both heavy and light traffic), with an estimated 20 trips in the AM peak hour and 20 trips in the PM peak hour. This volume of traffic is not expected to have any significant impact on other traffic currently using the Sturt Highway in terms of road safety or operation. This reflects the very low traffic volumes that currently exist along the Sturt Highway (typically less than 200 veh/day) which will not present any problems to traffic wishing to find a suitable gap to enter the traffic stream from the proposed access. It also reflects the good standard of existing road geometry provided on the Sturt Highway at the

proposed access location which exceeds the visibility requirements, and the additional road geometry improvements proposed as part of the development proposal (i.e. BAR and BAL treatments) which will enable traffic to safely enter the development site from the Sturt Highway.

No traffic was observed to use the existing access driveway to Lot 30 at the time of conducting the site inspection (i.e. 25 July 2014) to prepare the TIA for the proposed development. However, the public submission states that "This track is used daily and depending on the time of year may carry multiple traffic journeys". While specific traffic data is not available, it does not appear to be a high traffic generator and hence no significant operational or safety impacts due to existing traffic on the Sturt Highway or additional traffic generated by the proposal are anticipated. There does not appear to be any dwellings that use this access, with only a farm shed evident along the internal access roads within Lot 30 from aerial imagery (Google Earth).





i) Visibility of the intersection due to its presence in a depression and occurrence of fog

The proposed access driveway to the new development has been optimally located between the vertical crest curves that exist on each of the Sturt Highway approaches in order to maximize the available sight distance. As detailed in the TIA and illustrated in the sight line diagram included at Attachment A, the minimum requirements for Stopping Sight Distance (SSD) and Safe Intersection Sight Distance (SISD) at the proposed intersection location based on a design speed of 110km/h and the maximum reaction time of 2.5s are exceeded.

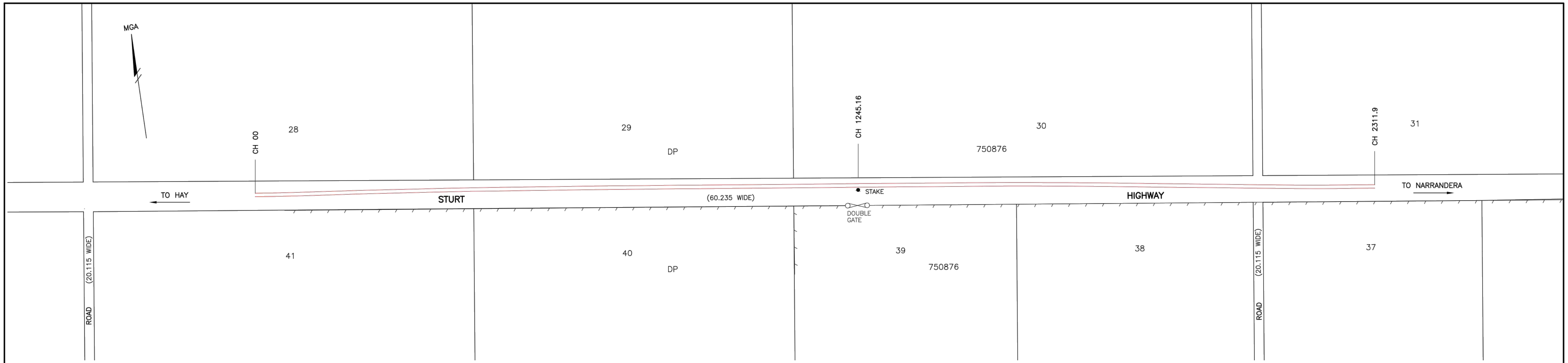
With respect to the occurrence of fog, there are no specific design requirements to be addressed, however, motorists are generally expected to modify their driving behaviour to suit the conditions and this would equally apply at the subject location.

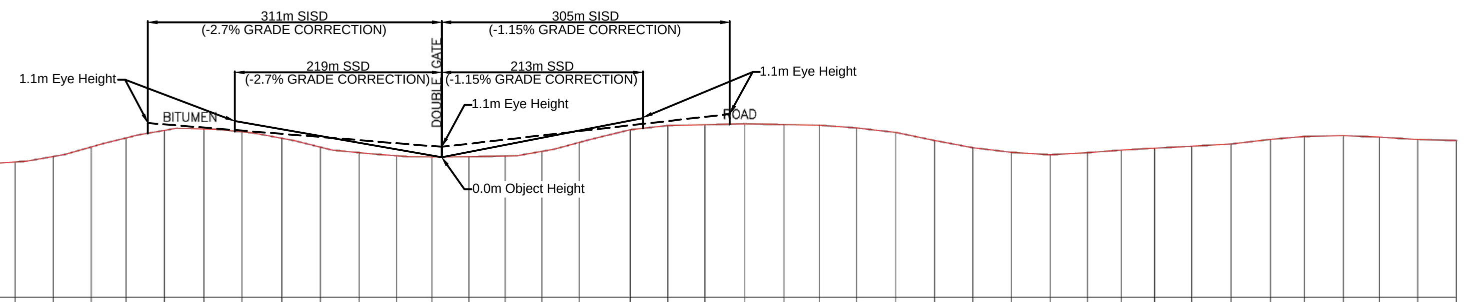
Should you require any further details please contact Steve Manton (Principal Traffic Engineer) at RoadNet on 07 5525 7377.

Yours faithfully,

Craig Frazer
RoadNet Office Manager

ATTACHMENT A – SIGHT LINE DIAGRAM

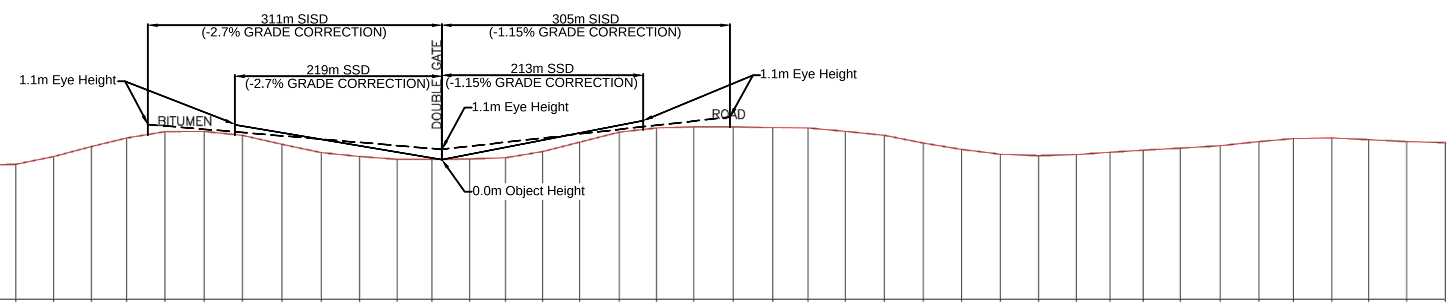




Datum R.L. 121.00

Chainage	EXISTING NORTH EDGE
0.00	139.69
44.07	140.50
85.15	140.54
127.01	139.81
167.51	138.88
207.79	138.09
248.55	137.50
289.00	137.26
329.94	137.36
370.85	137.18
408.97	136.81
448.16	136.36
488.25	135.98
523.65	135.51
562.32	135.30
599.89	135.14
638.83	135.11
682.15	135.17
722.92	135.15
758.48	135.09
798.93	135.38
839.19	136.09
879.36	137.22
916.30	138.13
957.13	138.84
998.81	138.73
1039.07	138.32
1081.17	137.55
1122.10	136.54
1162.99	136.15
1202.50	135.84
1240.09	135.81
1279.27	135.86
1317.67	135.94
1356.41	136.63
1395.77	137.68
1437.52	138.69
1477.20	139.13
1516.57	139.21
1558.79	139.31
1600.32	139.22
1637.79	139.15
1677.08	138.87
1718.66	138.39
1759.44	137.56
1800.11	136.79
1840.92	136.31
1881.88	136.04
1921.50	136.26
1957.19	136.54
1992.27	136.74
2031.51	136.94
2073.38	137.18
2115.39	137.67
2151.33	137.98
2192.42	138.07
2230.52	137.91
2271.02	137.65
2311.90	137.55

Scale Horizontal 1:4000 Vertical 1:400



Datum R.L. 121.00

Chainage	EXISTING SOUTH EDGE
0.00	139.79
39.09	140.52
85.81	140.57
127.22	139.89
168.05	139.01
208.25	138.21
248.93	137.56
289.52	137.27
330.26	137.29
371.24	137.16
409.81	136.85
448.21	136.40
488.37	135.97
523.56	135.56
562.50	135.36
600.10	135.22
639.34	135.18
681.79	135.24
722.94	135.25
759.15	135.19
799.35	135.31
839.20	136.12
879.47	137.19
916.38	138.08
957.17	138.75
998.74	138.78
1039.27	138.36
1081.10	137.42
1122.64	136.53
1162.99	136.12
1202.93	135.83
1239.72	135.83
1279.49	135.86
1317.53	135.99
1356.51	136.63
1395.80	137.63
1437.74	138.71
1477.01	139.14
1516.63	139.26
1558.61	139.25
1600.31	139.18
1637.55	139.15
1677.27	138.78
1718.49	138.36
1759.58	137.55
1799.99	136.87
1841.20	136.37
1881.47	136.21
1921.79	136.33
1957.14	136.56
1992.20	136.79
2031.51	137.01
2073.74	137.27
2114.78	137.71
2151.30	138.03
2191.83	138.09
2230.78	137.91
2271.18	137.70
2311.95	137.58

Scale Horizontal 1:4000 Vertical 1:400

DATE	No.	ISSUE	AUTHORISED
05/02/2015	A	ISSUED TO CLIENT	GP

DRAWN: JM CHECKED: GP

COMPUTER FILES: AUTOCAD: 12414a15_longsect.dwg

COMMENTS:
DATUM IS A.H.D. ORIGIN IS SSM 4183 RL 129.84
ORIENTATION IS MGA

phl surveyors
POLKINGHORNE HARRISON LONGHURST
115 Yambil Street, Griffith NSW 2680 Ph (02) 6964 3192
13 Gibraltar Street, Bungendore NSW 2621 Ph (02) 6238 0144
www.phlsurveyors.com.au

CLIENT: PROTEN

TITLE: 'EUROLEY' STURT HIGHWAY
DETAIL PLAN AND LONG SECTION OF
EDGE OF BITUMEN ROAD

DATE: 03/02/2015
FILE: PN 12414
SCALE: 1:4000
A1– 523461_(1A)
SHEET 1
OF 1