MEMO TO : LANDFORM

ATTN: LINDSAY STEPHENS

FROM : MICHAEL KEANE

DATE : 25 JUNE 2014

REF : DOYLES LIME SERVICE
PRESTON BEACH ROAD NORTH

Lindsay,
Further to your request, I have inspected Preston Beach Road (PBR) North from Preston Beach Road turn-off through to the gate marking the end of the public road – total 5.7 kms long.
PBR North is a local road vested in the Shire of Waroona. Much of the road is located within Yalgorup National Park and the road provides access to the Martin's Tank Campground operated by Dept of Parks and Wildlife (DPaW). See Appendix 1, Location Map.

1.0 BACKGROUND

The Proponent seeks to develop a lime sand pit located at the top end of PBR North.
When operational, the proponent will cart approx. 50,000 tonnes of lime sand per annum through to Forrest Highway via PBR North and Preston Beach Road. This carting operation will be limited to the period of agricultural demand - December through to April (5 months).

The Shire has expressed some reservations about granting pit approval based on concerns re truck traffic on PBR North. Those concerns include the following;

1. Keeping the road safe for traffic associated with Martins Tank Campground (Yalgorup NP), especially during busy holiday periods.
2. Short Sight Distances on some sections of PBR North.
3. Durability of the existing road structure
4. Increased truck traffic on Preston Beach Road, especially during busy holiday periods

Being a public road, there should be no restriction on 19m semi-trailer trucks using PBR North.
However, the Shire has already erected a sign stating that this road is "Closed to all vehicles Class 3 and over, i.e. single axle rigid trucks not greater than 3.2m long"
Refer Appendix 2, Shire of Waroona Bye-Law No…….
At time of writing , Shire of Waroona has not responded to my request to provide evidence of this bye-law.

2.0 ROAD ASSESSMENT

Refer Appendix 3, photos.
Generally the road consists of a cleared track, flat-bladed in sandy material.
There is little or no constructed road formation to assist simple drainage – but being in sand, drainage may not be a significant problem.
There is some evidence of limestone sheeting on top of the sand but it is sparse and not representative.
Road width varies from minimum observed 5.4m at SLK 4.6 to 7.0m plus at SLK 1.9 and 4.1.
Sight distances along the route vary from minimum approx. 60m to maximum approx. 200m.
Sight distance is compromised throughout by vegetation overhanging the road but particularly on curves.
The road is thus best described as Road Type Class 1 Unformed.

The road inspection indicates that the Shire's concerns are valid and warrant due consideration.

If the bye-law restriction was lifted, then the Proponent could expect to use "as-of-right" 19m long semi-trailer combinations with approx. 30 t payload. In which case 50,000 tonnes per season equates to total 1563 semi-trailer loads.
If the trucking operation is spread evenly over 5 months, the truck traffic would equate to approx. 10 loads per day, i.e. 20 truck movements per day, or 2 truck movements per hour.

The current road structure will not, in my opinion, support this level of truck activity.

The road structure would need to be formed up into a crowned cross-section and sheeted with a suitable wearing course. For safety reasons, the best wearing course would be one which generates the least dust in summertime.

In bringing the road up to Type 3 paved road, a standard minimum road width of 6.4m could be established and all overhanging vegetation cut back to improve sight distances.
There is one particular location at SLK 2.4 (access to Martins Tank farm) where the road width is restricted by a property boundary peg on one side of the road and a large tree on the other side. The maximum road width available here is approx. 5.6m and this location would need additional advisory signage.

Notwithstanding the pavement improvements, those locations with limited sight distance due to crests and / or curves would also need advisory signage. Refer Appendix 4.

The right-turn into the Martin's Tank campground is located within a curve and the sight distance to a stalled vehicle for vehicles approaching from the south may be no more than 60m.
The best approach to addressing this and other such safety concerns is to install the most appropriate advisory signage, per Appendix 4.

The PBR North approach to the intersection is now notable for it's short-radius bend. The options for improving this tight bend are constrained by a power pole on the inside of the curve. At present, the curve is somewhat ill-defined.
Refer Appendix 5, intersection plan with turning templates for 19m long semi-trailers. The turning templates indicate that there is only enough road width to accommodate one vehicle at a time, i.e. whenever a semi-trailer is negotiating the intersection, any and all other vehicles will have to wait outside the intersection.

There is potential for widening the intersection to overcome this problem but it looks like the intersection has been modified previously to ensure that vehicles entering and exiting PBR North do give way to through-traffic on Preston Beach Road.
If the road is to accommodate trucks and light traffic, then the intersection should be improved by either road widening to accommodate two-way traffic or undertaking such clearing works as are required to provide clear visibility and safe waiting bays for vehicles exiting PBR North.
This work would require a combination of structured pavement with advance signage on the approach straight, and curve delineation using hazard boards.

The intersection with Preston Beach Road is located within a designated 70 kph speed limit.
The distance for vehicles approaching the intersection to sight trucks waiting to turn right is approx. 170m which satisfies the Austroads Sight Distance requirements within a 70 kph zone.

There is no restriction on as-of-right vehicles using Preston Beach Road.

3.0 TRAFFIC CONSIDERATIONS

As noted above, the period of demand for lime sand is December through to April – approx. 150 days. Appendix 6 provides details from traffic counts undertaken by Shire of Waroona on Preston Beach Road and PBR North. Unfortunately, the counts provided refer only to peak holiday periods at Christmas and Easter.

For Preston Beach Road, the Avg Peak Daily Traffic (ADT) is 700 vpd
The holiday traffic data generally indicates 100% compliance with the current RAV restriction (19m semi-trailer) on this road.

For PBR North, the Avg Peak Daily Traffic (ADT) is 75 vpd
The holiday traffic data generally indicates 100% compliance with the truck restriction.

Given the Shire's concerns about trucks using the road during peak holiday periods, it makes sense to limit trucking to non-peak periods. To this end, the Proponent may need to establish a stockpile area adjacent to Forrest Hwy to cater for customer demand during holiday periods.

If the proponent sees fit to establish a stockpile area, then he may consider structuring his operations so that all lime sand supply goes through the stockpile. This means that trucking on PBR North could be organized not only to completely avoid holiday periods but also to operate on a campaign basis where the road is prepared annually to cater for a short intensive trucking campaign, maintained during the campaign and reinstated after the campaign.

In an ideal world, if PBR North could be closed to the public for 3 weeks in Oct/Nov, and the shire permitted 27.5m pocket road trains, the proponent could organize 3 units to cart the whole 50,000 tonnes to stockpile in one operation thus negating all of the shire's concerns.
This level of activity would equate to 5 truck movements per hour in each direction, 6 days per week by 3 weeks.

Note any application to run 19m semi's can be approved by the Shire.
Any application to run pocket road trains needs the approval of both Shire and Main Roads WA.

4.0 Summary of Options considered over a 5-year operating period.

Option 1A, maintain existing formed track over 5-month period
The cost of basic maintenance grading will be approx $ 500 /km, total $ 3,000 per visit.
Allow at least monthly visits, sub-total $ 15,000 per season. Shire may or may not contribute.
Add for one-off signage – approx $ 3,000
Add for one-off intersection works $ 30,000
Total $ 33,000 + $ 15,000 x 5 = $ 108,000 over 5 years (250,000 tonnes) = $ 0.39 / tonne

Option 1B, maintain existing formed track over 1-month period
The cost of basic maintenance grading will be approx $ 500 /km, total $ 3,000 per visit.
Allow three grades sub-total $ 9,000 per season. Shire unlikely to contribute.
Add for one-off signage – approx $ 3,000
Add for one-off intersection works $ 30,000
Add for cost of stockpile arrangement, nominal one-off $ 20,000
Total $ 53,000 + $ 9,000 x 5 = $ 88,000 over 5 years (250,000 tonnes) = $ 0.35 / tonne

Option2A, upgrade to formed and sheeted standard, truck over 5 months
The cost of bringing the road to formed and sheeted standard will be at least $ 25,000 per km, total $ 150,000. Allow to maintain the road once per month - $ 15,000 over 5 months.
Add for one-off signage – approx $ 3,000
Add for one-off intersection works - included.
Total $ 153,000 + $ 15,000 x 5 = $ 228,000 over 5 years (250,000 tonnes) = $ 0.91 / tonne

Option2B, upgrade to formed and sheeted standard, truck over 1 month
The cost of bringing the road to formed and sheeted standard will be at least $ 25,000 per km, total $ 150,000. Allow two grades to maintain the road - $ 6,000.
Add for one-off signage – approx $ 3,000
Add for one-off intersection works - included.
Add for cost of stockpile arrangement, nominal one-off $ 20,000
Total $ 173,000 + $ 6,000 x 5 = $ 203,000 over 5 years (250,000 tonnes) = $ 0.81 / tonne

CONCLUSION

There are significant factors feeding into the assessment of PBR North for approval of proposed trucking and it will most likely require good faith between all parties to arrive at an acceptable solution. In my view, the best outcome for all may be that which will allow the Shire to close the road to the public for a short period annually, to facilitate a concerted trucking campaign by the proponent – Option 1B, Option 2B.
I expect that Option 2B will be more attractive to the Shire and DPaW.

This report is provided by way of general guidance. The cost figures used for comparative purposes are indicative only and should be tested in the market.

Regards

Michael Keane

LIST OF APPENDICES

Appendix 1 Location Map
Appendix 2 Shire Bye- Law
Appendix 3 Photos
Appendix 4 Advisory Signage
Appendix 5 Intersection Templates
Appendix 6 Traffic Data

Appendix 1 Location Map

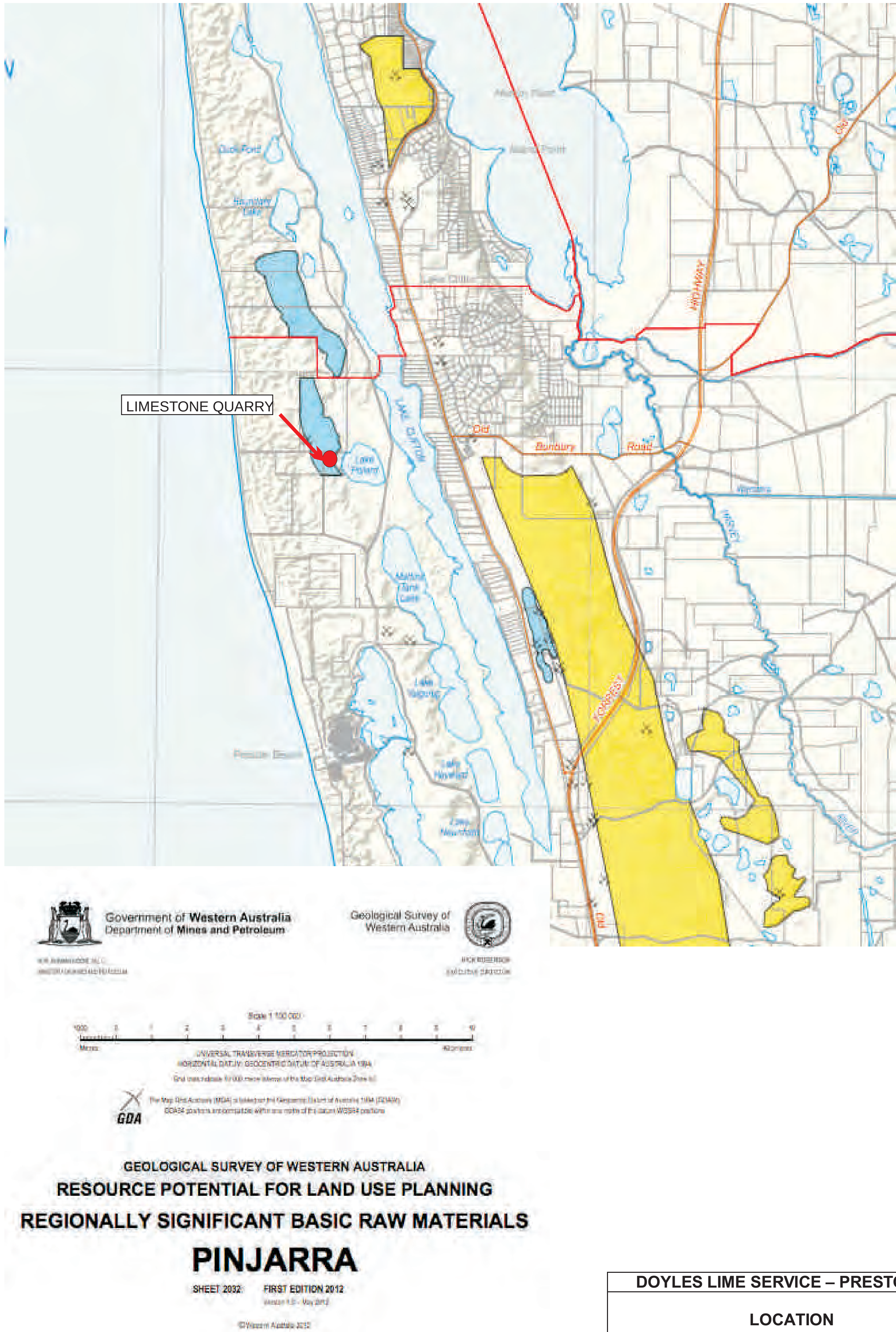


Figure 1

DOYLES LIME SERVICE – PRESTON PIT	
LOCATION	
Landform Research	May 2013
Source NEARMAP	Scale See Plan

Appendix 2 Shire Bye- Law

Appendix 3 Photos

Preston Beach Road, approaching PBR North intersection.
Intersection location determined by maximising sight distance on curve.

PBR North – Heavy Vehicle restriction

PBR North, SLK 0.05, unformed sandy track.
Note power pole at edge.

PBR North, SLK 1.4, typical 6.5m wide track, overhanging vegetation

PBR North SLK 1.7 typical 7.0m wide track

PBR North, SLK 2.4

PBR North, SLK 2.4, track narrows abruptly at pinch point between fence and tree

PBR North SLK 3.3, track narrows to 6.0m width

PBR North, SLK 3.9, vegetation overhanging road, obscuring sight distance

PBR North, SLK 4.3 blind crest on curve just south of campground turn-off.

PBR North SLK 4.6, looking south towards the campground turn-off

PBR North, SLK 4.8, poor sight distance on crest curve

PBR North SLK 5.0, looking north

PBR North 5.7, looking south

APPENDIX 4 SIGNAGE

TYPICAL SIGNAGE REQUIRED;

W1-3A CURVE

W1-5A WINDING ROAD

W2-3A TERMINATING ROAD

W2-4A SIDE ROAD JUNCTION

W4-3A ROAD NARROWS

W5-11A CREST

W5-73 GRAVEL ROADS

D4-6A CHEVRON

WARNING SIGNS

WARNING SIGNS ARE USED TO WARN TRAFFIC OF POTENTIALLY HAZARDOUS CONDITIONS ON OR ADJACENT TO THE ROAD. WARNING SIGNS ADVISE OF CONDITIONS WHICH REQUIRE CAUTION ON THE PART OF THE DRIVER AND MAY CALL FOR A REDUCTION IN SPEED IN THE INTEREST OF THE SAFETY OF THE DRIVER AND OF OTHER ROAD USERS.

In general, warning signs are diamond shaped (square with one diagonal vertical) with a black legend or symbol, or both, and a black border on a yellow reflectorised background.

The W8 series signs are used in conjunction with other signs in the Warning Series to supplement and clarify the message conveyed and are generally rectangular.

SIGN CLASSIFICATIONS

The sub-classifications and the prefix and series number relevant to each individual warning signs are as follows:

SERIES No.	CLASSIFICATION
W1	Alignment series
W2	Intersection and junction series
W3	Advance warning of traffic control device series
W4	Road width, low and narrow clearance signs
W5	Road obstacle series
W6	Pedestrian, bicycle and school series
W7	Railway level crossing series
W8	Supplementary plate series
W9	Modified intersection series

WARNING SIGNS

All signs are available in Hi Intensity **(H)**, Diamond Grade **(DG),** Fluoro Yellow/Green **(FYG)** materials

SIZE	DIMENSIONS (mm)
A	600 x 600
B	750 x 750
C	900 x 900
D	1200 x 1200

TURN
W1-1A
W1-1B
W1-1C
(L or R)

REVERSE TURN
W1-2A
W1-2B
W1-2C
(L or R)

CURVE
W1-3A
W1-3B
W1-3C
(L or R)

REVERSE CURVE
W1-4A
W1-4B
W1-4C
(L or R)

WINDING ROAD
W1-5A
W1-5B
W1-5C

HAIRPIN BEND
W1-7A
W1-7B
W1-7C
(L or R)

TILTING TRUCK
W1-8B 1500 x 3000
(L or R)

CROSS ROAD
W2-1A
W2-1B
W2-1C

T JUCTION
W2-3A
W2-3B
W2-3C

SIDE ROAD JUNCTION
W2-4A
W2-4B
W2-4C
(L or R)

ROUNDABOUT
W2-7A
W2-7B
W2-7C

STAGGERED SIDE ROAD JUNCTION
W2-8A
W2-8B
W2-8C
(L or R)

WARNING SIGNS

All signs are available in Hi Intensity **(H)**, Diamond Grade **(DG)**, Fluoro Yellow/Green **(FYG)** materials

SIDE ROAD JUNCTION ON A CURVE

W2-9A
W2-9B
W2-9C
(L or R)

SIDE ROAD JUNCTION ON A CURVE

W2-10A
W2-10B
W2-10C
(L or R)

SUCCESSIVE SIDE ROAD JUNCTION

W2-11A
W2-11B
W2-11C
(L or R)

SUCCESSIVE SIDE ROAD JUNCTION

W2-12A
W2-12B
W2-12C
(L or R)

SUCCESSIVE SIDE ROAD

W2-13A
W2-13B
W2-13C

T-JUNCTION BEYOND

W2-14A
W2-14B
W2-14C
(L or R)

STOP SIGN AHEAD

W3-1A
W3-1B
W3-1C
W3-1D

GIVE WAY SIGN AHEAD

W3-2A
W3-2B
W3-2C
W3-2D

SIGNALS AHEAD

W3-3A
W3-3B
W3-3C
W3-3D

ROAD HUMPS AHEAD

W3-4A
W3-4B
W3-4C

NARROW BRIDGE

W4-1A
W4-1B
W4-1C

ROAD NARROWS

W4-3A
W4-3B
W4-3C

DIVIDED ROAD

W4-4A
W4-4B
W4-4C

ISLAND

W4-5A
W4-5B
W4-5C
W4-5D

LOW CLEARANCE ...m (AHEAD)

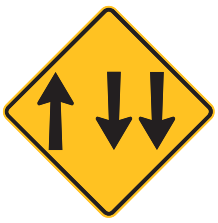
W4-8B
W4-8C

LEFT LANE ENDS

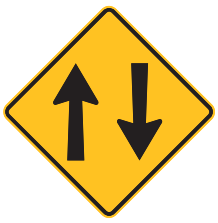
W4-9B
W4-9C

WARNING SIGNS

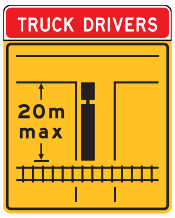
All signs are available in Hi Intensity **(H)**, Diamond Grade **(DG),** Fluoro Yellow/Green **(FYG)** materials



LANE ALLOCATION
W4-10B
W4-10C



TWO WAY TRAFFIC
W4-11A
W4-11B
W4-11C
W4-11D



VIC ONLY
W4-V103

LOW TREE BRANCHES
VIC ONLY
W4-V106A
W4-V106B
W4-V106C

FERRY
W5-1A
W5-1B
W5-1C

OPENING BRIDGE
W5-2A
W5-2B
W5-2C

FORD
W5-6A
W5-6B
W5-6C

FLOODWAY
W5-7A
W5-7B
W5-7C

LOW LEVEL BRIDGE
W5-8A
W5-8B
W5-8C

DIP
W5-9A
W5-9B
W5-9C

ROAD HUMP
W5-10A
W5-10B
W5-10C

CREST
W5-11A
W5-11B
W5-11C

STEEP DESCENT
W5-12A
W5-12B
W5-12C

STEEP CLIMB
W5-13A
W5-13B
W5-13C

GATE
W5-14A
W5-14B
W5-14C

GRID
W5-16A
W5-16B
W5-16C

WARNING SIGNS

All signs are available in Hi Intensity **(H)**, Diamond Grade **(DG)**, Fluoro Yellow/Green **(FYG)** materials

PREPARE TO STOP
W8-27B 750 x 375
W8-27C 900 x 450
W8-27D 1200 x 600

VIC ONLY
W8-V113A 600 x 480
W8-V113B 750 x 600
W8-V113C 900 x 720

VIC ONLY
W8-V115-1 600 x 600

VIC ONLY
W8-V115-2 900 x 600

W9-1A
W9-1B
W9-1C
(L or R)

W9-2A
W9-2B
W9-2C
(L or R)

W9-3A
W9-3B
W9-3C
(L or R)

W9-4A
W9-4B
W9-4C
(L or R)

SCHOOL
QLD ONLY
TC1192A 750 x 750
TC1192B 900 x 900
TC1192C 1200 x 1200

CHILDREN
QLD ONLY
TC1193A 750 x 750
TC1193B 900 x 900
TC1193C 1200 x 1200

SCHOOL CROSSING AHEAD
QLD ONLY
TC1194A 750 x 750
TC1194B 900 x 900
TC1194C 1200 x 1200

WA ONLY
MR-WDAD-2

WA ONLY
MR-WDAD-3

W5-73 900 x 1200

CHEVRON ALIGNMENT MARKER

D4-6A 600 x 750
D4-6B 750 x 900
D4-6C 900 x 1125

Appendix 5 Intersection Templates

INTERSECTION PBR NORTH AND PRESTON BEACH ROAD

DESIGN VEHICLE 19M SEMI-TRAILER
PLAN SHOWING TEMPLATES FOR
RIGHT TURN-IN
LEFT TURN-OUT

INTERSECTION PBR NORTH AND PRESTON BEACH ROAD

DESIGN VEHICLE 19M SEMI-TRAILER
PLAN SHOWING TEMPLATES FOR

LEFT TURN-OUT only

INTERSECTION PBR NORTH AND PRESTON BEACH ROAD

DESIGN VEHICLE 19M SEMI-TRAILER
PLAN SHOWING TEMPLATES FOR
RIGHT TURN-IN
LEFT TURN-OUT

INTERSECTION PBR NORTH AND PRESTON BEACH ROAD

DESIGN VEHICLE 19M SEMI-TRAILER
PLAN SHOWING CONFLICT
BETWEEN 19M SEMI'S TURNING-IN
AND TURNING-OUT

Appendix 6 Traffic Data

Class Speed Matrix

ClassMatrix-41
Site: 209_000031_000500.0.0EW
Description: **Preston Beach Road - 500m from Old Coast Road**
Filter time: **12:00 Wednesday, 18 December 2013 => 14:39 Wednesday, 8 January 2014**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

Speed (km/h)	Class 1	2	3	4	5	6	7	8	9	10	11	12	Speed Totals	
10 - 20	2	.	.	.	.	.	.	.	.	.	.	.	2	0.0%
20 - 30	13	.	.	.	.	.	.	.	.	.	.	.	13	0.1%
30 - 40	22	.	.	.	.	.	.	.	.	.	.	.	22	0.1%
40 - 50	57	3	.	.	.	1	.	.	.	.	.	.	61	0.4%
50 - 60	258	18	17	2	.	1	2	1	.	.	.	.	299	1.7%
60 - 70	1543	85	86	21	4	2	6	.	2	.	.	.	1749	10.2%
70 - 80	5504	248	279	92	11	7	13	4	2	.	.	.	6160	35.9%
80 - 90	5961	158	309	125	6	11	12	5	2	.	.	.	6589	38.4%
90 - 100	1722	35	110	27	2	3	3	1	.	.	.	.	1903	11.1%
100 - 110	266	1	23	1	.	.	1	.	.	.	.	.	292	1.7%
110 - 120	43	.	5	1	.	.	.	.	.	.	.	.	49	0.3%
120 - 130	5	.	.	.	.	.	.	.	.	.	.	.	5	0.0%
130 - 140	2	.	.	.	.	.	.	.	.	.	.	.	2	0.0%
140 - 150	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
150 - 160	1	.	.	.	.	.	.	.	.	.	.	.	1	0.0%
	15399	548	829	269	23	25	37	11	6	0	0	0	17147	
	89.8%	3.2%	4.8%	1.6%	0.1%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%		

Class Totals

Class Speed Matrix

ClassMatrix-44
Site: 209_000032_000100.0.0WE
Description: **Preston Beach Road North - 100m from Preston Beach Rd**
Filter time: **12:00 Wednesday, 18 December 2013 => 14:48 Wednesday, 8 January 2014**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

Speed (km/h)	Class 1	2	3	4	5	6	7	8	9	10	11	12	Speed Totals	
10 - 20	72	.	15	.	.	.	.	.	.	.	.	.	87	5.2%
20 - 30	181	2	19	.	1	.	.	.	.	.	.	.	203	12.0%
30 - 40	347	18	16	.	1	.	.	.	.	.	.	.	382	22.7%
40 - 50	377	19	25	.	.	.	.	.	.	.	.	.	421	25.0%
50 - 60	319	12	41	.	.	1	.	.	.	.	.	.	373	22.1%
60 - 70	152	5	18	.	.	1	.	.	.	.	.	.	176	10.4%
70 - 80	36	.	3	.	.	.	.	.	.	.	.	.	39	2.3%
80 - 90	2	.	2	.	.	.	.	.	.	.	.	.	4	0.2%
90 - 100	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
100 - 110	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
110 - 120	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
120 - 130	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
130 - 140	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
140 - 150	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
150 - 160	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
	1486	56	139	0	2	2	0	0	0	0	0	0	1685	
	88.2%	3.3%	8.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		

Class Totals

Class Speed Matrix

ClassMatrix-42
Site: 209_000031_000500.0.0WE
Description: **Preston Beach Rd - 500m from Old Coast Road**
Filter time: **11:00 Wednesday, 9 April 2014 => 15:18 Wednesday, 30 April 2014**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

Speed (km/h)	Class 1	2	3	4	5	6	7	8	9	10	11	12	Speed Totals	
10 - 20	9	.	.	.	1	.	.	.	.	.	.	.	10	0.1%
20 - 30	13	.	1	1	.	.	.	.	.	.	.	.	15	0.1%
30 - 40	18	.	2	.	.	.	1	.	.	.	.	.	21	0.1%
40 - 50	35	1	1	.	.	.	.	.	.	.	.	.	37	0.3%
50 - 60	208	19	13	1	.	.	.	.	.	.	.	.	241	1.7%
60 - 70	1445	127	88	17	3	4	4	.	3	.	.	.	1691	11.6%
70 - 80	4805	258	260	22	5	13	10	1	4	.	.	.	5378	36.9%
80 - 90	4956	156	250	7	2	8	8	.	1	.	.	.	5388	36.9%
90 - 100	1374	55	93	3	.	2	.	.	.	.	.	.	1527	10.5%
100 - 110	221	6	14	.	.	.	.	.	.	.	.	.	241	1.7%
110 - 120	35	.	1	.	.	.	.	.	.	.	.	.	36	0.2%
120 - 130	4	.	.	.	.	.	.	.	.	.	.	.	4	0.0%
130 - 140	5	.	.	.	.	.	.	.	.	.	.	.	5	0.0%
140 - 150	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
150 - 160	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
	13128	622	723	51	11	27	23	1	8	0	0	0	14594	
	90.0%	4.3%	5.0%	0.3%	0.1%	0.2%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%		
	Class Totals													

Class Speed Matrix

ClassMatrix-45
Site: 209_000032_000200.0.0NS
Description: **Preston Beach Rd North - 200m from Preston Beach Rd**
Filter time: **11:00 Wednesday, 9 April 2014 => 15:10 Wednesday, 30 April 2014**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

Speed (km/h)	Class 1	2	3	4	5	6	7	8	9	10	11	12	Speed Totals	
10 - 20	48	.	4	.	.	.	.	.	.	.	.	.	52	3.3%
20 - 30	115	4	7	.	.	.	.	.	.	.	.	.	126	8.0%
30 - 40	266	23	9	.	.	.	.	.	.	.	.	.	298	18.9%
40 - 50	446	34	13	.	.	1	1	.	.	.	.	.	495	31.3%
50 - 60	384	16	15	.	.	1	.	.	.	.	.	.	416	26.3%
60 - 70	123	5	15	.	.	1	.	.	.	.	.	.	144	9.1%
70 - 80	35	2	2	.	.	.	.	.	.	.	.	.	39	2.5%
80 - 90	6	1	1	.	.	.	.	.	.	.	.	.	8	0.5%
90 - 100	1	.	.	.	.	.	.	.	.	.	.	.	1	0.1%
100 - 110	1	.	.	.	.	.	.	.	.	.	.	.	1	0.1%
110 - 120	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
120 - 130	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
130 - 140	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
140 - 150	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
150 - 160	.	.	.	.	.	.	.	.	.	.	.	.	0	0.0%
	1425	85	66	0	0	3	1	0	0	0	0	0	1580	
	90.2%	5.4%	4.2%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		

Class Totals