

Appendix F

# Traffic and Transport Infrastructure Impact Assessment

**Queensland Transport**  
Report on Bundaberg Port Rail  
Link Study  
Traffic and Transport  
January 2009



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## 1. Purpose

Queensland Transport has commissioned GHD to prepare a study analysing the effect that a proposed rail link to the Port of Bundaberg will have on the surrounding transportation network.



## 2. Existing Traffic Conditions and Traffic Distribution Effects

### 2.1 Development profile

#### 2.1.1 Timing and Staging of Development – Design Horizon

It is anticipated that the development will be constructed in a number of stages; however it is difficult to perceive an expected completion date. According to the Department of Main Roads' *Guidelines for Assessment of Road Impacts of Developments* (GARID) (2006), the design horizon for traffic assessment is 10 years after the completion of the development. Since it is difficult to accurately identify the completion date for this project and since it is expected that it will occur sometime within the next ten (10) years, the design horizon to be adopted for this assessment will be twenty (20) years from the time of writing this report (2029). It is believed that this will be a conservative approach to this assessment.

### 2.2 Options considered

There are two options regarding the route of the proposed rail link. Option 1 is to terminate the link at Gahans Road adjacent to the port on the western side of the river. The second option extends the proposed rail link across the river and north to the Port of Bundaberg. This report will only assess the effects of Option 1.

### 2.3 Affected Road Network

The site locality plan attached in Appendix A shows the roads identified as being affected by the proposed rail link. Other pertinent details are summarised in Table 1 below.

**Table 1 Road Crossings affected by proposed rail link**

Road Name	Government Agency	Type	Hierarchy	AADT (Year)
Moore Park Road	State Controlled Road	Secondary Road	Principal Shire Road	3534 (2007)
Gooburrum Road	Local Road	Local Connector Road	Trunk Collector Road	261 (2007)
Fairymead Road	Local Road	Local Connector Road	Trunk Collector Road	460 (2008)
River Road	Local Road	Local Connector Road	Access Street	N/A
Gahans Road	Local Road	Trafficable Road	Access Place	N/A



### 2.3.1 Existing and Projected Daily Traffic Volumes

Traffic volumes were sourced from Bundaberg Regional Council (BRC) traffic counts and DMR AADT Segment Reports, refer Appendix B. Unless shown otherwise, peak values for DMR and council controlled roads were calculated using 10% of AADT. The following table shows the AADTs, percentage heavy vehicles, growth rates and projected volumes for the road links identified above.

**Table 2 Summary of Base Traffic Data**

Road Link	HV (%)	Growth Rate (%)	Base AADT	Base AADT Year	Forecast AADT (2029)
Moore Park Road (Booolongie Road to Booyan Road)	8	3.5	2,297	2007	4,896
Gooburrum Road	9	2.0	261	2007	404
Fairymead Road (Tantitha Road to River Road)	12	2.0	460	2008	697

It should be noted that there has been negative growth on Gooburrum Road (-16.2%) and Fairymead Road (-26.6%) during the last year. This is most likely due to the closure of Fairymead Mill and the change in traffic distribution transporting cane from surrounding farms to other mills, in particular Millaquin Mill and Isis Central Mill. It is unlikely that this trend will continue over the ensuing years, so a nominal 2% growth rate has been adopted for these links, which is considered to be a conservative approach to this assessment. Additionally, no traffic count data was available from council for River Road and Gahans Road, since the volume on these links is insignificant.

### 2.4 Construction Traffic

It is expected that the proposed rail link will be assembled in three (3) major stages, earthworks, rail line construction and bridge / underpass construction. The construction of this proposed rail link will not generate any significant traffic and will therefore not impact on the surrounding road network. The earthworks for the proposed rail link will mostly consist of fill from on-site cut areas and nearby farming land, limiting the use of carted fill. The rail line will then be constructed on top of the earthworks, using the rail network and neglecting the road network. The bridges for the road network, farm access and drainage purposes will be constructed as part of an operational works agreement that is not impact assessable.

### 2.5 Existing Cane Rail Network

The existing cane rail network affected by the proposed rail link is the cane rail that travels east from Meadowvale, parallel to Hoods Road, crossing Moore Park Road and Whymere Road before redirecting north parallel to Fairymead Road. The proposed rail link is expected to intersect the existing cane tramway line at two locations, west of Gooburrum Road and west of Fairymead Road. A plan showing the location of the existing cane tramway and the proposed rail link can be viewed in Appendix C.



## **2.6 Alternative Transport Methods**

Alternative transport methods for the Bundaberg Port Rail Corridor are accommodated through the Burnett Shire Council Walk and Cycle Plan strategy and action plan (August 2004). The Action Plan affords a medium priority to the development of on-road cycle facility for Moore Park Road. Accordingly, no treatment other than works proposed for Moore Park Rd will be required to accommodate cyclists.





## 3. Impact Assessment

### 3.1 Road Impact Assessment

All roads intersecting the proposed rail link will be assessed individually to determine the appropriate treatment for the proposed rail link crossing. The proposed rail link design shows that the vertical alignment east of Gooburrum Road is significantly higher than the surface level, indicating that at grade intersections for minor roads may not be suitable. A layout of the proposed treatments is given in Appendix E.

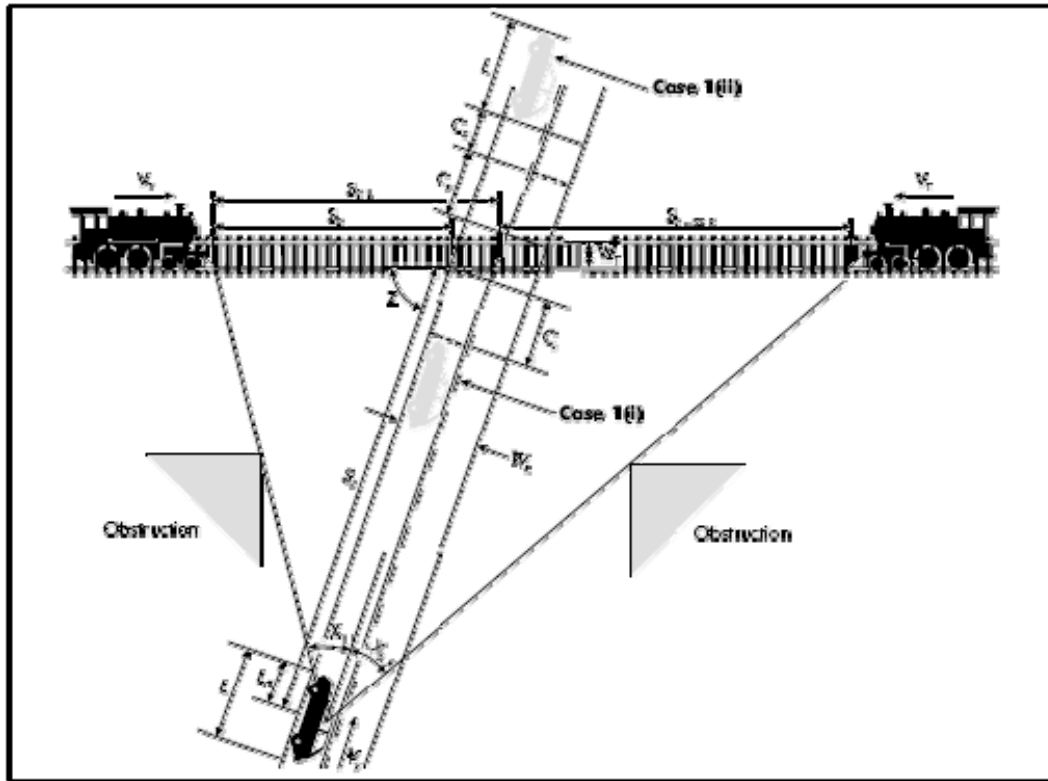
#### 3.1.1 Moore Park Road Crossing

Moore Park Road to the west of Gooburrum Road will be constructed as a level crossing. Chapter 21, Railway and Cane Railway Level Crossings, of the Department of Main Roads (DMR) Road Planning and Design Manual was used to determine the appropriate level of control for the railway crossing over Moore Park Road. Minimum sight distances required for passive control (Give Way or Stop line control) at the Moore Park Road level crossing was determined. Site investigation of the crossing area was conducted to verify that the minimum sight requirements for the assessment of sight triangles could be achieved.

Figure 1 shows the locations of the minimum sight distances while Table 3 summaries the minimum sight distances required for passive control at the Moore Park Road crossing. Sight distance requirements are from *DMR Chapter 21 of the Road Planning and Design Manual*. Calculations of the sight distances can be viewed in Appendix D.

**Figure 1 Sight Distance Diagram**

Road Planning and Design Manual



Case 1(i): Motorist approaching crossing sighted train, decelerates and stops at the stop or holding line.  
 Case 1(ii): Motorist approaching crossing sighted train, proceeds and safely clears the crossing.

**Table 3 Sight Distance Requirements - Moore Park Road**

Sight Distance Description	Sight Distance	Minimum Sight Distance (m)
The minimum distance of an approaching road vehicle from the nearest rail when the driver of the vehicle can see an approaching train	$S_1$	87
For the motorist to decelerate and safely stop at the stop or holding line, the train would have to be sighted at a minimum distance, $S_{2(i)}$ from the crossing	$S_{2L(i)}$	57
	$S_{2R(i)}$	52
For the vehicle to proceed and clear the crossing within an adequate safety margin, the minimum distance of an approaching train from the crossing when the driver of the road vehicle can first see the approaching train is $S_{2(ii)}$	$S_{2L(ii)}$	131
	$S_{2R(ii)}$	125
The minimum distance of an approaching train from the intersection of the road centre line and the mid point of the rail tracks, when the driver of a road vehicle must first see a train approaching in order to safely cross the track from a stop position at the holding line	$S_{3L}$	317
	$S_{3R}$	313

The minimum sight distances required for passive control for the Moore Park Road level crossing are achievable. Figure 2 and Figure 3 show the sight distance along Moore Park Road taken from the location of the proposed rail link.

**Figure 2 Moore Park Road Sight Distance South of Proposed Rail Link**



**Figure 3 Moore Park Road Sight Distance North of Proposed Rail Link**



Section 21.5.5 of the Road Planning and Design Manual, Chapter 21 suggests upgrading existing passive level crossings to signal control crossings when  $VT > 50,000$  in rural environments. At the 2029 design horizon the projected AADT for Moore Park Road is 4896. This is a compounding 3.5% growth with no reduction in traffic volumes as the implementation of a level crossing is not expected to deter any traffic from using Moore Park Road as there are no suitable rat running routes. Predicting the maximum



number of trains per week to be 14, VT = 68,544. This exceeds the recommended value for passive control.

A cane rail line currently crosses Moore Park Road 430m north of the proposed rail link crossing and is controlled by signals. As motorists are accustomed to signal controls on Moore Park Road from experience with the cane rail crossings and because the VT exceeds the maximum level for passive control, it is recommended that the level crossing be controlled by signals.

### **3.1.2 Gooburrum Road Crossing**

The rail link crossing at Gooburrum Road is 4.628m above the existing surface. As stated in Chapter 7 of the Road Planning and Design Manual in *Table 7.21 Minimum Vertical Clearances* the absolute minimum is 4.8m for Gooburrum Road. This clearance is not achievable without significant lowering of the road. As Gooburrum Road is a low trafficked road, it is recommended that no crossing be provided at the proposed rail link, but as a substitute, extend Hoods Road east to connect to Gooburrum Road to provide direct access to Moore Park Road. The extension of Hoods Road will cross the existing cane rail network and will require an appropriate crossing. A signal controlled cane rail crossing is proposed for the Hoods Road extension to maintain consistency, as all existing cane rail crossings within the local network are signal controlled and the angle of the crossing will make it difficult to achieve minimum sight distance for a passive control crossing.

### **3.1.3 Fairymead Road Crossing**

The proposed rail link is approximately 3.5m higher than the existing surface level surrounding Fairymead Road. As per Section 3.1.2, the minimum clearance for a grade separated crossing is 4.8m. At this location near Burnett River where the ground surface is approaching water level, it is not recommended to lower Fairymead Road in order to achieve the minimum clearance. It is recommended that Fairymead Road be realigned to cross the proposed rail link at approximate CH: 7750 as a level crossing with signal control. As the terrain in this location is steep, it is recommended to extend River Road south parallel to the existing Fairymead Road and intersect with the new Fairymead Road alignment, approximately 400m south of the existing Fairymead Road / River Road intersection. This relocation of intersection allows for an appropriate road design for the steep terrain.

### **3.1.4 River Road**

The proposed rail link intersects twice with the existing alignment of River Road. To avoid the construction of these crossings, it is proposed that River Road be realigned south of the proposed rail link and connect back into the existing alignment prior to the Gahans Road intersection.

### **3.1.5 Mills Road**

Mills Road is the access to the Fairymead Sugar Mill that is no longer operating. The proposed rail link obliterates Mills Road. With the proposed realignment of Fairymead Road giving access to the mill, Mills Road may not need to be altered.



### 3.1.6 Gahans Road

It is recommended that the section of Gahans Road that is affected by the proposed rail link is redirected around the rail link to the east to avoid an additional intersection and maintain access to the Port of Bundaberg land north of the terminating rail loop.

### 3.1.7 Crash History

Road crash data from Data Analysis, Land Transport and Safety, Queensland Transport, for Moore Park Road (Jan 2002 to Sept 2007) has been assessed as part of this analysis. From twenty-four (24) incidences only two (2) have occurred at railway crossings. Both were angle crashes with one (1) hospitalisation and one (1) property damage and both occurred at the same railway crossing north of Eardleys Road at Welcome Creek. As no crashes have been recorded in this time period for the nearby cane rail crossing with signal control, it is concluded that boom gates are not necessary at this time. If future crash data shows incidences at this proposed rail link crossing, boom gates may then be retrofitted. Road crash data for Moore Park Road can be viewed in Appendix F.

Table 4 below summarised the affected roads and type of control proposed at the proposed rail link crossings.

**Table 4 Road Crossing Control**

Road	Difference in rail design and surface level at proposed crossing	Road Crossing Control
Moore Park Road	0.058m	At Grade – Signal Control
Gooburrum Road	-	N/A Road Closure – Hoods Road Extension
Fairymead Road	4.092m	At Grade – Signal Control
River Road	-	N/A
Mills Road	-	Removed
Gahans Road	-	N/A

The implementation of this proposed rail link will not significantly impact on the traffic distribution of the surrounding road network, as it will only decrease traffic on Gooburrum Road south of the proposed rail link and redirect traffic along the proposed Hoods Road extension. Refer to Appendix E to show the location and type of the proposed rail link crossings.

## 3.2 Cane Railway Impact Assessment

The proposed rail link intersects twice with the existing cane rail. It is recommended that both of these crossings be grade separated to ensure the safety of both trains is not compromised. A shunting facility along Fairymead Road currently intersects the proposed rail link via road. It is included in this section as it is proposed to be constructed as a grade separated crossing for cane rail. Refer to Appendix C for cane rail and proposed rail link layout.



### 3.2.1 Hoods Road Cane Rail Crossing CH: 2300

As a result of the relocation of the cane rail adjacent to CH:2300, it will be necessary to provide a signal controlled crossing on Hoods Road.

### 3.2.2 Cane Rail Crossing CH: 2600

The first cane train crossing at CH:2600 intersects the proposed rail link directly after a sharp curve on the cane rail which will significantly reduce the sight distance. It is proposed that the cane rail be extended east approx 300m before crossing under the proposed rail link and merging back into the existing cane rail alignment. The crossing is suggested at CH:2900 as the proposed rail link design level is approximately 3m above surface level, allowing for easier construction of an underpass.

### 3.2.3 Cane Rail Crossing CH: 7550

The second cane train crossing at CH:7550 intersects the proposed rail link 200m west of Mills Road. The proposed rail link design level at this chainage is 3.589m above the surface level, indicating a grade separated crossing to be most appropriate.

### 3.2.4 Cane Shunting and Carting Facility CH: 8900

River Road access to the existing shunting and carting facility to the west of Gahans Road at approximate CH: 8950 needs to be maintained. This facility is currently north of the proposed rail link and 4.170m below the design level. To maximise this height clearance, it is recommended that the cane rail shunting facility be extended under the proposed rail link, thus providing a grade separated cane rail crossing within the proposed rail link. Additional clearance is required for a road underpass. The shunting facility operates by transporting sugar carriages by ferry across the Burnett River for eventual transport to Millaquin Mill.

### 3.2.5 Summary

Table 5 below summarises the affected cane rail locations and types of intersections proposed at the proposed rail link crossings. Figure 4 provides a typical cane rail crossing in the Bundaberg region.

**Table 5 Cane Rail Crossing Control**

Cane Rail Location	Difference in rail design and surface level at proposed crossing	Crossing Type
Hoods Road – adjacent to CH:2300	0.605m	Level Crossing – Signal Control
Crossing 1 – CH:2600	2.999m	RCBC* underpass and cane rail realignment
Crossing 2 – CH:7550	3.589m	RCBC* underpass
Cane Shunting and Carting Facility – CH:8900	4.170m	RCBC* underpass and cane rail extension

• Rectangular Concrete Box Culvert (RCBC)

**Figure 4** Typical Bundaberg Rail Crossing



### **3.3 Farm Access Impact Assessment**

The proposed rail link crosses farm paddocks, irrigation channels and drainage paths. To successfully reduce the impact of this proposed rail link, it is recommended that underpasses, additional to the road and cane rail infrastructure, are constructed to ensure that farmers can maintain access to their entire property and that the proposed rail link has minimal impact on the water and drainage network. Appendix E shows the recommended locations of the additional crossings required to cater for the above land uses.

Five (5) crossings and one (1) irrigation channel will be affected and they will gain access through the proposed rail link via RCBC, similar to the cane rail underpasses with the exception of the crossing at CH:4250. The remaining crossing will be at grade and is recommended to have passive control. Passive control is suggested on the basis that only a few vehicles per day will cross the proposed rail link and the assumption that the sight distances are sufficient. Nearby vegetation may have to be removed to achieve this. These crossing will allow for machinery and farming equipment to access all parts of the property.

Table 6 below summarises the affected track and access locations and the types of intersections proposed at the proposed rail link crossings.





**Table 6 Farm Access Crossing Control**

Track / Access Location	Difference in rail design and surface level	Crossing Type
CH: 50	2.115m	RCBC* underpass
CH:4250	0.077m	Level crossing - Passive control
CH:4750	2.479m	RCBC* underpass
CH:6050	4.769m	RCBC* underpass
CH:6750	3.303m	RCBC* underpass
CH:7050	4.516m	RCBC* opening

\* Rectangular Concrete Box Culvert (RCBC)





## 4. Infrastructure Requirements

Road and cane rail underpasses are required to be constructed as part of the proposed rail link to maintain the traffic flow of both the road and cane rail networks. In addition, tracks and accesses to farm land need to be maintained for the landowners. Details of the type and location of infrastructure required are stated in the ensuing sections.

### 4.1 Road Transport Network

The proposed rail link crosses six (6) roads with Moore Park Road and Fairymead Road level crossings requiring signal control. As described in the road impact assessment, Section 3.1, the proposed rail link is required to provide two (2) signal controlled level crossings, one (1) road extension, three (3) road realignments and two (2) road closures. The access into Fairymead Mill, Mills Road, will be closed as the extension of Fairymead Road under the proposed rail link will provide access to the mill. Table 7 lists the infrastructure requirements for the road network.

**Table 7 Road Infrastructure**

Crossing Location	Infrastructure
Moore Park Road	Level crossing with signal control
Gooburrum Road	Road closure and extension of Hoods Road
Fairymead Road	Level crossing with signal control and realignment of Fairymead Road
River Road	Realignment south of proposed rail link
Gahans Road	Realign around to the east of the proposed rail link terminus

Figure 5 shows the signal controlled cane rail crossing on Moore Park Road. It is expected that the recommended proposed rail link controlled crossing will be of comparable design standards. Figure 2, Figure 3 and Figure 6 to Figure 10 show the locations of the required infrastructure along the road network. Appendix E shows the location and type of all required proposed rail link crossings.

**Figure 5 Moore Park Road – Existing Cane Rail Crossing**



**Figure 6 Gooburrum Road Closure**





**Figure 7** Fairymead Road / Mills Road Intersection



**Figure 8** Shunting and Carting Facility (1)



**Figure 9 Shunting and Carting Facility (2)**



**Figure 10 Gahans Road**



## **4.2 Cane Railway Network**

The proposed rail link crosses the cane rail network twice. Both crossing will be grade separated to ensure the safety of both networks and to utilise the topography of the land. It is recommended that the cane rail underpass west of Gooburrum Road be constructed from a 3.6m x 3.6m rectangular concrete box culvert (RCBC). Bundaberg Sugar advised that a 3.6m x 3.6m RCBC with a 400mm plinth has been used previously for cane rail underpasses and provides adequate height for the cane train beacon lighting and aerials. For there to be enough height under the proposed rail link for this cane crossing, it is





recommended that the cane rail be redirected parallel to the proposed rail link for approximately 300m before crossing under the proposed rail link before integrating back into the existing alignment. Appendix C shows the proposed re-alignment for this crossing. As a result of the realignment, a cane crossing will be required on Hoods Road and the shunting facility adjacent to CH:8900 will be extended.

The second crossing is at the existing alignment accessing the Fairymead Mill. Table 8 tabulates the infrastructure requirements for the cane rail network.

**Table 8 Cane Rail Infrastructure**

Crossing Location	Infrastructure
Hoods Road Extension adjacent to CH:2300	Road Level Crossing – Signal Control
West of Gooburrum Road. Approx CH:2600	3.6mx3.6m RCBC* with 400mm concrete plinth underpass and realignment of cane rail to CH: 2900
West of Fairymead Road Approx CH:7600	3.6mx3.6m RCBC* with 400mm concrete plinth underpass
Cane Shunting and Carting Facility CH:8900	3.6mx3.6m RCBC* with 400mm concrete plinth underpass and cane rail extension

### 4.3 Farm and Drainage Crossings

As stated in Section 3.4, the proposed rail link crosses five (5) farming tracks and an irrigation channel. All identified tracks are to maintain access through the proposed rail link. The irrigation channel is to be allowed for via a suitably sized RCBC. It is recommended that the four (4) track crossings are underpasses constructed from 3.6m x 3.6m RCBC as the proposed rail link is considerably higher than the surface level. Lowering of the tracks may be required to achieve clearance for the RCBC. The farm track at CH: 4250 is virtually at grade with the proposed rail link and thus at this location it is recommended that a passive level crossing be installed.

The farm crossing at CH:50 will be the longest underpass as it intersects with both entry and exit lines. The proposed rail link crosses an intersection of five (5) farm crossings at CH: 6750. In addition to the culvert crossing at this location, it is recommended that the intersection be realigned south of the proposed rail link with the western leg intersecting the northern leg, north of the proposed rail link to ensure safe access to all tracks with appropriate sight distances. An indicative layout of the realignment of this intersection can be viewed in Appendix E. Table 9 below summarises the affected track and access locations and the types of intersections proposed at the proposed rail link crossings.



**Table 9 Farm Crossing Infrastructure**

Track / Access Location	Difference in rail design and surface level	Crossing Type
CH: 50	2.115m	3.6mx3.6m RCBC* with 400mm concrete plinth underpass for both proposed rail link lines
CH:4250	0.077m	Level crossing with passive control
CH:4750	2.479m	3.6mx3.6m RCBC* with 400mm concrete plinth underpass
CH:6050	4.769m	3.6mx3.6m RCBC* with 400mm concrete plinth underpass
CH:6750	3.303m	3.6mx3.6m RCBC* with 400mm concrete plinth underpass and realignment of the 5-ways intersection
CH:7050 – Irrigation Channel	4.516m	Suitable sized RCBC

#### 4.4 Other Infrastructure Requirements

In addition to the impact on the existing road and cane rail network, the proposed rail link may conflict with existing telecommunications, electricity and water infrastructure. The impact on these services will be investigated in the preliminary design phase.



## 5. Order of Cost for Required Infrastructure

The order of costs included in this section is for budget purposes only. The prices are based on 2009 dollars and have been derived without a detailed design. An 8m wide dual track rail link with a minimum cover of 0.65m from the top of culvert has been adopted for these cost calculations.

Chainage	Infrastructure Required	Length of Alteration (m)	Cost Estimate
50	Farm Crossing Culvert	170	\$ 555,200.00
1400	Road Level Crossing Signal Control	-	\$ 150,000.00
2300	Road Level Crossing Signal Control – Cane Rail	-	\$ 150,000.00
2600	Cane Crossing Culvert and Cane Rail Realignment	670	\$ 723,500.00
3300	Road Closure - Gooburrum Road and Road Extension - Hoods Road	2320	\$ 1,512,100.00
4250	Farm Level Crossing Passive Control	-	\$ 1,500.00
4750	Farm Crossing Culvert	110	\$ 283,000.00
6050	Farm Crossing Culvert	20	\$ 202,900.00
6750	Farm Crossing Culvert and realign 5-way intersection	2250	\$ 554,500.00
7050	Irrigation Channel Crossing Culvert	-	\$ 195,300.00
7550	Cane Crossing Culvert	270	\$ 409,600.00
7750	Road Level Crossing Signal Control with Earthworks	780	\$ 859,100.00
7800	Road Closure – Mills Road	-	\$ 75,000.00
8100	Road Realignment - River Road	1550	\$ 453,400.00
8900	Cane Crossing Culvert and Cane Rail Extension	300	\$ 375,600.00
11400	Road Realignment – Gahans Road	1925	\$ 389,900.00
<b>TOTAL</b>			<b>\$ 6,890,600.00</b>



## 6. Conclusions and Recommendations

Generally, the proposed rail link to the Port of Bundaberg will not adversely affect the traffic flow on the road network provided that all infrastructure requirements are constructed. All proposed works are to be constructed as part of the proposed rail link construction. The total cost of all proposed works is \$6,890,600.00. A breakdown of the estimated costs of these works can be viewed in Section 5. The works include:

- ▶ CH:50 - Provide a farm track underpass under both proposed rail link lines
- ▶ CH:1400 - Provide a signal control level crossing at Moore Park Road
- ▶ CH: 2300 Provide a signal control level crossing for the extension of Hoods Road and the existing Cane Rail
- ▶ CH: 2600 - Realign cane rail and provide a culvert crossing under proposed rail link at approximate CH:2900
- ▶ CH: 3300 – Close Gooburrum Road and extend Hoods Road to intersect with Gooburrum Road north of the proposed rail link
- ▶ CH:4250 – Provide a passive level control crossing for the farming track
- ▶ CH:4750 – Provide a culvert crossing under the proposed rail link for the farming tracks
- ▶ CH:6050 – Provide a culvert crossing under the proposed rail link for the farming tracks
- ▶ CH:6750 – Provide a culvert crossing under the proposed rail link for the farming tracks and realign the 5-ways intersection
- ▶ CH:7050 - Provide a culvert crossing under the proposed rail link for the irrigation channel
- ▶ CH: 7550 – Provide a culvert crossing under the proposed rail link for the cane rail
- ▶ CH: 7750 – Realign and ramp Fairymead Road up to proposed rail link to provide a signal controlled level crossing
- ▶ CH:7800 - Close Mills Road
- ▶ CH:8100 - Realign River Road from Fairymead Road to the south of the proposed rail link
- ▶ CH:8900 - Provide a culvert crossing under the proposed rail link and extend the cane rail under the proposed rail link to allow access to the shunting and carting facility via River Road
- ▶ CH:11400 - Realign Gahans Road around to the east of the proposed rail link





## 7. References

Department of Main Roads, Road Planning & Design Manual, *Chapter 21 Railway and Cane Railway Level Crossings* (2002)

Department of Main Roads, Road Planning & Design Manual, *Chapter 7 Cross Section* (2002)

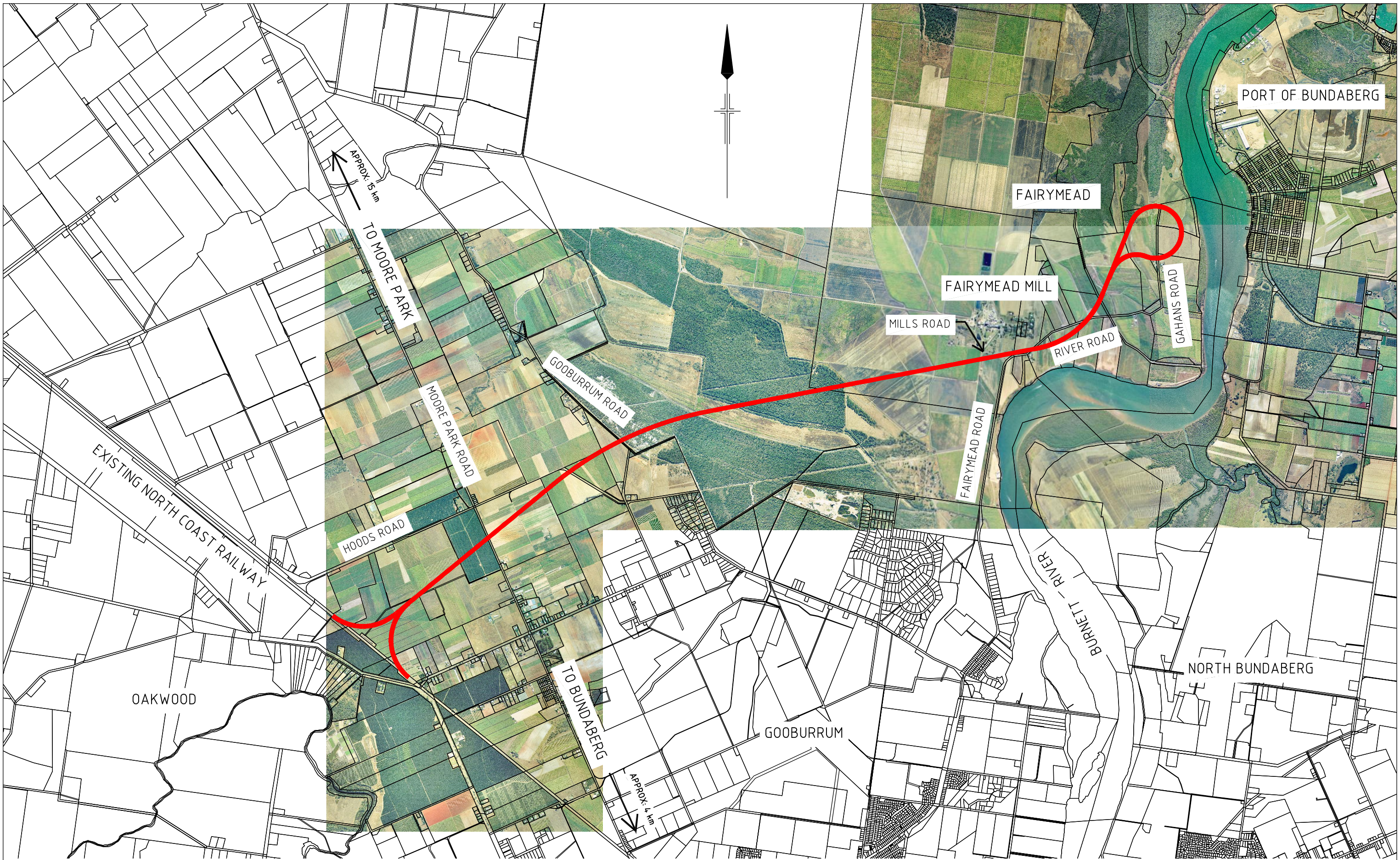
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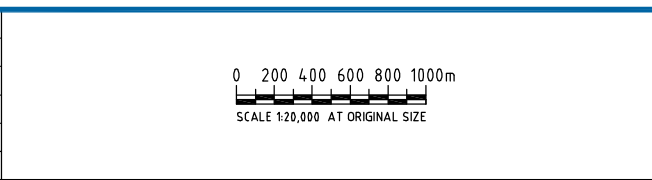
Appendix A  
**Site Locality Plan**

Road network affected by proposed rail link





No	Revision	Notes	Drawn	Checked	Approved	Date
0		APPROVED ISSUE	AJF	NJD		



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**QUEENSLAND TRANSPORT**  
**BUNDABERG PORT RAIL LINK STUDY**  
**LOCALITY PLAN - APPENDIX A**

Client Project Title

Original Size **A1** Drawing No: **41-19291-C001** Rev: **A**

This Drawing must not be used for Construction unless signed as Approved



Appendix B  
Traffic Count Data

District 12 WIDE BAY DISTRICT  
 Road Section 1761 MOORE PARK ROAD  
 Year 2007  
 TDist   Status C  
 Direction All Directions

Through Distance

Site

0.000 - 3.381 121039 North of 176 T/dist 0.343

% per Vehicle Class

Gaz Dir	AADT	% per Vehicle Class						% Growth		
		Light Vehicle	Heavy Vehicle	Short Vehicle	Truck or Bus	Articulated Vehicle	Road Train	1 Yr	5 Yr	10 Yr
G	1,789	90.30	9.70	90.30	8.16	1.46	.08	.22	2.85	3.51
A	1,745	94.13	5.87	94.13	4.41	1.38	.08	-6.28	1.61	2.28
B	3,534	92.19	7.81	92.19	6.31	1.42	.08	-3.10	2.23	2.88

3.381 - 11.655 120812 South of Booyan Rd T/dist 10.199

% per Vehicle Class

Gaz Dir	AADT	% per Vehicle Class						% Growth		
		Light Vehicle	Heavy Vehicle	Short Vehicle	Truck or Bus	Articulated Vehicle	Road Train	1 Yr	5 Yr	10 Yr
G	1,176	93.90	6.10	93.90	4.68	1.38	.04	5.38	4.75	5.81
A	1,121	94.63	5.37	94.63	3.99	1.26	.12	3.13	3.96	3.57
B	2,297	94.25	5.75	94.25	4.34	1.33	.08	4.27	4.36	4.64

11.655 - 15.428 120813 Near Croome Creek T/dist 12.868

% per Vehicle Class

Gaz Dir	AADT	% per Vehicle Class						% Growth		
		Light Vehicle	Heavy Vehicle	Short Vehicle	Truck or Bus	Articulated Vehicle	Road Train	1 Yr	5 Yr	10 Yr
G	915	94.87	5.13	94.87	3.69	1.40	.04	3.98	4.01	4.12
A	888	94.59	5.41	94.59	4.03	1.34	.04	1.60	2.98	3.31
B	1,803	94.74	5.26	94.74	3.85	1.37	.04	2.79	3.50	3.71

\* These values were updated manually or derived from previous years growth figures.

MetroCount Traffic Executive  
Class Speed Matrix

ClassMatrix-310 -- English (ENA)

Datasets:

Site: [FAIRYMEAD RD] Code 26  
 Direction: 5 - South bound A>B, North bound B>A., Lane: 0  
 Survey Duration: 11:32 Thursday, 1 February 2007 => 11:16 Thursday, 8 February 2007  
 File: C:\Documents and Settings\childs\My Documents\Traffic counts\METRO\2007\FAIRYMEAD RD08Feb2007.EC0 (Plus)  
 Identifier: T143T6AX MC56-L5 [MC55] (c)Microcom 19Oct04  
 Algorithm: Factory default  
 Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 11:32 Thursday, 1 February 2007 => 11:16 Thursday, 8 February 2007  
 Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  
 Speed range: 0 - 160 km/h.  
 Direction: North, East, South, West (bound)  
 Separation: All - (Headway)  
 Name: Factory default profile  
 Scheme: Vehicle classification (AustRoads94)  
 Units: Metric (meter, kilometer, m/s, km/h, kg, tonne)  
 In profile: Vehicles = 4305 / 4307 (99.95%)

ClassSpeedMatrix

ClassMatrix-310

Site: FAIRYMEAD RD.ONS  
 Description: Code26  
 Filter time: 11:32 Thursday, 1 February 2007 => 11:16 Thursday, 8 February 2007  
 Scheme: Vehicle classification (AustRoads94)  
 Filter: Cls(1|2|3|4|5|6|7|8|9|10|11|12) Dir(NESW) Sp(0,160) HHeadway(>0)

Speed (km/h)	1	2	3	4	5	6	7	8	9	10	11	12	Speed	Totals
10-20	4	0	1	0	0	0	0	0	0	0	0	0	5	0.10%
20-30	29	0	1	1	2	0	0	0	0	0	0	0	33	0.80%
30-40	97	1	1	2	0	0	0	0	0	0	0	0	101	2.30%
40-50	103	2	3	0	0	2	0	0	0	0	0	0	110	2.60%
50-60	180	16	7	2	0	2	2	0	4	0	0	0	213	4.90%
60-70	610	49	39	30	1	0	0	2	60	1	1	0	793	18.40%
70-80	1329	53	48	53	1	0	0	4	60	0	0	0	1548	36.00%
80-90	1032	18	16	21	3	0	0	0	1	0	0	0	1091	25.30%
90-100	310	4	6	4	1	0	0	0	0	0	0	0	325	7.50%
100-110	64	0	7	0	0	0	0	0	0	0	0	0	71	1.60%
110-120	12	0	2	0	0	0	0	0	0	0	0	0	14	0.30%
120-130	0	0	1	0	0	0	0	0	0	0	0	0	1	0.00%
130-140	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
140-150	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
150-160	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%

3770 143 132 113 8 4 2 6 125 1 1 4305  
 87.60% 3.30% 3.10% 2.60% 0.20% 0.10% 0.00% 0.10% 2.90% 0.00% 0.00% 0.0%

Class/Totals

MetroCount Traffic Executive  
Class Speed Matrix

ClassMatrix-309 -- English (ENA)

Datasets:

Site: [Fairymead Rd] 1160m North of Tantitha Rd  
 Direction: 7 - North bound A>B, South bound B>A., Lane: 0  
 Survey Duration: 13:06 Thursday, 7 February 2008 => 8:05 Thursday, 14 February 2008  
 File: C:\Documents and Settings\childs\My Documents\Traffic counts\METRO\2008\Fairymead Rd14Feb2008.EC0 (Plus)  
 Identifier: T143T6AX MC56-L5 [MC55] (c)Microcom 19Oct04  
 Algorithm: Factory default  
 Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 13:06 Thursday, 7 February 2008 => 8:05 Thursday, 14 February 2008  
 Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  
 Speed range: 0 - 160 km/h.  
 Direction: North, East, South, West (bound)  
 Separation: All - (Headway)  
 Name: Factory default profile  
 Scheme: Vehicle classification (AustRoads94)  
 Units: Metric (meter, kilometer, m/s, km/h, kg, tonne)  
 In profile: Vehicles = 3161 / 3165 (99.87%)

Class Speed Matrix

ClassMatrix-309

Site: Fairymead Rd.0SN  
 Description: 1160m North of Tantitha Rd  
 Filter time: 13:06 Thursday, 7 February 2008 => 8:05 Thursday, 14 February 2008  
 Scheme: Vehicle classification (AustRoads94)  
 Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12 ) Dir(NESW) Sp(0,160) Headway(>0)

Speed (km/h)	Speed												Totals		
	1	2	3	4	5	6	7	8	9	10	11	12			
10 - 20	8	1	3	0	0	0	0	0	0	0	0	0	0	12	0.40%
20 - 30	32	1	2	1	2	0	0	0	0	0	0	0	0	38	1.20%
30 - 40	58	3	2	0	0	0	0	0	0	0	0	0	0	63	2.00%
40 - 50	63	4	8	2	0	0	0	0	0	0	0	0	0	77	2.40%
50 - 60	169	9	13	1	1	0	0	0	4	0	0	0	0	197	6.20%
60 - 70	399	6	29	5	1	0	4	0	38	1	0	0	0	483	15.30%
70 - 80	740	30	40	9	0	3	1	0	40	1	0	0	0	864	27.30%
80 - 90	736	18	61	12	0	1	0	0	19	0	0	0	0	847	26.80%
90 - 100	366	1	42	3	0	0	0	0	10	0	0	0	0	422	13.40%
100 - 110	101	2	21	3	0	0	0	0	0	0	0	0	0	127	4.00%
110 - 120	12	0	7	0	0	0	0	0	0	0	0	0	0	19	0.60%
120 - 130	6	0	0	0	0	0	0	0	0	0	0	0	0	6	0.20%
130 - 140	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0.10%
140 - 150	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0.10%
150 - 160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
	2694	75	229	36	4	4	5	0	111	2	0	0	0	3160	
	85.20%	2.40%	7.20%	1.10%	0.10%	0.10%	0.20%	0.00%	3.50%	0.10%	0.00%	0.0%	0.0%		

Class Totals

ClassMatrix-312 -- English (ENA)

Datasets:  
 Site: [GOOBURRUM ROAD] Code 70  
 Direction: 7 - North bound A>B, South bound B>A., Lane: 0  
 Survey Duration: 9:01 Thursday, 9 February 2006 => 11:32 Thursday, 16 February 2006  
 File: C:\Documents and Settings\childs\My Documents\Traffic counts\METRO\2006\GOOBURRUM ROAD16Feb2006.EC0 (Plus)  
 Identifier: E221FP7P MC56-6 [MC55] (c)Microcom 02/03/01  
 Algorithm: Factory default  
 Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:  
 Filter time: 9:01 Thursday, 9 February 2006 => 11:32 Thursday, 16 February 2006  
 Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  
 Speed range: 0 - 160 km/h.  
 Direction: North, East, South, West (bound)  
 Separation: All - (Headway)  
 Name: Factory default profile  
 Scheme: Vehicle classification (AustRoads94)  
 Units: Metric (meter, kilometer, m/s, km/h, kg, tonne)  
 In profile: Vehicles = 1871 / 1872 (99.95%)

Class:SpeedMatrix

ClassMatrix-312

Site: GOOBURRUM ROAD.0SN  
 Description: Code:70  
 Filter time: 9:01 Thursday, 9 February 2006 => 11:32 Thursday, 16 February 2006  
 Scheme: Vehicle classification (AustRoads94)  
 Filter: Cls(1|2|3|4|5|6|7|8|9|10|11|12):Dir(NESW):Sp(0,160):Hdway(>0)

Speed(km/h)	1	2	3	4	5	6	7	8	9	10	11	12	Speed	Totals
10-20	49	0	1	0	0	0	0	0	0	0	0	0	50	2.70%
20-30	57	0	4	1	0	0	0	0	0	0	0	0	62	3.30%
30-40	32	7	6	16	0	0	0	0	1	0	0	0	62	3.30%
40-50	152	14	31	70	0	0	0	0	7	0	0	0	274	14.60%
50-60	577	13	43	35	1	1	0	0	3	0	0	0	673	36.00%
60-70	454	3	27	4	0	1	0	0	0	0	0	0	489	26.10%
70-80	222	0	1	0	1	1	0	0	0	0	0	0	225	12.00%
80-90	31	0	0	0	0	0	0	0	0	0	0	0	31	1.70%
90-100	3	0	0	0	0	0	0	0	0	0	0	0	3	0.20%
100-110	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
110-120	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
120-130	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
130-140	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
140-150	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
150-160	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%

1577 37 113 126 2 3 0 0 11 0 0 0 0 1869  
 84.30% 2.00% 6.00% 6.70% 0.10% 0.20% 0.00% 0.00% 0.60% 0.00% 0.00% 0.00% 0.00%

Class:Totals

The Profile is wider than the displayed bins. 2 vehicles are hidden.



ClassMatrix-311 -- English (ENA)

Datasets:  
 Site: [GOOBURRUM RD E] CODE 70  
 Direction: 5 - South bound A>B, North bound B>A., Lane: 0  
 Survey Duration: 9:54 Friday, 6 July 2007 => 10:52 Thursday, 12 July 2007  
 File: C:\Documents and Settings\chilids\My Documents\Traffic counts\METRO\2007\GOOBURRUM RD E12Jul2007.EC0 (Plus)  
 Identifier: E221FP7P MC56-6 [MC55] (c)Microcom 02/03/01  
 Algorithm: Factory default  
 Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:  
 Filter time: 9:54 Friday, 6 July 2007 => 10:52 Thursday, 12 July 2007  
 Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  
 Speed range: 0 - 160 km/h.  
 Direction: North, East, South, West (bound)  
 Separation: All - (Headway)  
 Name: Factory default profile  
 Scheme: Vehicle classification (AustRoads94)  
 Units: Metric (meter, kilometer, m/s, km/h, kg, tonne)  
 In profile: Vehicles = 1568 / 1568 (100.00%)

ClassSpeedMatrix

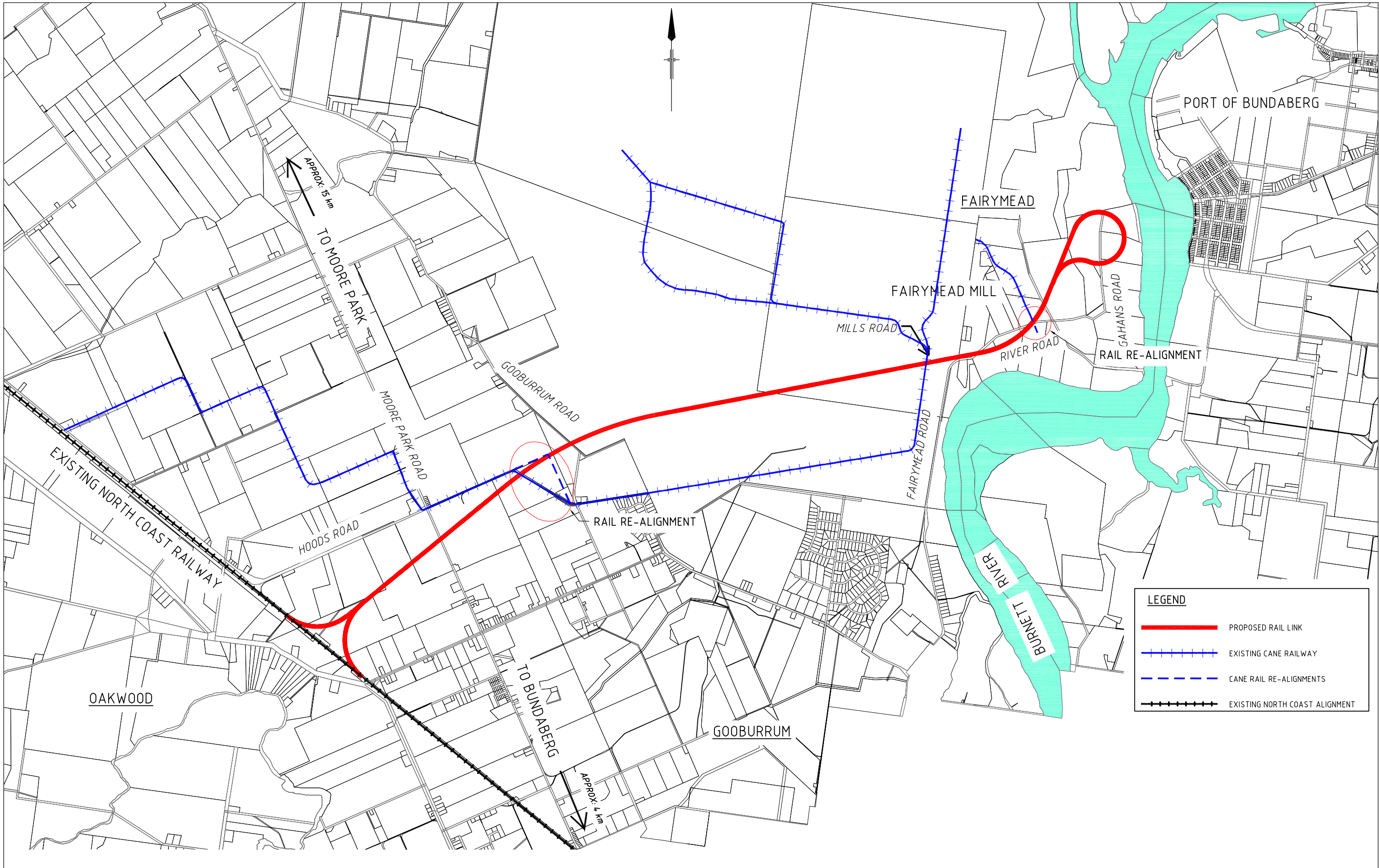
ClassMatrix-311  
 Site: GOOBURRUM RD E.ONS  
 Description: CODE70  
 Filter time: 9:54 Friday, 6 July 2007 => 10:52 Thursday, 12 July 2007  
 Scheme: Vehicle classification (AustRoads94)  
 Filter: Cls(1|2|3|4|5|6|7|8|9|10|11|12) Dir(NESW) Sp(0,160) Headway(>0)

Speed(km/h)	Speed												Totals		
	1	2	3	4	5	6	7	8	9	10	11	12			
10-20	51	0	0	0	0	0	0	0	0	0	0	0	51	3.30%	
20-30	41	0	1	1	1	0	0	0	0	0	0	0	44	2.80%	
30-40	27	1	7	13	1	0	0	0	3	0	0	0	52	3.30%	
40-50	176	15	24	13	0	1	0	8	18	0	0	0	255	16.30%	
50-60	568	15	20	4	0	1	0	0	1	0	0	0	609	38.80%	
60-70	370	12	19	0	0	0	0	0	0	0	0	0	401	25.60%	
70-80	125	1	7	0	0	0	0	0	0	0	0	0	133	8.50%	
80-90	19	0	0	0	0	0	0	0	0	0	0	0	19	1.20%	
90-100	2	0	0	0	0	0	0	0	0	0	0	0	2	0.10%	
100-110	1	0	0	0	0	0	0	0	0	0	0	0	1	0.10%	
110-120	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%	
120-130	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%	
130-140	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%	
140-150	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%	
150-160	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%	
	1380	44	78	31	2	2	0	8	22	0	0	0	1567		
	88.00%	2.80%	5.00%	2.00%	0.10%	0.10%	0.00%	0.50%	1.40%	0.00%	0.00%	0.0%			
	Class Totals														

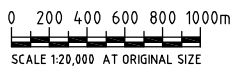
The Profile is wider than the displayed bins. 1 vehicles are hidden.

## Appendix C

# Cane Rail and Proposed Rail Link Layout



No.	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
A		CANE RAIL NETWORK	AJF	NJD		



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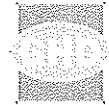
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Drawn	A.J.FICHERA	Designed	N.DEIGHTON
Drafting Check		Design Check	
Approved	A.J.OHNSTON		
Date			
Scale	AS SHOWN	This Drawing must not be used for construction unless signed as Approved	

Client: **QUEENSLAND TRANSPORT**  
 Project: **BUNDABERG PORT RAIL LINK STUDY**  
 Title: **CANE RAIL NETWORK - APPENDIX C**

Original Size: **A1** Drawing No: **41-19291-C002** Rev: **A**

Appendix D  
Sight Distance Calculations



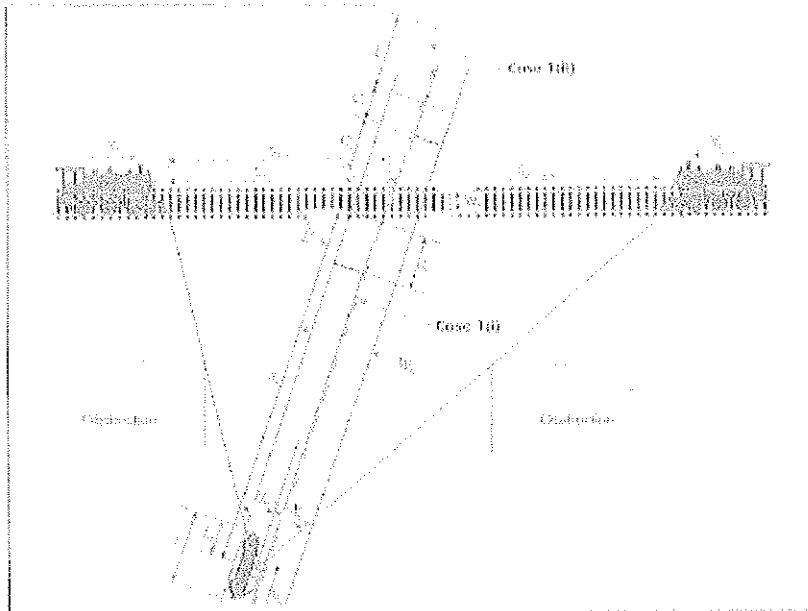
Moore Park Rd Crossing

Sight Distance Requirements

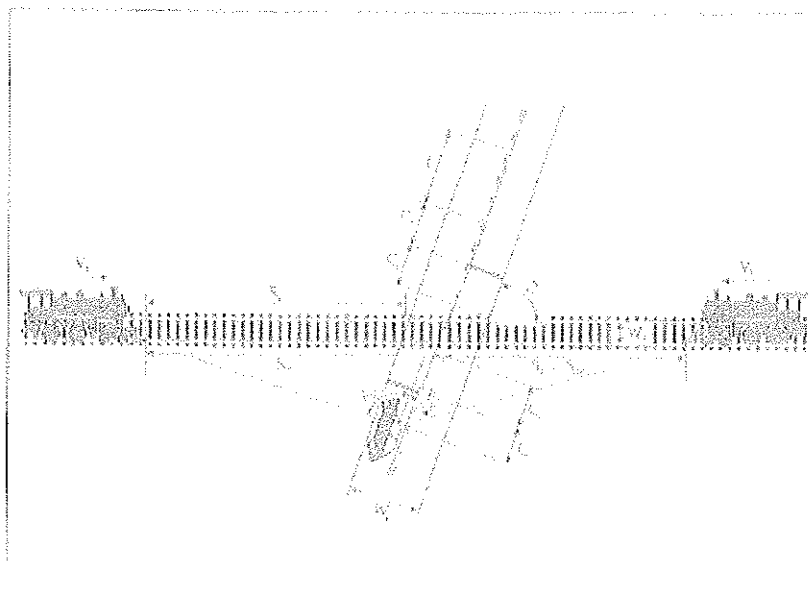
	Minimum Distance
S <sub>1</sub>	Vehicle sees train
S <sub>2(i)</sub>	Vehicle decelerates and stops
S <sub>2(ii)</sub>	Vehicle proceeds and clears crossing
S <sub>3</sub>	Vehicle to see train and clear crossing from stopped position at holding line

Sight Distance Type	Formula	Sight Distance (m)
S <sub>1</sub>	$(R_T V_T / 3.6) + (V_V^2 / (254 + (d + G / 100))) + L_d + C_V$	87
S <sub>2L(i)</sub>	$(0.5 W_R / \sin Z) + V_T / 3.6 * (R_T + V_V / 35.3d)$	57
S <sub>2R(i)</sub>	$V_T / 3.6 * (R_T + V_V / 35.3d)$	52
S <sub>2L(ii)</sub>	$(0.5 W_R / \sin Z) + V_T / V_V * (R_T V_V / 3.6 + V_V^2 / (254 * (d + G / 100))) + W_R / \tan Z + W_T / \sin Z + 2C_V + C_T + L$	131
S <sub>2R(ii)</sub>	$V_T / V_V * (R_T V_V / 3.6 + V_V^2 / (254 * (d + G / 100))) + W_R / \tan Z + W_T / \sin Z + 2C_V + C_T + L$	125
S <sub>3L</sub>	$(0.5 W_R / \sin Z) + V_T / 3.6 * (J + G_S * (2 * ((W_R / \tan Z + W_T / \sin Z + 2C_V + C_T + L) / a)^{1/2}))$	317
S <sub>3R</sub>	$V_T / 3.6 * (J + G_S * (2 * ((W_R / \tan Z + W_T / \sin Z + 2C_V + C_T + L) / a)^{1/2}))$	313

Variable	Value		Notes
R <sub>T</sub>	2.5secs	2.5	
V <sub>T</sub>	50km/h	50	
V <sub>V</sub>	110km/h	110	100km/h speed limit
d	0.41	0.41	
G	0%	0	grade
L <sub>d</sub>	1.5m	1.5	
C <sub>v</sub>	3.5m	3.5	
W <sub>R</sub>	6.6m	6.6	Road Width
Z	70 deg	70	
W <sub>T</sub>	1.1m	1.1	
C <sub>T</sub>	5m	5	
L	19m	19	
J	2 secs	2	
G <sub>S</sub>	1	1	No grade
a	0.36m/sec <sup>2</sup>	0.36	Not B-double route



Case 1(i) Motorist approaching crossing sight train decelerates and stops at the stop or holding line.  
Case 1(ii) Motorist approaching crossing sight train proceeds and safely clears the crossing.

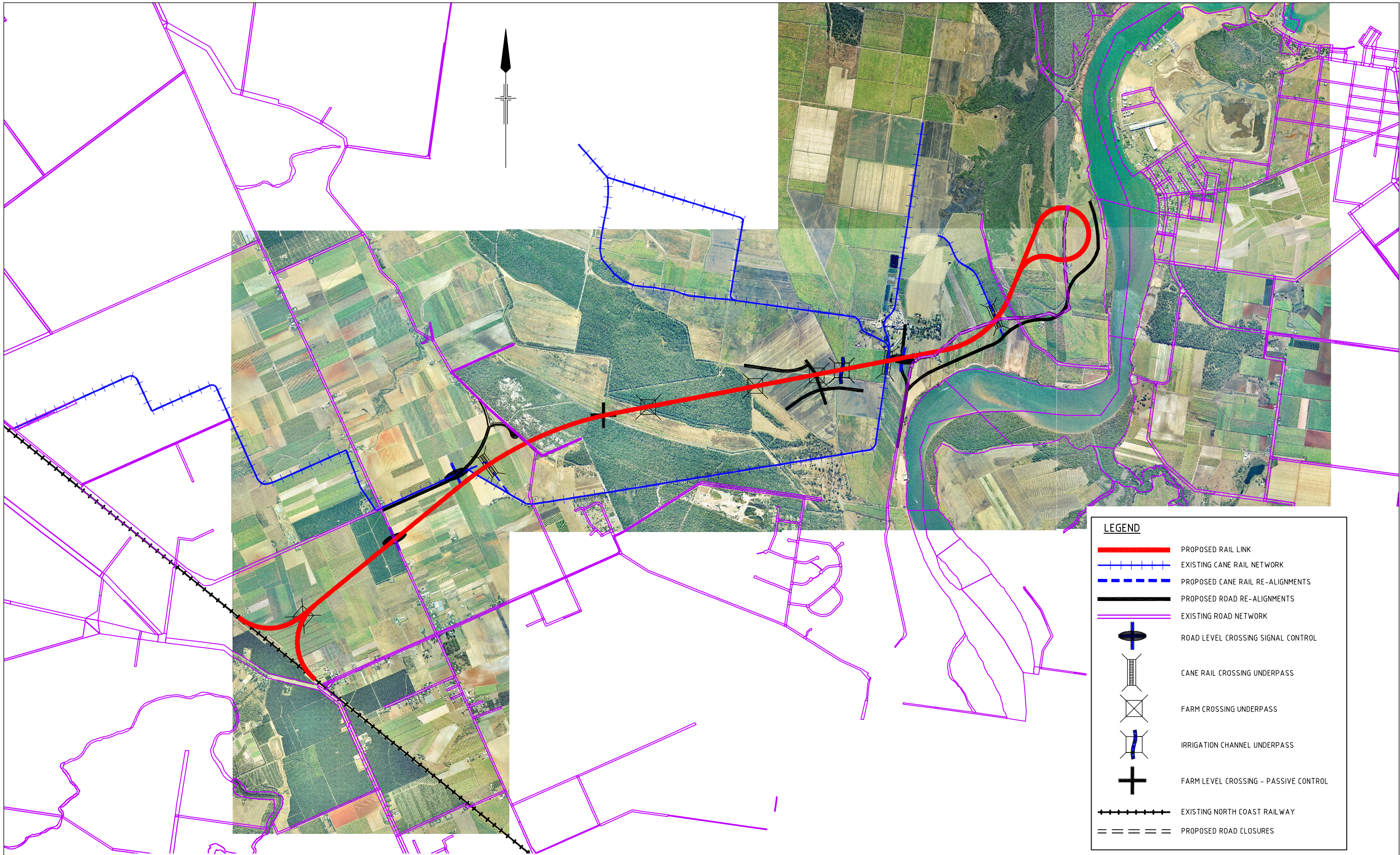


Case 2 Motorist stopped at crossing requires adequate time to accelerate and safely clear the crossing













Appendix E

Location of Required Road, Cane and  
Farm Access Infrastructure

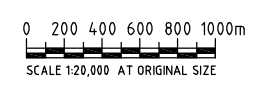




**LEGEND**

-  PROPOSED RAIL LINK
-  EXISTING CANE RAIL NETWORK
-  PROPOSED CANE RAIL RE-ALIGNMENTS
-  PROPOSED ROAD RE-ALIGNMENTS
-  EXISTING ROAD NETWORK
-  ROAD LEVEL CROSSING SIGNAL CONTROL
-  CANE RAIL CROSSING UNDERPASS
-  FARM CROSSING UNDERPASS
-  IRRIGATION CHANNEL UNDERPASS
-  FARM LEVEL CROSSING - PASSIVE CONTROL
-  EXISTING NORTH COAST RAILWAY
-  PROPOSED ROAD CLOSURES

No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
B	AMENDMENTS		AJF	NJD		
A	LOCATION OF INFRASTRUCTURE - APPENDIX E		AJF	NJD		



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Drawn	A.J.FICHERA	Designed	N.DEIGHTON
Drafting Check		Design Check	
Approved	A.J.OHNSTON		
Date			
Scale	AS SHOWN		

This Drawing must not be used for Construction unless signed as Approved

Client **QUEENSLAND TRANSPORT**  
 Project **BUNDBERG PORT RAIL LINK STUDY**  
 Title **LOCATION OF REQUIRED ROAD, CANE RAIL & FARM ACCESS INFRASTRUCTURE - APPENDIX E**

Original Size **A1** Drawing No: **41-19291-C003** Rev: **B**



Appendix F  
Road Crash Data

Moore Park Road

Road Traffic Moore Park Road between Bundaberg G from 01-Jan-200																	
Year	Month	Day	Time	Severity	Crash Nature	Speed Limit	Lighting condition	Atmospheric Condition	Traffic Control	Roadway Feature	Num Units	Unit Number	Unit Description	Unit Intended Action	Unit Overall Damage	Unit Dir	Unit on Street
2002	February	Tuesday	4pm	Property damage	Angle	80	Daylight	Clear	No traffic control	Intersection - T Junction	2	1	Car/Station wagon	Overtake	Moderate - towed away	North	MOORE PARK RD
2002	May	Thursday	2pm	Hospitalisation	Angle	80	Daylight	Clear	Give way sign	Intersection - Crossroad	2	2	Car/Station wagon	Make right turn	Moderate - towed away	North	MOORE PARK RD
												1	Car/Station wagon	Go straight ahead	Extensive, unrepairable	East	BOOLOONGIE RD
2002	July	Sunday	3am	Property damage	Sideswipe	100	Darkness - Not Lighted	Clear	No traffic control	Not applicable	2	2	Road train/Double/triple	Go straight ahead	Moderate - drivable vehicle	South	MOORE PARK RD
												1	Car/Station wagon	Overtake	Unknown	North	MOORE PARK RD
2002	July	Thursday	3pm	Property damage	Angle	100	Daylight	Clear	No traffic control	Intersection - T Junction	2	2	Car/Station wagon	Make right turn	Moderate - towed away	North	MOORE PARK RD
												1	Car/Station wagon	Overtake	Moderate - towed away	South	MOORE PARK RD
2002	July	Thursday	8am	Medical treatment	Rear-end	60	Daylight	Clear	No traffic control	Not applicable	2	2	Car/Station wagon	Make right turn	Moderate - towed away	South	MOORE PARK RD
												1	Car/Station wagon	Go straight ahead	Unknown	South	MOORE PARK RD
2002	August	Saturday	11pm	Medical treatment	Angle	100	Darkness - Lighted	Clear	Give way sign	Intersection - Crossroad	2	2	Car/Station wagon	Not applicable	Moderate - towed away	South	MOORE PARK RD
												1	Car/Station wagon	Make right turn	Moderate - towed away	West	GOOBURRUM RD
2003	February	Saturday	6pm	Hospitalisation	Hit object	80	Dawn/Dusk	Clear	No traffic control	Not applicable	1	2	Car/Station wagon	Make right turn	Major - towed away	East	BOOLOONGIE RD
2003	June	Sunday	11am	Hospitalisation	Fall from vehicle	100	Daylight	Clear	No traffic control	Not applicable	1	1	Car/Station wagon	Go straight ahead	Extensive, unrepairable	North	MOORE PARK RD
												1	Motorcycle	Overtake	Moderate - towed away	South	MOORE PARK RD
2003	August	Friday	2am	Medical treatment	Hit object	100	Darkness - Not Lighted	Clear	No traffic control	Not applicable	1	1	Car/Station wagon	Go straight ahead	Extensive, unrepairable	North	MOORE PARK RD
2004	June	Tuesday	5pm	Medical treatment	Rear-end	80	Dawn/Dusk	Clear	No traffic control	Not applicable	2	1	Utility/Panel van	Slow or stop	Minor	North	MOORE PARK RD
2004	July	Tuesday	2am	Property damage	Angle	100	Darkness - Not Lighted	Clear	Railway - lights only	Railway Crossing	2	2	Car/Station wagon	Slow or stop	Moderate - drivable vehicle	North	MOORE PARK RD
												1	Car/Station wagon	Go straight ahead	Extensive, unrepairable	North	MOORE PARK RD
2004	September	Saturday	4pm	Hospitalisation	Angle	80	Daylight	Clear	Give way sign	Intersection - Crossroad	2	2	Railway rolling stock	Go straight ahead	Not applicable	East	MOORE PARK RD
												1	Car/Station wagon	Go straight ahead	Extensive, unrepairable	West	GOOBURRUM RD
2005	August	Monday	4pm	Property damage	Rear-end	80	Daylight	Clear	No traffic control	Not applicable	2	2	Car/Station wagon	Go straight ahead	Extensive, unrepairable	North	MOORE PARK RD
												1	Rigid truck	Go straight ahead	Minor	South	MOORE PARK RD
2005	August	Sunday	4am	Medical treatment	Hit object	100	Darkness - Not Lighted	Clear	No traffic control	Not applicable	1	2	Utility/Panel van	Not applicable	Moderate - towed away	South	MOORE PARK RD
												1	Car/Station wagon	Slow or stop	Extensive, unrepairable	South	MOORE PARK RD
2005	August	Tuesday	1pm	Property damage	Sideswipe	100	Daylight	Clear	No traffic control	Intersection - T Junction	2	1	Rigid truck	Make right turn	Minor	South	MOORE PARK RD
2005	October	Monday	10am	Property damage	Rear-end	100	Daylight	Raining	No traffic control	Intersection - T Junction	2	2	Car/Station wagon	Overtake	Moderate - towed away	South	MOORE PARK RD
												1	Car/Station wagon	Go straight ahead	Moderate - towed away	North	MOORE PARK RD
2006	March	Thursday	Noon	Hospitalisation	Hit pedestrian	100	Daylight	Clear	No traffic control	Not applicable	2	2	Rigid truck	Not applicable	Minor	North	MOORE PARK RD
												1	Car/Station wagon	Not applicable	Minor	North	MOORE PARK RD
2006	June	Monday	1pm	Medical treatment	Angle	100	Daylight	Clear	No traffic control	Intersection - T Junction	2	2	Pedestrian	Remain stationary	Not applicable	South	MOORE PARK RD
												1	Car/Station wagon	Go straight ahead	Major - towed away	North	MOORE PARK RD
2006	August	Tuesday	11pm	Medical treatment	Overtaken	100	Darkness - Not Lighted	Clear	No traffic control	Not applicable	1	2	Rigid truck	Make left turn	Minor	North	MOORE PARK RD
												1	Car/Station wagon	Go straight ahead	Moderate - towed away	North	MOORE PARK RD
2006	December	Tuesday	5pm	Property damage	Hit object	80	Daylight	Clear	No traffic control	Not applicable	1	1	Car/Station wagon	Go straight ahead	Major - towed away	North	MOORE PARK RD
2007	January	Wednesday	8pm	Hospitalisation	Overtaken	100	Darkness - Not Lighted	Clear	No traffic control	Not applicable	1	1	Car/Station wagon	Go straight ahead	Extensive, unrepairable	North	MOORE PARK RD
2007	April	Friday	2pm	Medical treatment	Angle	80	Daylight	Clear	No traffic control	Intersection - Crossroad	2	1	Car/Station wagon	Make U turn	Major - towed away	North	MOORE PARK RD
2007	May	Friday	2pm	Property damage	Rear-end	80	Daylight	Clear	Give way sign	Intersection - T Junction	2	2	Car/Station wagon	Go straight ahead	Major - towed away	North	MOORE PARK RD
												1	Special purpose vehicle	Reverse	Nil	West	BOOYAN RD
2007	August	Wednesday	5am	Hospitalisation	Hit object	80	Dawn/Dusk	Fog	No traffic control	Not applicable	1	2	Car/Station wagon	Not applicable	Moderate - towed away	East	BOOYAN RD
												1	Car/Station wagon	Go straight ahead	Moderate - towed away	South	MOORE PARK RD

Year	Month	Day	Unit Circumstance Description	Cra	Crash DCA Code Description	Crash Street	Crash Intersecting street	Dist	Unit	Dir	Landmark	Crash Area
Crashes along in Gin Road and Booyan Road, Bundaberg 2 to 30-SEP-2007.												
2002	February	Tuesday	VIOLATION - IMPROPER OVERTAKING NOT APPLICABLE	506	VEH'S OVERTAKING: OVERTAKE-RIGHT TURN	BATCHLERS RD	Moore Park Rd		M			BUNDABERG
2002	May	Thursday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VIOLATION - DISOBEY GIVE WAY SIGN NOT APPLICABLE	506 101	VEH'S OVERTAKING: OVERTAKE-RIGHT TURN VEH'S ADJACENT APPROACH: THRU-THRU	BATCHLERS RD BOOLOONGIE RD	Moore Park Rd Moore Park Rd		M M			BUNDABERG BUNDABERG
2002	July	Sunday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VIOLATION - IMPROPER OVERTAKING VEHICLE ENTERING DRIVEWAY	101 506	VEH'S ADJACENT APPROACH: THRU-THRU VEH'S OVERTAKING: OVERTAKE-RIGHT TURN	BOOLOONGIE RD MOORE PARK RD	Moore Park Rd		M			BUNDABERG BUNDABERG
2002	July	Thursday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VIOLATION - IMPROPER OVERTAKING VEHICLE ENTERING DRIVEWAY	506 506	VEH'S OVERTAKING: OVERTAKE-RIGHT TURN VEH'S OVERTAKING: OVERTAKE-RIGHT TURN	MOORE PARK RD MOORE PARK RD	Zahns Rd	300 M 300 M	M M	North of North of	ZAHN'S ROAD ZAHN'S ROAD	BUNDABERG BUNDABERG
2002	July	Thursday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VIOLATION - UNDUE CARE AND ATTENTION NOT APPLICABLE	506 301	VEH'S OVERTAKING: OVERTAKE-RIGHT TURN VEH'S SAME DIRECTION: REAR END	MOORE PARK RD MOORE PARK RD	Zahns Rd		M			BUNDABERG BUNDABERG
2002	August	Saturday	MISCELLANEOUS VIOLATION - OVER PRESCRIBED CONCENTRATION OF ALCOHOL (MUST HAVE BAC) MISCELLANEOUS	301 204	VEH'S SAME DIRECTION: REAR END VEH'S OPPOSITE APPROACH: RIGHT-RIGHT	MOORE PARK RD BOOLOONGIE RD	Gooburrum Rd	20 M 20 M	M M	North of North of	MOUNT PERRY ROAD MOUNT PERRY ROAD	BUNDABERG BUNDABERG
2003	February	Saturday	VIOLATION - OVER PRESCRIBED CONCENTRATION OF ALCOHOL (MUST HAVE BAC)	204	VEH'S OPPOSITE APPROACH: RIGHT-RIGHT	BOOLOONGIE RD	Gooburrum Rd		M			BUNDABERG
2003	June	Sunday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE DRIVER - TAKING AVOIDING ACTION TO MISS ANOTHER ROAD USER	803 502	OFF PATH-CURVE: OFF CWAY RT BEND HIT OBJ VEH'S OVERTAKING: OUT OF CONTROL	MOORE PARK RD MOORE PARK RD		100 M 90 M	M M	North of North of	BATCHLERS ROAD BLACKBUTT STREET	BUNDABERG MOORE PARK
2003	August	Friday	DRIVER - FATIGUE/FELL ASLEEP VIOLATION - OVER PRESCRIBED CONCENTRATION OF ALCOHOL (MUST HAVE BAC)	703	OFF PATH-STRAIGHT: LEFT OFF CWAY HIT OBJ	MOORE PARK RD		90 M 7 KM	M	North of North of	BLACKBUTT STREET BUNDABERG - GIN GIN RD	BUNDABERG
2004	June	Tuesday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VIOLATION - UNDUE CARE AND ATTENTION VEHICLE ENTERING DRIVEWAY	303	VEH'S SAME DIRECTION: RIGHT REAR	MOORE PARK RD		7 KM 150 M	M	North of North of	BUNDABERG - GIN GIN RD MOFFATS ROAD	BUNDABERG
2004	July	Tuesday	DRIVER - AGE (LACK OF PERCEPTION; POWER OR CONCENTRATION) VIOLATION - DISOBEY TRAFFIC LIGHT NOT APPLICABLE	303 903	VEH'S SAME DIRECTION: RIGHT REAR PASS & MISC: HIT TRAIN	MOORE PARK RD MOORE PARK RD		150 M 150 M	M M	North of South of	MOFFATS ROAD GOOBURRUM ROAD	BUNDABERG BUNDABERG
2004	September	Saturday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VIOLATION - DISOBEY GIVE WAY SIGN NOT APPLICABLE	903 101	PASS & MISC: HIT TRAIN VEH'S ADJACENT APPROACH: THRU-THRU	MOORE PARK RD GOOBURRUM RD	Moore Park Rd	150 M	M	South of	GOOBURRUM ROAD	BUNDABERG BUNDABERG
2005	August	Monday	VIOLATION - UNDUE CARE AND ATTENTION VEHICLE ENTERING DRIVEWAY	101 303	VEH'S ADJACENT APPROACH: THRU-THRU VEH'S SAME DIRECTION: RIGHT REAR	GOOBURRUM RD MOORE PARK RD	Moore Park Rd		M			BUNDABERG BUNDABERG
2005	August	Sunday	DRIVER - FATIGUE RELATED BY DEFINITION VIOLATION - UNDUE CARE AND ATTENTION	303 703	VEH'S SAME DIRECTION: RIGHT REAR OFF PATH-STRAIGHT: LEFT OFF CWAY HIT OBJ	MOORE PARK RD MOORE PARK RD		40 M 15 M	M	North of North of	KEMP ST HOODS ROAD	BUNDABERG BUNDABERG
2005	August	Tuesday	VEHICLE - TURN SIGNALS VEHICLE ENTERING DRIVEWAY NOT APPLICABLE	506	VEH'S OVERTAKING: OVERTAKE-RIGHT TURN	MOORE PARK RD	Zahns Rd		M			BUNDABERG
2005	October	Monday	VIOLATION - UNDUE CARE AND ATTENTION NOT APPLICABLE	506 303	VEH'S OVERTAKING: OVERTAKE-RIGHT TURN VEH'S SAME DIRECTION: RIGHT REAR	MOORE PARK RD BOOLOONGIE RD	Zahns Rd Moore Park Rd		M			BUNDABERG BUNDABERG
2006	March	Thursday	VIOLATION - UNDUE CARE AND ATTENTION NOT APPLICABLE	303	VEH'S SAME DIRECTION: RIGHT REAR	BOOLOONGIE RD	Moore Park Rd		M			BUNDABERG
2006	June	Monday	VIOLATION - FOLLOW TOO CLOSELY VEHICLE ENTERING DRIVEWAY	7 309	PED'N: HIT BY VEHICLE ENTER/LEAVE D'WAY VEH'S SAME DIRECTION: LEFT TURN S/SWIPE	MOORE PARK RD MOORE PARK RD		0 M 0 M	M	North of North of	WELCOME CREEK STATE SCHOOL WELCOME CREEK STATE SCHOOL	BUNDABERG BUNDABERG
2006	August	Tuesday	CONDITION - UNDER INFLUENCE OF LIQOUR/DRUG (NOT NECESSARY BAC) DRIVER - FATIGUE RELATED BY DEFINITION	309 805	VEH'S SAME DIRECTION: LEFT TURN S/SWIPE OFF PATH-CURVE: OUT OF CONTROL ON CWAY	MOORE PARK RD MOORE PARK RD	Zahns Rd		M			GOOBURRUM GOOBURRUM
2006	December	Tuesday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VEHICLE DEFECTS - MISCELLANEOUS	703	OFF PATH-STRAIGHT: LEFT OFF CWAY HIT OBJ	MOORE PARK RD		20 M 20 M	M	South of South of	BOOYAN RD BOOYAN RD	WELCOME CREEK
2007	January	Wednesday	CONDITION - UNDER INFLUENCE OF LIQOUR/DRUG (NOT NECESSARY BAC) DRIVER - TAKING AVOIDING ACTION TO MISS ANOTHER ROAD USER LIGHTING - NO STREET LIGHTING	705	OFF PATH-STRAIGHT:OUT OF CONTROL ON CWAY	MOORE PARK RD		150 M 100 M	M	North of North of	BATCHLERS RD WELCOME CREEK STATE SCHOOL	GOOBURRUM MORE PARK BEACH
2007	April	Friday	DRIVER - INEXPERIENCE/LACK OF EXPERTISE VIOLATION - IMPROPER U-TURN NOT APPLICABLE	308	VEH'S SAME DIRECTION: RIGHT TURN S/SWIPE	GOOBURRUM RD	Moore Park Rd	100 M	M	North of	WELCOME CREEK STATE SCHOOL	GOOBURRUM
2007	May	Friday	VIOLATION - UNDUE CARE AND ATTENTION NOT APPLICABLE	308 404	VEH'S SAME DIRECTION: RIGHT TURN S/SWIPE VEH'S MANOEUVRING: REVERSING	GOOBURRUM RD BOOYAN RD	Moore Park Rd Moore Park Rd		M			GOOBURRUM WELCOME CREEK
2007	August	Wednesday	ANIMAL UNCONTROLLED - ON ROAD	404 703	VEH'S MANOEUVRING: REVERSING OFF PATH-STRAIGHT: LEFT OFF CWAY HIT OBJ	BOOYAN RD MOORE PARK RD	Moore Park Rd		M			WELCOME CREEK GOOBURRUM






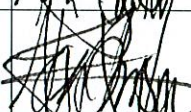
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**Document Status**

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