

Western System Information Pack

Miles to Cunnamulla

Westgate to Quilpie

Dalby to Glenmorgan

Miles to Wandoan

Tycanba to Jandowae

Version Information

Version 3.0: 05/08/2016

- Removed closed lines/systems
- Updated References Queensland Rail Network to Queensland Rail
- Updated References Queensland Transport to DTMR
- Removed references 2005 Access Undertaking
- EPA changed to Department
- Updated Standards references
- Updated Line Diagrams
- Updated Climate Information
- Updated Track Grade
- Updated Network Control Regions & Singalling Centres
- Updated Safeworking Systems
- Update Noise Management System

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Introduction

The detail provided in this pack relates to infrastructure and operational information necessary to develop a conceptual operating plan/Access Application. It is envisaged that Access Seekers will liaise closely with Queensland Rail to formulate a detailed operating specification as part of a full access agreement negotiation. Operational parameters outlined in this pack may be varied by mutual agreement with **Queensland Rail**.

All railway operators, wishing to operate in Queensland, require Accreditation under the Transport Infrastructure Act 1994 (Qld) and need to consider, but not limited to, the following aspects of typical rail operations:-

- Provisioning, stabling or stowing areas for rollingstock
- Train crewing
- Safeworking
- Training
- Route knowledge
- Environmental requirements
- Track standards
- Signalling and traction systems standards and constraints
- Safety training
- Management of risk
- Rollingstock registration and Train authorisation
- Legal issues as contained in Queensland Rail's Access Undertaking, Access Agreements and information contained in this pack.

Operators will be required to have accreditation with the Department of Transport and Main Roads, hold an Access Agreement with **Queensland Rail** and meet any conditions and precedents specified in the Access Agreement prior to commencing operations.

Accreditation means an applicant has confirmed that they are able to meet the requirements to carry out railway operations in Queensland. The Director-General, the Department of Transport and Main Roads, must be satisfied that the applicant has demonstrated:

- Effective management and control of rolling stock
- Competence and capacity to manage risks to safety associated with railway operations
- Competence and capacity to implement the required safety management system and has met the legislative requirements
- Financial capacity, or public risk insurance arrangements for potential liabilities.

Contact details are:

Customer Services, Safety and Regulation Division:
Ph: 07 3066 2689
Email: rsr@tmr.qld.gov.au
Post: PO Box 673
Fortitude Valley QLD 4006
Web: www.tmr.qld.gov.au

Operators need to be aware of and comply with other general legislation such as but not limited to Workplace Health & Safety, Environmental legislation and Heritage legislation.

This package is issued to railway operators as an UNCONTROLLED DOCUMENT and is reviewed annually. It is the onus of railway operators to ensure they are using the current version of this document.

This Information Pack is provided for information purposes only and Queensland Rail does not make any representation or warranty, express or implied, as to the accuracy, suitability or completeness of the information. To the extent that any inconsistency arises between this Information Pack and the Access Agreement or Queensland Rail’s Access Undertaking, the provisions of the Access Agreement and Queensland Rail’s Access Undertaking shall prevail.

General Information

The Western system runs over 1082 route km and consists of the corridor from Miles to Cunnamulla with branch lines:

- Westgate to Quilpie
- Dalby to Glenmorgan
- Miles to Wandoan
- Tycanba to Jandowae.

The Western system adjoins the far western section of the West Moreton system at Miles with Western system branch lines running directly off the West Moreton system.

The Western system caters primarily for agricultural products, particularly grain and livestock (cattle) and also passenger services.

The Western system may also carry freight traffic (e.g. pipes). Freight traffic from the Western system traverses the West Moreton and south-east Queensland systems with grain and cotton railed to and pipes railed from the Port of Brisbane and livestock to Dinmore and Holmview.

The Westlander long distance passenger service runs between Brisbane and Charleville.



Descriptive distances within this document (unless otherwise stated) are based on physical kilometre posts in the field and are to be used only as location descriptors ie they do not compensate for equalities resulting from deviations. Access charges and performance statistics are generated using actual through distances derived from relevant Working Plan and Sections and reflected on Line Code Diagrams. Generally distances originate from the junction of the branch and commence at 0 km.

General Climate - Queensland Wide

The system is situated in south/south-west Queensland and in a generally warm to hot temperature climate.

The following sub-sections specify general climatic parameters. For latest and more specific information potential railway operators should consult The Australian Bureau of Meteorology at its Internet Website: <http://www.bom.gov.au/climate>

Cyclones

Tropical lows, which develop from November to April, occasionally deepen to cause tropical cyclones. Tropical cyclones show great variation in behaviour. They foster high winds, heavy, flood-producing rainfall (especially when a cyclone moves over high ground), and coastal storm surges.

The high wind risk does not usually extend further inland than 50 km. Inland movement reduces the inflow of moisture and cyclone intensity declines, often within a few hours.

Not all cyclones are severe.

The direct impact of cyclones on this System if any would be very minimal.

Humidity

This region could experience prolonged periods of high humidity and potential railway operators should consider this when planning / designing rollingstock and machinery to operate on this rail system.

Rainfall

The wettest places in Queensland are located on the tropical coast between Innisfail and Cairns.

Highest rainfall occurs on the seaward side of the Great Divide.

However, at times in summer the inland extension of low-level moist airflow, in combination with intense surface heating, produces significant thunderstorm activity. Rainfall is mostly confined to summer months in the northern tropics, where in excess of 90% of the annual total is recorded between November and April.

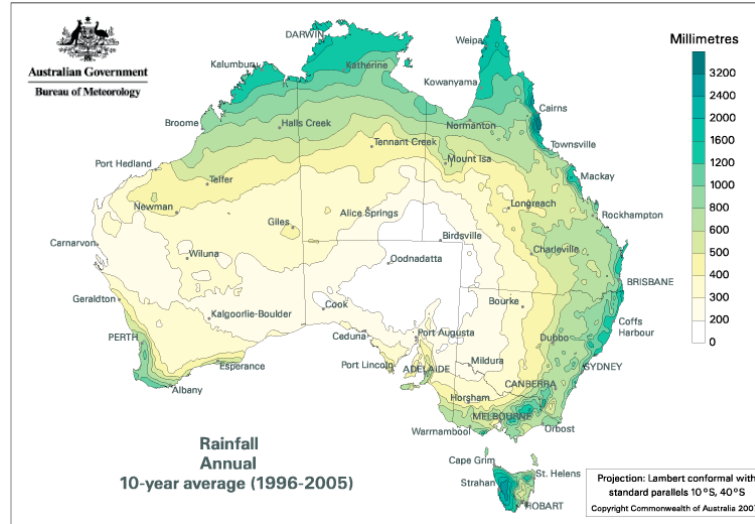
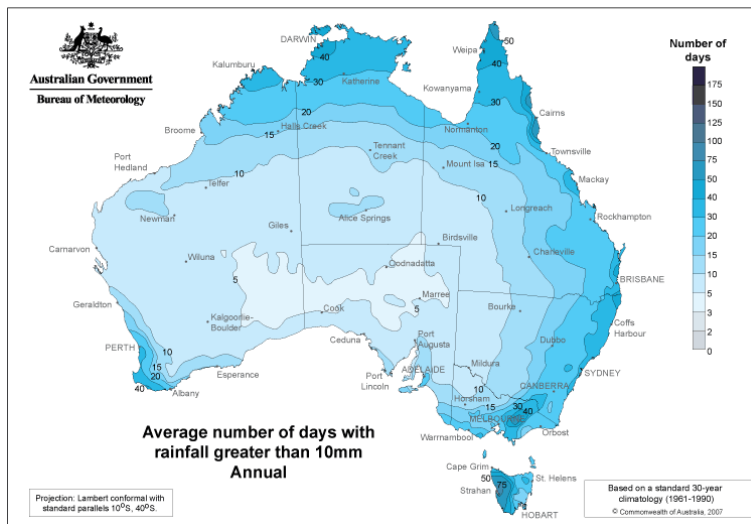
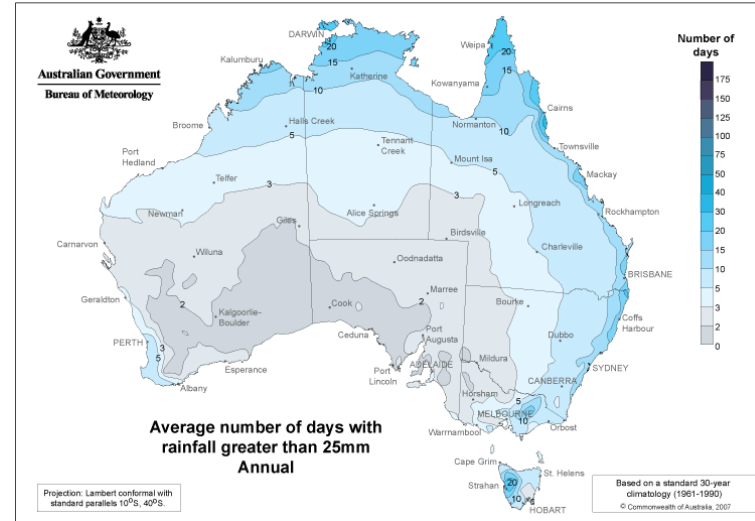
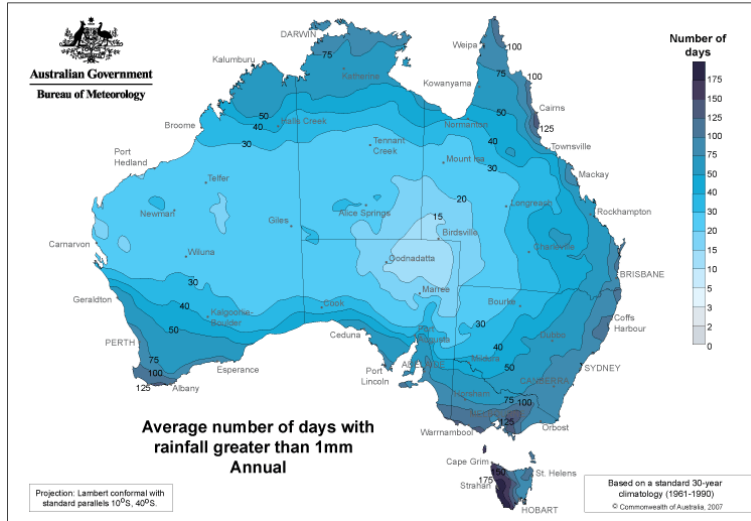
In the north, rain is mostly associated with monsoonal troughs.

The wet season in Queensland is predominantly from January to April when monthly rain falls of 400 mm or more can occur.

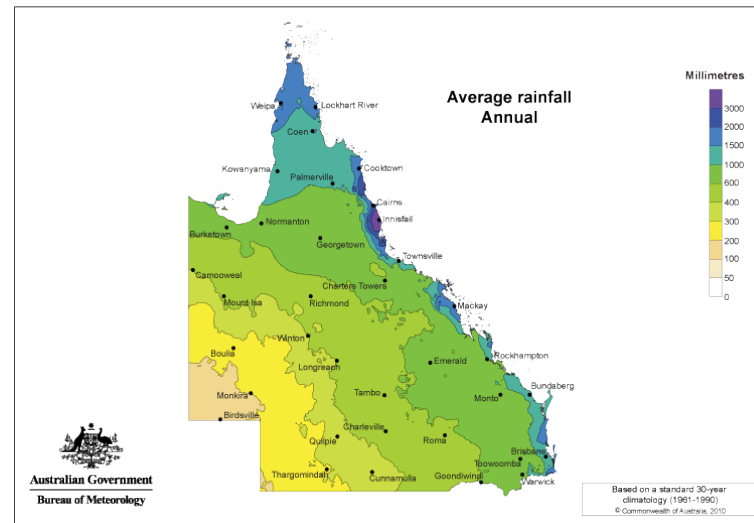
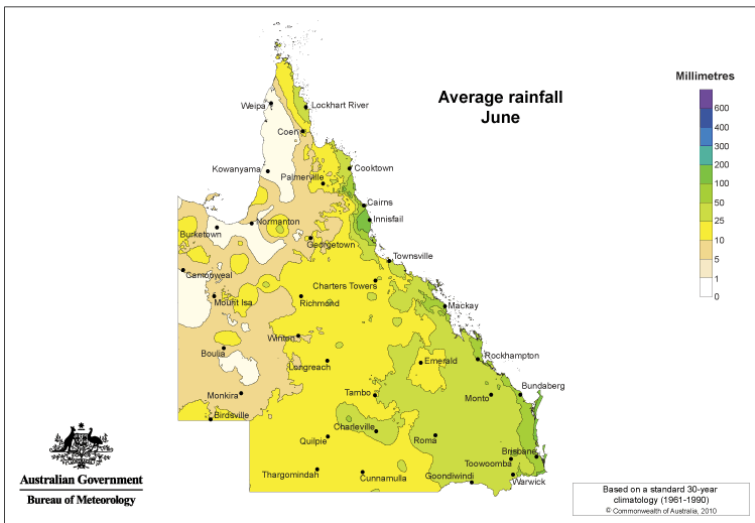
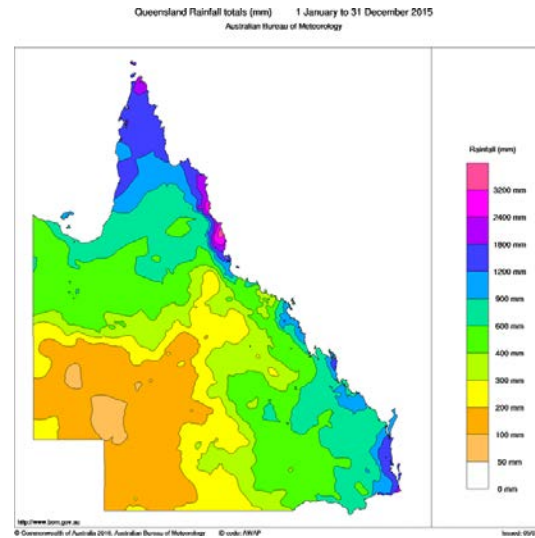
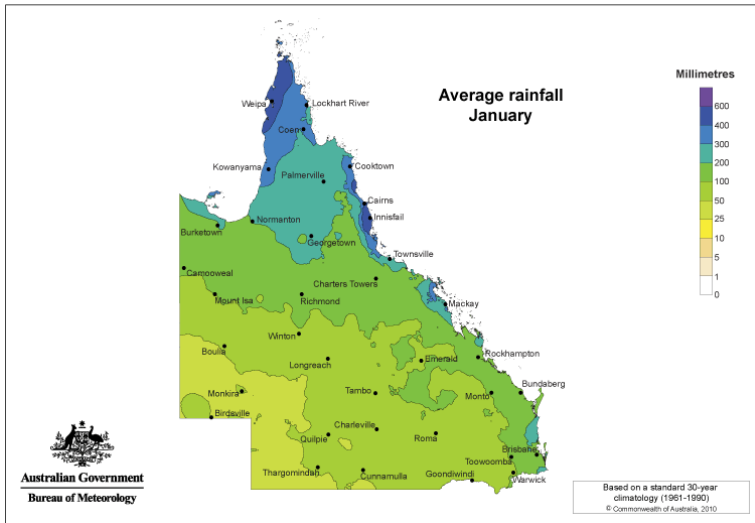
Flooding of low lying areas is likely to occur as an indirect result of cyclones and heavy coastal rains, when streams and rivers that rise near the coast flow inland. In these instances floodwaters can affect this System several weeks after the event, on average closing the Charleville to Cunnamulla section for 7 days every 5. years and the Westgate to Quilpie section for 7 days every 5 years.

This is an average figure and closure periods of greater duration are possible in any one year.

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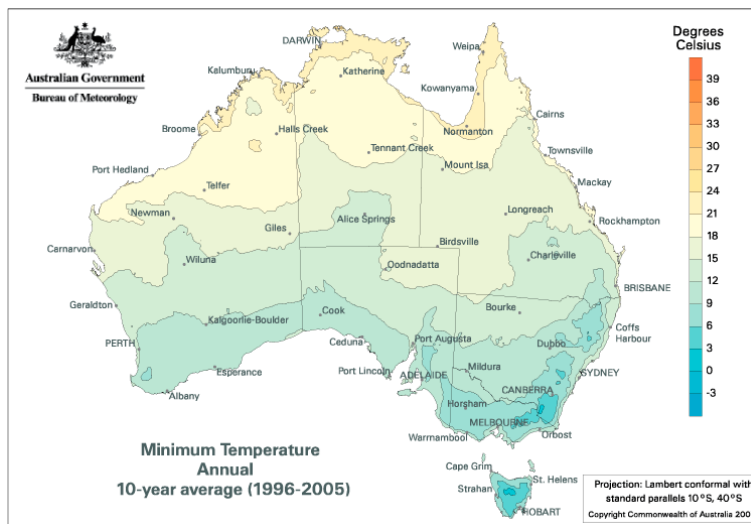
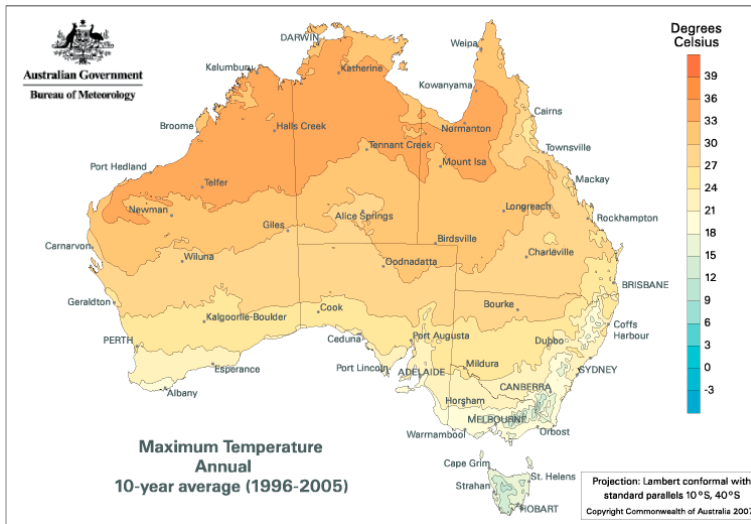
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Temperatures

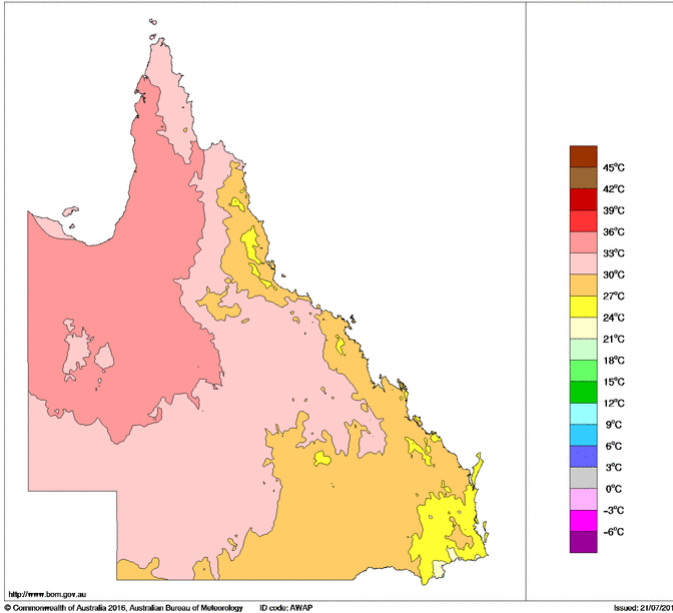
The average annual values of the daytime maximum of the hottest (January) and night-time minimum of the coldest (July) months are indicated on the climatic maps.

During the period of peak temperature, it may be an operational requirement that Line Speed be reduced to minimise the risk of incident (refer Operational Constraints).

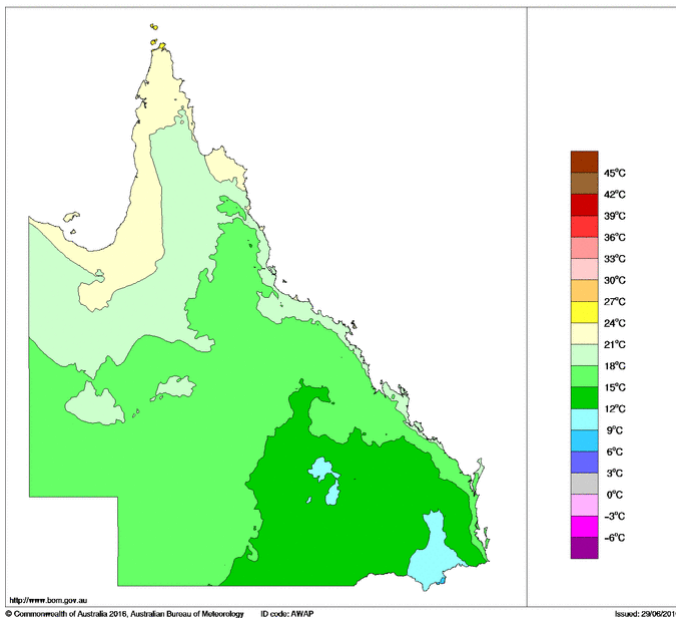


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Maximum Temperature (°C) 1 July 2015 to 30 June 2016
 Australian Bureau of Meteorology



Minimum Temperature (°C) 1 January to 31 December 2015
 Australian Bureau of Meteorology



Description of the Railway

The track (1067 mm gauge) on the South Western System is mix of 41/30/20 kg rail on timber and some steel sleepers.

Axle Loadings

Maximum axle loads used throughout this document have been determined by either the track configuration or the railway structures below rail. Railway structures were designed for axle loads, axle spacings and vehicle lengths that produce bending moments roughly equivalent to the moments for metric Cooper's loadings as follows :-

Maximum axle load	Metric Cooper's Loading
26 tal	M 220
20 tal	M 160
15.75 tal	M 130

With most of this System, the track and structures are rated at a lesser axle load capacity namely, 12.2 tal, 10.62 tal, 8,8 tal and Railmotor.

Basic Track Configuration

Basic track configuration is detailed on **APPENDIX B - SCHEMATIC LAYOUTS**.

Miles to Roma

From Miles, the single track railway continues west to Roma. There are eight crossing loops on this section namely Drillham, Dulacca, Grainco, Yuleba, Wallumbilla, Blythdale, Roma and Roma West.

Track structure is 41 kg/m on steel and timber sleepers at a rate of 1 steel in every 2 sleepers. The maximum allowable axle load is 15.75 tal and available for double header block trains only.

The maximum allowable speed is 70 km/h.

The maximum grade (not compensated for horizontal alignment) that a westbound (Up) train will encounter is 1 in 50 whilst for an eastbound (Down) train the maximum grade is 1 in 50.

Existing minimum nominal horizontal curve radii are as follows :-
 running line 400 m

Corridor	Miles to Roma
Line Section Code	565, 566
System	Western
No. of Tracks	1
Route Km	140.513
Track Km	140.513
Electrified	No
Safeworking System	DTC
Control Centre	5th Floor RC1

Crossing Loops	No.		8
	Location and Length		Drillham (549tp), Dulacca (477tp), Grainco (468m), Yuleba (760tp), Wallumbilla (1330tp), Blythdale (593tp), Roma Station (539m), Roma West (872tp)
Bridges	Timber	No. of Bridges	26
		No. of Spans	320
		Length (m)	1889.3
	Steel	No. of Bridges	11
		No. of Spans	98
		Length (m)	754.9
	Concrete	No. of Bridges	2
		No. of Spans	14
		Length (m)	139.2
Overbridges (No. of Bridges)	Timber		0
	Steel		0
	Concrete		1
Tunnels	Number		0
	Length (m)		0
Curves (% of total track)	<80km/h		2
	<60km/h		0
Level Crossings	Public		40
	Occupation		2
	Fl. Lights		3
	Boom gte		0
Track Structure	Rail Mass		41kg
	Jointed		SWR
	Sleeper Type		T/S1in2
Maximum Allowable Axle Load		(tal)	15.75
Route Speed km/h	Pass		70
	Frnt		70
	Block		70
	Max Container Height - (m)		2.9
Allowable Gross Tonnes p.a. ("000")			2,000

Fencing along this corridor complements adjacent land usage and is at the following standard, poor (60 %), medium (35 %) and good (5 %). Fencing will be maintained at its current standard.

Roma West to Charleville (265.4 km)

From Roma, the single track railway continues west to Charleville on the banks of the Warrego River. There are thirteen crossing loops on this section namely Muckadilla, Grainco, Amby, Mitchell, Womalilla, Amboola, Mungallala, Dulbydilla, Morven, Angellala, Sommariva, Arabella and Charleville.

Track structure is predominantly, nominal 30 kg/m rail on steel and timber sleepers at a varying rate of 1 steel in every 2, 3 or 4 sleepers. There is 67 kilometres of 41 kg/m rail.

The maximum allowable axle load is 15.75 tal with double header block trains permitted as far as Muckadilla.

The maximum allowable speed is 70 km/h excepting the following localised restriction:-

- 30 km/h maximum speed over the Maranoa River bridge at 435.010 km

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The maximum grade (not compensated for horizontal alignment) that a westbound (Up) train will encounter is 1 in 50 whilst for an eastbound (Down) train the maximum grade is 1 in 50.

Existing minimum nominal horizontal curve radii are as follows :-
 running line 160 m

Fencing along this corridor complements adjacent land usage and is at the following standard, poor (40 %), medium (50 %) and good (10 %). Fencing will be maintained at its current standard.

Corridor		Roma to Charleville	
Line Section Code		567, 568	
System		Western	
No. of Tracks		1	
Route Km		265.478	
Track Km		265.478	
Electrified		No	
Safeworking System		DTC	
Control Centre		5th Floor RC1	
Crossing Loops	No.	13	
	Location and Length	Muckadilla (358m), Grainco (474), Amby (345m), Mitchell (337m), Womallila (364m), Amboola (780m), Mungallala (349m), Dulbydilla (354m), Morven (357m), Angellala (373m), Sommariva (346m), Arabella (367m), Charleville (665m)	
Bridges	Timber	No. of Bridges	49
		No. of Spans	380
		Length (m)	2234.7
	Steel	No. of Bridges	11
		No. of Spans	73
		Length (m)	654.4
	Concrete	No. of Bridges	3
		No. of Spans	39
		Length (m)	529
Overbridges (No. of Bridges)		Timber	1
		Steel	0
		Concrete	0
Tunnels		Number	0
		Length (m)	0
Curves (% of total track)	<80km/h		5
	<60km/h		1
Level Crossings	Public		32
	Occupation		23
	Fl. Lights		6
	Boom gte		0
Track Structure	Rail Mass	67km of 41kg/m, remaining is 30kg	
	Jointed	SWR/B	
	Sleeper Type	T/S1in2, T/S1in3, T/S1in4	
Maximum Allowable Axle Load		(tal)	15.75
Route Speed km/h	Pass		70
	Frt		70
	Block		70
		Max Container Height - (m)	2.9
Allowable Gross Tonnes p.a.("000")			1,000

Charleville to Cunnamulla (194.9 km)

From Charleville, the single track railway heads south to Westgate (junction station for the line to Quilpie) then on to Cunnamulla on the banks of the Warrego River. There are three crossing loops on this section Wyandra, Wyandra Cattle and Cunnamulla.

Track structure between Charleville and Westgate is 30 kg/m on steel and timber sleepers at a rate of 1 steel in every 3 sleeper. The section between Westgate and Cunnamulla is a combination of nominal 30 kg/m and 20 kg/m rail on timber sleepers.

The maximum allowable axle load is 10.62 tal.

The maximum allowable speed is 60 km/h to 697.000 km then 50 km/h into Cunnamulla.

The maximum grade (not compensated for horizontal alignment) that a southbound (Up) train will encounter is 1 in 100 whilst for a northbound (Down) train the maximum grade is 1 in 100.

Existing minimum nominal horizontal curve radii are as follows:-
 running line 400 m

40% of this corridor is fenced and complements adjacent land usage at the following standard, poor (12 %), medium (25 %) and good (63 %). Fencing will be maintained at its current standard.

Corridor		Charleville to Westgate	Westgate to Cunnamulla	
Line Section Code		713	714, 715	
System		Western	Western	
No. of Tracks		1	1	
Route Km		20.56	175	
Track Km		20.56	175	
Electrified		No	No	
Safeworking System		DTC	DTC	
Control Centre		5th Floor RC1	5th Floor RC1	
Crossing Loops	No.	0	3	
	Location and Length		Wyandra (164m), Wyandra Cattle (389m), Cunnamulla (314)	
Bridges	Timber	No. of Bridges	0	2
		No. of Spans	0	32
		Length (m)	0	207.4
	Steel	No. of Bridges	3	28
		No. of Spans	5	165
		Length (m)	29	1162.0
	Concrete	No. of Bridges	0	0
		No. of Spans		
		Length (m)	0	0
Overbridges (No. of Bridges)		Timber		
		Steel		
		Concrete		
Tunnels	Number	0	0	
	Length (m)	0	0	

Curves (% of total track)	<80km/h	0	0
	<60km/h	0	0
Level Crossings	Public	3	16
	Occupation	1	34
	Fl. Lights	0	0
	Boom gte	0	0
Track Structure	Rail Mass	30kg	30/20kg
	Jointed	B	B
	Sleeper Type	T/S1in3	T
Maximum Allowable Axle Load	(tal)	10.62	10.62
Route Speed km/h	Pass	60	60 /50
	Frnt	60	60 /50
	Block	60	60 /50
	Max Container Height - (m)	2.65	2.65
Allowable Gross Tonnes p.a.("000")		500	100

Westgate to Quilpie (200.7 km)

From Westgate on the Charleville to Cunnamulla section, the single track railway heads west to Quilpie on the banks of the Bulloo River, in the process crossing the Warrego River 8 km outbound. There are five crossing loops on this section namely Wanko, Coothalla, Cheepie, Coolbinga and Quilpie.

Track structure is nominal 30 / 21 kg/m rail on timber sleepers.

The maximum allowable axle load is 10.62 tal.

The maximum allowable speed is 60 km/h with the speed of coupled locomotives restricted to 40 km/h.

The maximum grade (not compensated for horizontal alignment) that a westbound (Up) train will encounter is 1 in 44 whilst for an eastbound (Down) train the maximum grade is 1 in 44 (Warrego River).

Existing minimum nominal horizontal curve radii are as follows:-
 running line 160 m

Corridor	Westgate to Quilpie	
Line Section Code	716, 717, 121	
System	Western	
No. of Tracks	1	
Route Km	201.08	
Track Km	201.25	
Electrified	No	
Safeworking System	DTC	
Control Centre	5th Floor RC1	
Crossing Loops	No.	5

	Location and Length	Wanko (217m), Coothalla (356m), Cooladdi (144), Cheepie (360m), Coolbinga (360m), Quilpie (431m)	
Bridges	Timber	No. of Bridges	45
		No. of Spans	405
		Length (m)	1919.6
	Steel	No. of Bridges	0
		No. of Spans	3
		Length (m)	40
	Concrete	No. of Bridges	0
		No. of Spans	
		Length (m)	0
Overbridges (No. of Bridges)	Timber		
	Steel		
	Concrete		
Tunnels	Number	0	
	Length (m)	0	
Curves (% of total track)	<80km/h	5	
	<60km/h	0.1	
Level Crossings	Public	17	
	Occupation	41	
	Fl. Lights	0	
	Boom gte	0	
Track Structure	Rail Mass	30/20kg	
	Jointed	B	
	Sleeper Type	T	
Maximum Allowable Axle Load		(tal)	10.62
Route Speed km/h	Pass		60
	Frnt		60
	Block		
	Max Container Height - (m)		2.65
Allowable Gross Tonnes p.a.("000")			500

Fencing along this corridor complements adjacent land usage and is at the following standard, poor (25 %), medium (70. %) and good (5 %). Fencing will be maintained at its current standard.

Miles to Wandoan (69.4 km)

A single track railway heads north north west from Miles to Wandoan. There are three crossing loops on this section namely Wubagul, Whitley's Siding and Wandoan.

Track structure is roughly 50% 41 kg/m rail and 50% 30 kg/m rail (SWR / B) on steel and timber sleepers at a varying rate of 1 steel in every 3 or 4 sleepers.

Corridor		Miles to Wandoan	
Line Section Code		564	
System		Western	
No. of Tracks		1	
Route Km		69.65	
Track Km		69.65	
Electrified		No	
Safeworking System		DTC	
Control Centre		5th Floor RC1	
Crossing Loops	No.	3	
	Location and Length	Wubagul (360m), Whitleys Siding (350m), Wandoan Loop (572m), Wandoan Main (568m)	
Bridges	Timber	No. of Bridges	52
		No. of Spans	280
		Length (m)	1481.3
	Steel	No. of Bridges	0
		No. of Spans	7
		Length (m)	66.5
	Concrete	No. of Bridges	0
		No. of Spans	0
		Length (m)	0
Overbridges (No. of Bridges)		Timber	0
		Steel	0
		Concrete	0
Tunnels		Number	0
		Length (m)	0
Curves (% of total track)	<80km/h		15
	<60km/h		4
Level Crossings	Public		16
	Occupation		18
	Fl. Lights		3
	Boom gte		0
Track Structure	Rail Mass		33km of 30kg, 37km of 41kg
	Jointed		B/SWR
	Sleeper Type		15.3km T/S1in3, 50.8km T/S1in4, T
Maximum Allowable Axle Load		(tal)	15.75
Route Speed km/h	Pass		30
	Frnt		30
	Block		30
Max Container Height - (m)			2.65
Allowable Gross Tonnes p.a. ("000")			1,000

The maximum allowable axle load is 15.75 tal.

The maximum allowable speed is 30km/h with the branch available for double header block trains.

The maximum grade (not compensated for horizontal alignment) that a northbound (Up) train will encounter is 1 in 50 whilst for a southbound (Down) train the maximum grade is 1 in 50.

Overbridges (No. of Bridges)		Timber	0
		Steel	0
		Concrete	0
Tunnels		Number	0
		Length (m)	0
Curves (% of total track)	<80km/h		1
	<60km/h		0
Level Crossings	Public		18
	Occupation		16
	Fl. Lights		0
	Boom gte		0
Track Structure	Rail Mass		30kg
	Jointed		B
	Sleeper Type		T
Maximum Allowable Axle Load		(tal)	15.75
Route Speed km/h	Pass		30
	Frnt		30
	Block		30
	Max Container Height - (m)		2.65
Allowable Gross Tonnes p.a. ("000")			300

Dalby to Glenmorgan (165.4 km)

From Dalby this single track railway heads west towards the Surat basin and Glenmorgan. There are seven passing loops on this section namely Yumborra, Kupunn, Kumbarilla, Tara, The Gums, Meandarra and Glenmorgan.

Track structure is combination of 41 kg/m and nominal 30 kg/m rail on timber and steel sleepers at a rate of 1 steel in every 4 sleepers.

The maximum allowable axle load from Dalby to Meandarra is 15.75 tal and from Meandarra to Glenmorgan is 10.62 tal.

The maximum allowable speed from Dalby to Ducklo is 50 km/h, Ducklo to Kumbarilla is 60 km/h, from Kumbarilla to Tara is 70 km/h, from Tara to Meandarra is 40 km/h and Meandarra to Glenmorgan is 30km/k. Double header block trains may run at the maximum line speed with triple header block trains permitted between Dalby and Meandarra at 10 km/h less than the maximum line speed. No block trains are permitted between Meandarra and Glenmorgan.

The maximum grade (not compensated for horizontal alignment) that a westbound (Up) train will encounter is 1 in 44 whilst for an eastbound (Down) train the maximum grade is 1 in 44.

Existing minimum nominal horizontal curve radii are as follows :-
 running line 400 m

Corridor	Dalby to Meandarra	Meandarra to Glenmorgan
Line Section Code	559	345
System	Western	Western
No. of Tracks	1	1
Route Km	143.61	22.21
Track Km	143.61	22.21
Electrified	No	No
Safeworking System	DTC	DTC

Control Centre			5th Floor RC1	5th Floor RC1
Crossing Loops	No.		6	1
	Location and Length		Yumborra (465m), Kupunn (400m), Kumbarilla (701m), Tara (557m), The Gums (487m), Meandarra (699m)	Glenmorgan (227m)
Bridges	Timber	No. of Bridges	31	5
		No. of Spans	177	32
		Length (m)	860	141.7
	Steel	No. of Bridges	0	0
		No. of Spans	0	0
		Length (m)	0	0
	Concrete	No. of Bridges	0	0
		No. of Spans	0	0
		Length (m)	0	0
Overbridges (No. of Bridges)		Timber	0	0
		Steel	0	0
		Concrete	0	0
Tunnels			Number	0
			Length (m)	0
Curves (% of total track)	<80km/h		1	1
	<60km/h		0	0
Level Crossings	Public		37	4
	Occupation		51	4
	Fl. Lights		4	0
	Boom gte		0	0
Track Structure	Rail Mass		41/30kg	41/30kg
	Jointed		SWR	SWR/B
	Sleeper Type		T, T/S1in4	T, T/S1in4
Maximum Allowable Axle Load		(tal)	15.75	10.62
Route Speed km/h	Pass		50 /60 /70 /40	30
	Frt		50 /60 /70 /40	30
	Block		50 /60 /70 /40	
Max Container Height - (m)			2.65	2.65
Allowable Gross Tonnes p.a. ("000")			1,000	1,000

This corridor is fenced between Dalby and Meandarra with the fencing complementing adjacent land usage and at the following standard, poor (15 %), medium (10 %) and good (75 %). Fencing will be maintained at its current standard.

Description of the Track

The track on this system is a mix of 47 kg/m, 41 kg/m, 30 kg/m and 20 kg/m rail with the associated sleeper types namely steel and timber on crushed rock and sand ballast. The steel sleepers generally are installed at a rate of 1 in 4 sleepers. The rails are a combination of short, short welded (SWR) and long welded (LWR) all bolted.

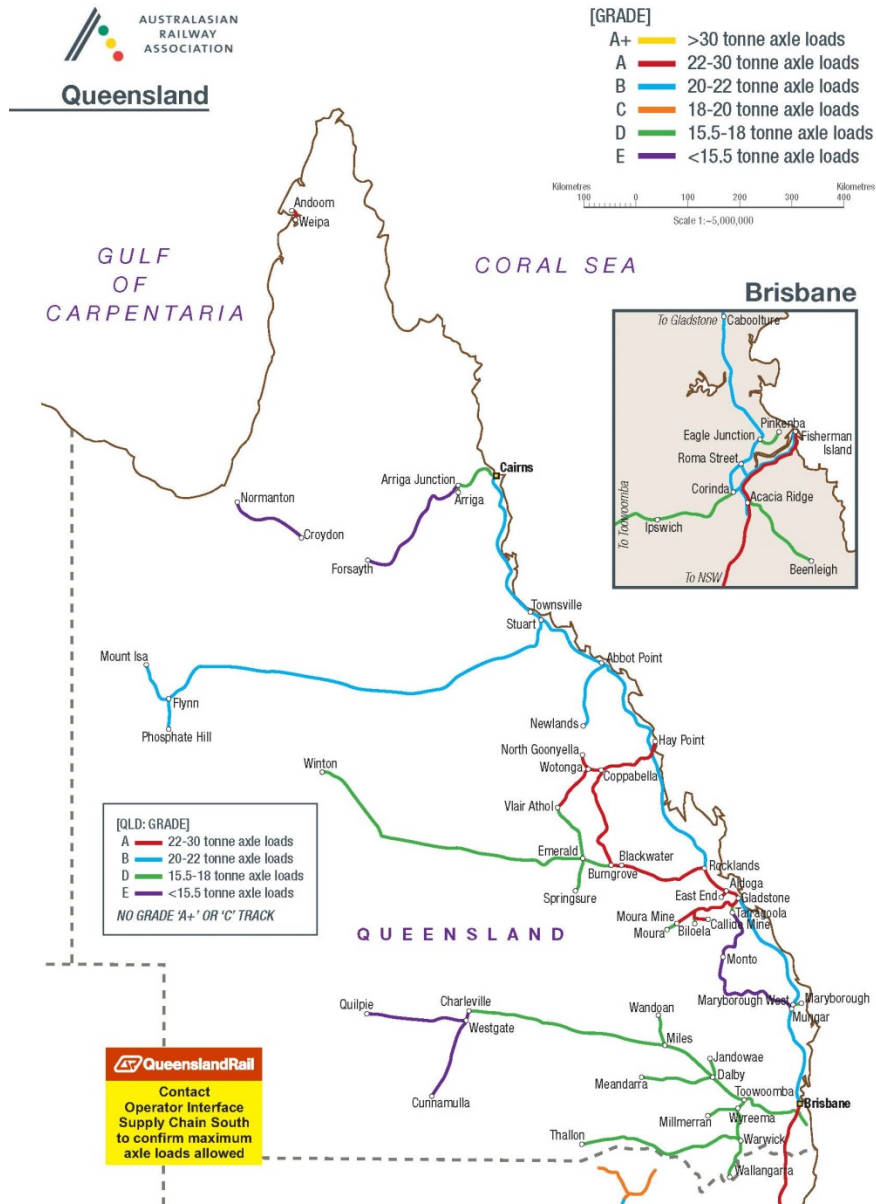
Speeds through the curved leg of turnouts are governed by the angle of that turnout ie.

1 in 12	25 km/h
1 in 16	50 km/h
1 in 25	80 km/h

In general, curves (with the exception of turnout curves) are transitioned.
Issue 3.0 – October 2016

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Track Data and Grade Diagrams for the following major route are included in Appendix E.



Operational Constraints - Infrastructure

During the summer months of high temperatures, hot weather precautions for track stability are observed to reduce the risk of incident in accordance with Safety Management Standard **MD-10-143 Hot Weather Precautions for Track Stability**, namely :-

Air Temperature 38°C and above	-	On timber sleepers track, restrict trains to 60 km/h (#) On concrete sleepers track, restrict all trains to 120 km/h
Air Temperature 40°C and above	-	On timber sleepers track, restrict trains to 40 km/h (#) On concrete sleepers track, restrict all trains to 60 km/h

(#) Steel sleepers track and timber sleepers track with interspersed steel sleepers shall be regarded as equivalent to timber sleepers track for track stability.

Speed restrictions may also be put in place after maintenance activities in accordance with Queensland Rail Safety Standards.

The extent of restriction will depend upon the type of maintenance activity and risk of track misalignments.

Force Majeure Events will also see the imposition of speed restrictions, the extent and severity of the restrictions being dependent on the event.

Trackside Detection Equipment

There is no Trackside Detection Equipment in this system.

Weighbridges

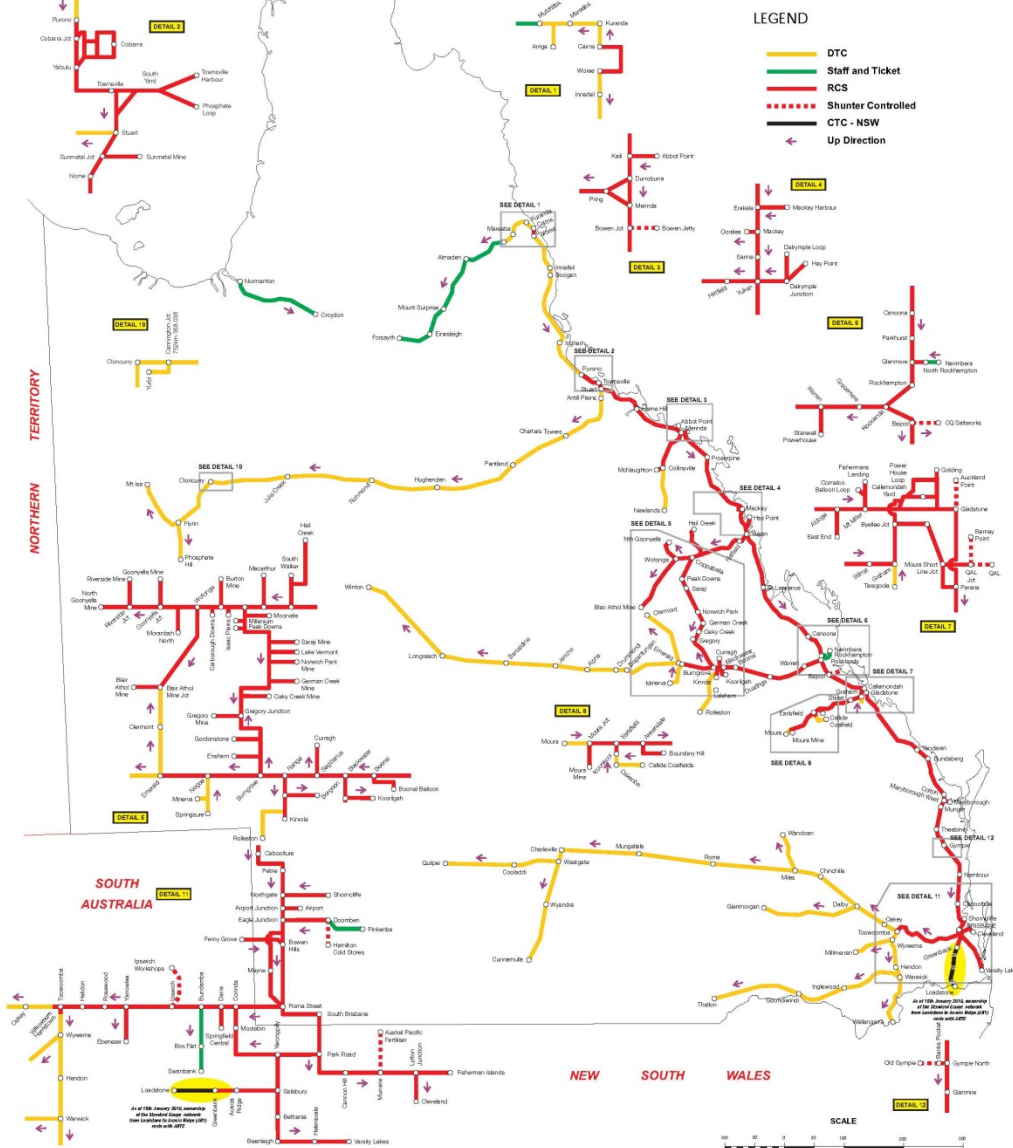
There are no weighbridges on this System as described herein.

Operational Systems & Train Control

The Western System is operated by Direct Traffic Control (DTC) with train movements controlled from Brisbane.

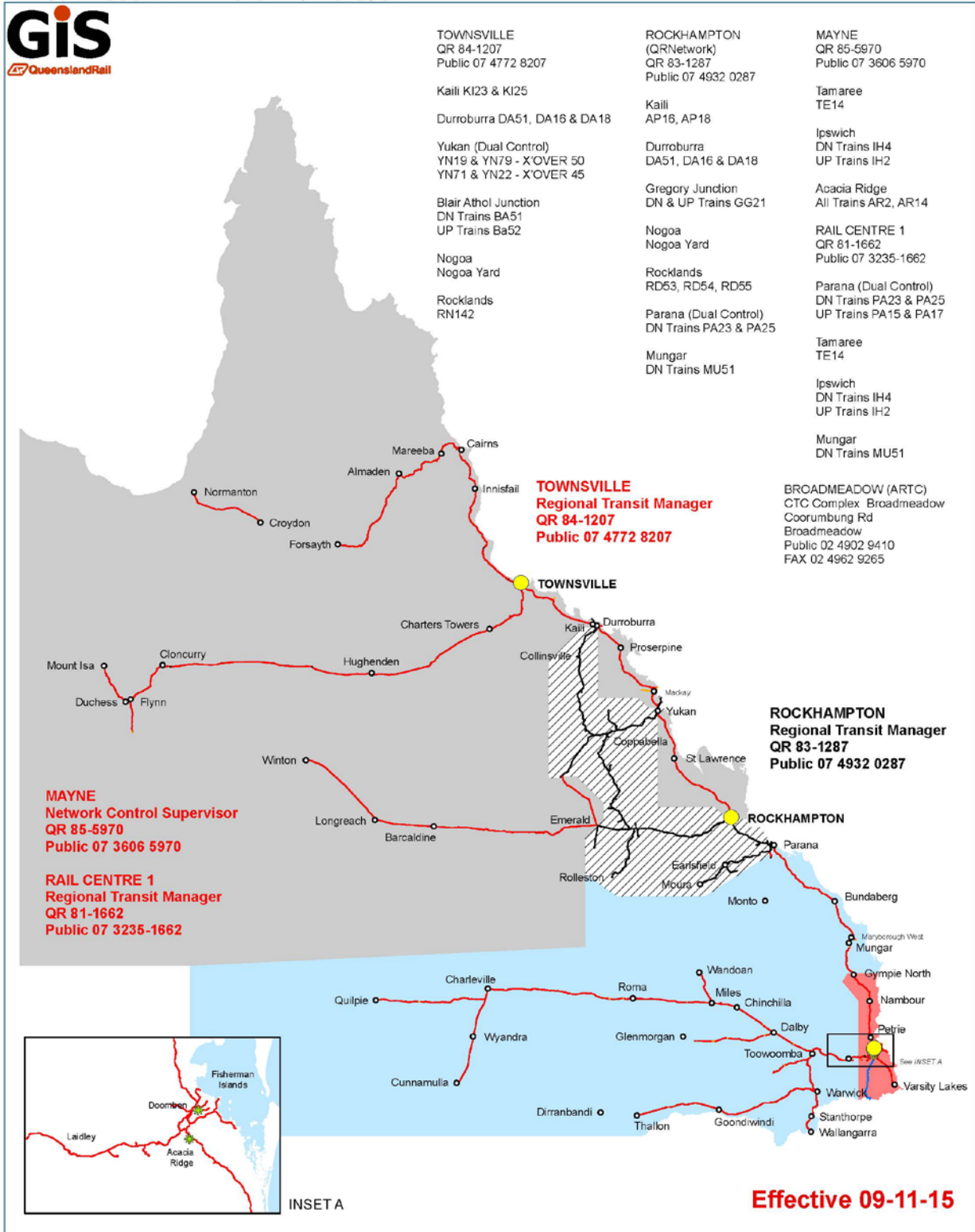
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Queensland Rail SAFEWORING SYSTEMS



Safeworking_QRNetwork
 (Drawing Modified - December 14 - Ebenezer - RCS)

Filename: X:\GIS_Requests\MAPPING\GIS_GIS_PROD\CTD\2016\Townsville\Network_Control\Townsville\Project\Network_Control_Regions_20-09-2016.mxd



0 85,000 170,000 340,000
 Metres
 1:6,723,56 (when printed at A3)

Data Sources:
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 © 2016, PB Map Info Corporation

Legend

- Network Control Centres
- Stations
- Signalling Centres
- ARTC
- AURIZON
- PRIVATE
- QUEENSLAND RAIL
- Aurizon Network
- Mayne [BSA]
- Townsville
- RC1 Control

COMPANY

NETWORK CONTROL REGIONS and SIGNALLING CENTRES

CREATED BY: JPL - BPR003
 LAST MODIFIED: JPL - 03 MAR 2016

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Information Systems

ViziRail is the key software system designed as a tool for use in integrated scheduling, possession planning, monitoring and reporting on the Queensland Rail network.

Functionality includes modules:

- Train notices
- Actual train running (ATR)
- Incidents
- Train consists (Train Builder)
- Speed restrictions
- Rollingstock allocations
- Rollingstock maintenance
- Fresh turnouts
- Planning graphs
- Scheduling enhancements
- Possession enhancements
- OTIS (Operational to Information Systems) - which converts train steps to actual arrival and departure train information.

Operational Constraints - Rollingstock

All new rollingstock requires to be accepted via the Rollingstock Authorisation Process, rollingstock which conforms with Drawing Nos. 2236 may operate in an unrestricted manner on main lines.

For rollingstock to conform with Drawing Nos. 2236 the static rollingstock profile must be within the diagram, refer **APPENDIX H - Rollingstock Gauges**. As well as the static component, dynamic effects need to be considered and these effects are contained within Rollingstock Interface Standards.

Rollingstock not conforming to these drawings may be accepted via the Rollingstock Authorisation Process and may be operated subject to constraints / limitations imposed as a result of the Authorisation Process.

Potential railway operators should ensure that they have the latest revision of these drawings before the planning and construction of rollingstock.

Communications

Communications on the Western System between Driver and Controller is via a UHF radio system (Train Control Radio - TCR) utilising a number of Queensland Rail channels and frequencies. Transceivers “auto” switch channels to suit geographical location. Frequency specification and coverage details are available as part of the “Access Enquiry Process”. Control phones are located at Staff Stations only.

Access to the Maintenance Supervisory Radio System (MSR) can be gained by using Queensland Rail telephone extensions depending on location or UHF radio system utilising Queensland Rail channels.

In addition, all current locomotives (including Multiple Units and Miscellaneous Vehicles such as Rail Motors) carry and all units new to the system will be required to carry a UHF radio operating on Queensland Rail Channel 1. This provides on-board and wayside communications including end to end, train to train and train to track gangs over a distance on average of 8- 10 km.

Communications on board locomotives must conform to **Queensland Rail's Safety and Security Standard MD-10-86 - Mobile Voice Radio Communications Systems**.

Sectional Running Times

The sectional running times, expressed as minutes, for various types of trains currently operating on the system are contained in **APPENDIX F**.

The sectional running times are "Pass to Pass", "Pass to Stop", "Start to Pass" and "Start to Stop" and vary depending on the characteristics of the trains.

Proposed train configurations would need to be confirmed by the relevant operator against the infrastructure constraints to determine if the sectional running times can be achieved. If the sectional running times cannot be achieved then different arrangements, including for access charges, may need to be negotiated as part of the access agreement negotiations.

Changes to the sectional running times for the system are also possible over time. Any changes would be confirmed as part of the access agreement negotiations.

Incident Recovery Time and Management

Historically it is anticipated that on the Western System a minor incident could result in disruption to services for 6 hours and a major incident for 2 days.

Incident recovery is dependent on the nature, severity and location of each unique incident that may occur on this system.

As the western part of this System forms part of the Channel Country, with its intricate river networks, this region is prone to flooding for lengthy periods as a result of summer rains in central Queensland.

To enable quick response in case of emergency, latitudes and longitudes of passing loops where the general direction of the railway alters, are detailed below:

Location	Latitude	Longitude
Miles	26° 38' S	150° 11' E
Roma	26° 33' S	148° 47' E
Mitchell	26° 28' S	147° 58' E

Morven	26° 24' S	147° 06' E
Charleville	26° 23' S	146° 15' E
Westgate	26° 34' S	146° 11' E
Cooladdi	26° 37' S	145° 27' E
Quilpie	26° 35' S	144° 16' E
Wyandra	27° 14' S	145° 58' E
Cunnamulla	28° 03' S	145° 40' E
Tara	27° 15' S	150° 27' E
Glenmorgan	27° 15' S	149° 40' E
Jandowae	26° 45' S	151° 06' E
Wandoan	26° 03' S	149° 59' E

Rail / Road Interfaces

Operators on the Western System will encounter **338 Rail / Road** Interfaces (see Appendix C for details) categorised as follows:-

Public (Active with Flashing Light/Boom Gate Protection)	- 46
Public (with Passive Protection - Signs)	- 138
Occupation (Private Access)	- 154

Rail Operations and the Environment

All railway operators are required to comply with all relevant State, Federal and Local Legislation and Laws, current at the time, relating to the management and protection of the Environment.

Queensland Rail currently has a number of licences and/or approvals for activities undertaken at either Queensland Rail facilities or on the Queensland Rail corridor. Queensland Rail's licences and approvals fall under two main areas:

1. Fixed Locations;

Queensland Rail has a number of licences for activities managed by its operational Business Groups in particular locations, such as refuelling locations.

2. Itinerant or Varied Locations;

Queensland Rail also has a number of licences for activities that occur at more than one location, such as maintenance activities.

Railway operators will need to ascertain with the Department of Environment and Heritage Protection or Other Regulatory Body their responsibilities in regard to obtaining an Environmental Authority(ies) for the type of operation proposed.

Copies of all Environmental Authorities administered by the Department within Queensland are available upon request from the Department. The Department of Environment and Heritage Protection contact details can be found via the web at

<https://www.ehp.qld.gov.au/>

Environmental Noise

The Environmental Protection (Noise) Policy (EPP Noise) recognises a railway as a beneficial asset, which is necessary for the community's environmental, social and economic well-being. The Environmental Protection (Noise) Policy is available via the Office of the Queensland Parliamentary Council website at

<http://www.legislation.qld.gov.au/OQPChome.htm>

The EPP Noise nominates "planning levels" for railway noise which may be used as a guide in deciding a reasonable noise level for the activity. The EPP Noise recognises, however, those levels may not be appropriate for an existing railway. It envisages that it may be reasonable to apply the levels only in the long term to allow time to progressively reduce any significantly adverse effects on the environmental values from its operation. The long term planning levels are:

L_{Aeq} (24 hour)	65dBA
L_{Amax}	87dBA

They are to be assessed one (1) metre in front of the most exposed part of the building facade of an affected noise sensitive place.

Noise Management

While noise from the operation of a railway is exempt from environmental nuisance provisions under the Queensland Environment Protection Act 1994, Queensland Rail strives to manage noise associated with both its rail operations and network wherever reasonable and practical.

As the rail manager, Queensland Rail works closely with customers regarding environmental issues, and provides feedback to Rail Operators to allow them to investigate and address as applicable, noise related issues that may be associated with their locomotives and wagons.

There are various sources of noise from a railway and to aid efficient and effective noise reduction, a range of noise management measures are utilised by Queensland Rail. These are detailed at:

<http://www.queenslandrail.com.au/inthecommunity/environment/noisemanagement>

Wheel Squeal & Flanging

Wheel Squeal is caused by friction forces between the top of rail and wheel interface. Whereas, flanging noise is predominantly caused by friction forces between the side of rail and wheel interface. Continuous or sustained wheel squeal produced primarily on the low rail side, is distinct from discontinuous “flanging noise” that is produced on the high rail side. Continuous wheel squeal is of a high level, and Queensland Rail’s experience is that it may cause significant community reaction, while flanging noise is of a lower level and is more accepted by the community.

Generally, tighter radius curves (i.e. under 300 metre radius) when associated with a number of rollingstock factors that promote wheel squeal, may result in squeal being produced. Rollingstock factors that may promote wheel squeal include:

- Higher wheel hardness
- Stiff primary suspensions
- High centre plate friction
- Worn wheel treads
- Misaligned axles
- Unmatched wheel tread diameters, and
- Incorrectly adjusted sidebearers

Noise Complaints

Queensland Rail is corporately committed to act towards its neighbours in a considerable and reasonable manner. This good neighbour commitment assumes a reasonable degree of tolerance from neighbours and a commitment by Queensland Rail to take action where appropriate.

Where Queensland Rail receives complaints about noise from railway activities for which Queensland Rail may be responsible, Queensland Rail responds to those complaints and maintains records of those complaints in accordance with its Environmental Management System (EMS).

Where available, generic data will be supplied on request to a third party operator who is proposing operations within a defined network. That data will indicate those areas where Queensland Rail has received prior complaints relating to its train operations. It will be made available when a third party operator is undertaking the development of its Environmental Investigation and Risk Management Report as part of its Access Agreement conditions.

Third Party Requirements

Any railway operator obtaining access to Queensland Rail’s Network shall be required to commission an environmental investigation of the proposed operations. This investigation will be conducted by a suitably qualified person, reasonably acceptable to both parties.

In response to the findings of such an investigation, the operator shall produce an Environmental Investigation and Risk Management Report that identifies the risks of Environmental Harm associated with the operation and provides proposed controls to address the risks. This shall be reviewed by, and agreed with, Queensland Rail.

In addition, the operator shall have in place an EMS, which, amongst other things, has regard for the issues, risk and control measures identified in the Environmental Investigation and Risk Management Report. Further details on requirements for environmental issues can be found in Queensland Rail's Access Undertaking.

Queensland Rail has determined that it holds no EMS documentation that, without disclosure to a third party operator, would either:

- Compromise or restrict a third party's operations or increase or place at risk the environmental performance of the third party operator or itself, and
- Limit or restrict the abilities of a third party operator to develop such documentation that would not be reasonably expected of the operator to develop on its own behalf, commensurate with the size and subsequent environmental risks of the proposed operations and the organisational resources available to it, to undertake such operations.

Any EMS documentation (wholly or partially) identified as specifically relating to the control of corridor infrastructure (below rail) environmental issues, will be made available to the operator to assist in formulating appropriate and consistent operational (above rail) controls within their Environmental Investigation and Risk Management Report and EMS.

Maximum Train Length

The maximum length of trains is determined by:

- requirements for crossing/passing other trains
- requirements for braking performance of the train
- capacity of the route
- drawgear capacity
- train handling
- requirements for road/pedestrian access across the track

Where it is necessary for a train to cross, pass or be passed by another train, the maximum train length allowable shall be such that the comparison train length (including allowance for stretching and train handling) is not longer than the crossing loop length.

Variations of train length for a particular train configuration is possible and would need to be negotiated as part of access agreement negotiations.

Variations of train length for a particular train configuration are possible and would need to be negotiated as part of access agreement negotiations.

Rollingstock Braking Rate

The signalling system and flashing light protection at rail / road interfaces has been designed to cater for the variety of trains that currently use this system.

Signal design parameters and train braking characteristics will be compared during the development of the Interface Risk Management Plan.

Future Infrastructure Improvements

No major infrastructure improvements identified

Infrastructure Management and Access

APPENDIX B - SCHEMATIC LAYOUT is colour coded to indicate Management of Infrastructure and Access.

Third party access to non-Queensland Rail managed infrastructure is by commercial arrangement with the relevant party.

The initial point of contact for Queensland Rail managed below rail assets is:

General Manager Access Revenue

Level 9 | 305 Edward Street
Brisbane Qld 4001
Telephone 61 07 3072 1145
Facsimile 61 07 3072 8248
Email: aarf@qr.com.au

APPENDIX A

Definitions (Statewide)

Access Agreement

Access Agreement means an agreement between Queensland Rail and an Access Holder for the provision of Access.

Access Undertaking

A document approved by the Queensland Competition Authority (QCA) in accordance with the QCA Act 1997 (Q) that sets out principles for negotiating access to Queensland Rail's declared services.

Accreditation

Accreditation in accordance with part 4, Chapter 6 of the Transport Infrastructure Act 1994 (Qld) and "Accredited" has a similar meaning.

ATP (Automatic Train Protection)

Automatic Train Protection is a computer controlled system designed to make sure the train

- does not exceed the current speed limit
- does not exceed the limit of authority generated by the interlocking (and usually indicated by a signal at STOP)
- does not make unreasonable train movements during shunting, when stationary, or at startup

AWS (Automatic Warning System)

Automatic Warning System is designed to

- provide an in-cab visible and audible indication of the aspect displayed in the next signal
- prompt and warn the train driver of a RESTRICTED signal aspect displayed in the next signal
- stop the train if the driver fails to acknowledge the AWS alarm of a RESTRICTED signal aspect

Axle Counters

At some locations in Remote Controlled Signalling (RCS) Territory an axle counter system has been provided to detect occupancy of a section of track.

An axle counter at each end of a section determines whether an axle is entering or leaving the section and counts the number of axles passing the counter in each direction. By keeping an accurate count of axles into the section, then the number of axles out of the section, the system can determine if the section is occupied or not.

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Block Train

A train consisting entirely of similar classes of wagons of axle loads over 12.2 tonnes marshalled together for a certain class of traffic. The definition is also extended to cover trains in which 12 or more such wagons loaded to more than 12.2 tonnes gross per axle are included within a length of 315 metres or less of the train.

Crossing Loop Length

The maximum length in metres of the train which can be accommodated in the loop to allow normal operation of the signalling systems for crossing or passing movements.

Daily Train Plan (DTP)

Collectively, the scheduled times for all Train Services operating on Queensland Rail's Rail Infrastructure and any Planned Possession on a particular day.

Declared Services

Services declared as available for access by third party operators in accordance with the QCA Act 1997 (Q).

Declared Infrastructure

Infrastructure declared as available for access by third party operators in accordance with the QCA Act 1997 (Q).

Design Neutral Temperature

The rail temperature at which the track is designed to be stress free as defined in Queensland Rail's Civil Engineering Publication #26 "Rail Stressing Manual".

Direct Traffic Control (DTC)

Direct Traffic Control (DTC) is an absolute block safeworking system used to control the movement of trains in non-signalled territory.

Central to DTC is an on-board DTC computer which displays authorities stored in its database. The relevant authority is activated by the train crew following an exchange of codes between the crew and the controller. Codes are exchanged verbally using the train control radio.

The procedures governing the operation of DTC are detailed in Queensland Rail's Standard MD-10-113 "Direct Traffic Control Manual".

Dragging Equipment Detectors (DED)

A mechanism positioned on sections of track to detect any dragging equipment on train.

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Dragging Equipment Detectors Alarm (DED Alarm)

Part of the Queensland Rail System which advises the Train Controller either by a computer prompt message that a D.E.D. has been activated and the train driver by a recorded voice message.

Electromagnetic Compatibility (EMC)

The ability of an equipment or system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment.

Electric Train Staff

A 'token' system of train working between Interlockings on single lines in non track- circuited areas, where release of a token is controlled by electrically connected and interlocked instruments.

EPP (Noise)

Environmental Protection (Noise) Policy 1997; Subordinate Legislation to the Queensland Environmental Protection Act 1994.

Force Majeure Event

Means any cause, event or circumstance, or combination of causes, events or circumstances, which is beyond the reasonable control of the Party affected thereby and which by the exercise of due diligence such Party is not reasonably able to prevent or overcome, including but not limited to, results of abnormal weather conditions, act of God, breakdown of any facilities or machinery or unavailability of essential equipment, strikes or other industrial dispute.

Hot Wheel & Bearing Detectors (HWD/HBD)

Heat sensors located at strategic locations on the system that identify abnormal temperatures in wheels and wheel bearings as the train passes over, transmits a signal to the train control panel that necessitates an inspection of the suspect wagon and remedial action

Line Code

Line Code, a unique alpha-numeric identifier applied to a section of track on Queensland Rail's network and usually run from junction point to junction point. Each numeric identifier is unique and can be further rolled up into Corridors using the alpha identifier.

LWR

Long welded rail. Rail that has mechanical rail joints spaced at intervals between 110m and 220m.

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LSC

Line Section Code, a unique alpha-numeric identifier applied to a section of Queensland Rail's network.

Master Train Plan (MTP)

Collectively, the scheduled times as advised by Queensland Rail from time to time for all Train Services operating on Queensland Rail's Rail Infrastructure where such scheduled times remain unchanged from week to week, and any Planned Possessions.

Nominal Rail Size

Rail sizes 20, 31 and 41 kg/m are all nominal rail sizes used to group together a range of rail types and sizes originally designated in the imperial unit "lb/yd". The term "nominal" is used in recognition of the variation in the dimensions, mass and engineering properties of the rails in this category.

Ordinary Staff and Ticket Working

A token based system of safeworking where the movement of trains on bi-directional single lines is on possession of a staff token or ticket. Each section of single line has a unique token.

Staff & Ticket

The Staff and Ticket System allows for the movement of trains over a bidirectional track.

The Staff and Ticket System operates (in accordance with Queensland Rail's Standard MD-10-114) on the principle of absolute block working, which provides that only one train will be authorised to be on any one section at any one time.

Railway Operator

A person who has, or is seeking, Access from Queensland Rail to operate Train Services on the Rail Infrastructure and who is, or who will become, Accredited in respect of those Train Services.

Remote Controlled Signalling (RCS)

A system of Safeworking where train movements are governed by aspects displayed in Colour Light Signals which are controlled from a remote location and by the passage of trains. Some colour light signals and points may be released by the Train Controller to be operated from a local area by using:

- a local control panel;
- an electrically released shunting frame;
- a zone released shunting system, or
- emergency push buttons.

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Railway Operators trains are expected to meet existing signalling standards to ensure track circuits and other signalling equipment operate safely and effectively - in particular Queensland Rail's Standard MD-10-76 "Principles for the Signalling of Trains" must be complied with.

Rollingstock Authorisation Process

The process for determining and validating rollingstock compliance and registration as detailed in Queensland Rail's Standard MD-10-140 - Rollingstock Validation, Acceptance and Registration

Remote Train Overview Application (RTOA)

A PC based system providing real time operational information, gathering information on train running and rail network status for immediate and continuously updated display and historical analysis.

Being a multi-tier client-server application, different levels of access/security ensure confidentiality of an Operator's train performance statistics.

SN Speed Boards

Speed Normal Boards are speed boards that place the onus on the Driver of a train to travel at speeds considered safe for that section of track being travelled over. These boards are gradually being phased out in accordance with Queensland Rail's Civil Standard MD-10-87 - SPEED BOARDS

Standard Train

The predominant type of train operating on the line/system.

SWR

Short welded rail. Rail that has mechanical rail joints spaced at intervals less than 110m.

Train Authorisation

The process for acceptance of a train configuration whose rollingstock is registered under Queensland Rail's Standard MD-10-140 - Rollingstock Validation, Acceptance and Registration.

Train Length

The total length in metres of a train including the locomotives. For the purposes of comparison with the length of crossing loops, an addition of 1% (1 metre for every 100 metres) shall be allowed to the calculated length of the train to allow for train stretching.

Unit Train

A train composed entirely of the one class and one drawgear classification of rollingstock.

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Universal Traffic Control (UTC)

A PC based train control supervisory system that provides the means to remotely control train movements over a large area and provide management and train users with real time train related information.

ViziRail

A fully integrated scheduling, possession planning, monitoring and reporting tool for managing the Queensland Rail below-rail network.

ViziRail also supports the provision of all QCA and the Department of Transport and Main Roads reporting requirements.

Weather Monitoring System (WMS)

Remote weather monitoring stations providing critical information regarding temperature, rainfall and stream levels.

Wheel Impact Load Detector (WILD)

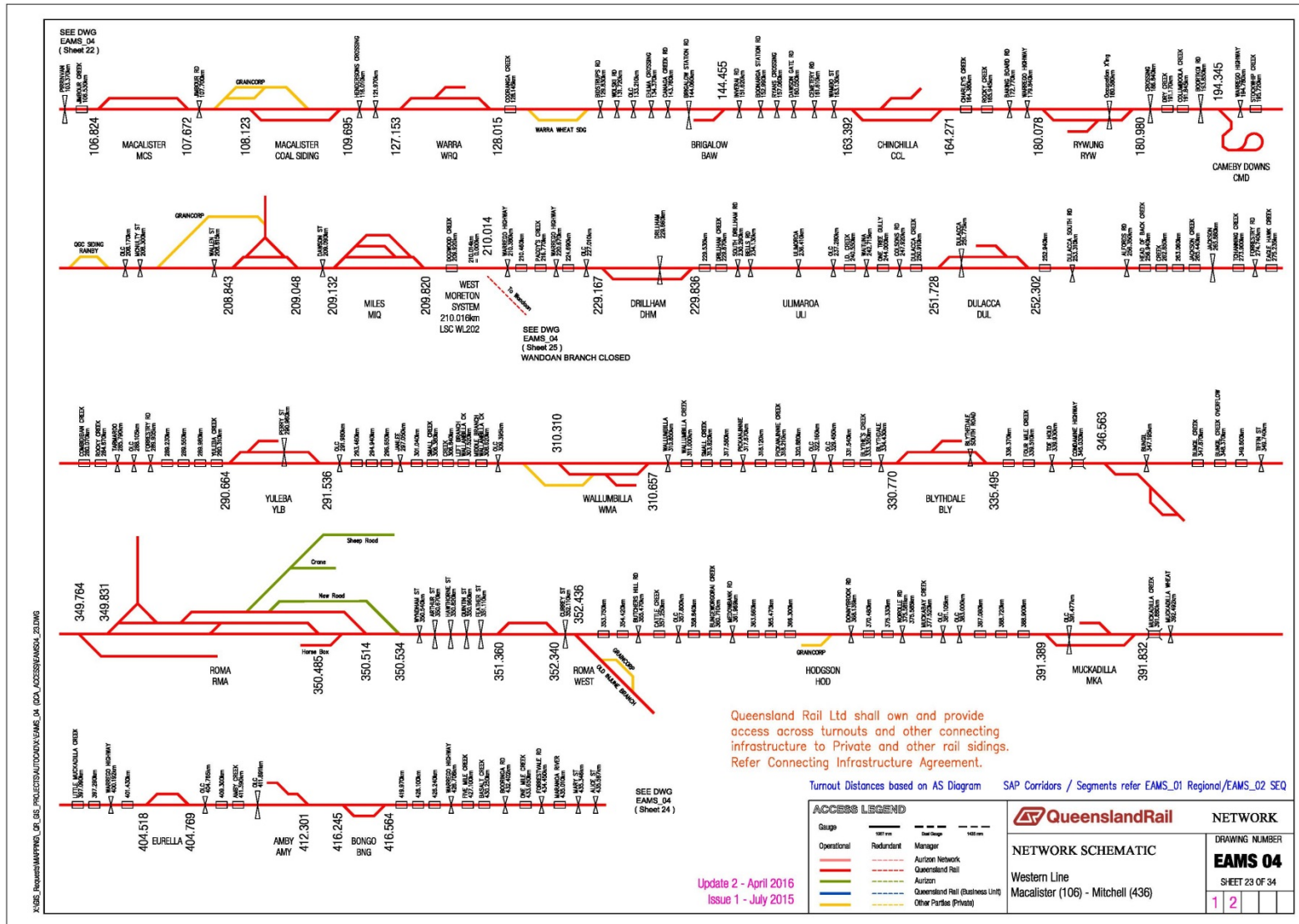
In track monitoring system to identify wheel flats.

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APPENDIX B

Schematic Layout

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 Issue 1 - July 2015

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APPENDIX C

Rail/Road Interface Details

		CROSSINGS BY LINE AND KILOMETRAGE					
SURVEY SECTION							
Description of Signage Types							
G	Giveway	PWB	Pedestrian Warning	T	Triangle		
N	New Signage Type	S	Stop	U	Unknown		
O	Other	SC	School Crossing	X	Crossbuck		
<u>Line Section Code</u>	<u>Km</u>	<u>Road Name</u>	<u>Type</u>	<u>Vehicular Protection</u>	<u>Signs</u>	<u>Open Status</u>	<u>Responsible Authority</u>
GLENMORGAN BRANCH							
559	0.990	Nicholson Street	Public Level	Flashing Lights		Open	LGA
559	1.450		Occupation	Signs	X T	Open	PRI
559	1.800	Warrego Highway	Public Level	Flashing Lights		Open	MRD
559	2.280	Showground Access Road	Occupation	Signs	X T	Open	PRI
559	3.020	Black Street	Public Level	Signs	X G	Open	LGA
559	4.170	Dalby Saleyards Access Road	Public Level	Signs	X G	Open	LGA
559	4.650	Incitec Access Road	Occupation	Signs	X T	Open	PRI
559	4.900	Watt Street	Public Level	Signs	X T	Open	LGA
559	5.530	Property Access Road	Occupation	Nil		Open	PRI
559	6.580		Occupation	Nil		Open	PRI
559	7.090	Gasworks Access Road	Public Level	Signs	X T	Open	LGA
559	9.770	Unnamed Road	Public Level	Signs	X T	Open	MRD
559	10.500		Occupation	Nil		Open	PRI
559	11.530	Daandine / Nandi Road	Public Level	Signs	X G	Open	MRD
559	15.400		Occupation	Nil		Open	PRI
559	16.180		Occupation	Nil		Open	PRI
559	16.980	Kupunn Road	Public Level	Signs	X G	Open	LGA
559	18.280	Crofts Road	Public Level	Signs	X T	Open	LGA
559	19.540		Occupation	Nil		Open	PRI
559	20.840	Unnamed Road	Public Level	Signs	X T	Open	LGA
559	22.200		Occupation	Nil		Open	PRI
559	23.480	Duleen / Daandine Road	Public Level	Signs	X T	Open	LGA
559	24.380		Occupation	Nil		Open	PRI
559	25.350		Occupation	Nil		Open	PRI
559	26.000	Property Access Road	Occupation	Nil		Open	PRI
559	26.880		Occupation	Nil		Open	PRI
559	27.940	Ducklo School Road	Public Level	Signs	X T	Open	LGA
559	28.980		Occupation	Nil		Open	PRI
559	30.650	Ducklo - Gulera Road	Public Level	Signs	X G	Open	LGA
559	31.710		Occupation	Nil		Open	PRI
559	34.650		Occupation	Nil		Open	PRI
559	36.330	Gulera Road	Public Level	Signs	X S	Open	LGA
559	37.900		Occupation	Nil		Open	
559	41.030		Occupation	Nil		Open	PRI
559	43.200	Kumbarilla Lane	Public Level	Signs	X T	Open	LGA
559	44.370		Occupation	Nil		Open	PRI
559	46.700	Property Access Road	Occupation	Nil		Open	PRI

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<u>Line Section Code</u>	<u>Km</u>	<u>Road Name</u>	<u>Type</u>	<u>Vehicular Protection</u>	<u>Signs</u>	<u>Open Status</u>	<u>Responsible Authority</u>
559	54.020	Unnamed Road	Public Level	Nil		Open	LGA
559	57.680	Weranga North Road	Public Level	Signs	X T	Open	LGA
559	64.400	Bungbah Road	Public Level	Signs	X T	Open	LGA
559	71.190	Goranba Lane	Public Level	Signs	X T	Open	LGA
559	74.900	Neates Road	Public Level	Signs	X T	Open	LGA
559	80.160		Occupation	Signs	X T	Open	PRI
559	80.940	Stock Route Access Road	Public Level	Signs	X T	Open	LGA
559	82.970	Chambers Crossing Road (Stock Route Access Road)	Public Level	Signs	X T	Open	LGA
559	84.520	Day Street	Public Level	Signs	X G T	Open	LGA
559	85.040	Surat Developmental Road (Fry Street)	Public Level	Signs	X G	Open	LGA
559	85.290	QR Maintenance Road	QR	Nil		Open	QR
559	85.800	Wilson Street	Public Level	Signs	X T	Open	LGA
559	86.540		Occupation	Nil		Open	PRI
559	88.000	Stock Route Access Road	Public Level	Signs	X T	Open	LGA
559	88.900		Occupation			Open	PRI
559	91.310		Occupation	Nil		Open	PRI
559	92.340	Tullagrie Road	Public Level	Signs	X T	Open	LGA
559	95.360		Occupation	Nil		Open	PRI
559	97.360		Occupation	Nil		Open	PRI
559	99.800	South Glen Road (The Gums)	Public Level	Signs	X T	Open	LGA
559	102.410		Occupation	Nil		Open	PRI
559	105.050		Occupation	Nil		Open	PRI
559	106.180		Occupation	Nil		Open	PRI
559	107.420	Surat Developmental Road	Public Level	Signs	X G	Open	MRD
559	107.600		Occupation	Nil		Open	PRI
559	109.060		Occupation	Nil		Open	PRI
559	110.910		Occupation	Nil		Open	PRI
559	112.320		Occupation	Nil		Open	PRI
559	112.770	Grainco Access Road	Occupation	Nil		Open	PRI
559	113.240	Grainco Access Road	Occupation	Signs	X T	Open	PRI
559	113.650	Leichhardt Highway	Public Level	Flashing Lights		Open	MRD
559	113.670	Temporary Road Crossing	Occupation	Nil		Open	PRI
559	114.080		Occupation			Open	PRI
559	115.390		Occupation	Nil		Open	PRI
559	116.810		Occupation			Open	PRI
559	118.070	The Gums Road	Public Level	Nil		Open	LGA
559	121.960		Occupation			Open	PRI
559	123.590		Occupation	Nil		Open	PRI
559	125.610	Hannaford School Road	Public Level	Signs	X T	Open	LGA
559	126.730		Occupation	Nil		Open	PRI
559	127.480		Occupation	Nil		Open	PRI
559	132.930	Stock Route Access Road	Public Level	Nil		Open	LGA
559	135.090	Property Access Road	Occupation	Nil		Open	PRI
559	136.530	Mitchells Lane	Public Level	Signs	X T	Open	LGA
559	140.270		Occupation	Nil		Open	PRI
559	142.340	Grainco Access Road	Occupation	Signs	X T	Open	PRI
559	142.840		QR	Signs	X T	Open	QR
559	143.180		QR	Nil		Open	QR

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559	143.310	Railway Street (Meandarra Road)	Public Level	Signs	X T	Open	LGA
559	143.590	Condamine / Meandarra Road	Public Level	Flashing Lights		Open	MRD
559	143.860		Occupation	Nil		Open	PRI
345	149.580		Occupation	Nil		Open	PRI
345	150.540		Occupation	Nil		Open	PRI
345	155.130	Maroodah Road	Public Level	Signs	X T	Open	LGA
345	158.270		Occupation	Nil		Open	PRI
345	161.990	Unnamed road	Public Level	Nil		Open	LGA
345	164.560	Saleyards Access Road	Public Level	Nil		Open	LGA
345	164.850	Surat Developmental Road	Public Level	Signs	X G	Open	MRD
345	165.540	Grainco Access Road	Occupation	Signs	X T	Open	PRI

GREAT WESTERN LINE

716	0.190	Old Cunnamulla Road	Public Level	Signs	X T	Open	MRD
716	1.200		Occupation	Signs	X T	Open	PRI
716	2.800	Property Access Road	Occupation	Nil		Open	PRI
716	7.190	Warrego River Station Access Road	Public Level	Signs	X T	Open	LGA
716	11.700		Occupation	Nil		Open	PRI
716	12.890		Occupation	Nil		Open	PRI
716	14.480		Occupation	Nil		Open	PRI
716	15.930		Occupation	Nil		Open	PRI
716	17.200		Occupation	Signs	X T	Open	PRI
716	18.330		Occupation	Nil		Open	PRI
716	19.470	Myendetta Station Access Road	Public Level	Signs	X T	Open	LGA
716	24.050		Occupation	Nil		Open	PRI
716	27.900	Property Access Road	Occupation	Nil		Open	PRI
716	29.290	Diamantina Development Road	Public Level	Signs	X G	Open	MRD
716	32.460		Occupation	Signs	X T	Open	PRI
716	33.770		Occupation	Signs	X T	Open	PRI
716	34.460		Occupation	Signs	X T	Open	PRI
716	37.160		Occupation	Nil		Open	PRI
716	40.920		Occupation	Nil		Open	PRI
716	44.560	Loddon Road (Blacks Tank Road)	Public Level	Signs	X T	Open	LGA
716	53.340	Property Access Road	Occupation	Nil		Open	PRI
716	56.330	Access Road	Public Level	Signs	X T	Open	LGA
716	59.120		Occupation	Nil		Open	PRI
716	64.330		Occupation	Nil		Open	PRI
716	77.750	Langlo Road	Public Level	Signs	X T	Open	LGA
716	78.610	Pump Road	Public Level	Signs	X T	Open	LGA
717	95.450	Arranfield Road	Public Level	Signs	X T	Open	LGA
717	96.780		Occupation	Nil		Open	PRI
717	105.040		Occupation	Nil		Open	PRI
717	108.680		Occupation	Nil		Open	PRI
717	116.950		Occupation	Nil		Open	PRI
717	121.720		Occupation	Nil		Open	PRI
717	122.970		Occupation	Nil		Open	PRI
717	124.200	Cheepie Road	Public Level	Signs	X T	Open	LGA
717	124.905	Cheepie Road	Public Level	Signs	X T	Open	LGA

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717	129.620		Occupation	Nil		Open	PRI
717	131.040		Occupation	Signs	X T	Open	PRI
717	135.890	Station Access Road	Occupation	Nil		Open	PRI
717	141.040		Occupation	Signs	X T	Open	PRI
717	148.700	Property Access Road	Occupation	Nil		Open	PRI
717	156.445	Property Access Road	Occupation	Nil		Open	PRI
717	157.170		Occupation	Nil		Open	
717	165.300		Occupation	Nil		Open	PRI
717	166.260	Colac / Coolbinga Road	Public Level	Signs	X T	Open	LGA
717	171.370		Occupation	Nil		Open	PRI
717	175.840		Occupation	Nil		Open	PRI
717	177.230		Occupation	Nil		Open	
717	180.180		Occupation	Nil		Open	
717	186.510		Occupation	Nil		Open	PRI
717	187.860	Quilpie / Adavale Road	Public Level	Signs	X G	Open	MRD
717	193.170		Occupation	Nil		Open	PRI
717	196.440	Wanko Road	Occupation	Nil		Open	PRI
717	197.730	Farm Access Road	Public Level	Signs	X T	Open	LGA
717	199.090	Avadale River Road	Public Level	Signs	X T	Open	LGA
717	199.890	Town Common	Public Level	Signs	X T	Open	LGA
717	200.590		QR	Nil		Open	
717	200.850	Saleyards Road (on siding)	Public Level	Signs	X T	Open	LGA
717	200.880		QR	Nil		Open	

JANDOWAE BRANCH

561	3.480	Property Access Road	Occupation	Signs	X T	Open	PRI
561	4.670	Old Dip Yard Access Road	Public Level	Signs	X T	Open	LGA
561	5.520		Occupation	Signs	X T	Open	PRI
561	7.190		Occupation	Nil		Open	PRI
561	8.070		Occupation	Signs	X T	Open	PRI
561	9.390		Occupation	Signs	X T	Open	PRI
561	10.730	Kitcombe Crossing	Public Level	Signs	X T	Open	LGA
561	11.920	Karingal Crossing	Public Level	Signs	X T	Open	LGA
561	13.670	Karingal / Apunyal Road	Public Level	Signs	X T	Open	LGA
561	15.690	Plain-view Crossing	Public Level	Signs	X T	Open	LGA
561	16.740		Occupation	Signs	X T	Open	PRI
561	17.510	Glencoe Crossing	Occupation	Signs	X T	Open	PRI
561	17.910	Glencoe Crossing	Public Level	Signs	X T	Open	LGA
561	18.390	Pirrinuan / Apunyal Road	Public Level	Signs	X T	Open	LGA
561	20.450		Occupation	Signs	X T	Open	PRI
561	23.810		Occupation	Signs	X T	Open	PRI
561	25.950	Macalister / Bell Road	Public Level	Signs	X T	Open	MRD
561	26.610	Kents Road	Public Level	Signs	X T	Open	LGA
561	31.110		Occupation	Signs	X T	Open	PRI
561	32.720	Prices Road	Public Level	Signs	X T	Open	LGA
561	34.220	McIarens Road	Public Level	Signs	X T	Open	LGA
561	35.490		Occupation	Nil		Open	PRI
561	35.640	Cresley Crossing	Public Level	Nil		Open	LGA

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561	37.140	Coorain Crossing	Public Level	Nil		Open	LGA
561	40.090	Marnhull Access Road	Public Level	Signs	X T	Open	LGA
561	40.980	Warra / Marnhull Road	Public Level	Signs	X T	Open	LGA
561	44.010	Property Access Road	Occupation	Signs	X T	Open	PRI
561	44.300		Occupation	Signs	X T	Open	PRI
561	46.060		Occupation	Signs	X T	Open	PRI
561	46.190	Jandowae Wheat Board Access Road	Occupation	Nil		Open	PRI
561	46.220	Jandowae Wheat Board Access Road	Occupation	Nil		Open	
561	46.500	Radkes Road	Public Level	Signs	X T	Open	LGA
561	48.430	Jimbour Street	Public Level	Signs	X T	Open	LGA
561	48.870		Public Level			Open	

MAIN LINE

889	59.760	Lane Road	Public Level	Signs	X S	Open	LGA
889	64.300	Calvert Station Road	Public Level	Half Boomgates		Open	LGA
889	64.480	Property Access Road	Occupation	Signs	X S	Open	PRI
889	66.190		Occupation	Signs	X S	Open	PRI
889	66.750	Mackenzies Road	Occupation	Signs	X S	Open	PRI
889	69.590	Rosewood / Laidley Road	Public Level	Flashing Lights		Open	MRD
889	71.030		QR	Signs	X S	Open	
889	76.520	QR Maintenance Road	QR	Signs	X S	Open	QR
889	78.790		QR			Open	
889	81.510	Patrick Street (on siding)	Public Level	Nil		Open	MRD
889	81.520	Patrick Street - Laidley Plainlands Road	Public Level	Half Boomgates		Open	MRD
889	81.560	Road Into Depot & Station (on siding)	Occupation	Nil		Open	QR
889	85.320		Occupation	Nil		Open	PRI
889	86.170		Occupation	Signs	X G	Open	PRI
889	87.490	Laidley Road	Public Level	Half Boomgates		Open	MRD
889	88.820	Off Dodt Road	Public Level	Signs	X S	Open	LGA
889	92.780	Fitzgeralds Road Proposed	Pedestrian			Proposed	LGA
889	96.120	Gaul Street	Public Level	Half Boomgates		Open	LGA
889	98.370	Smithfield Road / Burgess Road (Old Toowoomba Road)	Public Level	Half Boomgates		Open	LGA
889	114.250	Turner Street - Arthur Street	Public Level	Half Boomgates		Open	LGA
546	118.130	Property Access Road	Occupation	Signs	X S	Open	PRI
546	121.645	Montgomery Road	Public Level	Flashing Lights		Open	LGA
546	131.645	Murphys Creek Road (on Siding)	Public Level	Signs	X G	Open	MRD
546	131.660	Murphys Creek Road - Dodts Road Connection	Public Level	Half Boomgates		Open	LGA
546	140.000	QR Maintenance Road	QR	Signs	X T	Open	QR
546	146.210		Pedestrian	Nil		Open	LGA
546	159.200	Jones Street	Public Level	Flashing Lights	PWB	Open	LGA
546	159.430	North Street	Public Level	Flashing Lights	PWB	Open	LGA
546	159.570	Proposed pedestrian crossing	Pedestrian			Proposed	LGA
546	159.900	Jellicoe Street	Public Level	Half Boomgates	PWB	Open	LGA
546	160.340	Cress Street	Pedestrian			Open	LGA
546	160.560	Bridge Street	Public Level	Half Boomgates		Open	LGA

WANDOAN BRANCH

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<u>Line</u> <u>Section</u> <u>Code</u>	<u>Km</u>	<u>Road Name</u>	<u>Type</u>	<u>Vehicular</u> <u>Protection</u>	<u>Signs</u>	<u>Open Status</u>	<u>Responsible</u> <u>Authority</u>
564	1.030	Warrego Highway	Public Level	Flashing Lights		Open	MRD
564	1.730	Property Access Road	Occupation	Signs	X T	Open	PRI
564	2.520		Occupation	Signs	X T	Open	PRI
564	2.740		Occupation	Signs	X T	Open	PRI
564	4.060	Glenafon Road	Public Level	Signs	X G	Open	LGA
564	6.530		Occupation	Nil		Open	PRI
564	10.720	Dalwogan Road	Public Level	Signs	X T	Open	LGA
564	17.540	Leichhardt Highway	Public Level	Flashing Lights		Open	MRD
564	20.140	Kowguran Road	Public Level	Signs	X T	Open	LGA
564	21.115	Property Access Road	Occupation	Nil		Open	PRI
564	23.600		Occupation	Nil		Open	PRI
564	25.410		Occupation	Signs	X T	Open	PRI
564	26.900		Occupation	Nil		Open	PRI
564	28.090	Leichhardt Highway	Public Level	Signs	X G	Open	MRD
564	30.730	Gurulmundi Road	Public Level	Signs	X T	Open	LGA
564	34.840		Occupation	Nil		Open	PRI
564	36.470		Occupation	Nil		Open	PRI
564	37.245	Access Road	Public Level	Nil		Open	LGA
564	38.830	Giligulgul Road	Public Level	Signs	X T	Open	LGA
564	46.150	Barneys Lane	Public Level	Signs	X T	Open	LGA
564	49.220		Occupation	Signs	X T	Open	PRI
564	50.460		Occupation	Nil		Open	PRI
564	50.715	Fosters Road (School Road)	Public Level	Signs	X T	Open	LGA
564	52.090		Occupation	Nil		Open	PRI
564	54.415		Occupation	Nil		Open	PRI
564	56.610	Burunga Lane	Public Level	Signs	X T	Open	LGA
564	57.340		Occupation	Nil		Open	PRI
564	58.995		Occupation	Nil		Open	PRI
564	61.305		Occupation	Nil		Open	PRI
564	63.130	Lalagoola Property Access Road	Occupation	Signs	X G	Open	PRI
564	64.980	Leichhardt Highway	Public Level	Flashing Lights		Open	MRD
564	67.040	Farm Access Road (Wandoan Alternate Access Road)	Public Level	Signs	X T	Open	LGA
564	68.005	Windeyer Road	Public Level	Signs	X S	Open	LGA
564	69.490	Jerrard Street (on siding)	Public Level	Nil		Open	LGA

WESTERN LINE

565	210.660	Warrego Highway	Public Level	Flashing Lights		Open	MRD
565	216.295	Paddy's Creek Road	Public Level	Signs	X G	Open	LGA

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565	220.670	Warrego Highway	Public Level	Flashing Lights		Open	MRD
565	227.010	Beausang Flat Access Road	Public Level	Signs	X T	Open	LGA
565	229.660	School Road	Public Level	Signs	X G	Open	LGA
565	230.280	South Drillham Road	Public Level	Signs	X G	Open	LGA
565	234.140	Bells Road	Public Level	Signs	X T	Open	LGA
565	236.610	Access Road	Public Level	Signs	X G	Open	LGA
565	237.280	Cattle Yards Road	Public Level	Signs	X T	Open	LGA
565	240.820	Jaydee Access Road	Occupation	Signs	X T	Open	PRI
565	242.715	Waituna Road	Public Level	Signs	X G	Open	LGA
565	247.910	Colsons Road	Public Level	Signs	X G	Open	LGA
565	251.495	Golf Club Access Road (Proposed)	Public Level	Nil		Proposed	LGA
565	251.810	Golf Club Access Road	Public Level	Signs	X T	Open	LGA
565	253.310	Dulacca South Road	Public Level	Signs	X G	Open	LGA
565	256.350	Alfords Road	Public Level	Signs	X T	Open	LGA
565	265.880	Railway Street	Public Level	Signs	X S	Open	MRD
565	274.750	Forestry Access Road	Public Level	Signs	X T	Open	PRI
565	285.780	Tamaroo Station Access Road	Public Level	Signs	X T	Open	LGA
565	288.105	Warrego Hwy / Unnamed Road	Public Level	Signs	X T	Open	LGA
565	289.905	Forestry Road	Public Level	Signs	X T	Open	LGA
565	290.970	Perry Street	Public Level	Signs	X G	Open	LGA
565	291.970	Bedwell Street (Yuleba South Road)	Public Level	Signs	X G	Open	LGA
565	297.030	Janlee Station Access Road	Public Level	Signs	X T	Open	LGA
565	304.460	Glenray Road	Public Level	Signs	X T	Open	LGA
565	309.395	Access To Grainco	Public Level	Signs	X G T	Open	MRD
565	310.860	Wallumbilla South Road	Public Level	Signs	X G	Open	LGA
565	317.850	Pickanjinie Road (Blue Hills Road)	Public Level	Signs	X G	Open	LGA
565	320.265	Proposed Access Road	Public Level	Nil		Proposed	LGA
565	322.160	Access Road	Public Level	Signs	X G	Open	LGA
565	329.450	Wattanooka Road	Public Level	Signs	X T	Open	LGA
565	334.430	Blue Hills Road	Public Level	Signs	X T	Open	LGA
565	339.930	Toe Hold Road	Public Level	Signs	X T	Open	LGA
565	347.195	Roma Downs Road (Bungil Road)	Public Level	Signs	X G	Open	LGA
565	349.280	Property Access Road	Occupation	Signs	X G	Open	PRI
565	349.800	Tiffen Street	Public Level	Signs	X S	Open	LGA
565	350.550	Wyndham Street	Public Level	Signs	X S	Open	LGA
565	350.670	Arthur Street	Public Level	Signs	X S	Open	LGA
565	350.820	Hawthorne Street	Public Level	Signs	X S T	Open	LGA
565	350.960	Quinton Street / Warrego Highway	Public Level	Flashing Lights		Open	MRD
565	351.110	Feather Street	Public Level	Signs	X S	Open	LGA
565	352.410	Currey Street	Public Level	Signs	X S	Open	LGA
567	353.290	West Grainco Access Road	Occupation	Signs	X S	Open	PRI
567	355.465	Chappell Lane	Public Level	Signs	X G	Open	LGA
567	357.805	Bungeworgorai Lane	Public Level	Signs	X T	Open	LGA
567	359.825	Warrego Hwy / Un-named road	Occupation	Nil		Open	LGA
567	361.969	Bungeworgorai / Bindango Road	Public Level	Signs	X G	Open	LGA
567	368.136	Donnybrook Road	Public Level	Signs	X T	Open	LGA
567	370.195	Un-named road	Occupation	Signs	X T	Open	PRI
567	375.581	Norolle Road	Public Level	Signs	X T	Open	LGA
567	382.994	Brinsop Road (Avenel Road)	Public Level	Signs	X T	Open	LGA

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567	391.477	Bindango Road	Public Level	Signs	X T	Open	LGA
567	392.492	Wheat Street	Public Level	Signs	X T	Open	LGA
567	400.192	Warrego Highway	Public Level	Flashing Lights		Open	MRD
567	403.789	Eurella Road	Occupation	Signs	X T	Open	PRI
567	404.782	Property Access Road	Occupation	Nil		Open	PRI
567	407.128	Eurella / Amby Downs Road	Public Level	Signs	X T	Open	LGA
567	411.891	Springfield Road	Public Level	Signs	X T	Open	LGA
567	415.433	Property Access Road	Occupation	Nil		Open	PRI
567	418.376	Radio Repeater Access Road	Occupation	Signs	X G	Open	PRI
567	426.708	Warrego Highway	Public Level	Flashing Lights		Open	MRD
567	432.395	Saleyards Road	Public Level	Signs	X T	Open	LGA
567	434.447	Forest Vale Road	Public Level	Signs	X G	Open	MRD
567	435.346	Mary Street	Public Level	Signs	X S	Open	LGA
567	435.587	Alice Street	Public Level	Signs	X S	Open	LGA
567	435.880	opp Margaret Street and Ann Street	Pedestrian			Open	LGA
567	436.000	Mitchell Road	Public Level	Signs	X S	Open	LGA
567	437.028	Warrego Highway	Public Level	Flashing Lights		Open	MRD
567	441.164	Property Access Road	Occupation	Nil		Open	PRI
567	452.034	Womallila Road	Public Level	Signs	X T	Open	LGA
567	456.645	Property Access Road	Occupation	Signs	X T	Open	PRI
567	463.428	Amboola Road	Public Level	Signs	X T	Open	LGA
567	482.040	Torwood Road	Public Level	Signs	X T	Open	LGA
568	484.715	Tomoo Road	Public Level	Signs	X T	Open	LGA
568	488.283	Property Access Road	Occupation	Signs	X T	Open	LGA
568	499.001	Dulbydilla Siding Road	Occupation	Signs	X T	Open	PRI
568	499.516	Roslyn Road	Public Level	Signs	X T	Open	LGA
568	518.912		Occupation	Nil		Open	PRI
568	524.725	Stock Crossing	Occupation	Signs	X T	Open	LGA
568	525.200	Warrego Highway	Public Level	Flashing Lights		Open	MRD
568	525.846	Killarney Road	Public Level	Signs	X T	Open	LGA
568	528.846	Warrego Highway	Public Level	Flashing Lights		Open	MRD
568	534.354	Property Access Road	Occupation	Signs	X T	Open	PRI
568	536.642		Occupation	Nil		Open	PRI
568	548.462	Alice Downs Road	Public Level	Signs	X T	Open	LGA
568	549.176	Alice Downs Road	Occupation	Signs	X	Open	LGA
568	559.640		Occupation			Open	PRI
568	569.410	Lurnea Road	Occupation	Signs	X T	Open	PRI
568	577.750	Stock Route	Occupation	Nil		Open	PRI
568	578.525	Sommariva Station Access Road	Public Level	Signs	X G T	Open	LGA
568	585.310	Property Access Road	Occupation	Nil		Open	PRI
568	584.030	Arabella Station Access Road	Occupation	Signs	X T	Open	PRI
568	608.580	Property Access Road	Occupation	Signs	X G	Open	PRI
568	613.060	Property Access Road	Occupation	Nil		Open	LGA
568	614.910	Warrego Highway (SWQEB Siding Crossing)	Public Level	Signs	X G	Open	MRD
568	615.090	Park Street	Public Level	Signs	X S	Open	LGA
568	616.050	Mitchell Highway (Stuart Street)	Public Level	Flashing Lights		Open	MRD
713	616.910	Lou Ariotti Drive	Public Level	Signs	X S	Open	LGA
713	621.045	Property Access Road	Occupation	Nil		Open	PRI

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<u>Line Section Code</u>	<u>Km</u>	<u>Road Name</u>	<u>Type</u>	<u>Vehicular Protection</u>	<u>Signs</u>	<u>Open Status</u>	<u>Responsible Authority</u>
713	625.160	Old Cunnamulla Road / Mitchell Highway Access Road	Public Level	Signs	X T	Open	LGA
713	628.620	Old Cunnamulla Road / Mitchell Highway Access Road	Public Level	Signs	X T	Open	LGA
714	637.300	Old Cunnamulla Road / Mitchell Highway Access Road	Public Level	Signs	X T	Open	LGA
714	641.500	Property Access Road	Occupation	Signs	T	Open	PRI
714	643.400	Wallal Station Access Road	Public Level	Signs	X T	Open	LGA
714	645.360		Occupation	Signs	X T	Open	PRI
714	652.400	Property Access Road	Occupation	Signs	X G	Open	PRI
714	659.010	Property Access Road	Occupation	Signs	X T	Open	PRI
714	660.610	Mangalore Station Access Road	Public Level	Signs	X T	Open	LGA
714	662.450	Property Access Road	Occupation	Nil		Open	PRI
714	668.290	Dillilah Road (Dillilah Bridge Road)	Public Level	Signs	X G	Open	LGA
714	670.710		Public Level	Signs	X T	Open	LGA
714	674.400	Property Access Road	Occupation	Nil		Open	PRI
714	677.830	Yanna Bridge Road (Guessling / Wheatleigh Road)	Public Level	Signs	X G	Open	LGA
714	678.590	Yanna Station Access Road	Occupation	Nil		Open	PRI
714	681.900		Occupation	Nil		Open	PRI
714	685.130	Property Access Road	Occupation	Nil		Open	PRI
714	686.865		Occupation	Nil		Open	PRI
714	690.150		Occupation			Open	PRI
714	695.010	Moruya Narran Road	Public Level	Signs	X T	Open	LGA
714	695.080	Private	Occupation	Nil		Open	PRI
714	698.600	Quilberry Station Access Road	Occupation	Signs	X T	Open	PRI
714	702.070	South Ray Station Access Road	Public Level	Signs	X T	Open	LGA
714	705.310	Bore Access Road	Occupation	Nil		Open	PRI
714	707.380	Telecom Tower Access Road	Occupation	Nil		Open	PRI
714	707.700		Occupation	Nil		Open	PRI
714	713.200	Cooper Street	Public Level	Signs	X G	Open	LGA
715	715.050	Railway Street	Public Level	Signs	X G	Open	LGA
715	720.030		Occupation	Signs	X T	Open	PRI
715	726.710		Occupation	Nil		Open	PRI
715	735.290	Claverton Station Access Road	Occupation	Signs	X T	Open	PRI
715	741.600	Mirrabooka Station Access Road	Occupation	Signs	X T	Open	PRI
715	747.865	Offham Station Access Road	Public Level	Signs	X G	Open	LGA
715	749.507	Ardrossan Access Road	Public Level	Signs	X S	Open	LGA
715	751.665	Goolburra Property Access Road	Occupation	Nil		Open	PRI
715	755.410		Occupation	Nil		Open	PRI
715	755.535		Occupation			Open	PRI
715	759.280	Paroo Road / Mitchell Highway	Public Level	Signs	X G	Open	LGA
715	764.030	Property Access Road	Occupation	Nil		Open	PRI
715	767.040		Occupation	Signs	X T	Open	PRI
715	775.120		Occupation	Signs	X T	Open	PRI
715	778.780		Occupation			Open	LGA
715	781.295	Telecom Tower Access Road	Occupation	Signs	X T	Open	PRI
715	792.110		Occupation			Open	PRI
715	793.135	Philott Station Access Road	Occupation	Signs	X T	Open	PRI
715	797.425		Occupation	Nil		Open	PRI
715	801.655		Occupation	Signs	X T	Open	PRI

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<u>Line</u>	<u>Section</u>							<u>Responsible</u>
<u>Code</u>	<u>Km</u>	<u>Road Name</u>	<u>Type</u>	<u>Vehicular</u> <u>Protection</u>	<u>Signs</u>	<u>Open Status</u>		<u>Authority</u>
715	803.510	Hayfield Station Access Road	Occupation	Signs	X T	Open		PRI
715	807.790	Cunnamulla Common	Public Level	Signs	X T	Open		LGA
715	809.520	Cunnamulla Common	Public Level	Signs	X T	Open		LGA
715	810.150	Bowra Street	Occupation	Signs	X G	Open		QR
715	810.900	Wicks Street	Public Level	Signs	X G	Open		LGA

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APPENDIX D

Speed Boards

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Maximum Line Speed : 70,60,50kph				
WESTERN LINE				
Increasing distance in Up direction				
DISTANCE	FEATURE	UP	DN	COMMENTS
208.815		40	80	
209.290				Miles
210.083		70	40	
210.264			15P&B	15km/h through points and over bridge
229.133		25	70	
229.670				Drillham
229.919		70	25	
236.490				Ulimaroa
247.357			70	
247.476		60		
247.878			60	
247.949		70		
251.679		25	70	
251.970				Dulacca
252.285		70	25	
265.630				Jackson
274.800				Tchanning
286.208			70	
286.313		60		
288.350			60	
288.454		70		
290.623		25	70	
290.820				Yuleba
291.562		70	25	
309.377			70	
310.720				Wallumbilla
310.870		70		
317.910				Pickanjinnie
333.538		60	70	
333.747		25	60	
334.040				Blythdale
334.520		70	25	
344.095		50		
344.097			70	
346.560				Bungil
347.400				Weraki
347.728		70	50	
349.266		25	70	
350.340				Roma
351.830				Roma Passing Loop
352.357		70	25	
352.440				Roma West
357.770				Bungeworai
360.109			70	
366.857			70	
367.850				Hodgson
368.908		70		
375.610				Bindango
383.000				Brinsop
390.768			70	
391.650				Muckadilla
392.136		70		
392.790				Muckadilla Graincorp
404.580				Eurella
411.599			70	
412.030				Amby

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Maximum Line Speed : 70,60,50kph		WESTERN LINE		Increasing distance in Up direction	
DISTANCE	FEATURE	UP	DN	COMMENTS	
412.746		70			
416.400			60		
426.540				Bongo	
432.780				Marbango	
433.328		70		Booringa	
433.364					
433.563		60			
433.720			70		
434.490			70		
434.592		30			
435.158			30		
435.169		40			
435.604			40		
436.170				Mitchell	
436.431		60			
436.774		70			
436.905			60		
444.410			70		
444.513		60			
444.901			60		
444.984		40			
445.342			40		
445.442		60			
446.424			60		
446.543		40			
446.750			40		
446.855		70			
450.592			70		
451.970				Womalilla	
452.998		70			
456.700				Ulandilla	
459.200			70		
459.306		60			
459.607			60		
459.709		70			
462.627		25			
463.354			70		
463.660				Amboola	
464.329		70			
464.713			25		
467.723			70		
467.826		40			
468.359			40		
468.399		60			
470.296			60		
470.397		70			
472.297			70		
472.394		60			
474.150		70			
474.270			60		
475.212			70		
475.319		60			
475.588			60		
475.688		70			
478.550			70		

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Maximum Line Speed : 70,60,50kph

WESTERN LINE

Increasing distance in Up direction

DISTANCE	FEATURE	UP	DN	COMMENTS
478.648		40		
478.946			40	Mungallala
479.046		60		
479.837			60	
479.937		70		
481.580			70	
482.390				
482.848		70		
489.477			70	
489.558		60		
489.771			60	
489.829		40		
490.036			40	
490.147		60		
490.512			60	
490.609		70		
498.195			70	
499.170				Dulbydilla
500.226		70		
501.485			70	
501.564		60		
502.142			60	
502.266		70		
503.359			70	
503.461		60		
503.768			60	
503.912		70		
519.896			70	
519.996		60		
520.203			60	
520.402		70		
525.053			70	
525.497			50	
525.760				Morven
525.867		60		
526.182			60	
526.260		70		
534.709			70	
534.810		60		
535.398			60	
535.490		70		
537.550			70	
537.639		60		
538.024			60	
538.221		70		
548.021			70	
549.150				Angellala
550.102		70		
569.390				Lurnea
578.324			70	
578.540				Sommariva
578.806		70		
593.866			70	
594.050				Arabella
594.343		70		

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Maximum Line Speed : 70,60,50kph				
WESTERNLINE				
Increasing distance in Up direction				
DISTANCE	FEATURE	UP	DN	COMMENTS
614.710		25	70	
615.770				Charleville
615.902		20		
616.010			25	
616.063		25		
616.142			20	
616.490				Charleville Passing Loop
616.930		60	25	
636.357		25	60	
636.450				Westgate
636.651		60	25	
643.160				Wallal
660.810				Mangalore
670.690				Dillalah
677.910				Yanna
686.720				Murweh
695.140				Quilberry
702.090				South Ray
713.570				Wyandra
714.280				Wyandra Cattle Siding
727.200				Claverton
741.640				Mirrabooka
747.800				Offham
759.030				Coongoola
767.030				Kubill
774.630				Nardoo
793.160				Phillott
810.760				Cunnamulla

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GREAT WESTERN RAILWAY				
Maximum Line Speed : 60kph			Increasing distance in Up direction	
DISTANCE	FEATURE	UP	DN	COMMENTS
0.000				Westgate
0.210		60	25	
6.930				Warrego River
19.390				Myendetta
30.770				Wanko
46.910				Coothalla
56.310				Loddon
78.750				Cooladdi
95.750				Yalamurra
112.793		50	60	
113.000		60	50	
123.070				Bierbank Siding
124.330				Cheepie
158.380				Winbin
166.500				Coolbinga
200.341		25	60	
200.720				Quilpie

JANDOWAE BRANCH				
Maximum Line Speed : 30kph			Increasing distance in Up direction	
DISTANCE	FEATURE	UP	DN	COMMENTS
12.400				Karingal
17.660				Pirrinuan
26.400				Jimbour
28.040				Baigin
32.001				
32.750				Kuyura
35.650				Cresley
40.040				Marnhull
45.842				
46.240				Jandowae Graincorp
48.175				
48.510				Jandowae

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GLENMORGAN BRANCH				
Maximum Line Speed : 50;60;70;40;30kph			Increasing distance in Up direction	
DISTANCE	FEATURE	UP	DN	COMMENTS
1.040				Natcha
1.273		50	25	
1.570				Diplock
2.800				Dalby West
3.670				Yumborra
11.490				Nandi
17.010				Kupunn
23.390				Duleen
27.870				Ducklo
28.000		60	50	
36.210				Gulera
42.319		25	60	
43.140				Kumbarilla
43.229		60	25	
46.100		70	60	
57.720				Weranga
71.150				Goranba
84.966		40	70	
85.080				Tara
85.907		40	40	
92.430				Tullagrie
99.880				South Glen
107.000				Cabawin
110.251		10L		
111.016			10R	
113.550				The Gums
125.500				Hannaford
141.932		25	40	
143.201		40	25	
143.220		30		Meandarra
165.000				
165.430			30	Glenmorgan

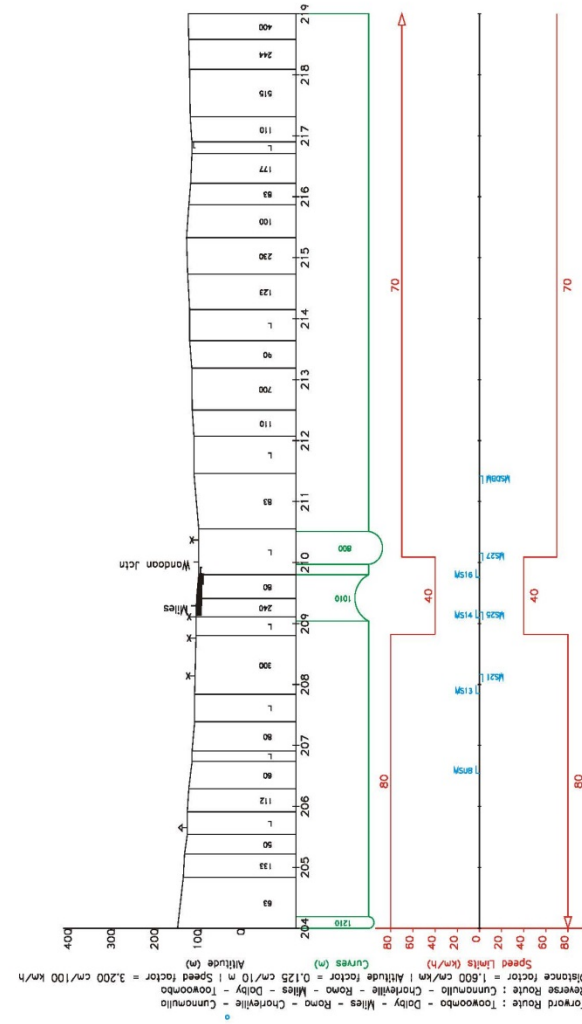
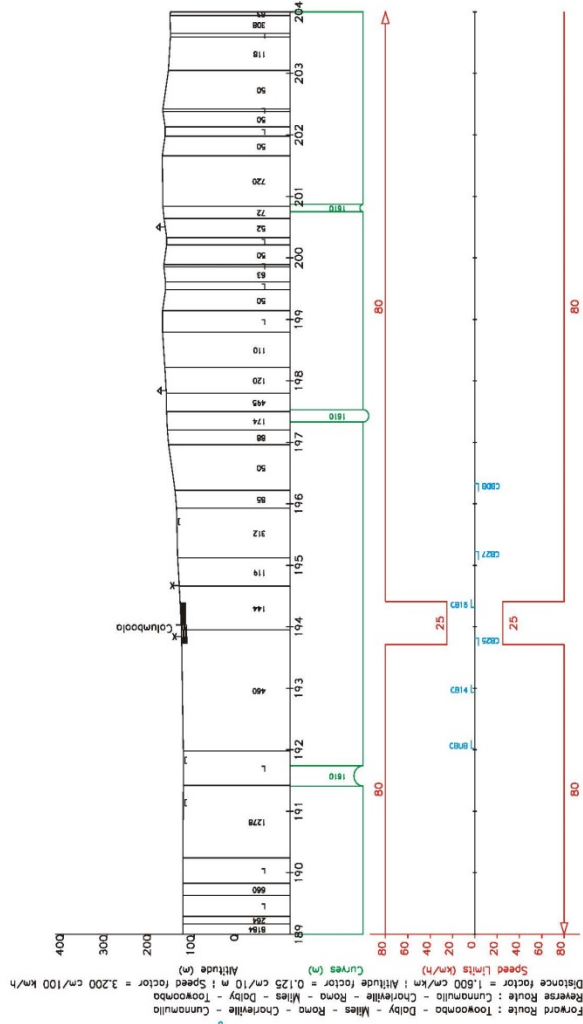
WANDOAN BRANCH				
Maximum Line Speed : 30kph			Increasing distance in Up direction	
DISTANCE	FEATURE	UP	DN	COMMENTS
1.111	Speedboard	30		
10.650	Location		30	Dalwogan
20.800	Station			Kowguran
30.770	Location			Gurulmundi
38.890	Location			Giligulgul
50.570	Station			Guluguba
57.090	Location			Burunga
66.620	Station			Wubagul
68.280	Location			Whiteley's Siding
69.450	Station			Wandoan

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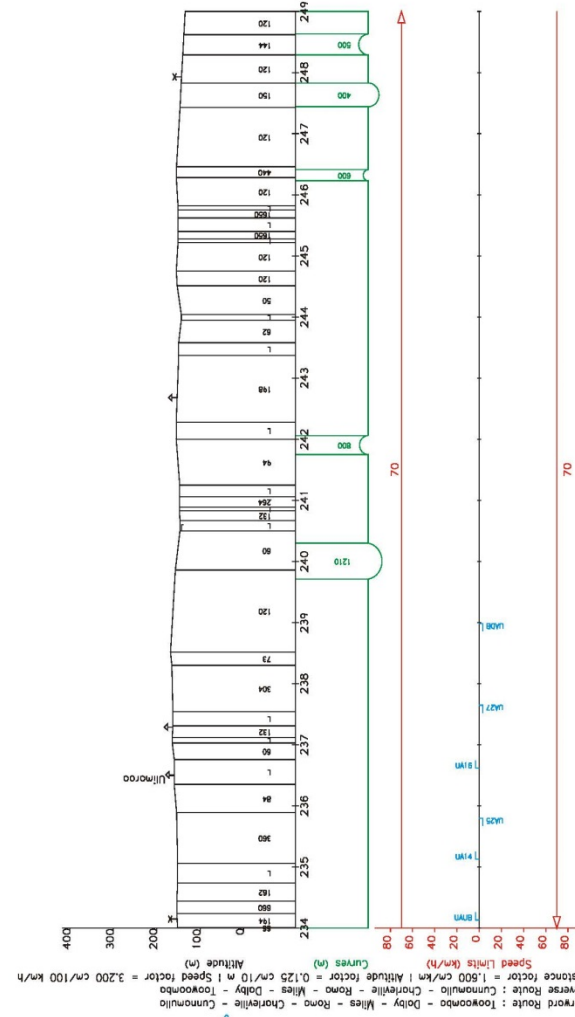
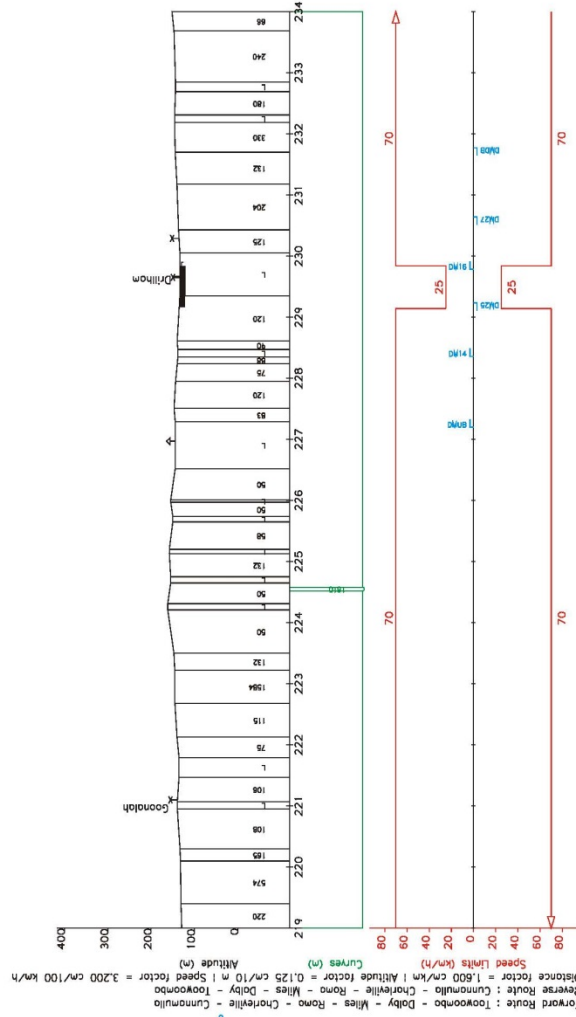
APPENDIX E

Track Data & Grade Diagrams

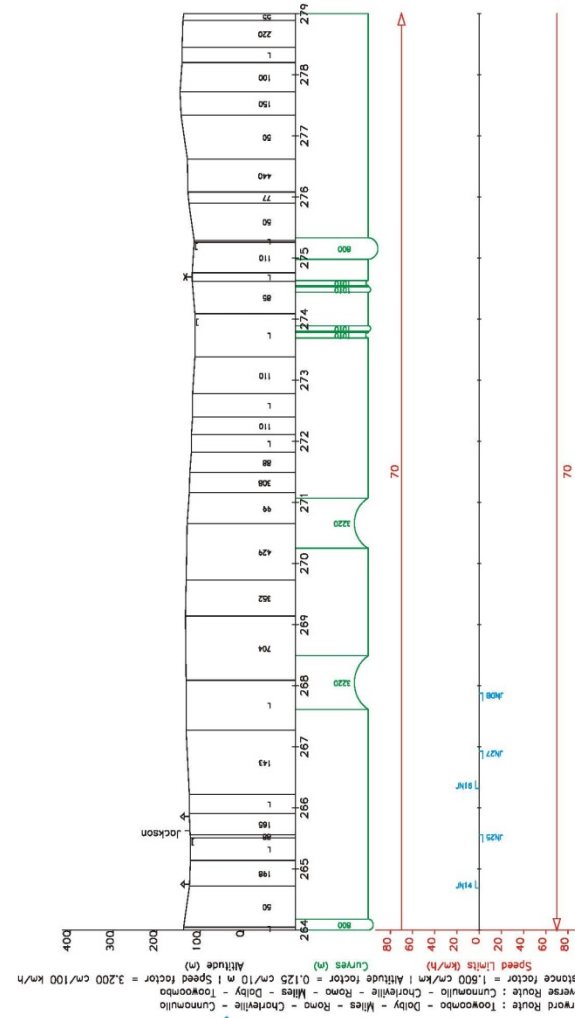
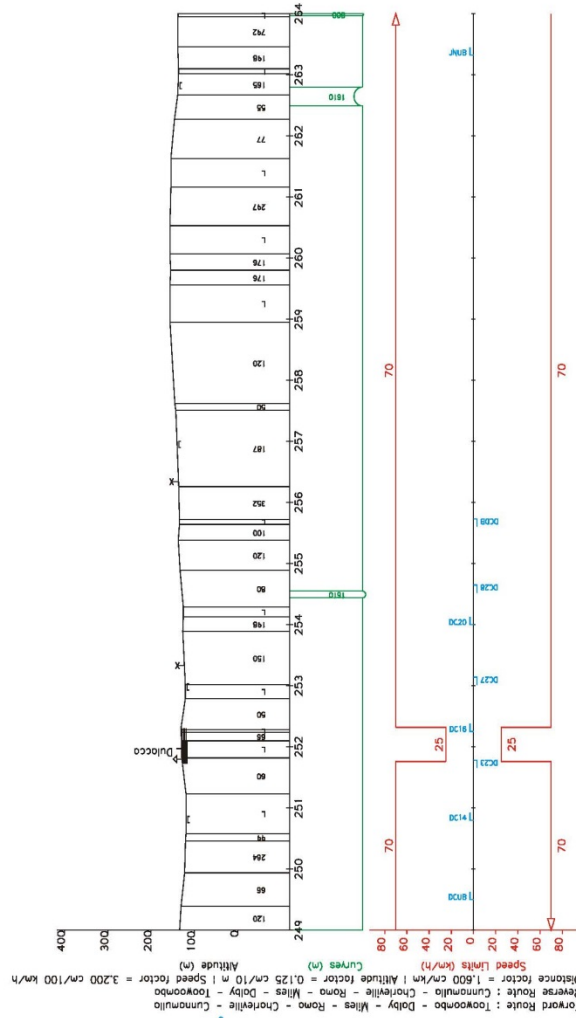
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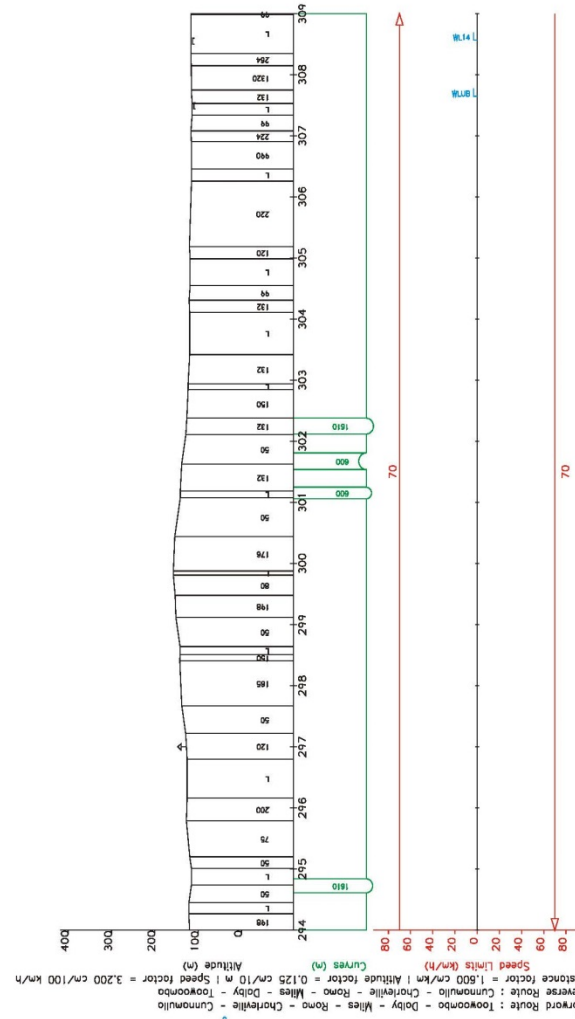
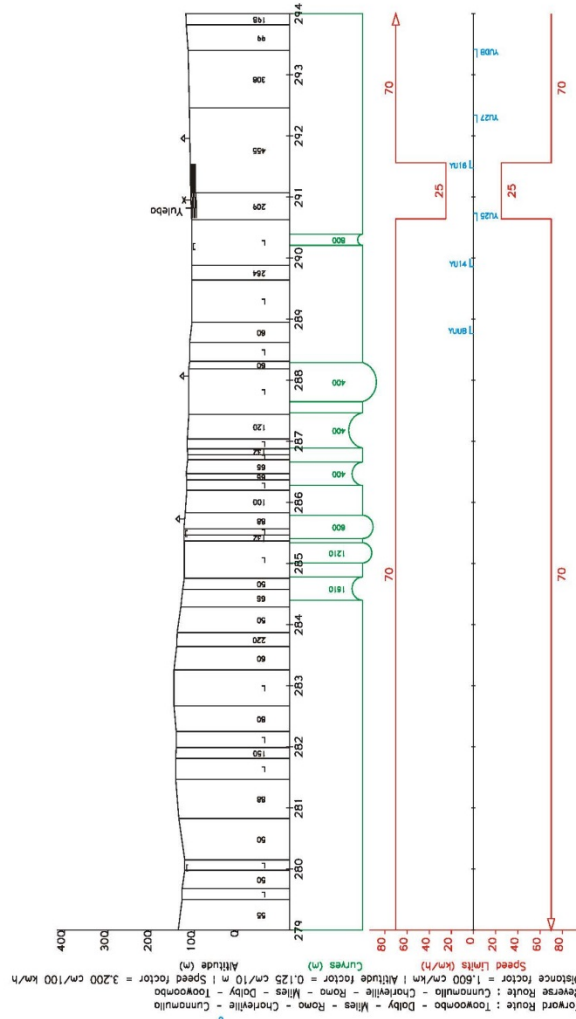
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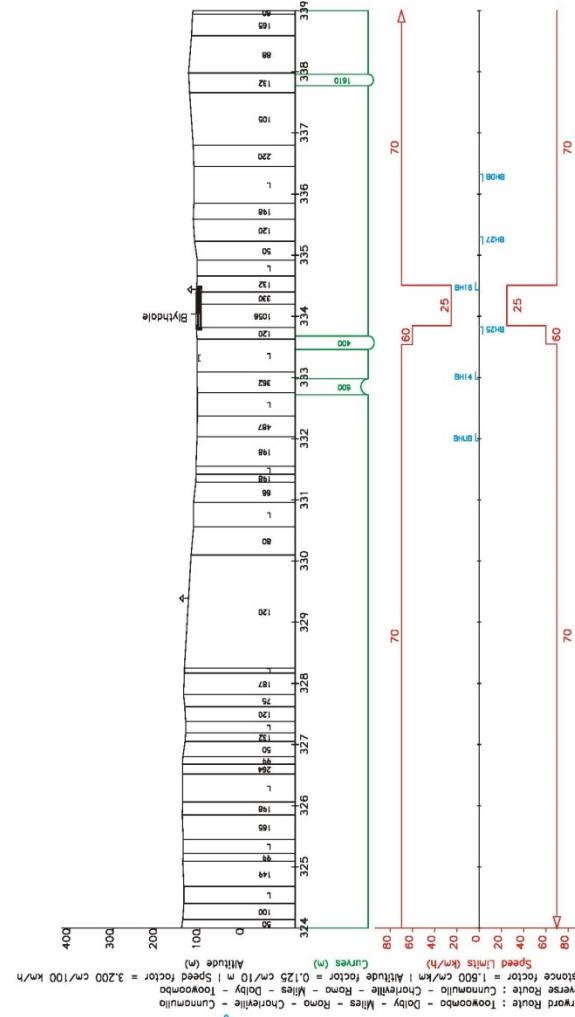
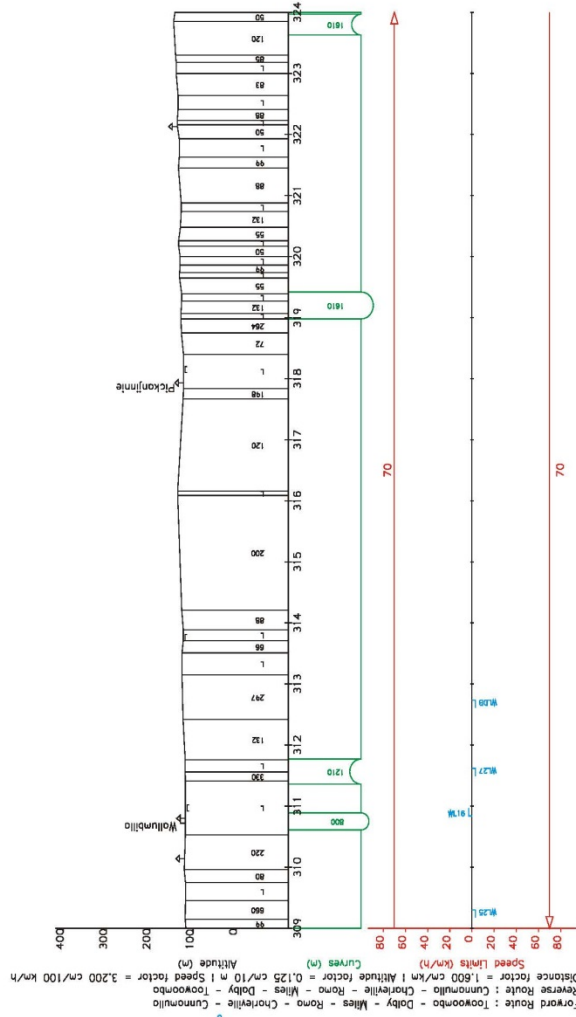
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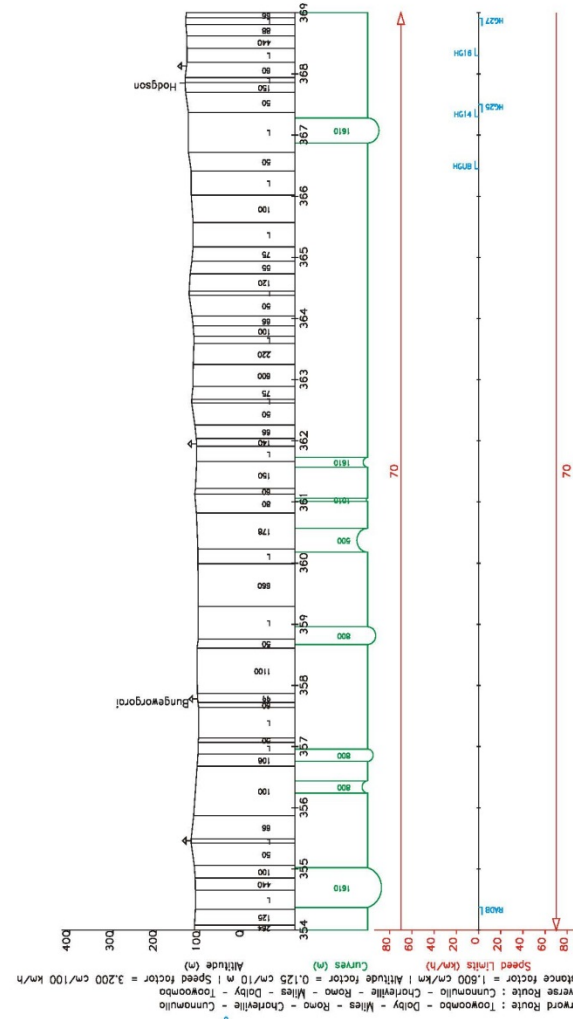
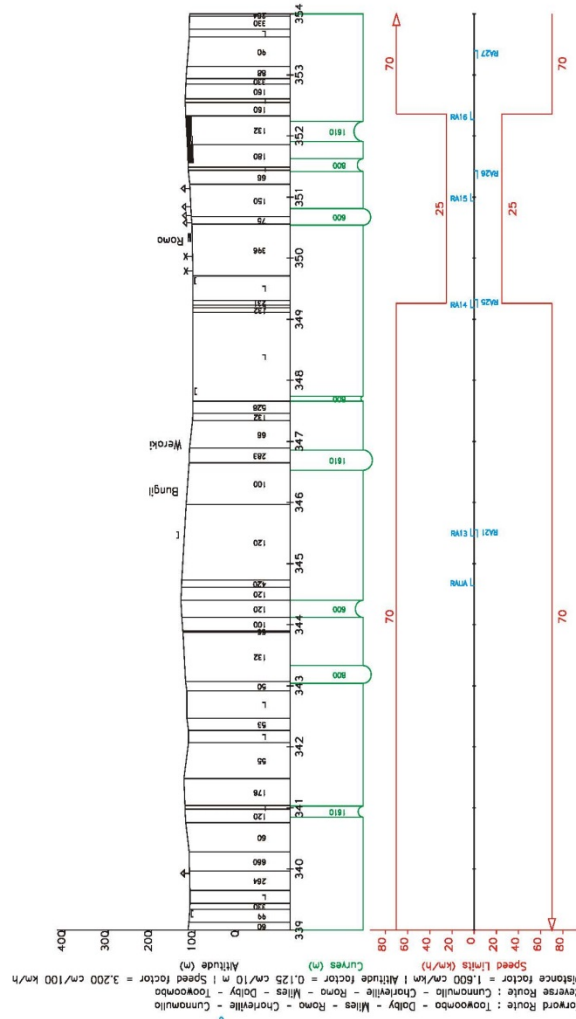
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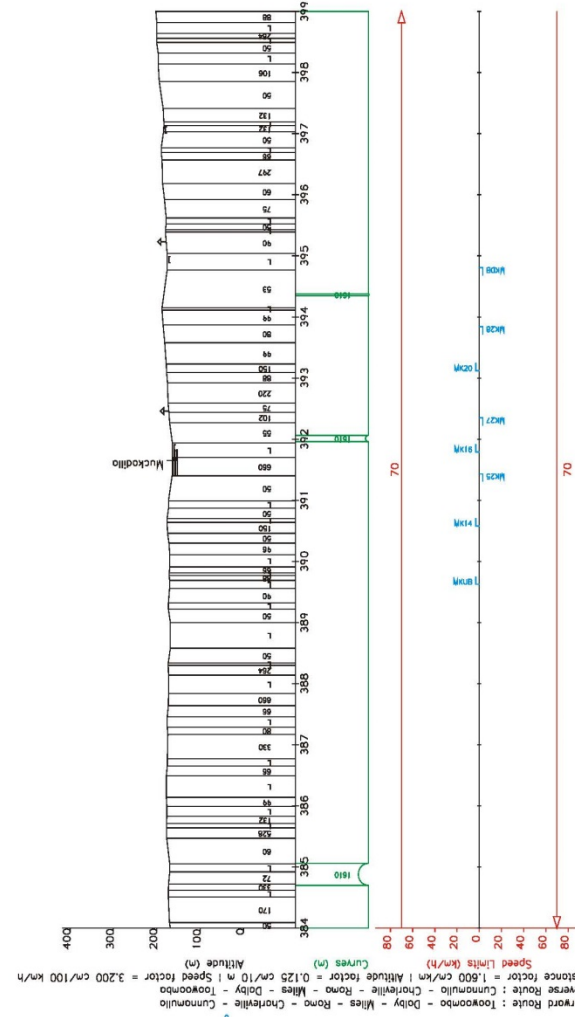
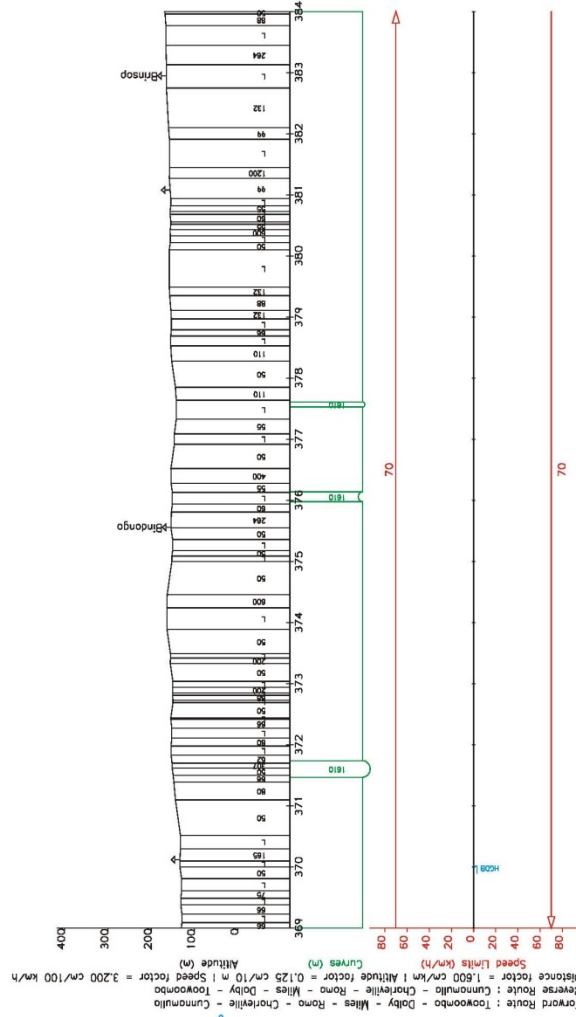
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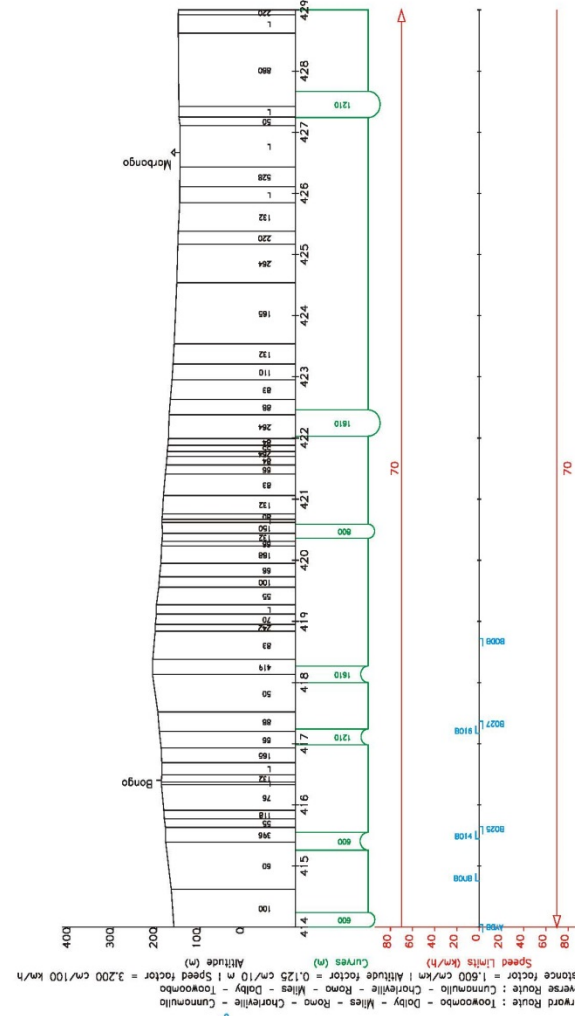
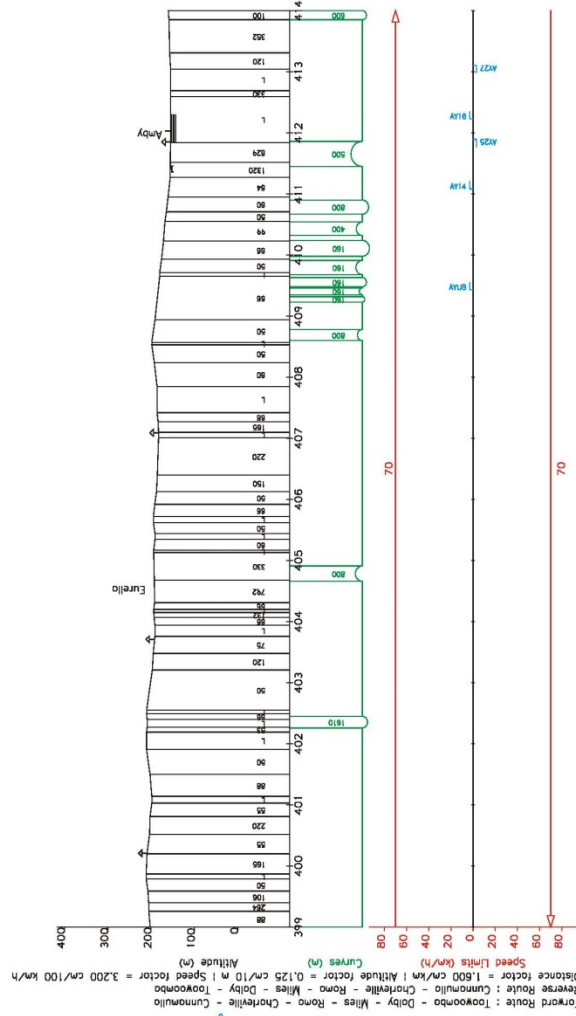
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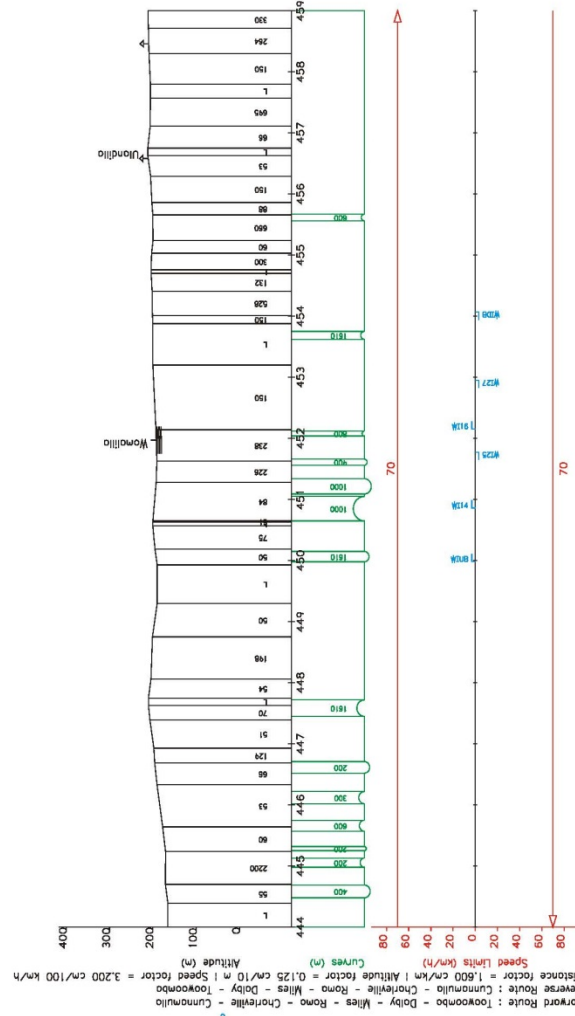
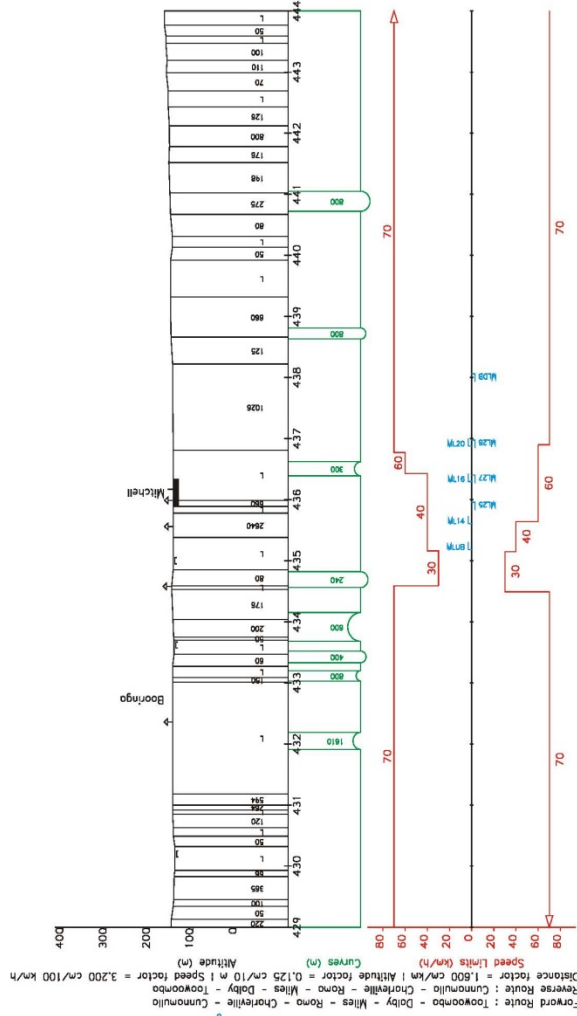
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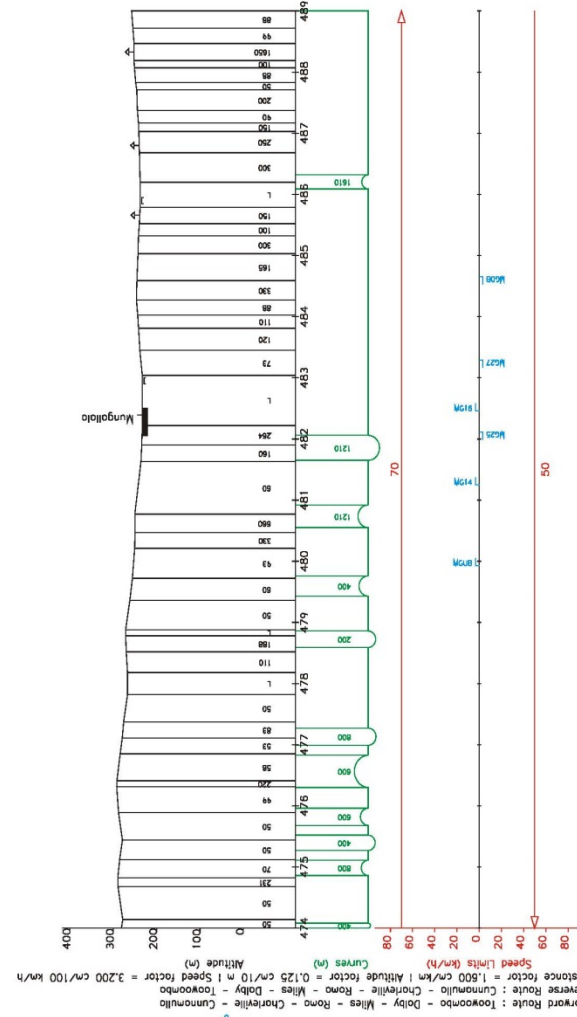
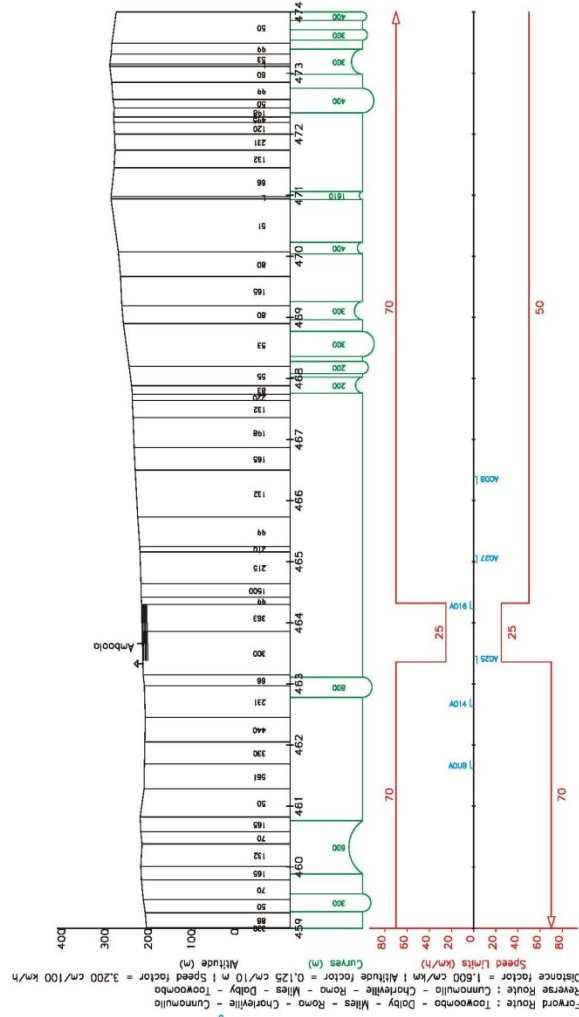
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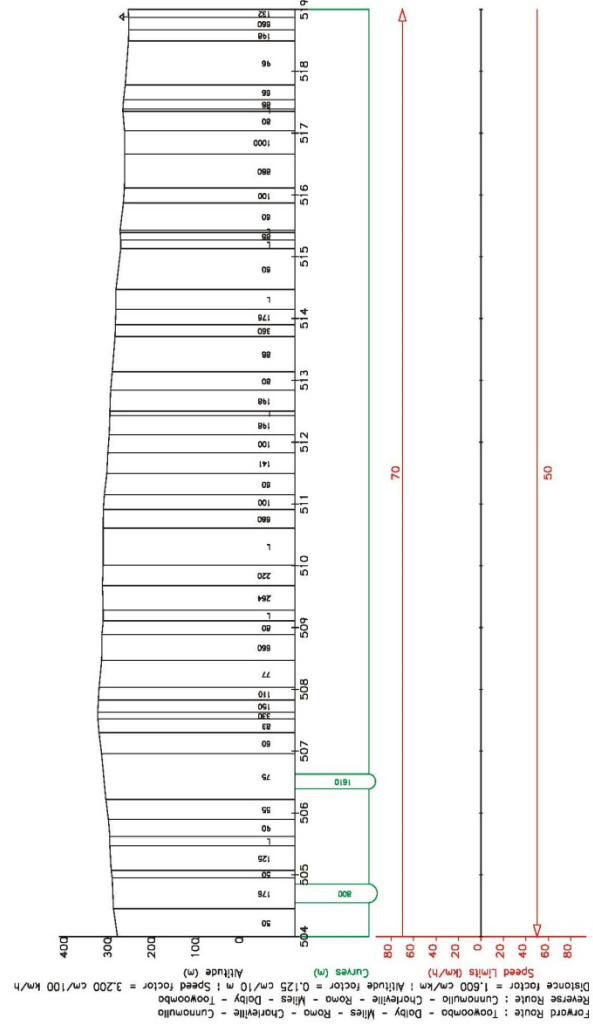
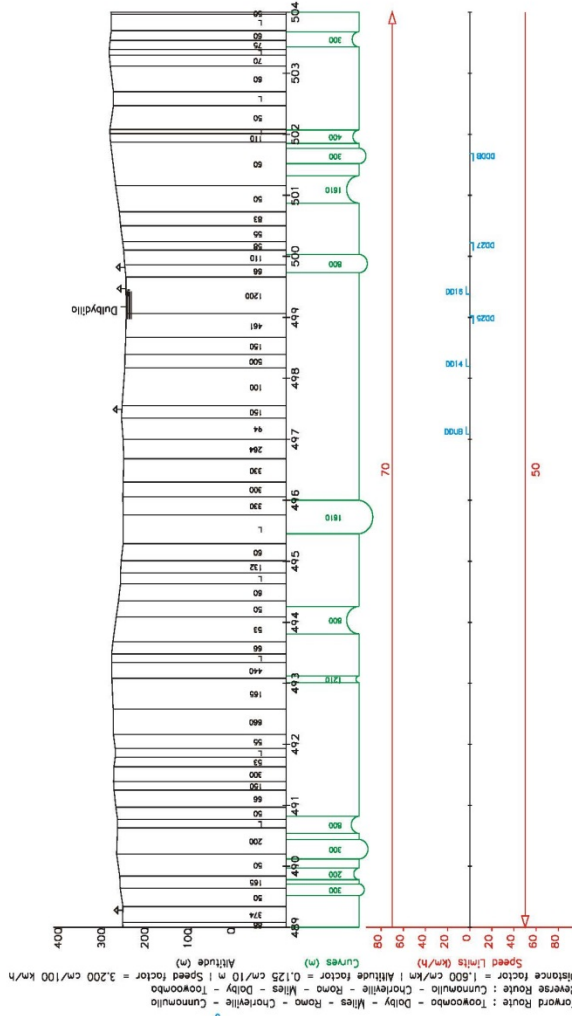
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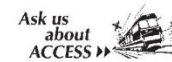
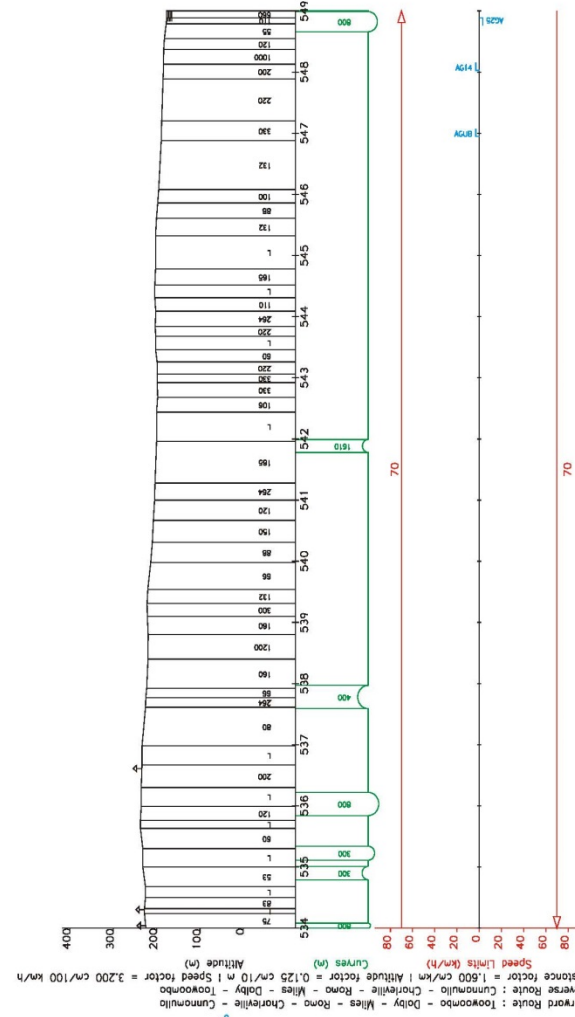
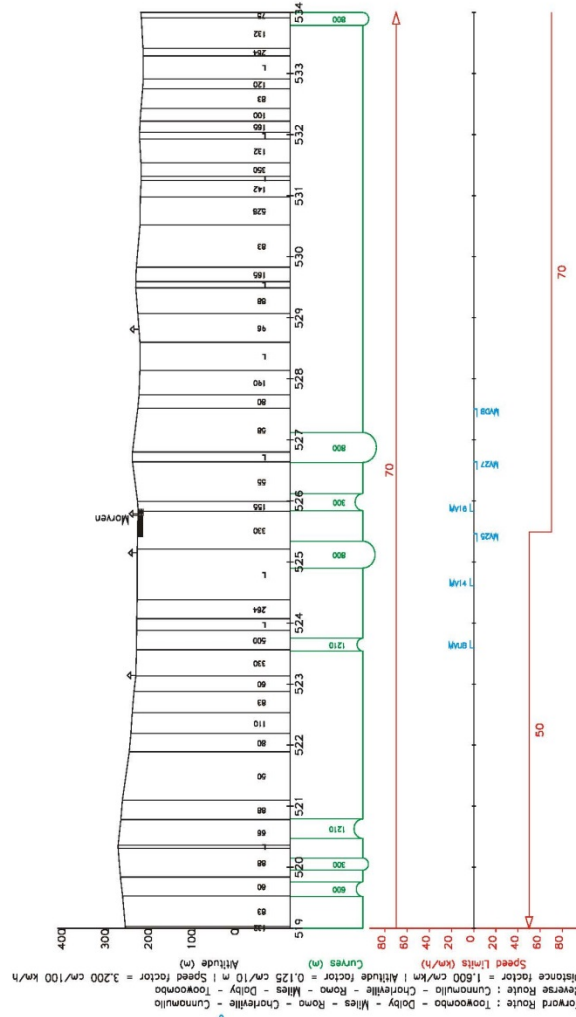
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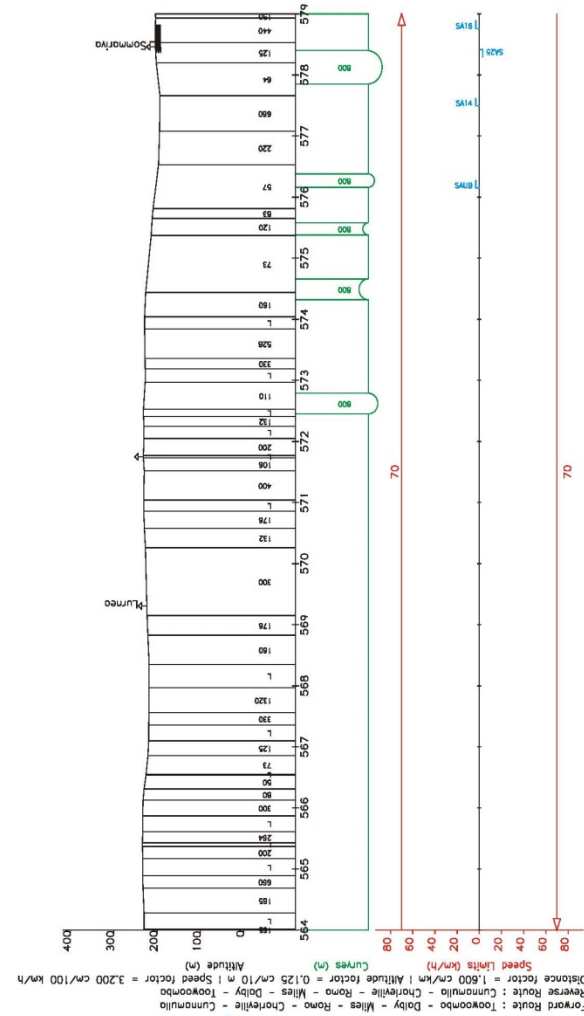
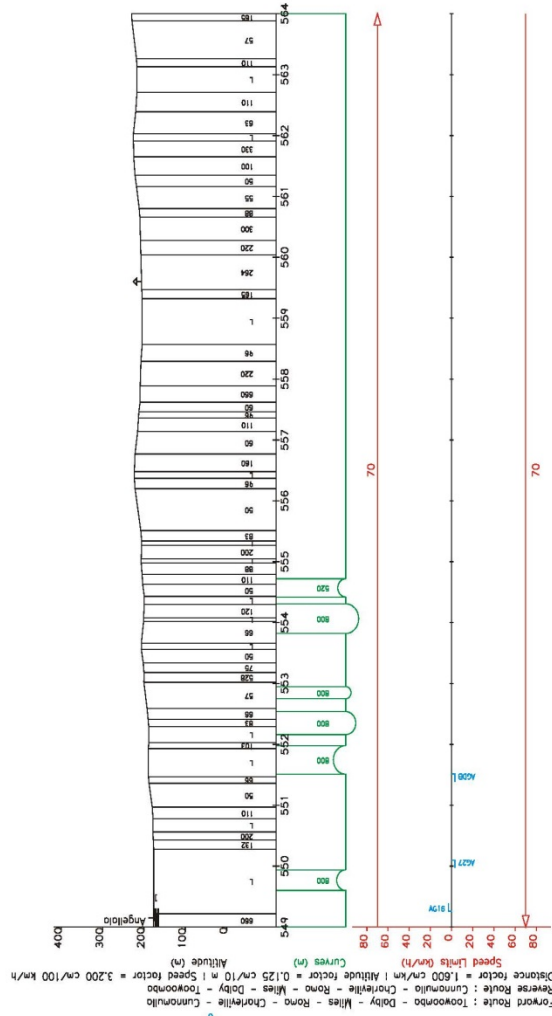
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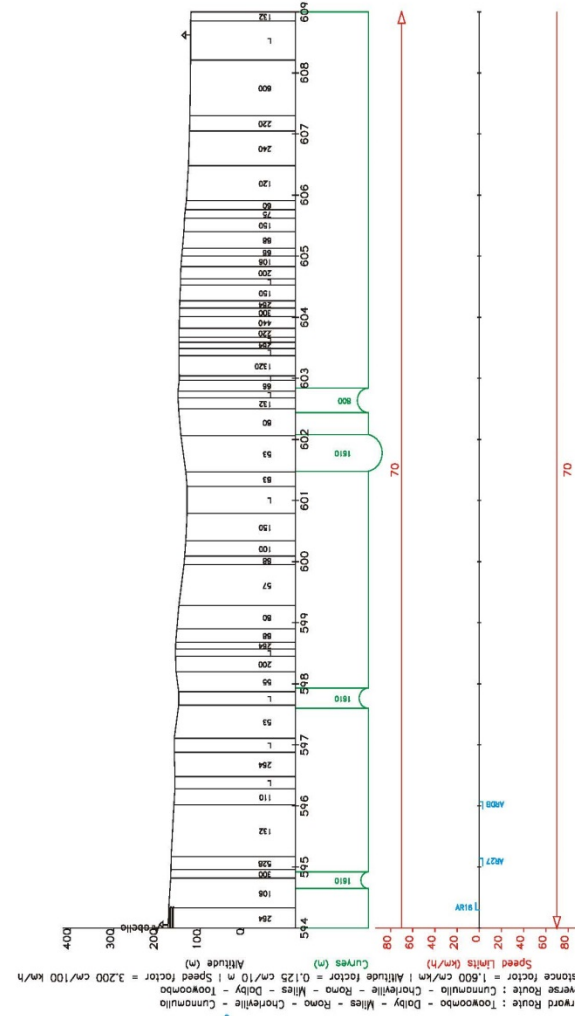
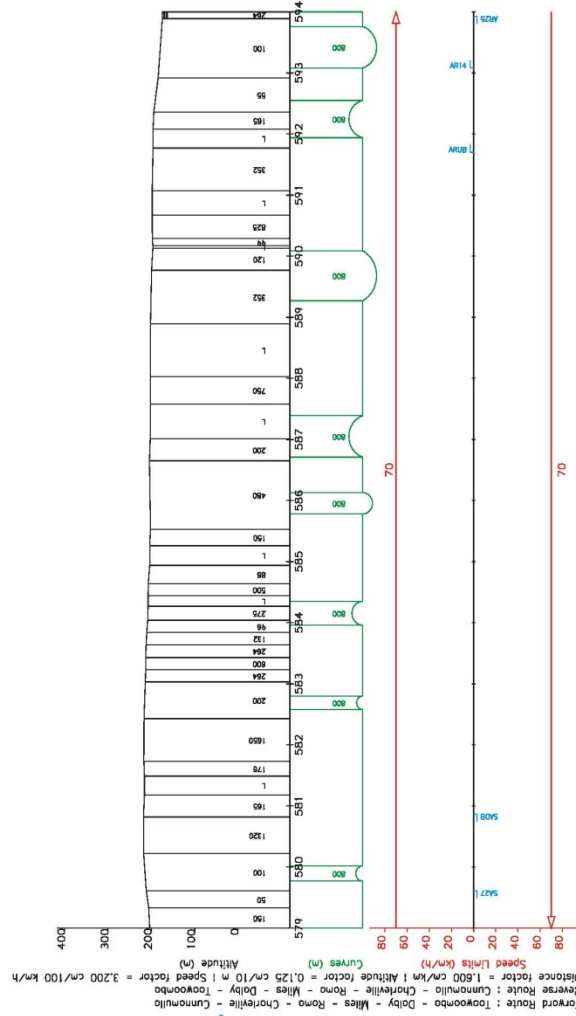
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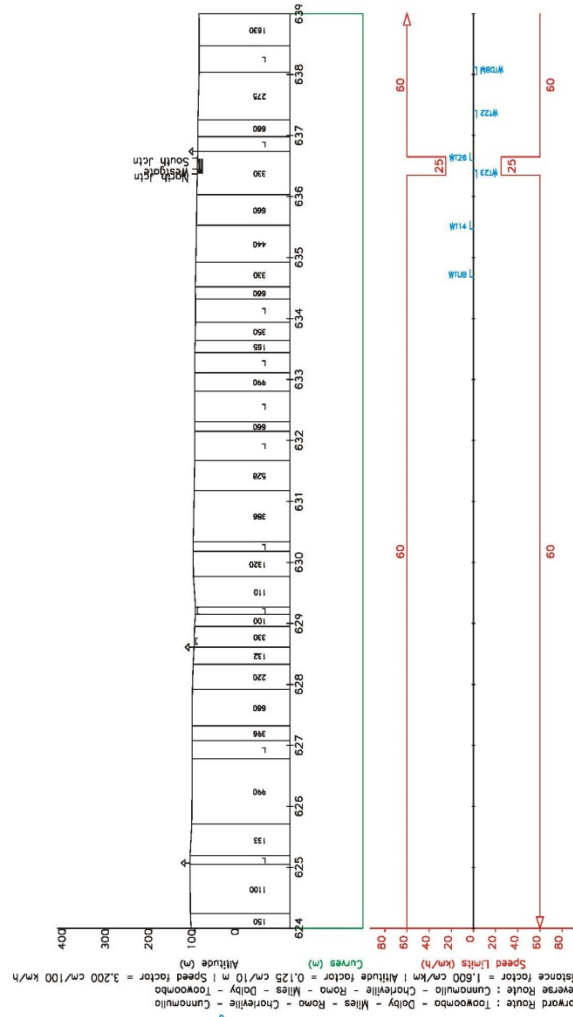
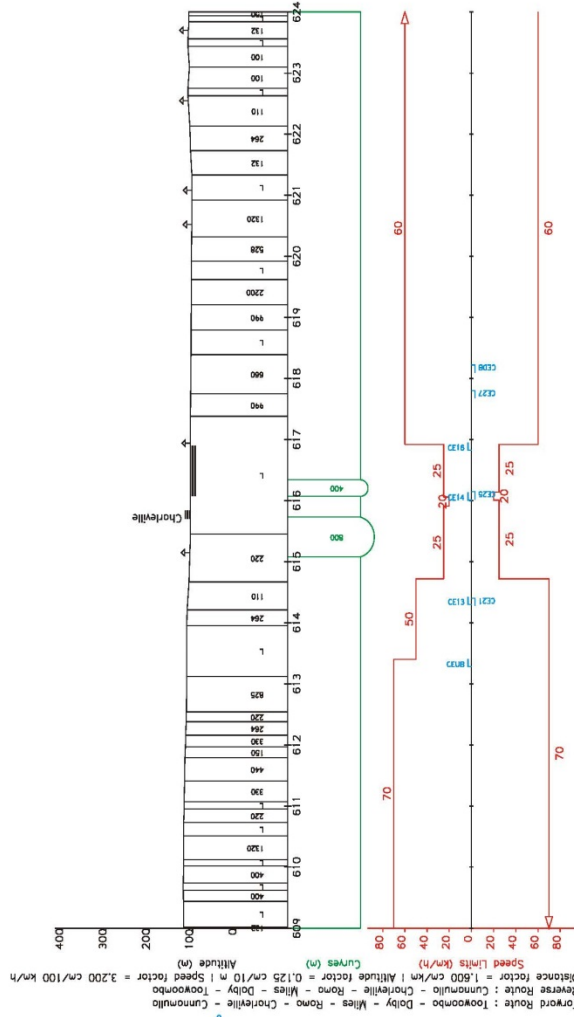
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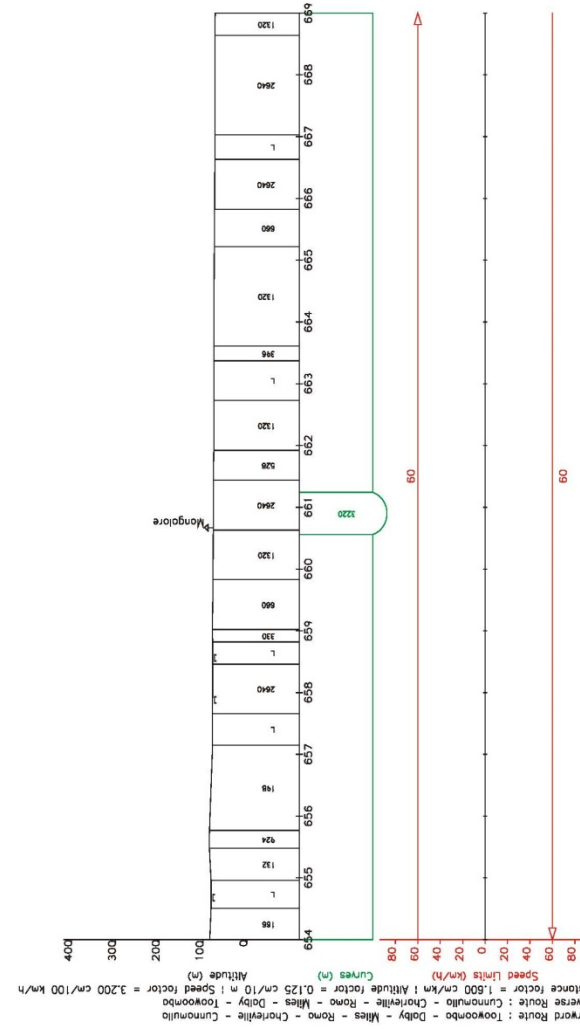
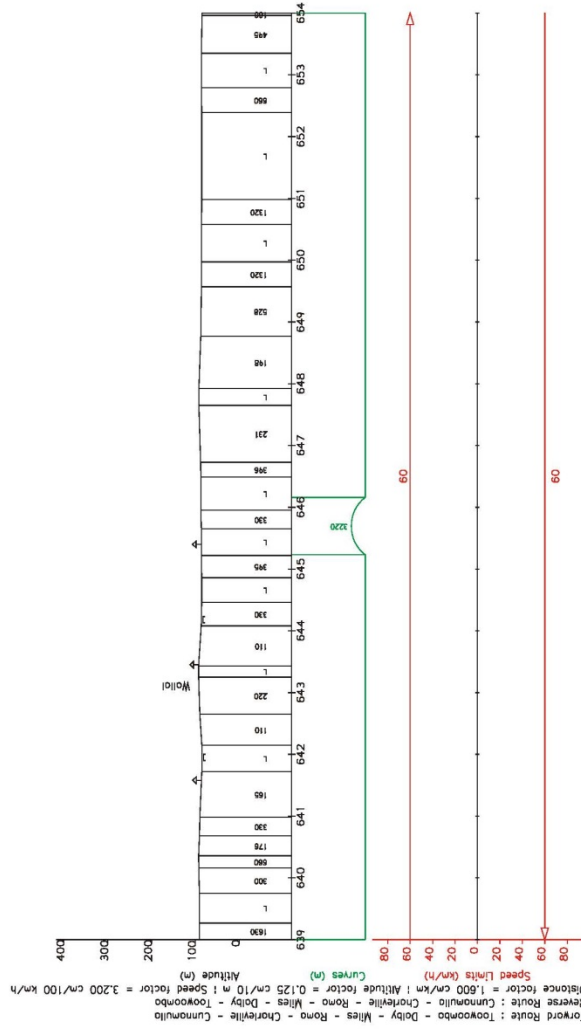
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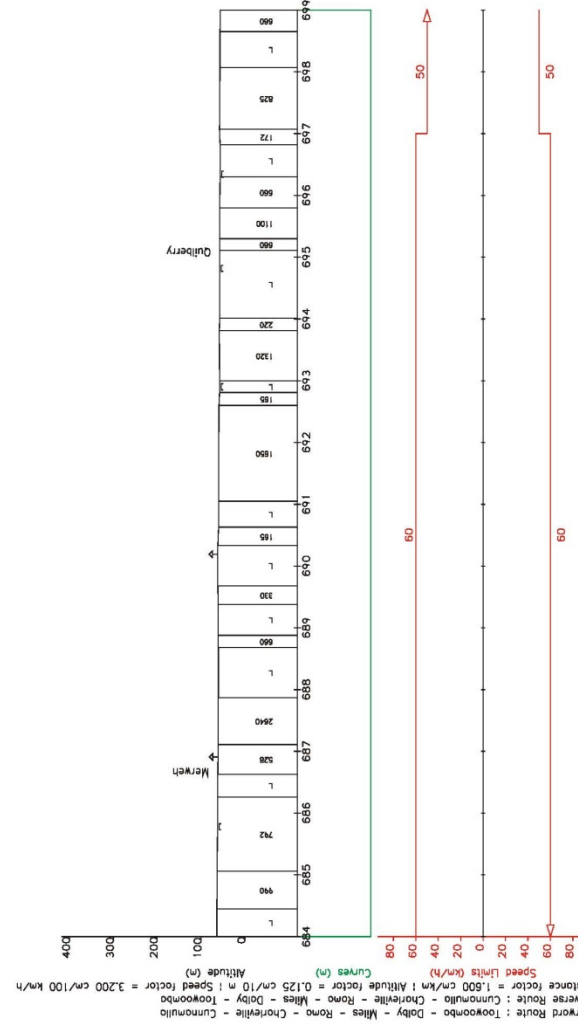
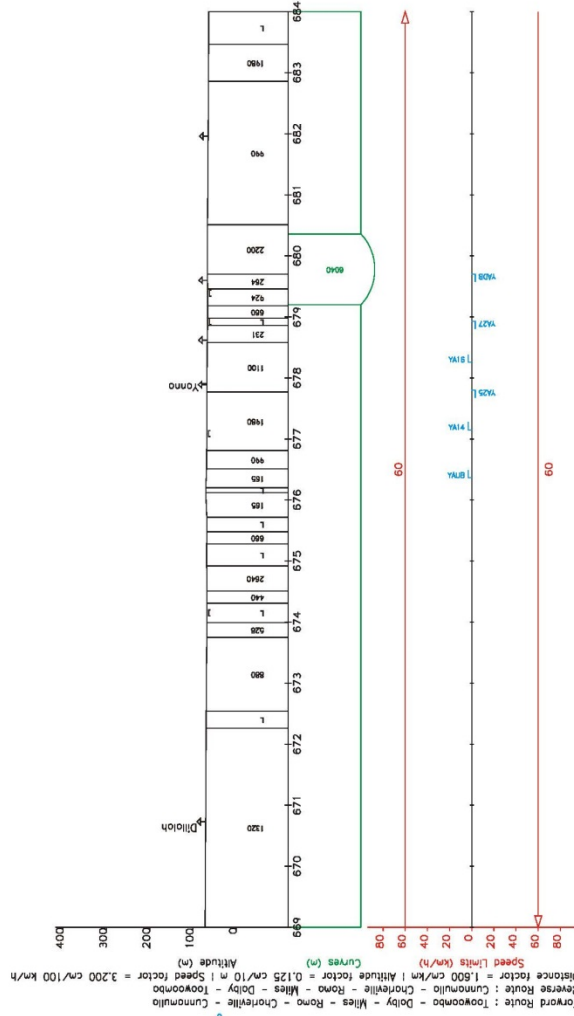
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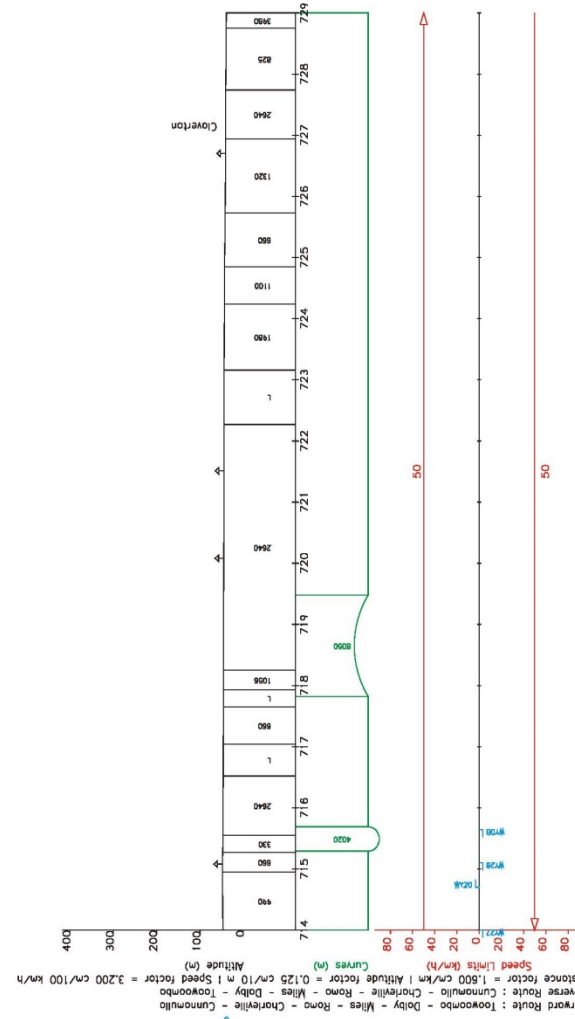
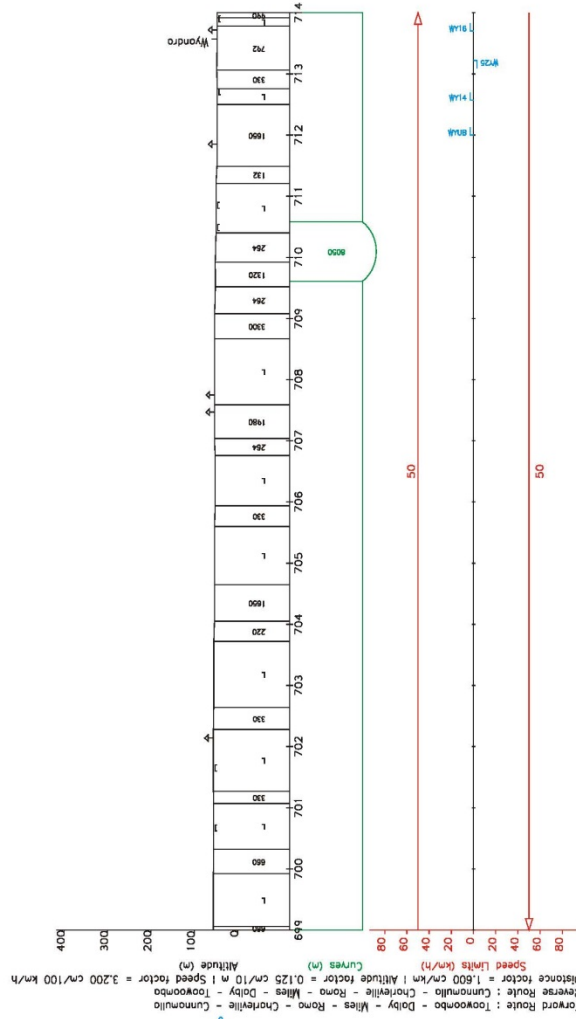
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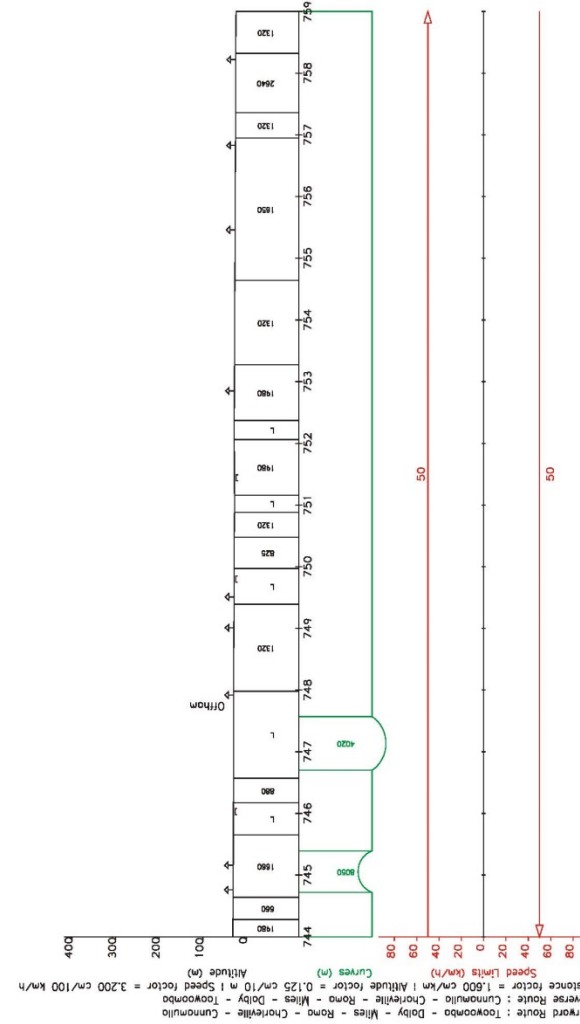
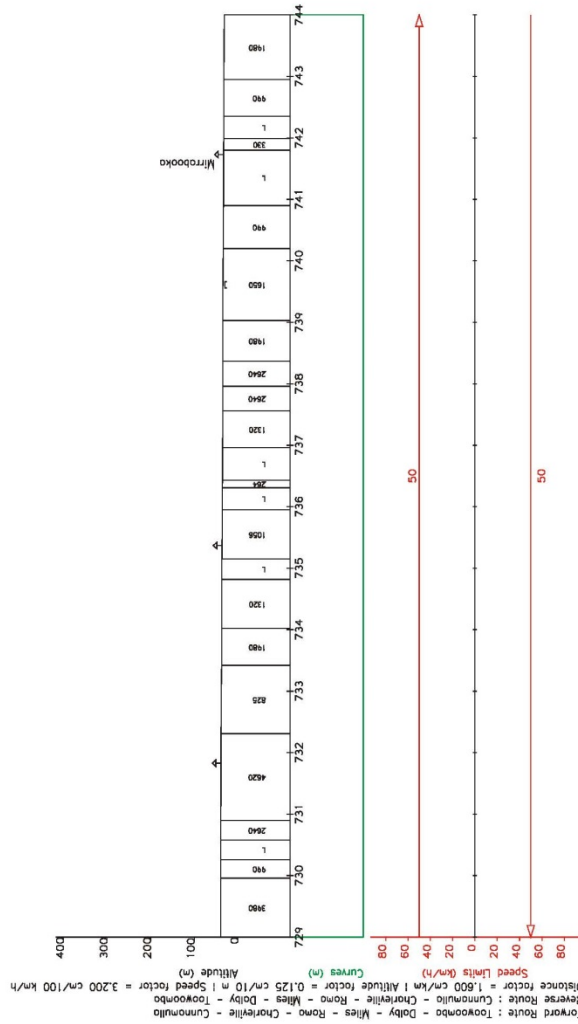
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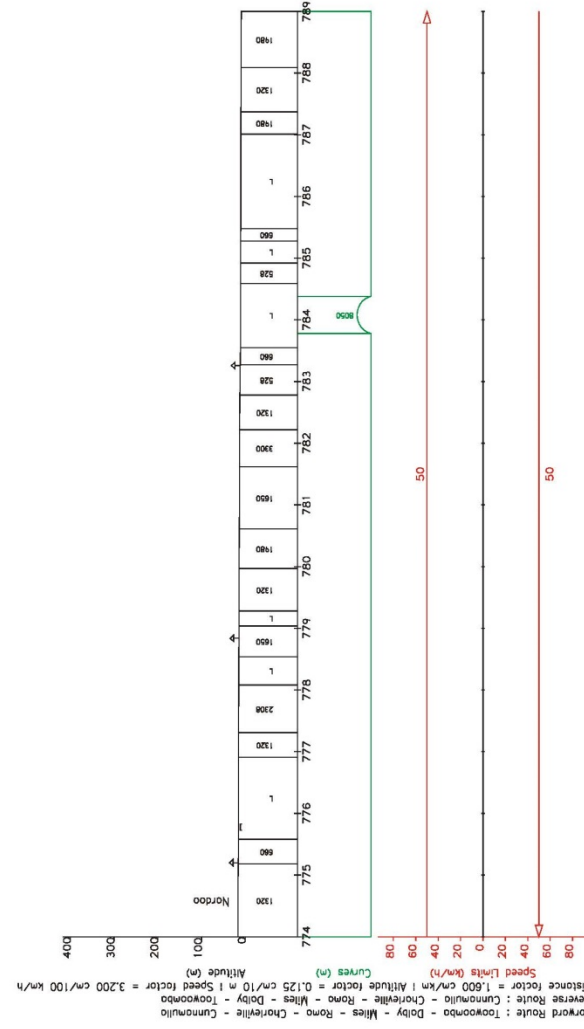
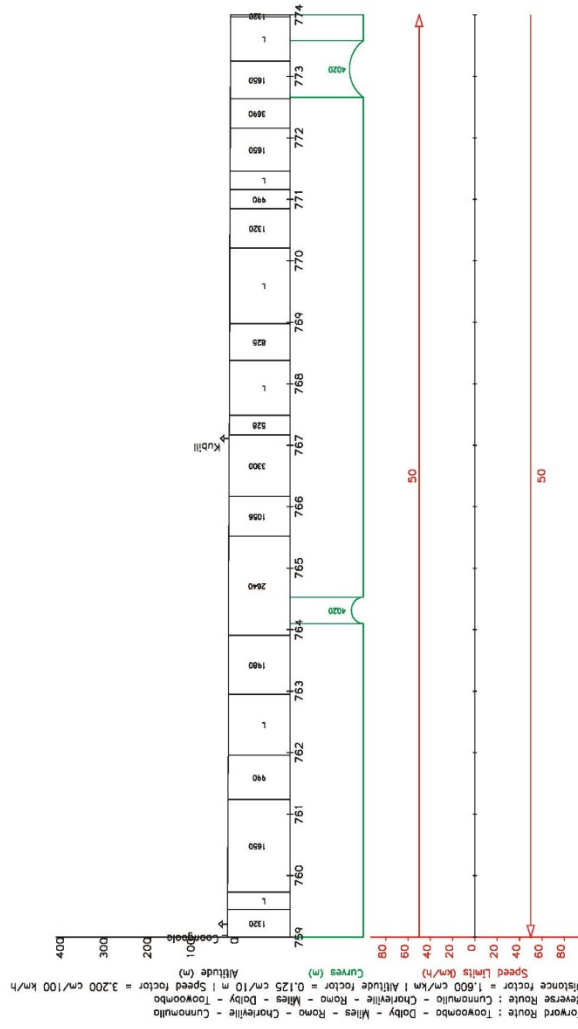
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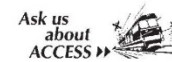
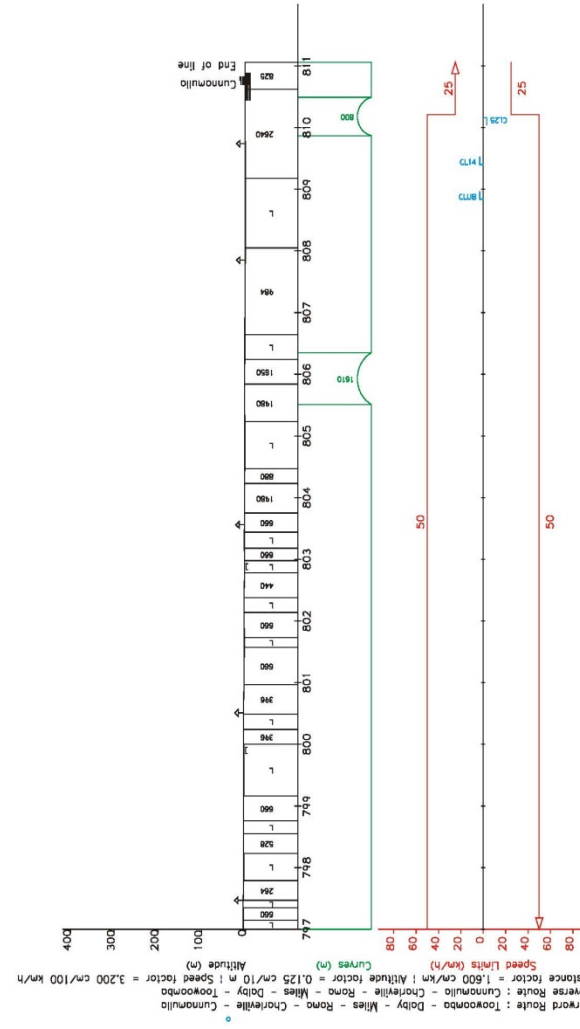
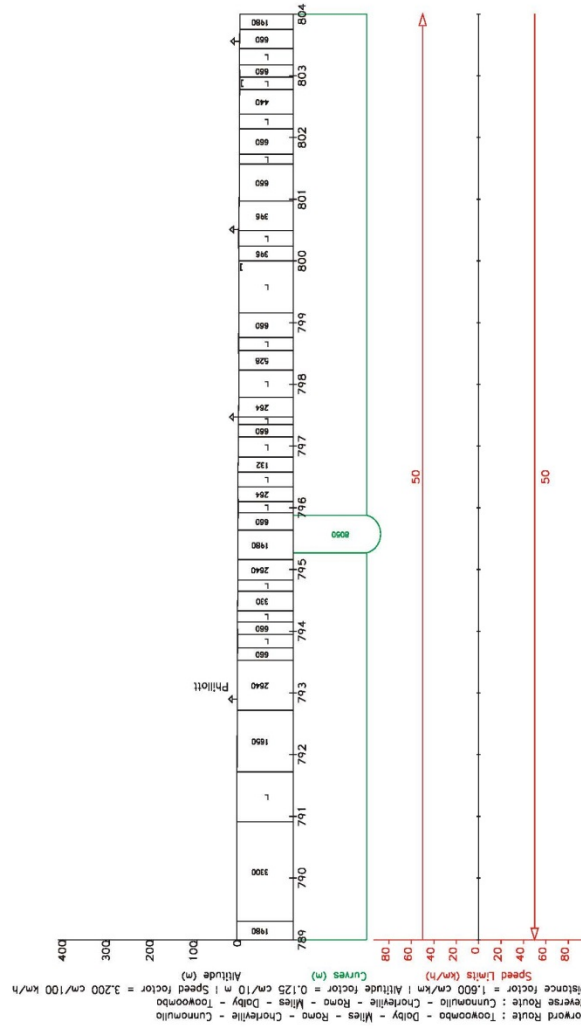
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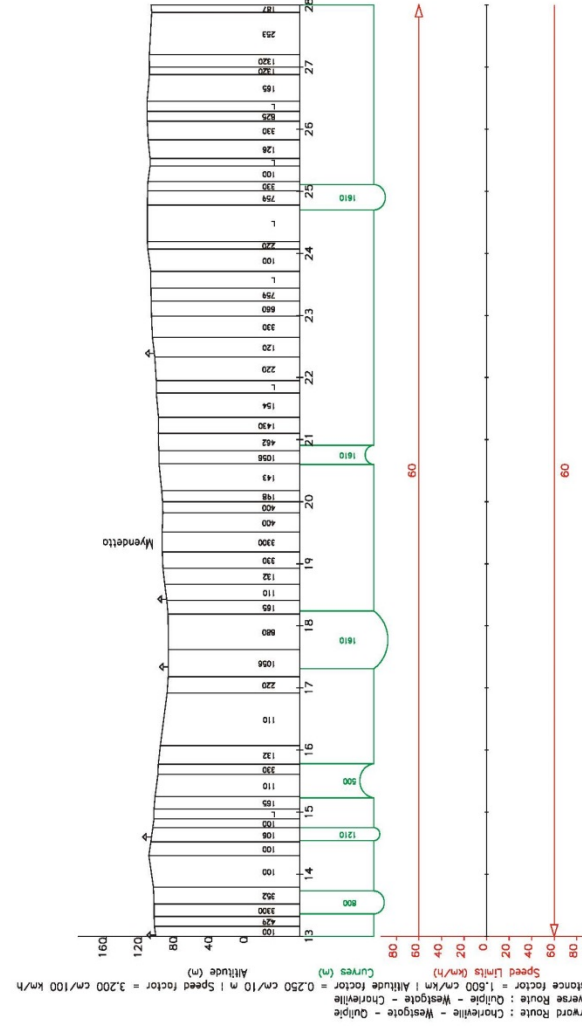
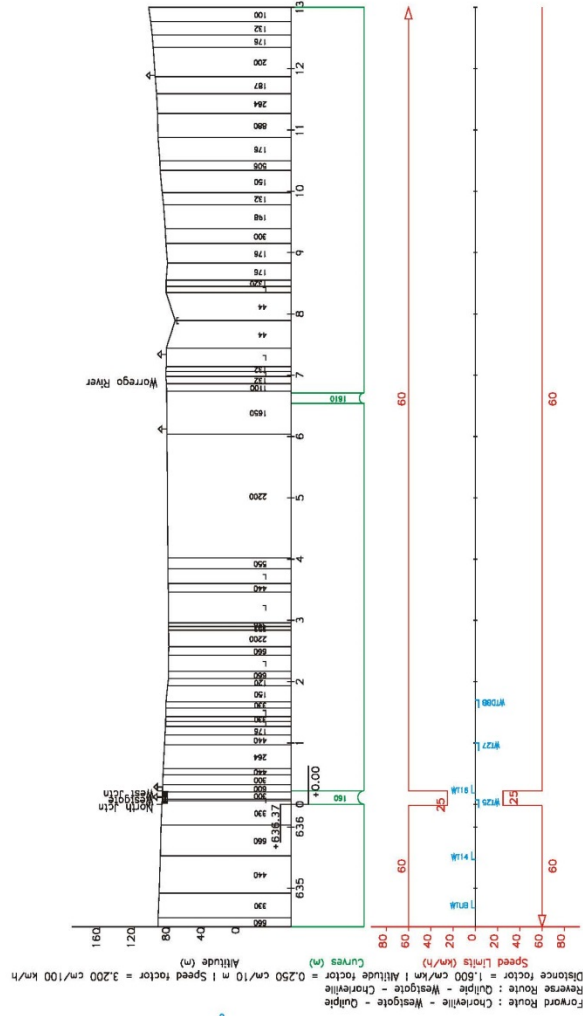


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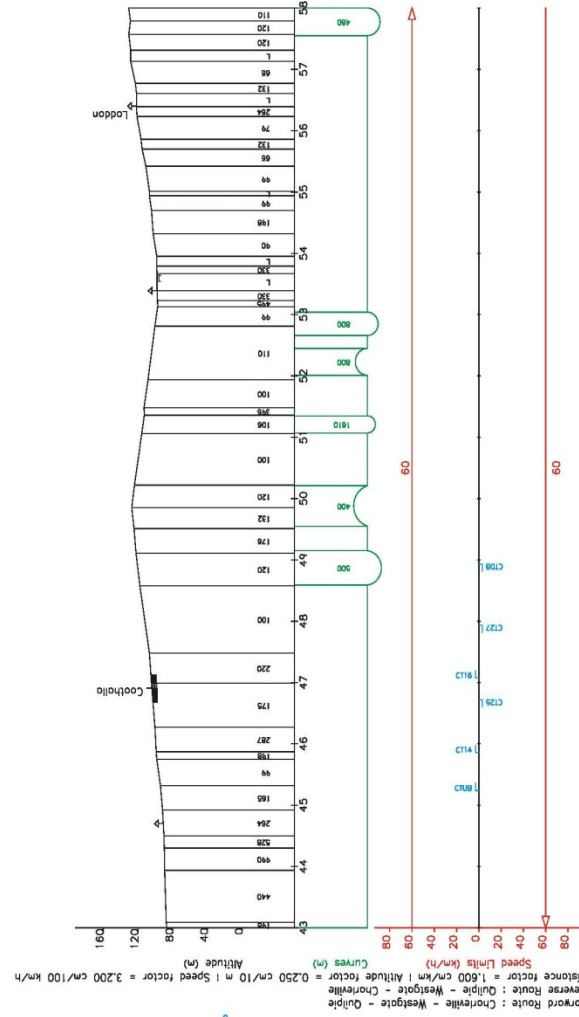
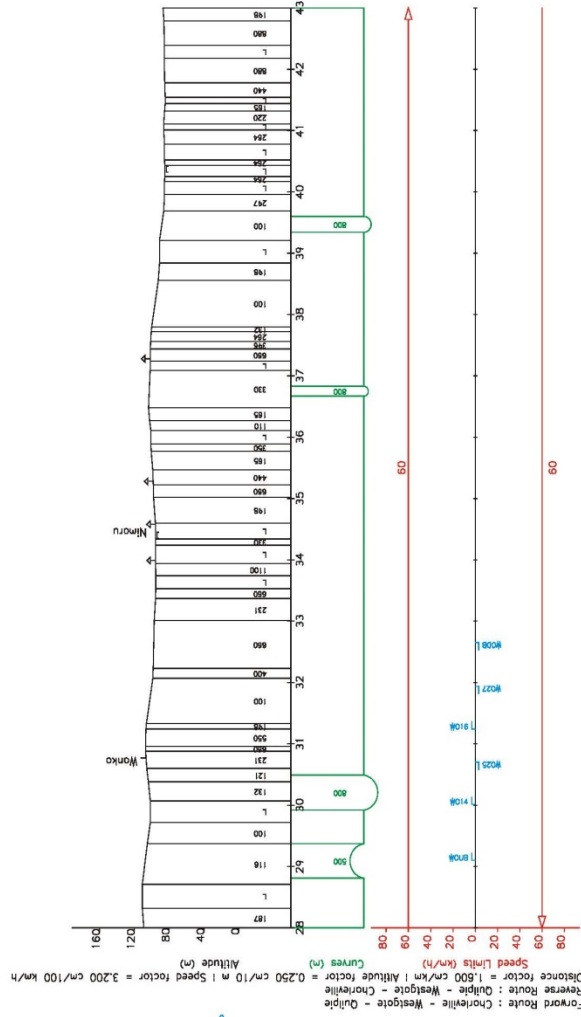


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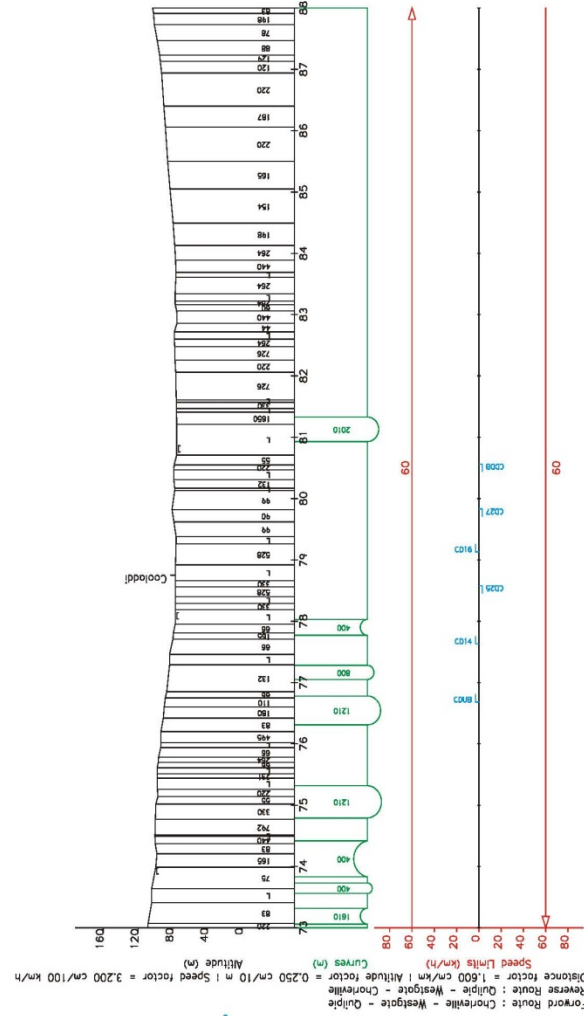
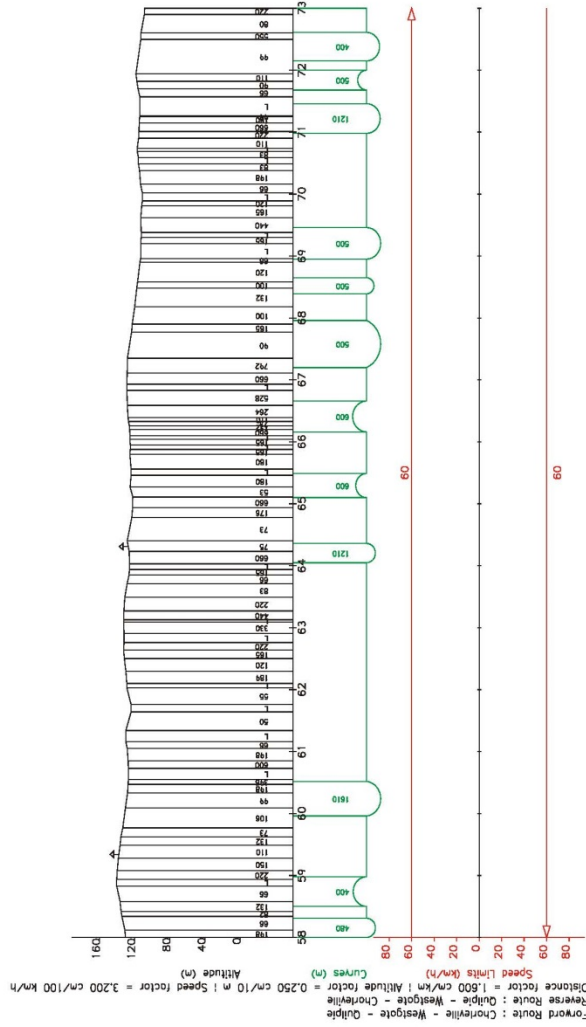
Great Western Railway (Westgate - Quilpie) - MTrain Download 15-12-05



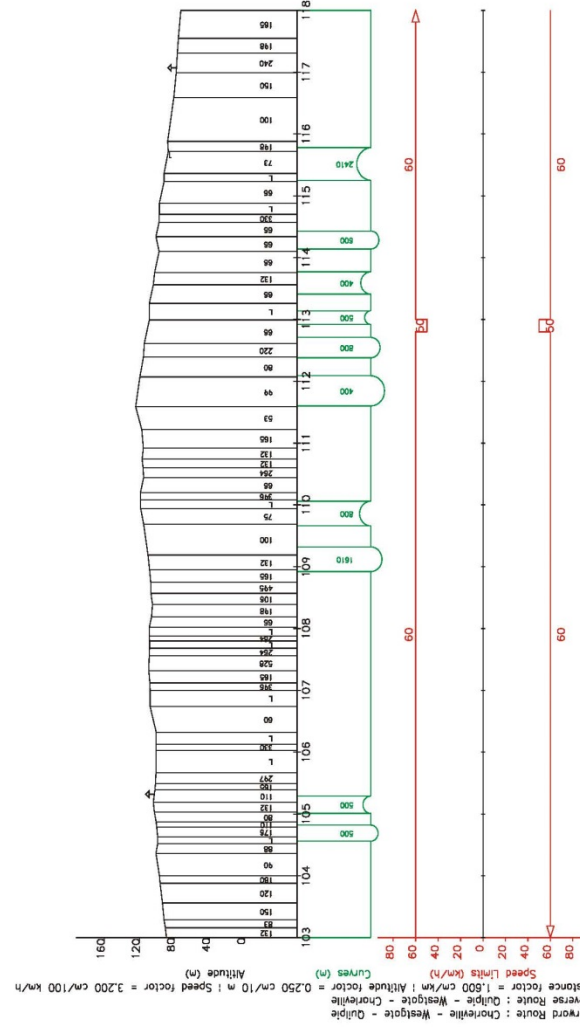
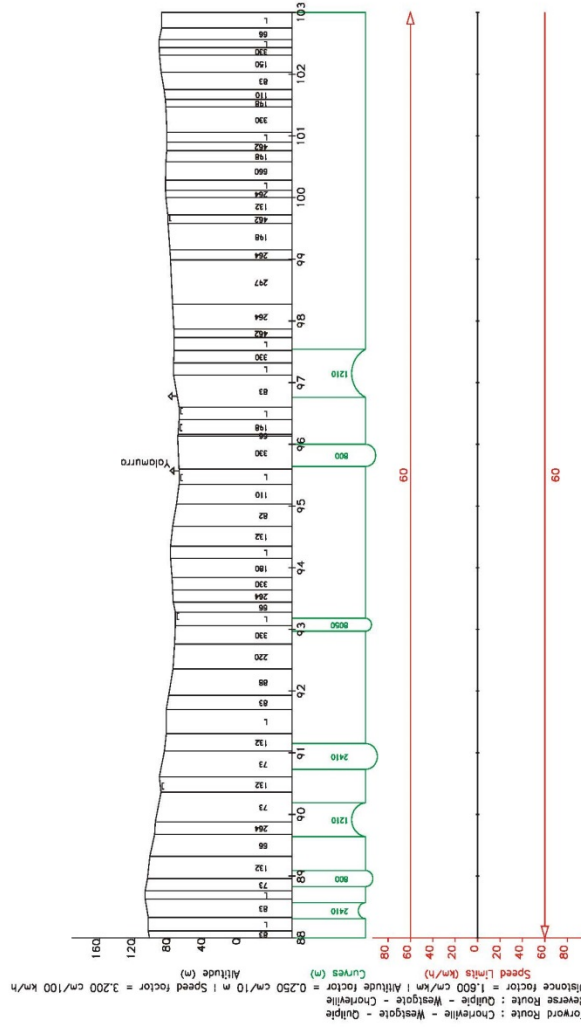
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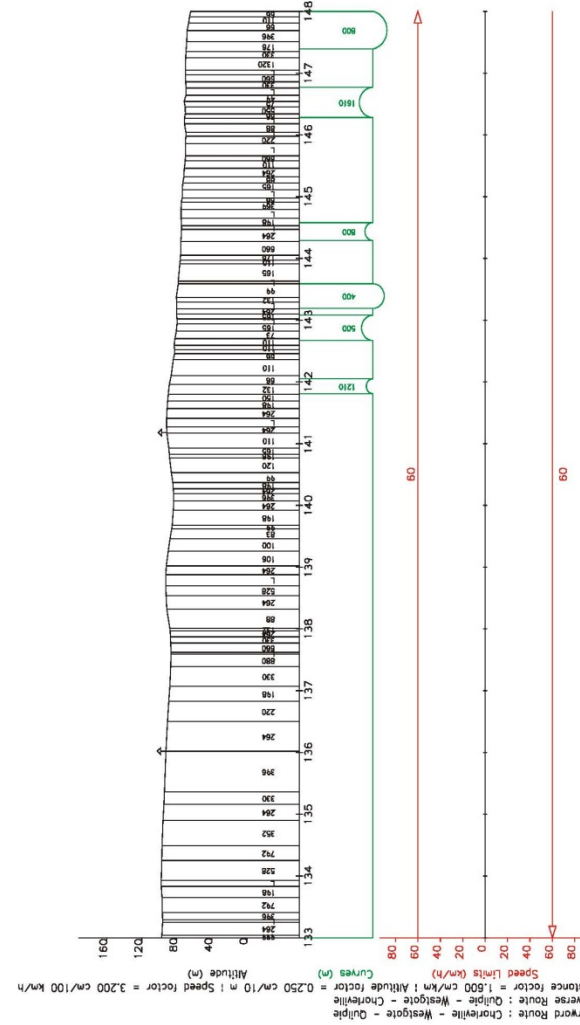
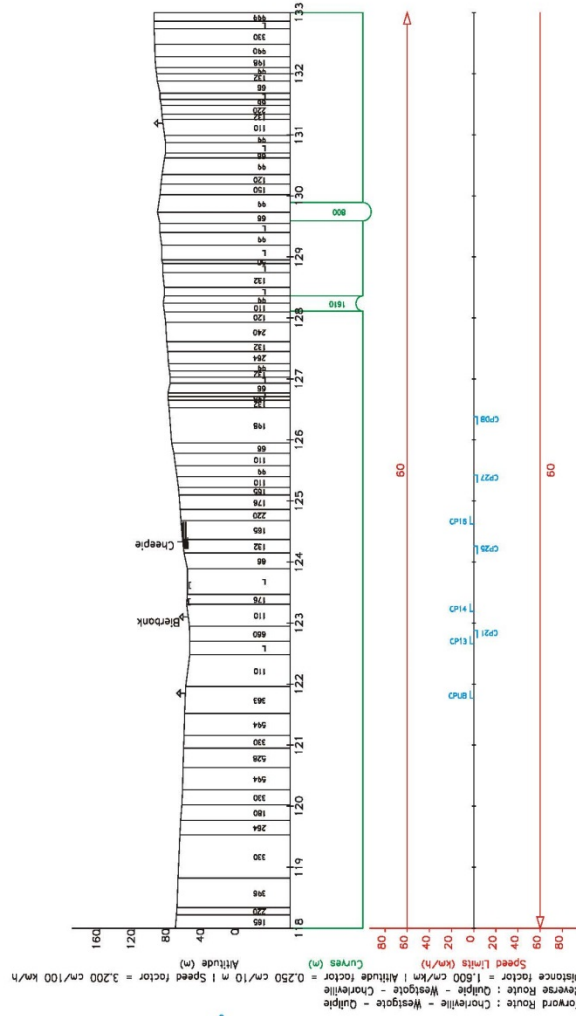
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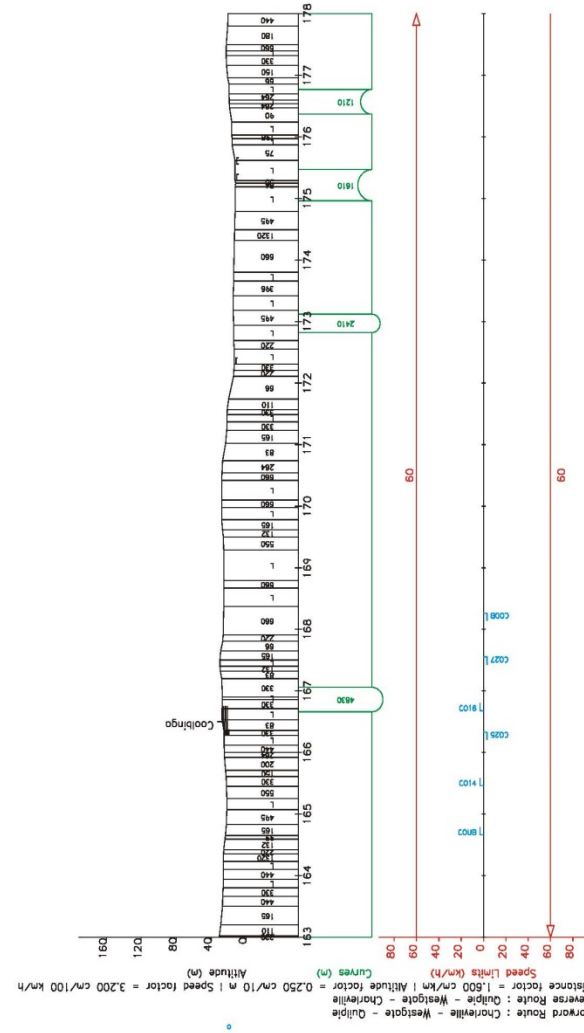
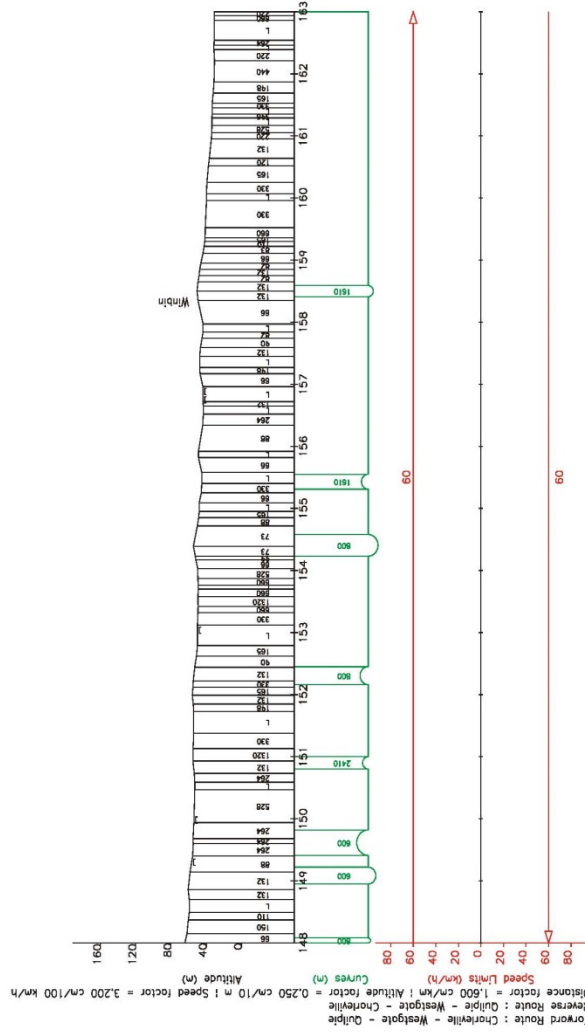
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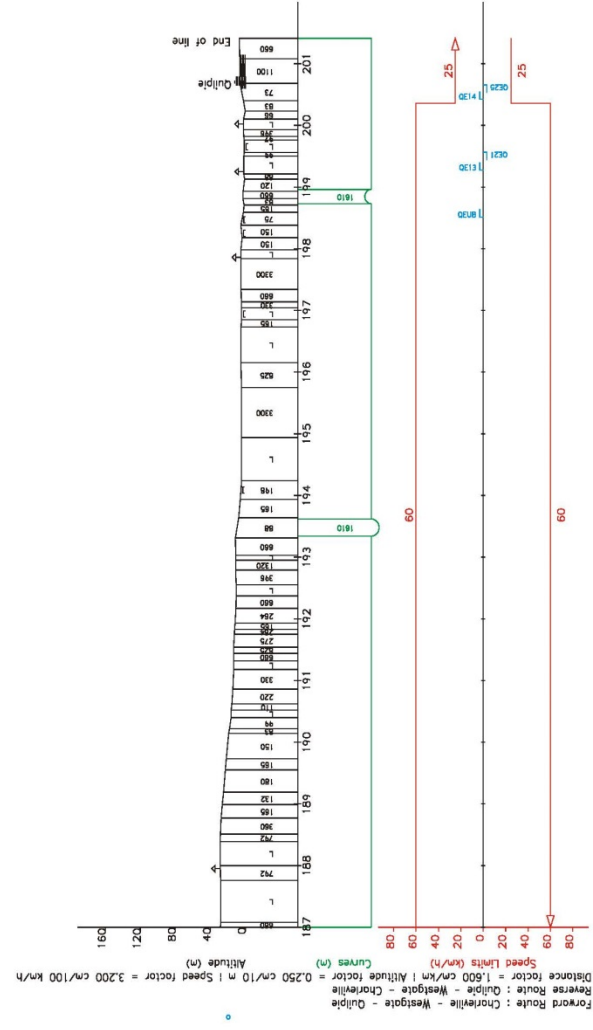
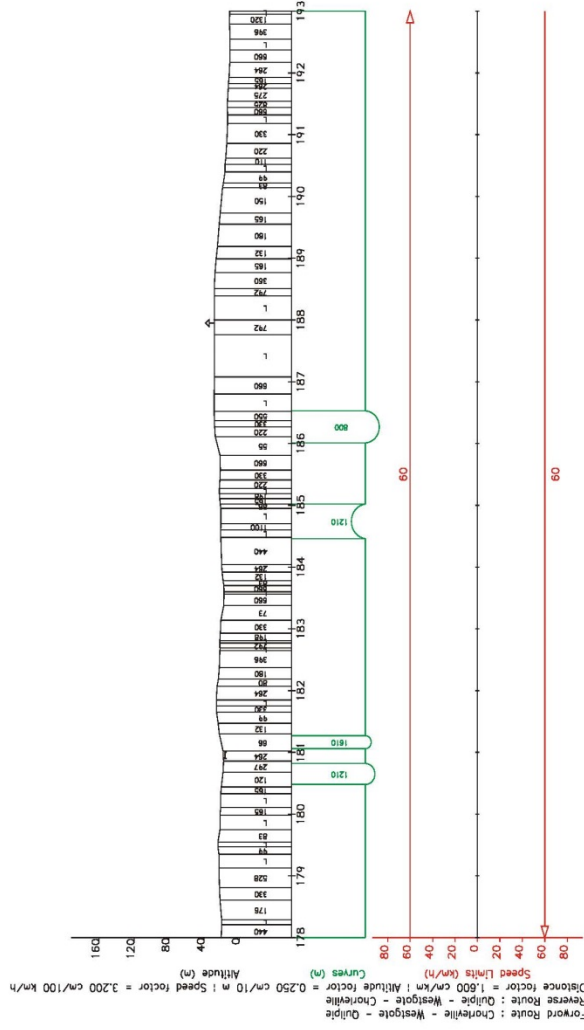
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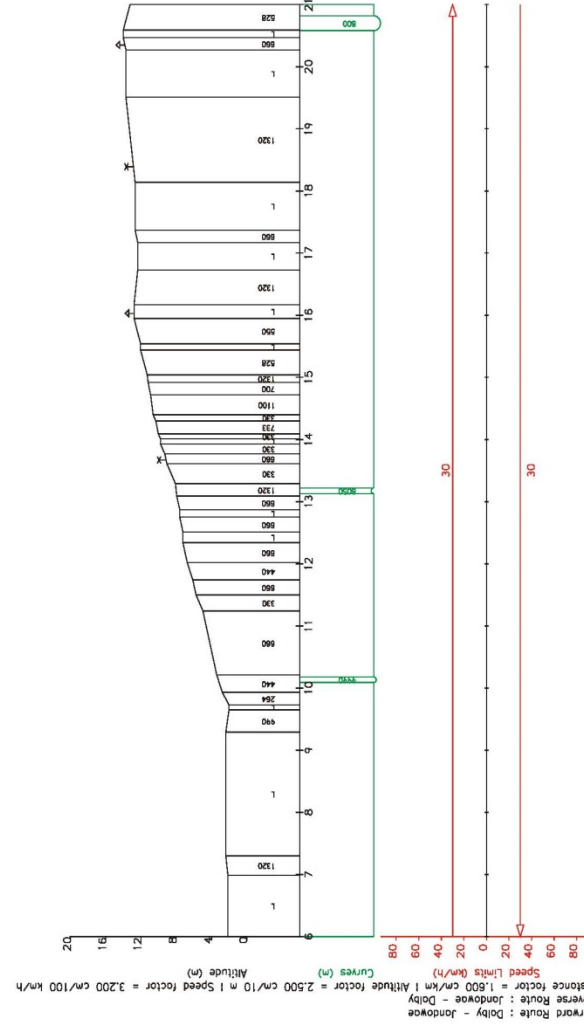
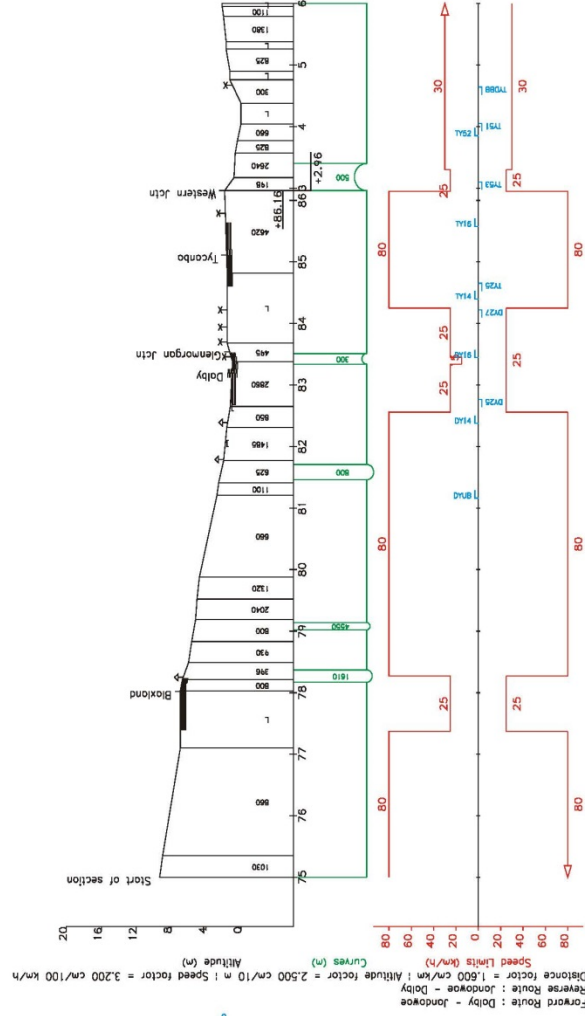


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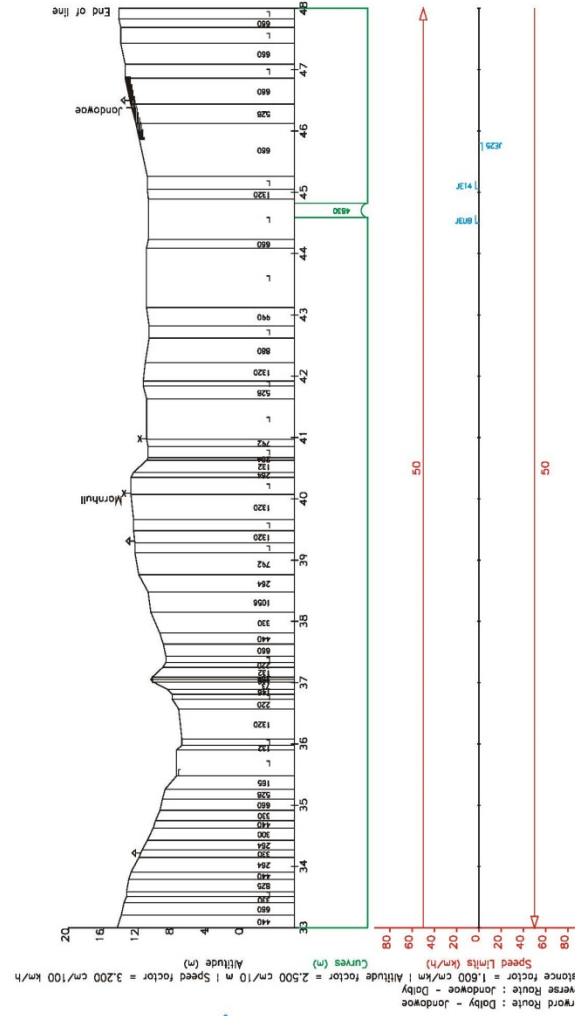
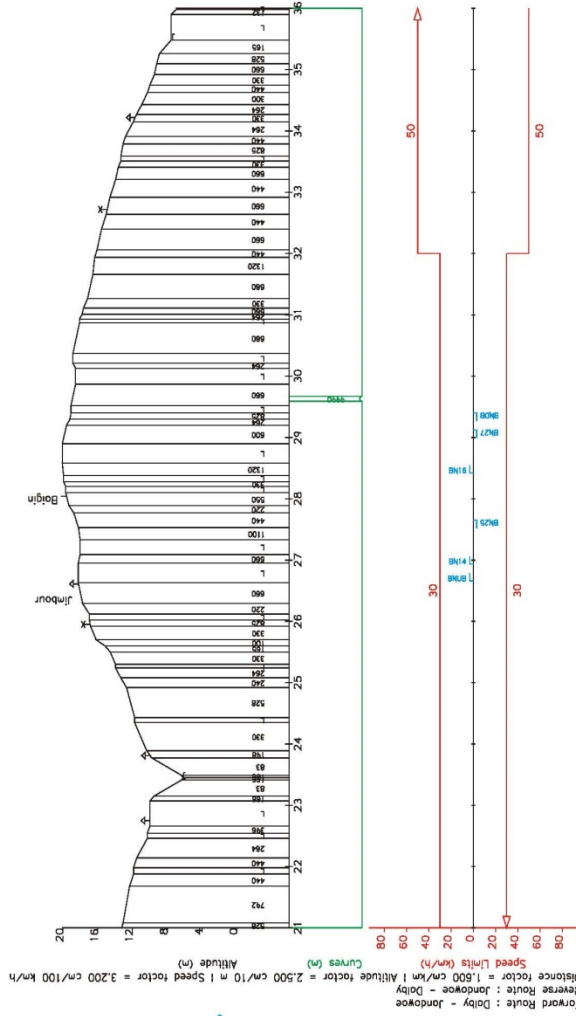


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Jandowae Branch (Tycanba - Jandowae) - MTrain Download 15-12-05

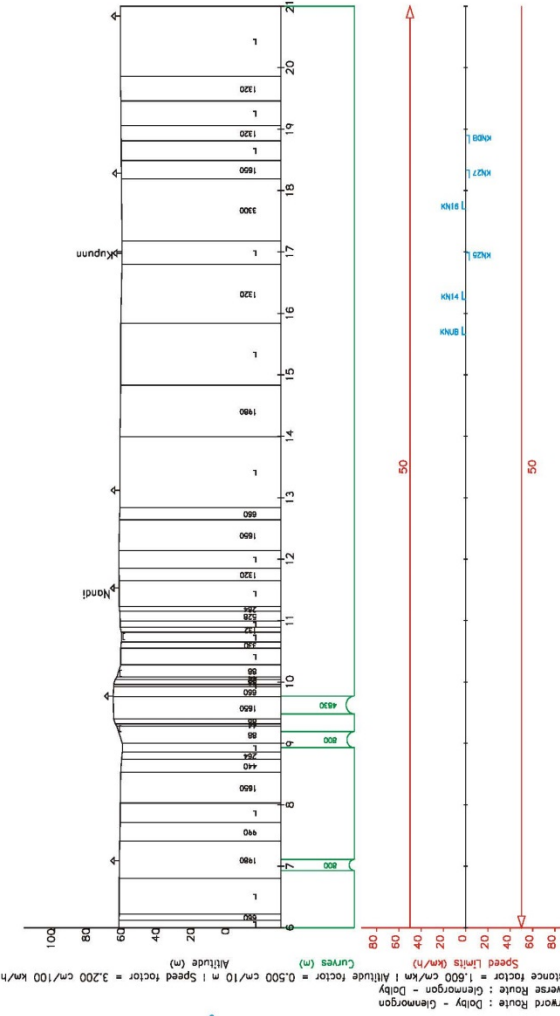
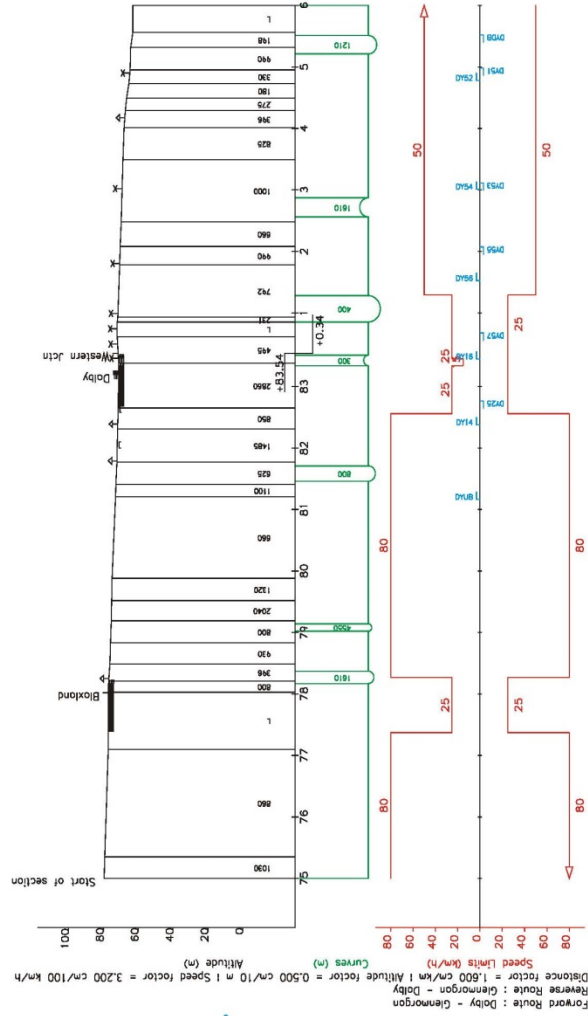


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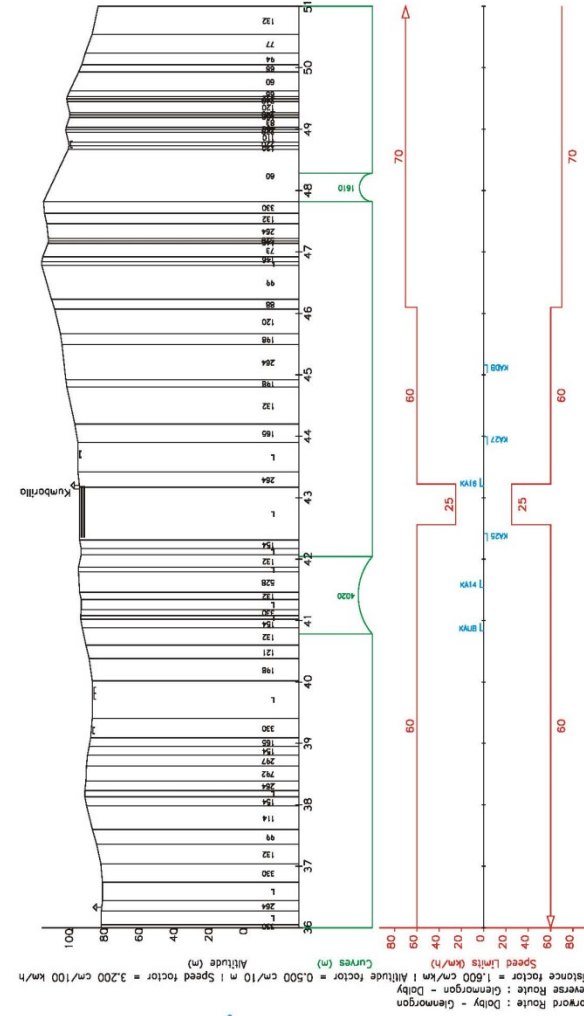
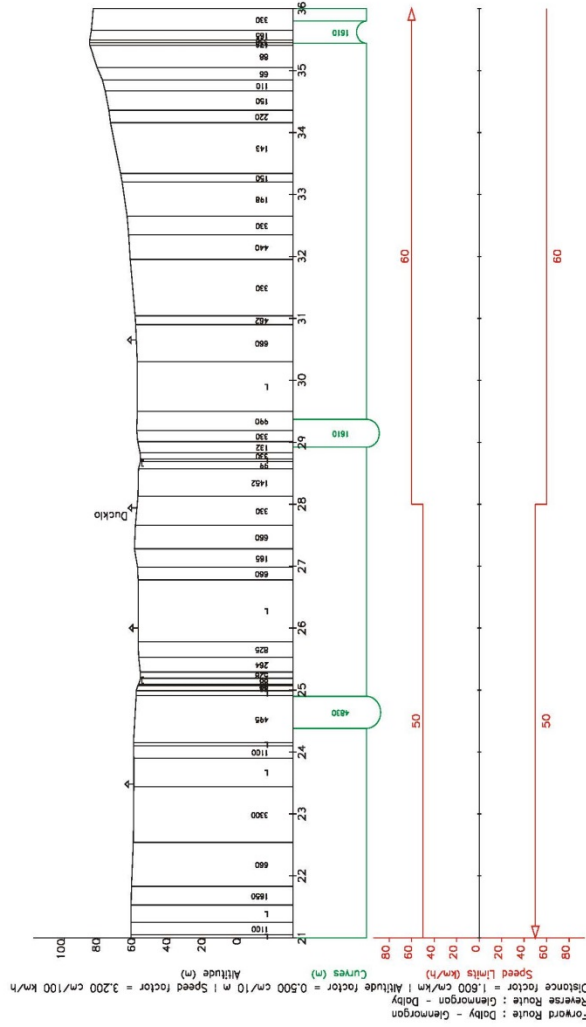


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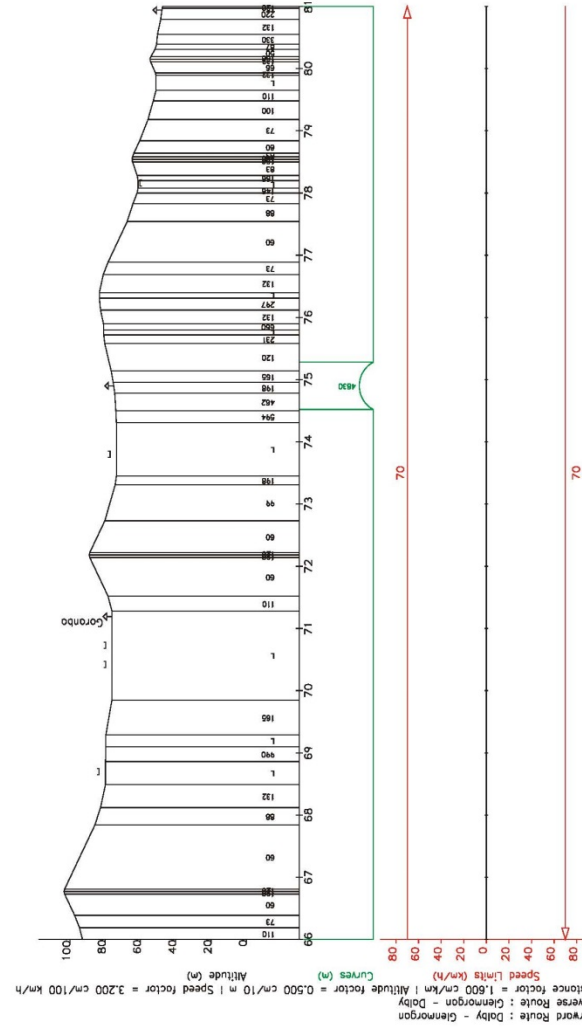
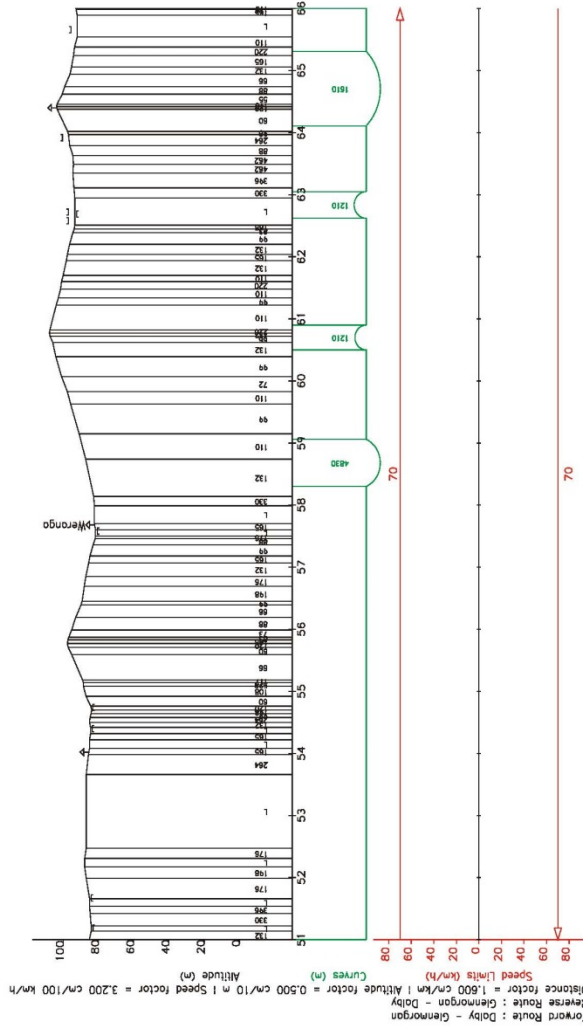
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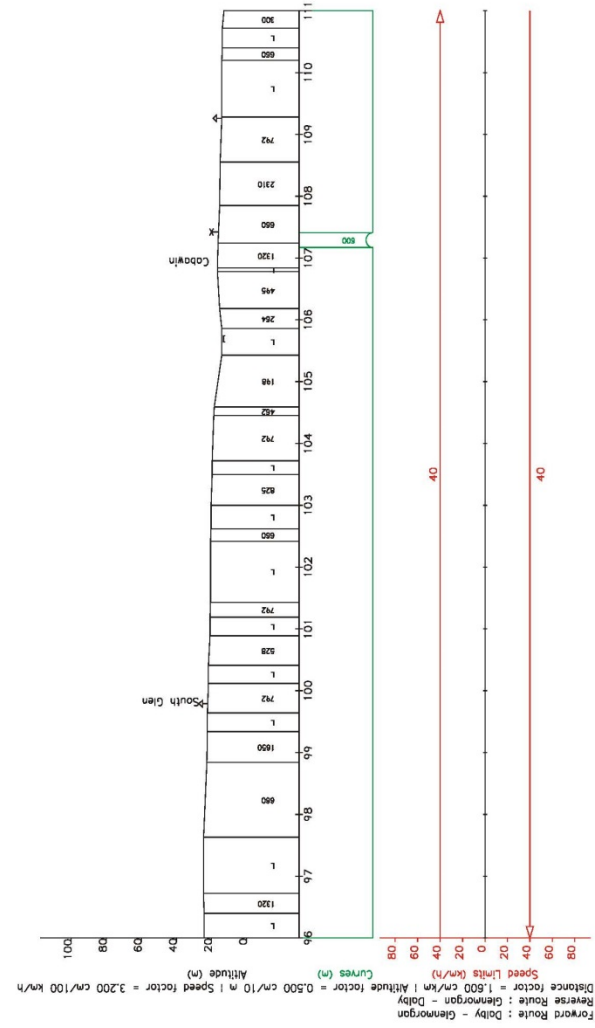
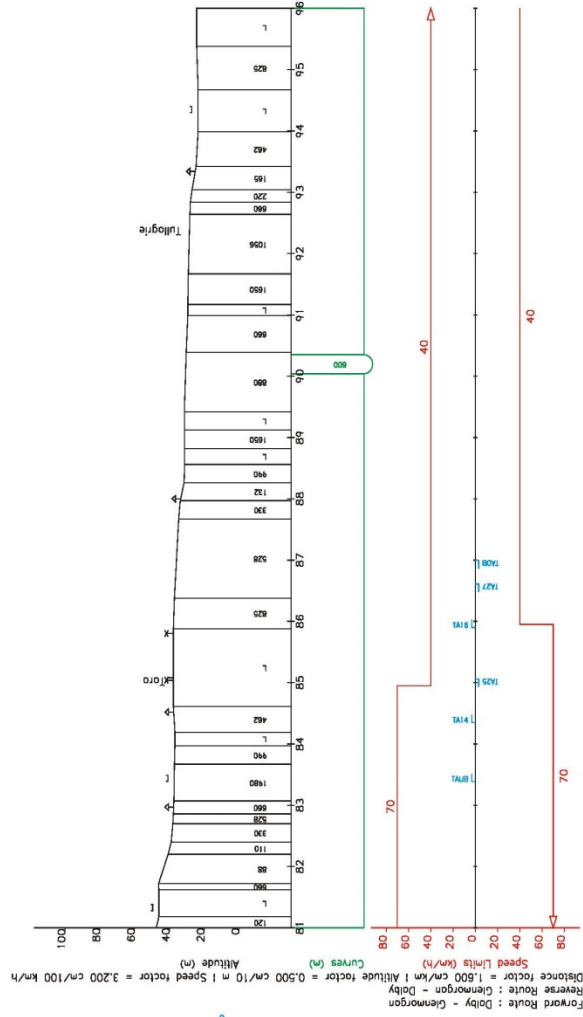
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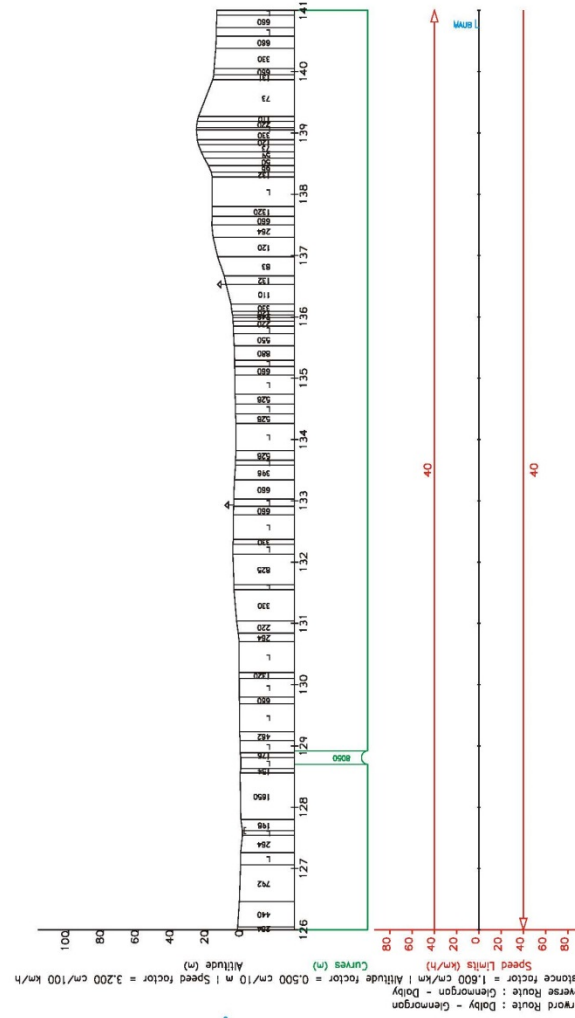
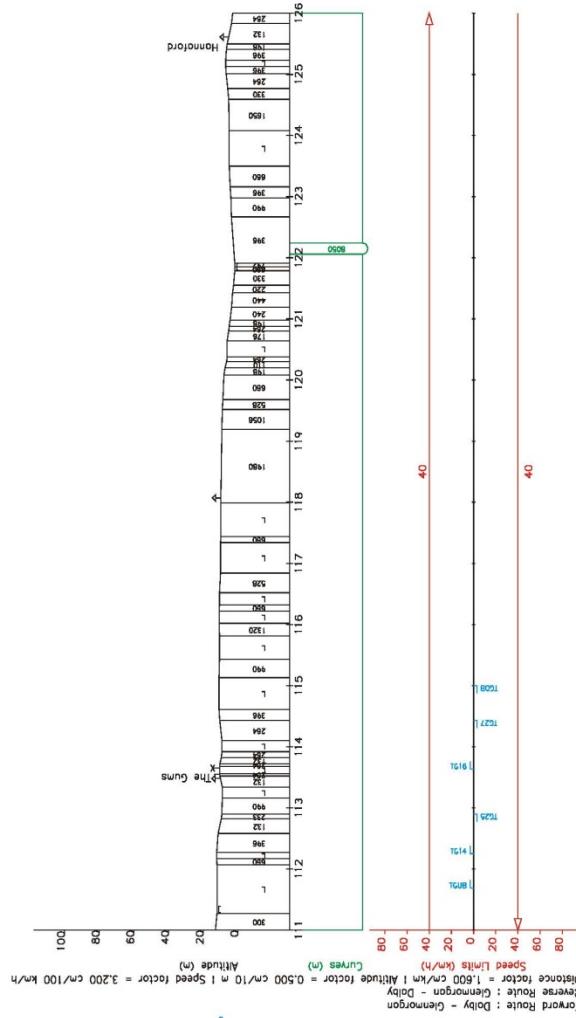
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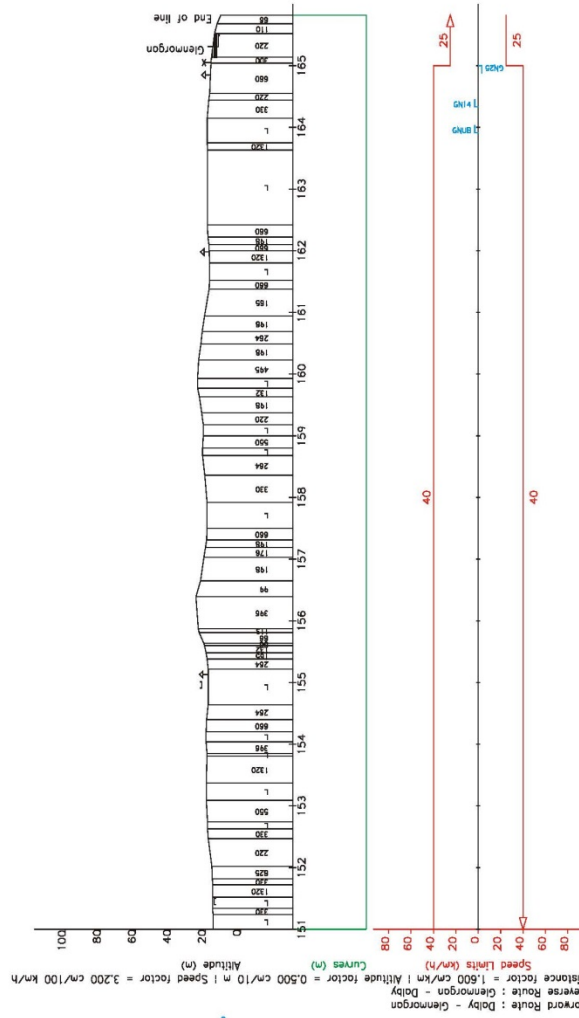
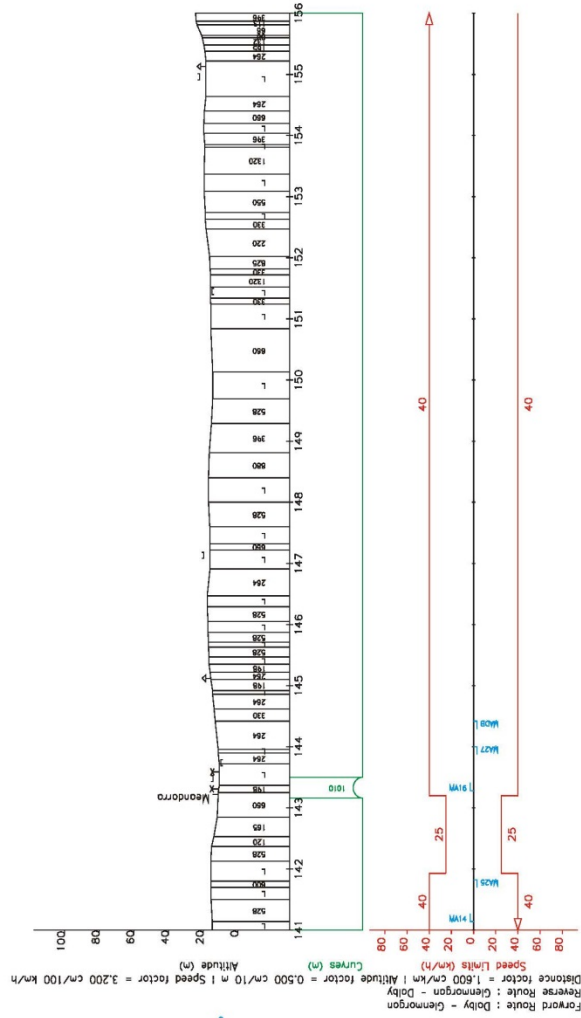
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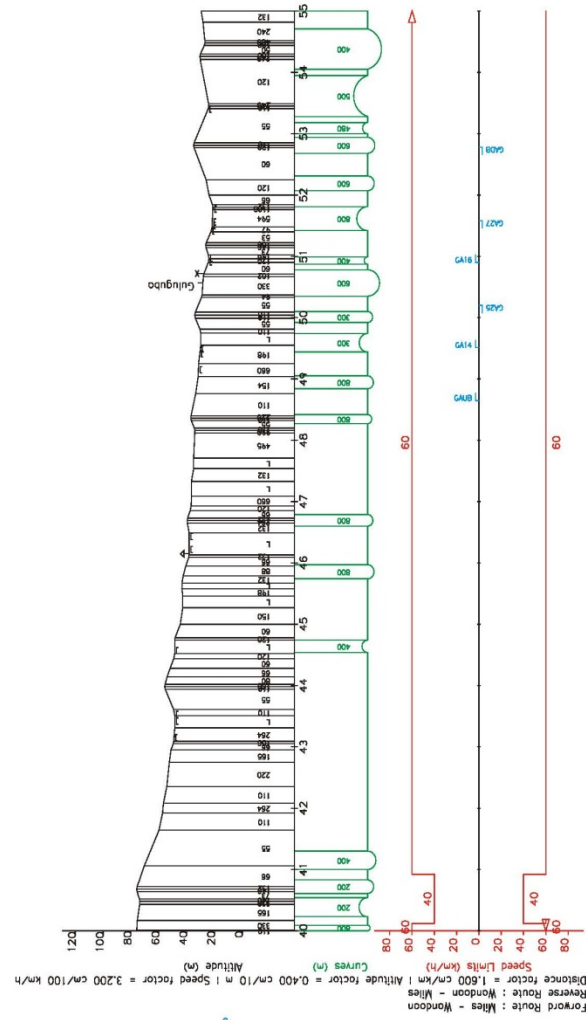
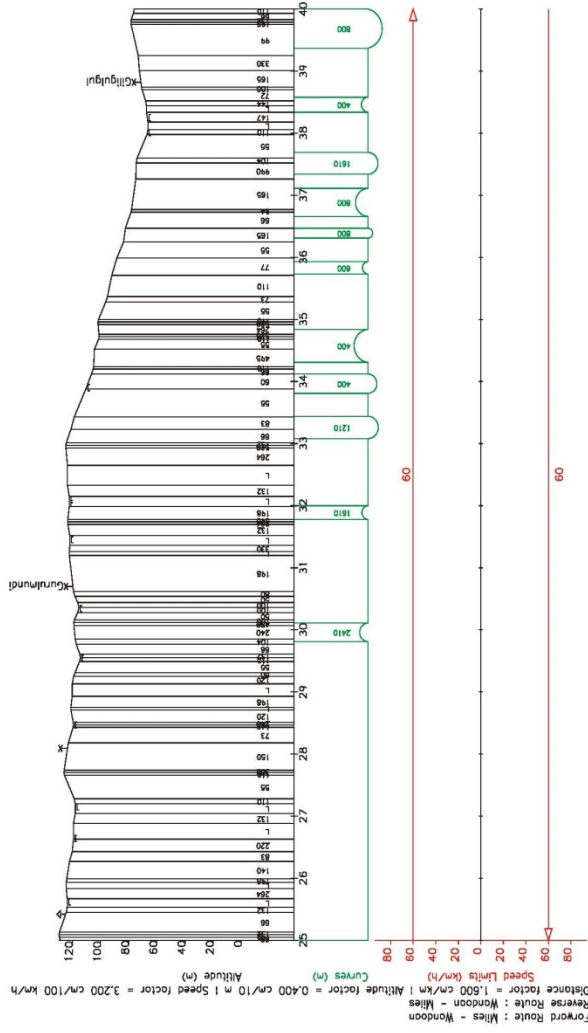
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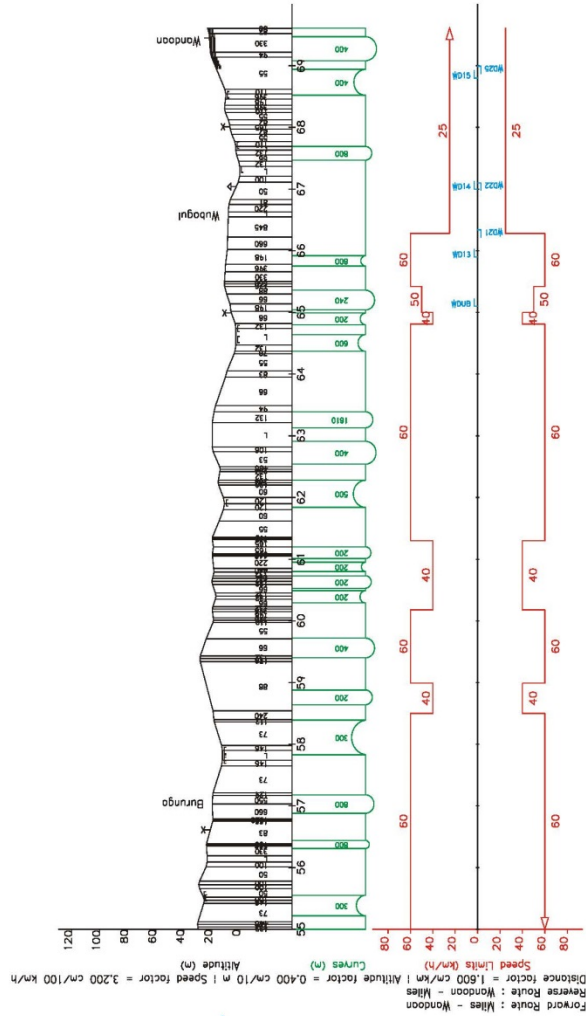
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APPENDIX F

Sectional Running Times

CONTROL		CATTLE	CATTLE	CATTLE	CATTLE
		Cattle Trains on the Western Line Pass - Pass	Cattle Trains on the Western Line Pass - Stop	Cattle Trains on the Western Line Start - Pass	Cattle Trains on the Western Line Start - Stop
Brisbane Far West	Columboola to Miles	21	23	24	26
Brisbane Far West	Chinchilla to Brigalow	25	27	28	30
Brisbane Far West	Brigalow to Warra	20	22	23	25
Brisbane Far West	Warra to Macalister	20	22	23	25
Brisbane Far West	Macalister to Baining	15	17	18	20
Brisbane Far West	Baining to Tycanba	10	12	13	15
Brisbane Far West	Coongoola to Wyandra				
Brisbane Far West	Cooladdi to Cheepie	70	72	73	75
Brisbane Far West	Cheepie to Coolbinga	65	67	68	70
Brisbane Far West	Coolbinga to Quilpie	55	57	58	60
Brisbane Far West	Cooladdi to Coothalla	50	52	53	55
Brisbane Far West	Coothalla to Wanko	25	27	28	30
Brisbane Far West	Wanko to Westgate	50	52	53	55
Brisbane Far West	Cunnamulla to Coongoola				
Brisbane Far West	Coongoola - Offham				
Brisbane Far West	OFF - WYR				
Brisbane Far West	Dalby to Kupunn				
Brisbane Far West	Kupunn to Kumbarella				
Brisbane Far West	Kumbarella to Tara				
Brisbane Far West	Tara to The Gums				
Brisbane Far West	The Gums to Meandarra				
Brisbane Far West	Meandarra to Glenmorgan				
Brisbane Far West	Dalby to Blaxland	7	9	10	12
Brisbane Far West	Blaxland to Koomi	13	15	16	18
Brisbane Far West	Koomi to Bowenville	15	17	18	20
Brisbane Far West	Bowenville to Malu	10	12	13	15
Brisbane Far West	Malu to Jondaryan Coal Siding	5	7	8	10
Brisbane Far West	Jondaryan Coal Siding to Oakey	20	22	23	25
Brisbane Far West	Dalby to Tycanba	5	7	8	10
Brisbane Far West	Glenmorgan to Meandarra				
Brisbane Far West	Meandarra to The Gums				
Brisbane Far West	The Gums to Tara				
Brisbane Far West	Tara to Kumbarella				
Brisbane Far West	Kumbarella to Kupunn				
Brisbane Far West	Kupunn to Dalby				
Brisbane Far West	Jandowae to Baigin				
Brisbane Far West	Baigin to Tycanba				
Brisbane Far West	Miles to Columboola	20	22	23	25
Brisbane Far West	Columboola to Rywung	14	16	17	19
Brisbane Far West	Rywung to Chinchilla	20	22	23	25
Brisbane Far West	Miles to Drilham	25	27	28	30
Brisbane Far West	Drilham to Ulmaroa	7	9	10	12
Brisbane Far West	Ulmaroa to Dulacca	15	17	18	20
Brisbane Far West	Dulacca to Jackson	16	18	19	21
Brisbane Far West	Jackson to Yuleba	28	30	31	33
Brisbane Far West	Yuleba to Wallumbilla	22	24	25	27
Brisbane Far West	Wallumbilla to Blythdale	22	24	25	27
Brisbane Far West	Blythdale to Roma	20	22	23	25
Brisbane Far West	Miles to Kowguran	31	33	34	36
Brisbane Far West	Kowguran to Guluguba	41	43	44	46
Brisbane Far West	Guluguba to Wandoan	28	30	31	33
Brisbane Far West	Mungallala to Dulbydilla	21	23	24	26
Brisbane Far West	Dulbydilla to Morven	27	29	30	32
Brisbane Far West	Morven to Angellala	24	26	27	29
Brisbane Far West	Angellala to Sommariva	32	34	35	37
Brisbane Far West	Sommariva to Arabella	18	20	21	23
Brisbane Far West	Arabella to Charleville	25	27	28	30
Brisbane Far West	Mungallala to Amboola	25	27	28	30
Brisbane Far West	Amboola to Womaililla	14	16	17	19
Brisbane Far West	Womaililla to Mitchell	26	28	29	31
Brisbane Far West	Mitchell to Bongo	23	25	26	28
Brisbane Far West	Bongo to Amby	5	7	8	10
Brisbane Far West	Amby to Muckadilla	25	27	28	30
Brisbane Far West	Muckadilla to Hodgson	25	27	28	30
Brisbane Far West	Hodgson to Roma	32	34	35	37
Brisbane Far West	Oakey to Jondaryan Coal Siding	16	18	19	21
Brisbane Far West	Jondaryan Coal Siding to Malu	4	6	7	9
Brisbane Far West	Malu to Bowenville	10	12	13	15
Brisbane Far West	Bowenville to Koomi	12	14	15	17
Brisbane Far West	Koomi to Blaxland	13	15	16	18
Brisbane Far West	Blaxland to Dalby	10	12	13	15
Brisbane Far West	Oakey to Kingsthorpe	15	17	18	20
Brisbane Far West	Kingsthorpe to Gowrie	15	17	18	20
Brisbane Far West	Gowrie to Willowburn	20	22	23	25
Brisbane Far West	Willowburn to Toowoomba	10	12	13	15
Brisbane Far West	Quilpie to Coolbinga	55	57	58	60
Brisbane Far West	Coolbinga to Cheepie	70	72	73	75
Brisbane Far West	Cheepie to Cooladdi	75	77	78	80
Brisbane Far West	Roma to Blythdale	20	22	23	25
Brisbane Far West	Blythdale to Wallumbilla	22	24	25	27
Brisbane Far West	Wallumbilla to Yuleba	22	24	25	27
Brisbane Far West	Yuleba to Jackson	26	28	29	31
Brisbane Far West	Jackson to Dulacca	14	16	17	19
Brisbane Far West	Dulacca to Ulmaroa	20	22	23	25

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Brisbane Far West	Ullmaroo to Drillham	5	7	8	10
Brisbane Far West	Drillham to Miles	22	24	25	27
Brisbane Far West	Roma to Hodgson	23	25	26	28
Brisbane Far West	Hodgson to Muckadilla	21	23	24	26
Brisbane Far West	Muckadilla to Amby	21	23	24	26
Brisbane Far West	Amby to Bongo	5	7	8	10
Brisbane Far West	Bongo to Mitchell	20	22	23	25
Brisbane Far West	Mitchell to Womalilla	34	36	37	39
Brisbane Far West	Womalilla to Amboola	11	13	14	16
Brisbane Far West	Amboola to Mungallala	23	25	26	28

APPENDIX G

Altitudes

Metres above Mean Sea Level

Miles	303
Drillham	326
Ulimaroa	353
Dulacca	323
Jackson	317
Channing	312
Yuleba	301
Wallumbilla	311
Pickanjinnie	316
Blythdale	301
Roma	299
Bungeworrai	298
Hodgson	325
Bindango	347
Muckadilla	358
Amby	347
Marbango	339
Mitchell	338
Womallila	383
Ulandilla	403
Amboola	411
Mungallala	424
Dulbydilla	441
Morven	423
Angellala	367
Lurnea	414
Sommariva	394
Arabella	365
Charleville	296
Westgate	285
Wallal	283
Mangalore	268
Dillalah	262
Yanna	259
Murweh	253
Quilberry	248
South Ray	245
Wyandra	237

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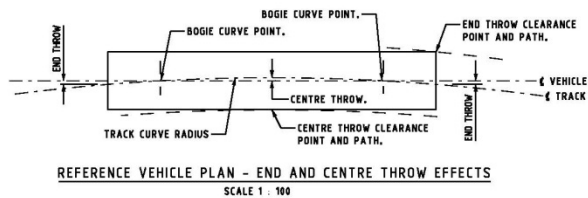
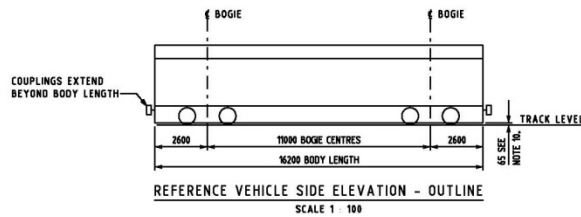
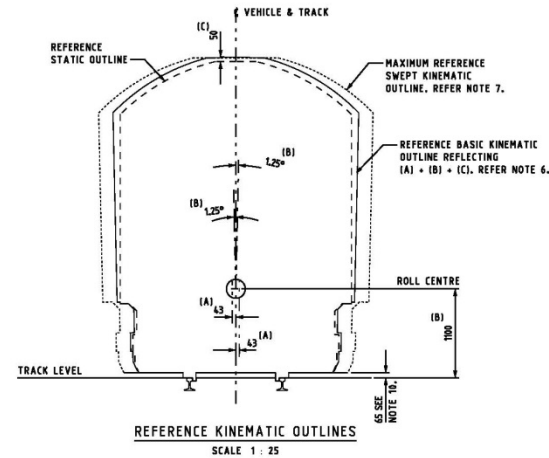
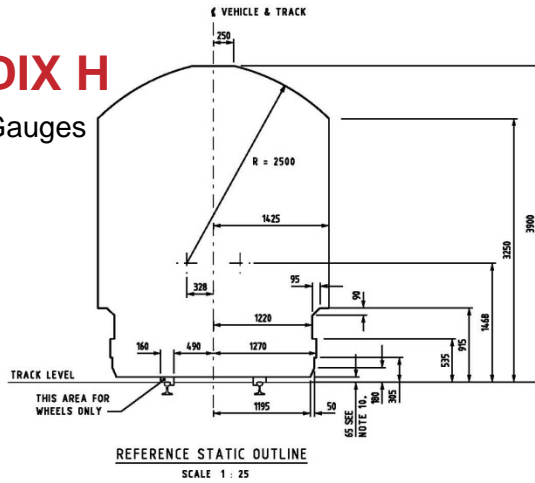
Metres above Mean Sea Level

Claverton	229
Mirrabooka	221
Offham	217
Coongoola	212
Kubill	208
Nardoo	204
Phillott	196
Cunnamulla	189
Westgate	285
Warrego River	281
Myendetta	293
Wanko	296
Coothalla	297
Loddon	313
Cooladdi	265
Yalamurra	258
Cheepie	255
Winbin	240
Coolbinga	219
Quilpie	197
Dalby	343
Jimbour	361
Marnhull	356
Jandowae	357
Dalby	343
Natcha	342
Yumborra	340
Nandi	334
Kupunn	334
Kumbarilla	370
Tara	312
The Gums	284
Hannaford	280
Meandarra	282
Glenmorgan	284
Miles	303
Dalwogan	328
Kowguran	347
Gurulmundi	371
Guluguba	282
Wubagul	258
Wandoan	272

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APPENDIX H

Rollingstock Gauges



NOTES:

- THE REFERENCE BASIC KINEMATIC OUTLINE AND REFERENCE SWEEP KINEMATIC OUTLINE ARE CALCULATED FROM THE REFERENCE STATIC OUTLINE USING THE DYNAMIC MOVEMENTS SPECIFIED IN NOTE 6 AND APPLYING THE METHODS DEFINED IN AS 7507 (PARTS 1 TO 4).
- ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS SHOWN OTHERWISE.
- A ROLLING STOCK OUTLINE CONSISTS OF THREE (3) PARTS:
 - THE STATIC OUTLINE;
 - THE BASIC KINEMATIC OUTLINE; AND
 - SWEEP KINEMATIC OUTLINE.
- A REFERENCE OUTLINE IS DEFINED AS AN OUTLINE ACCEPTED BY QUEENSLAND RAIL AS APPLICABLE TO A SPECIFIED ROUTE.
- THIS DRAWING DEFINES A REFERENCE STATIC OUTLINE AND THE FACTORS TO BE ADDED TO PRODUCE THE ASSOCIATED REFERENCE BASIC KINEMATIC OUTLINE & THE MAXIMUM REFERENCE SWEEP KINEMATIC OUTLINE.
- THE REFERENCE BASIC KINEMATIC OUTLINE IS DETERMINED BY APPLYING THE FOLLOWING DYNAMIC MOVEMENTS TO THE REFERENCE STATIC OUTLINE:
 - (A) LATERAL TRANSLATION $\pm 43\text{mm}$
 - (B) BODY ROLL $\pm 1.25^\circ$ ABOUT A ROLL CENTRE 1100mm ABOVE TRACK LEVEL ON THE VEHICLE CENTRELINE
 - (C) BOUNCE UPWARDS 50mm.
- THE MAXIMUM REFERENCE SWEEP KINEMATIC OUTLINE IS DETERMINED BY APPLYING THE CENTRE AND END THROW EFFECTS OF A 100m RADIUS HORIZONTAL TRACK CURVE TO THE REFERENCE BASIC KINEMATIC OUTLINE.
- ROLLING STOCK MUST COMPLY WITH ALL PARTS OF THE REFERENCE ROLLING STOCK OUTLINES:
 - WHEN EMPTY AND NEW CONDITION
 - WHEN FULLY LOADED AND WORN CONDITION
 - INCLUDING ALLOWANCE FOR CONSTRUCTION TOLERANCES.
- OTHER ROLLING STOCK PROPORTIONS (e.g. LENGTH, WIDTH, BOGIE SPACING) MAY BE AUTHORISED BY QUEENSLAND RAIL PROVIDED THAT THE ROLLING STOCK DOES NOT EXTEND BEYOND THE REFERENCE OUTLINES.
- 65mm VERTICAL SWEEP PATH HEIGHT FROM TRACK LEVEL TO UNDERSIDE OF THE STATIC AND KINEMATIC OUTLINES TO BE MAINTAINED FOR THE FULL LENGTH OF THE VEHICLE FOR ALL DYNAMIC MOVEMENTS AND ON VERTICAL TRACK CURVES.
- VERTICAL SWEEP PATH IS TO BE DETERMINED BASED ON A 525m RADIUS TRACK SUMMIT CURVE AND A 300m RADIUS TRACK SAG CURVE.
- COUPLINGS, HOSES ETC MAY EXTEND BEYOND THE BODY LENGTH PROVIDED THEY DO NOT EXCEED THE REFERENCE OUTLINES SWEEP PATHS.



FILE No	ALTERATIONS	<p>NOTE: THIS DRAWING SUPERSEDES STD. DRG. No. 2236</p>	DESIGNED	J.W.C.	AUG 12	APPROVED		Network - Civil Engineering	DRAWING NUMBER	ISSUE
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SCALES SHOWN ARE FOR A4 SIZE ORIGINAL DRAWING			DRAWN	G.L.V.	AUG 12	ISSUE AUTHORIZED	COPYRIGHT PROTECTS THIS PUBLICATION EXCEPT FOR PURPOSES PERMITTED BY THE COPYRIGHT ACT. REPRODUCTION BY WHATEVER MEANS IS PROHIBITED WITHOUT THE PRIOR WRITTEN PERMISSION OF Queensland Rail. INQUIRIES SHOULD BE ADDRESSED TO: INFRASTRUCTURE DELIVERY MANAGER, Queensland Rail, GPO BOX 1428, BRISBANE QLD.	REFERENCE ROLLING STOCK OUTLINE RS1 - CLEARANCE CATEGORY 1	QR-C-S3035	
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