

South Western System Information Pack

Toowoomba to Thallon

Warwick to Wallangarra

Wyreemah to Millmerran

Version Information

Version 3.0: 05/10/2016

- 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:

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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 South Western system runs over approximately 610km and consists of Toowoomba to Thallon via Warwick as the primary corridor, with branch lines:

- Warwick to Wallangarra
- Wyreemah to Millmerran.

The South Western system adjoins the West Moreton System at Toowoomba.

Grain is the primary product originating in the South Western system.



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.

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.

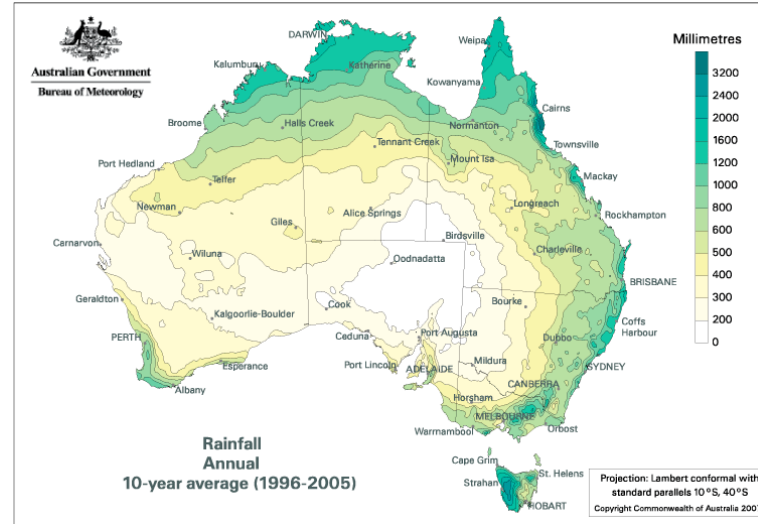
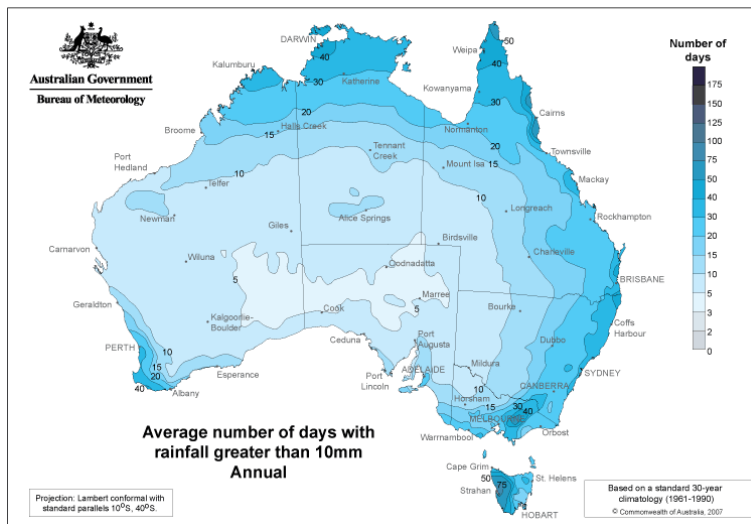
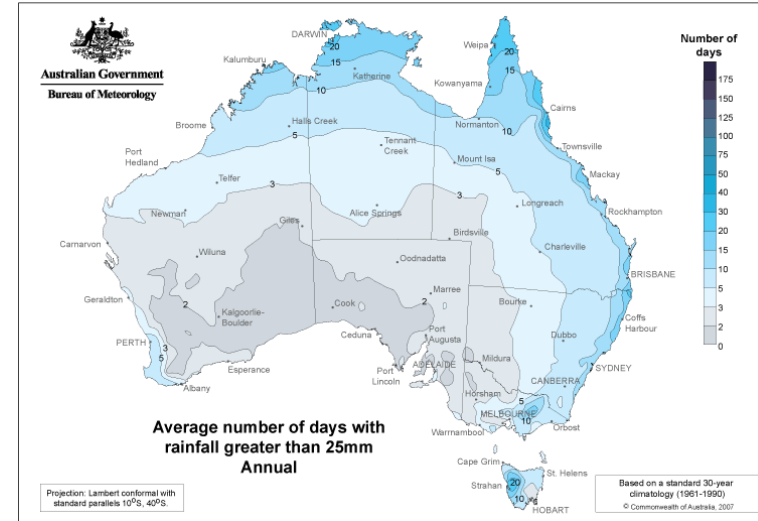
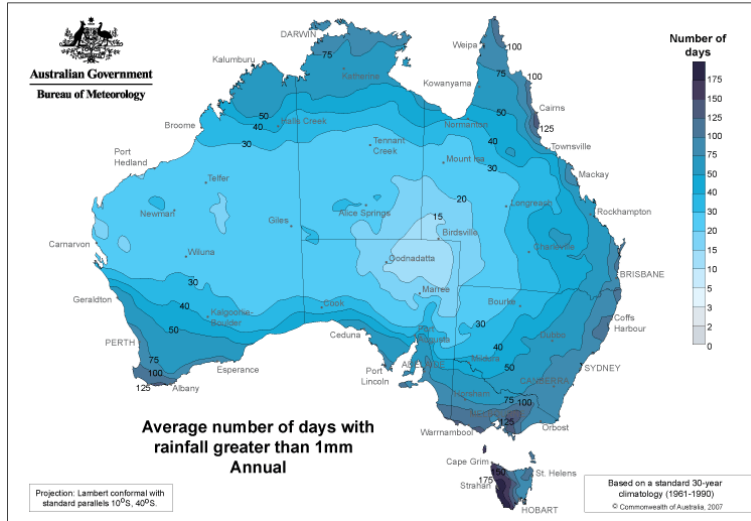
Highest rainfall occurs on the seaward side of the Great Divide.

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.

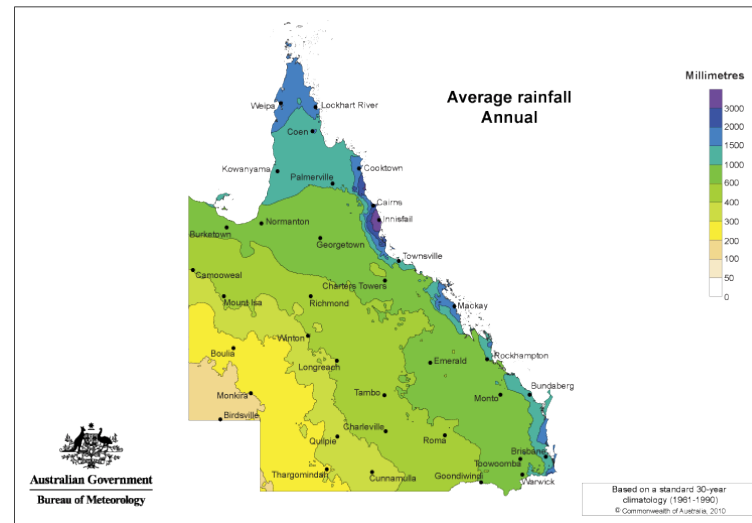
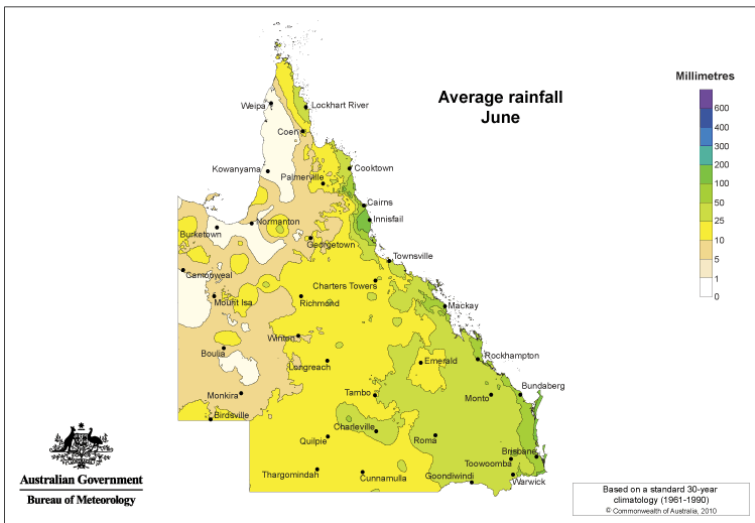
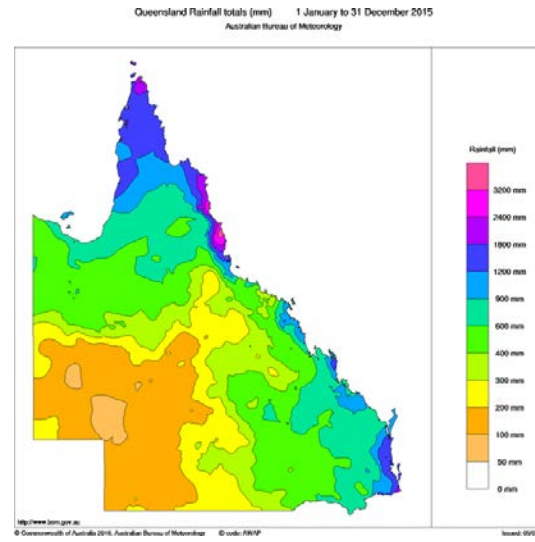
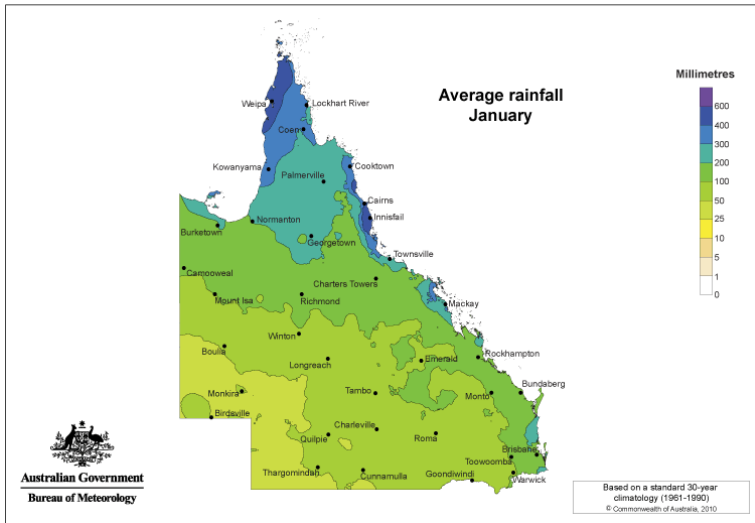
In the north, rain is mostly associated with monsoonal troughs.

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

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Flooding of low lying areas is likely to occur as an indirect result of heavy rainfall in neighbouring systems, when streams and rivers rise in those systems. In these instances floodwaters can affect this System several weeks after the event, on average closing the Goondiwindi to Thallon section for 7 days every 5 years.

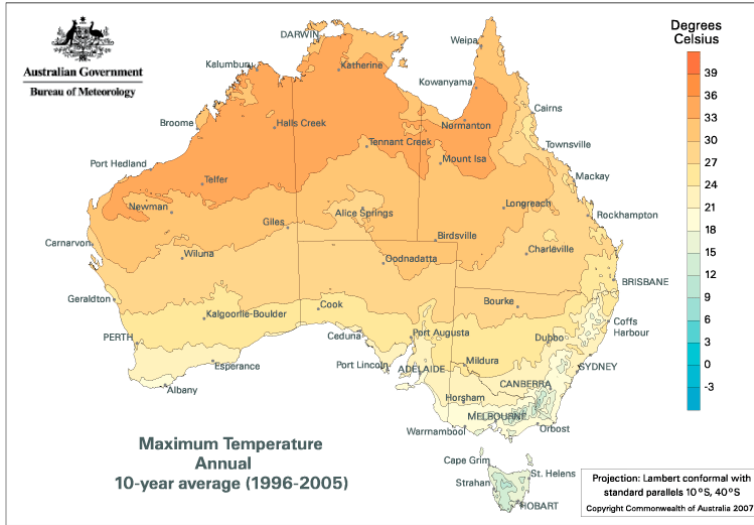
This is an average figure and closure periods of greater duration are possible in any one year (refer APPENDIX F - Almaden to Forsayth - Force Majeure Events for history)

Temperatures

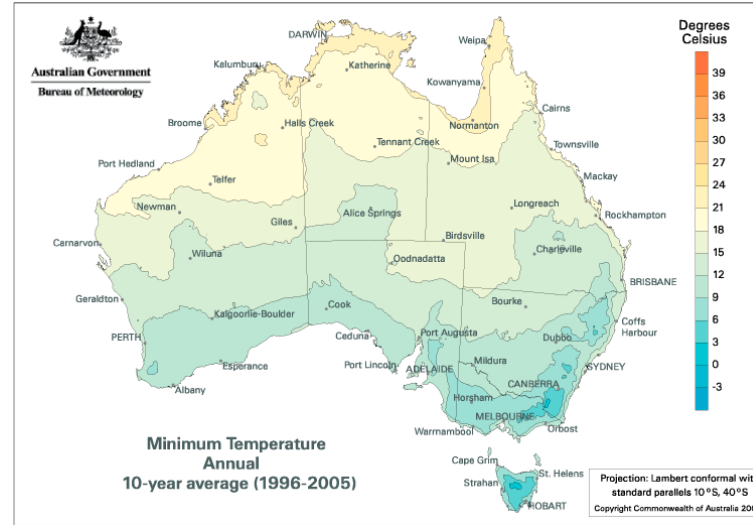
The average annual values of the daytime maximum of the hottest (January) and night- time minimum of the coldest (July) months are indicated on the climatic maps.

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).

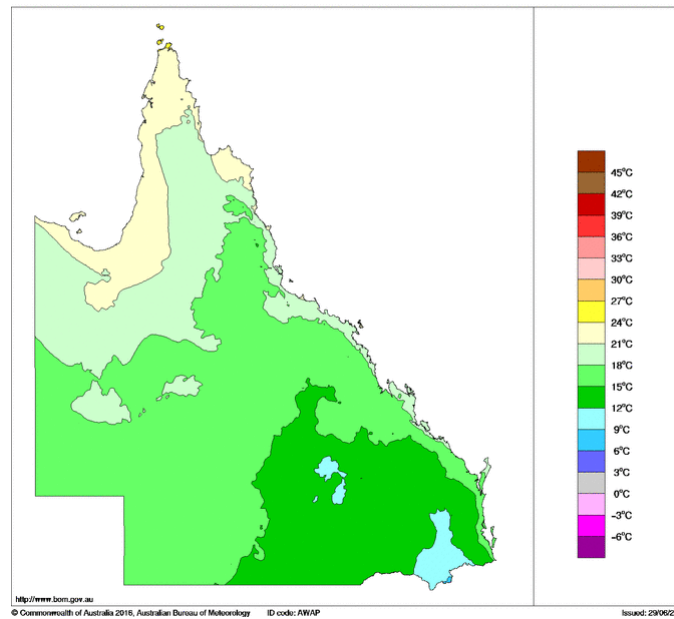
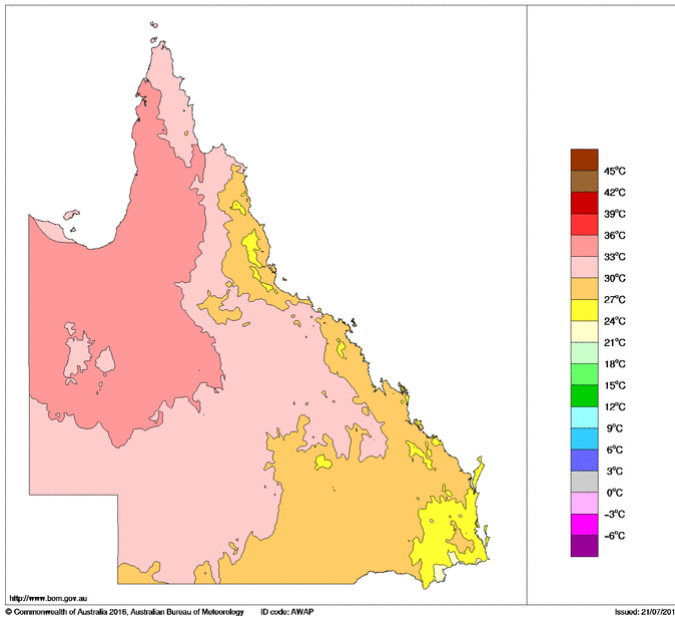
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Maximum Temperature (°C) 1 July 2015 to 30 June 2016
 Australian Bureau of Meteorology



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**.

Toowoomba to Warwick (94.1 km)

Toowoomba (elevation 586 m), at the eastern edge of the Darling Downs and astride the Great Dividing Range forms the northern boundary of the South Western System. From Toowoomba the single track railway heads south to Warwick (elevation 454.8 m).

Corridor		Toowoomba to Warwick	
Line Codes		ML547, SL718, SL719, SL720	
System		South Western	
No. of Tracks		1	
Route Km		95.083	
Track Km		95.083	
Electrified		No	
Safeworking System		RCS to Harristown / DTC	
Control Centre		5th Floor RC1	
Crossing Loops	No.	7	
	Location and length	Harristown (535tp), Wyreema Main (631tp), Wyreema Loop (639tp), Greenmount (735tp), Clifton (548tp), Hendon (540tp), Toolburra (749tp), Warwick (675m)	
Bridges (no. of spans)/Length (m)	Timber	No. of Bridges	59
		No. of Spans	349
		Length (m)	1992.0
	Steel	No. of Bridges	4
		No. of Spans	8
		Length (m)	92.57
	Concrete	No. of Bridges	1

		No. of Spans	1
		Length (m)	4.87
Overbridges (No. of Bridges)		Timber	0
		Steel	0
		Concrete	0
Tunnels		Number	0
		Length (m)	0
Curves (% of total track)	<80km/h		14
	<60km/h		3
Level Crossings	Public		41
	Occupation		9
	Fl. Lights		14
	Boom gte		4
Track Structure	Rail Mass		41kg
	Jointed		LWR/CWR
	Sleeper		100% S, T/S1in2
Maximum Allowable Axle Load (tal)			15.75
Route Sped km/h	Pass		80
	Frnt		80
	Block		80
	Max Container Height - (m)		2.65
Allowable Gross Tonnes p.a. ("000")			2,500

There are seven passing loops on this section namely Harristown, Wyreema, Greenmount, Clifton, Hendon, Toolburra, Warwick.

Track structure is 41 kg/m rail (B, SWR and LWR) on timber sleepers with steel interspersed at 1 in 2 and 1 in 4.

The maximum allowable axle load is 15.75 tal.

The maximum allowable speed is 80 km/h, with triple header block trains restricted to a maximum speed of 60 km/h.

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

Existing minimum nominal horizontal curve radii are as follows :-

running line 201 m

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

Warwick to Wallangarra (103.2 km)

After leaving Warwick (elevation 455 m) this single track railway heads south onto the Granite Belt before reaching Stanthorpe (elevation 811 m). From Stanthorpe, the railway continues to head south to Wallangarra (elevation 878 m) on the Queensland / New South Wales Border.

The station yard complex at Wallangarra is Heritage Trust listed and subject to lease by the local community.

There is one passing loop on this section at Stanthorpe.

Track structure is 41 kg/m and 31 kg/m rail (SWR) on timber sleepers. The

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maximum allowable axle load is 15.75 tal.

The maximum allowable speed is 80 km/h, with triple header block trains restricted to a maximum speed of 40 km/h.

The maximum grade (not compensated for horizontal alignment) that an southbound (Up) train will encounter is 1 in 50 whilst for an northbound (Down) train the maximum grade is 1 in 48.

Existing minimum nominal horizontal curve radii are as follows :-

running line 100 m

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

Corridor		Warwick to Wallangarra	
Line Codes		SL550, SL324	
System		South Western	
No. of Tracks		1	
Route Km		103.414	
Track Km		103.414	
Electrified		No	
Safeworking System		DTC	
Control Centre		5th Floor RC1	
Crossing Loops	No.	2	
	Location and length	Stanthorpe (269m)	
Bridges (no. of spans)/Length (m)	Timber	No. of Bridges	56
		No. of Spans	266
		Length (m)	1587.3
	Steel	No. of Bridges	2
		No. of Spans	14
		Length (m)	213.3
	Concrete	No. of Bridges	1
		No. of Spans	3
		Length (m)	45.6
Overbridges (No. of Bridges)		Timber	0
		Steel	0
		Concrete	0
Tunnels		Number	2
		Length (m)	482.3
Curves (% of total track)	<80km/h	40	
	<60km/h	21	
Level Crossings	Public	29	
	Occupation	18	
	Fl. Lights	6	
	Boom gte	0	
Track Structure	Rail Mass	41/30kg	
	Jointed	SWR	
	Sleeper	T	
Maximum Allowable Axle Load (tal)		15.75	
Route Sped km/h	Pass	80	

	Frts	80
	Block	80
	Max Container Height - (m)	2.65
	Allowable Gross Tonnes p.a. ("000")	100

Warwick to Goondiwindi (201.5 km)

From Warwick (elevation 454.8 m), the single track railway heads in a south-westerly direction to Goondiwindi (elevation 217.9 m) on the banks of the McIntyre River, which forms the Queensland/New South Wales Border. There are eleven passing loops on this section namely Wheatvale, Thane, Karara, Gore, Cobba-da-mana, Inglewood, Whetstone, Yelarbon, Kurumbul, Carrington Cotton and Goondiwindi.

Track structure is 47 kg/m, 41 kg/m and 30 kg/m rail (CWR, LWR, SWR & B) on timber and steel sleepers, where steel sleepers are used at varying ratios of 1 steel in every 2, 3 or 4 sleepers.

The maximum allowable axle load is 15.75 tal.

The maximum allowable speed is 80 km/h. Triple header block trains are restricted to a maximum speed of 60 km/h. A speed limit of 15 km/h applies over the bridges at 39.510 km, 88.540 km, 116.980 km and 134.090 km for all trains.

The maximum grade (not compensated for horizontal alignment) that an westbound (Up) train will encounter is 1 in 33 whilst for an eastbound (Down) train the maximum grade is 1 in 44.

Existing minimum nominal horizontal curve radii are as follows :-

running line 201 m

Fencing along this corridor complements adjacent land usage and is at the following standard, medium (10 %) and good (90 %). Fencing will be maintained at its current standard.

Corridor		Warwick to Goondiwindi
Line Codes		SW551, SW553
System		South Western
No. of Tracks		1
Route Km		201.359
Track Km		201.359
Electrified		No
Safeworking System		DTC
Control Centre		5th Floor RC1
Crossing Loops	No.	15
	Location and length	Wheatvale (713tp), Thane Main (758tp), Thane Loop (755tp), Karara Main (603tp), Karara Loop (601tp), Gore (968tp), Cobba-da-mana (558tp), Inglewood (685m), Whetstone (703tp), Yelarbon (796tp), Kurumbul (697tp), Carrington Cotton (707tp), Namoi (940m), Goondiwindi Main (826m), Goondiwindi Loop (821m)

Bridges (no. of spans)/Length (m)	Timber	No. of Bridges	43
		No. of Spans	259
		Length (m)	1532.0
	Steel	No. of Bridges	10
		No. of Spans	63
		Length (m)	480.3
	Concrete	No. of Bridges	0
		No. of Spans	0
		Length (m)	0
Overbridges (No. of Bridges)		Timber	2
		Steel	0
		Concrete	2
Tunnels		Number	0
		Length (m)	0
Curves (% of total track)		<80km/h	13
		<60km/h	5
Level Crossings		Public	54
		Occupation	50
		Fl. Lights	14
		Boom gte	0
Track Structure		Rail Mass	41kg
		Jointed	LWR/CWR
		Sleeper	100% S, T/S1in2, T/S1in4
Maximum Allowable Axle Load		(tal)	15.75
Route Sped km/h		Pass	80
		Frnt	80
		Block	80
		Max Container Height - (m)	2.65
Allowable Gross Tonnes p.a.("000")			2,500

Goondiwindi to Thallon (141.1 km)

From Goondiwindi (elevation 217.9 m) , the single track railway continues south westerly to Thallon (elevation 175.6 m). There are four passing loops on this section namely Toobeah, Talwood, Gradule and Thallon.

Track structure is 47kg/m and 41 kg/m rail (LWR) on timber sleepers with steel interspersed at 1 in 2 and 1 in 4.

The maximum allowable axle load is 15.75 tal.

Corridor		Goondiwindi to Thallon
Line Codes		SW721
System		South Western
No. of Tracks		1
Route Km		148.767
Track Km		148.767
Electrified		No
Safeworking System		DTC
Control Centre		5th Floor RC1
Crossing Loops	No.	4

	Location and length	Toobeah (413m), Talwood Grainco (723tp), Gradule (411m), Thallon (351tp)	
Bridges (no. of spans)/Length (m)	Timber	No. of Bridges	17
		No. of Spans	114
		Length (m)	549
	Steel	No. of Bridges	0
		No. of Spans	0
		Length (m)	0
	Concrete	No. of Bridges	1
		No. of Spans	4
		Length (m)	40
Overbridges (No. of Bridges)	Timber	0	
	Steel	0	
	Concrete	0	
Tunnels	Number	0	
	Length (m)	0	
Curves (% of total track)	<80km/h	0.1	
	<60km/h	0	
Level Crossings	Public	18	
	Occupation	38	
	Fl. Lights	2	
	Boom gte	0	
Track Structure	Rail Mass	41/47kg	
	Jointed	LWR	
	Sleeper	T/S1in2, T/S1in4, T	
Maximum Allowable Axle Load	(tal)	15.75	
Route Sped km/h	Pass	70/60	
	Frnt	70/60	
	Block	70/60	
	Max Container Height - (m)	2.65	
Allowable Gross Tonnes p.a.("000")		1,500	

The maximum allowable speed is 70 km/h to Toobeah and 60 km/h between Toobeah and Thallon. Triple header block trains are restricted to a maximum speed of 60 km/h.

The maximum grade (not compensated for horizontal alignment) between Goondiwindi and Talwood that a westbound (Up) train will encounter is 1 in 165 whilst for an eastbound (Down) train the maximum grade is 1 in 120. Between Talwood and Thallon, 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 66

Existing minimum nominal horizontal curve radii are as follows :-

running line 402 m

Fencing along this corridor complements adjacent land usage and is at the following standard medium (10 %) and good (90 %). Fencing will be maintained at its current standard.

Wyreema to Millmerran (69.6 km)

From Wyreema (elevation 534.3 m) , the single track railway heads south west out across the Darling Downs crossing the Condamine River before terminating at Millmerran (elevation 407.2 m). There are three passing loops on this section namely Pittsworth, Brookstead and Millmerran.

Track structure is a combination of 30 kg/m rail (SWR, Bolted) on timber sleepers with some steel.

The maximum allowable axle load is 15.75 tal.

The maximum allowable speed is 50 km/h to Brookstead then 30 km/h to Millmerran.

The maximum grade (not compensated for horizontal alignment) that an 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 (Umbiram)

Fencing along this corridor complements adjacent land usage and is at the following standard, unfenced (25%), medium (35 %) and good (40 %). Fencing will be maintained at its current standard.

Corridor		Wyreema to Millmerran	
Line Codes		MN556	
System		South Western	
No. of Tracks		1	
Route Km		69.666	
Track Km		69.666	
Electrified		No	
Safeworking System		DTC	
Control Centre		5th Floor RC1	
Crossing Loops	No.	4	
	Location and length	Pittsworth (348m), Brookstead (481m), Grainco Brookstead (457m), Millmerran (376m)	
Bridges (no. of spans)/Length (m)	Timber	No. of Bridges	16
		No. of Spans	99
		Length (m)	542.6
	Steel	No. of Bridges	0
		No. of Spans	0
		Length (m)	0
	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	

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Curves (% of total track)	<80km/h	13
	<60km/h	6
Level Crossings	Public	38
	Occupation	19
	Fl. Lights	6
	Boom gte	0
Track Structure	Rail Mass	30kg
	Jointed	B/SWR
	Sleeper	T, S
Maximum Allowable Axle Load (tal)		15.75
Route Sped km/h	Pass	50/30
	Frnt	50/30
	Block	
Max Container Height - (m)		2.65
Allowable Gross Tonnes p.a.("000")		200

Minimum nominal horizontal radius for new or upgrade works is as follows :-

running line	2170 m	160 kph running
	1662 m	140 kph running
	1221 m	120 kph running
	848 m	100 kph running
	542 m	80 kph running
balloon loop	300 m	minimum radius
	siding and depot	

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, 50% of curves (with the exception of turnout curves) are transitioned.

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

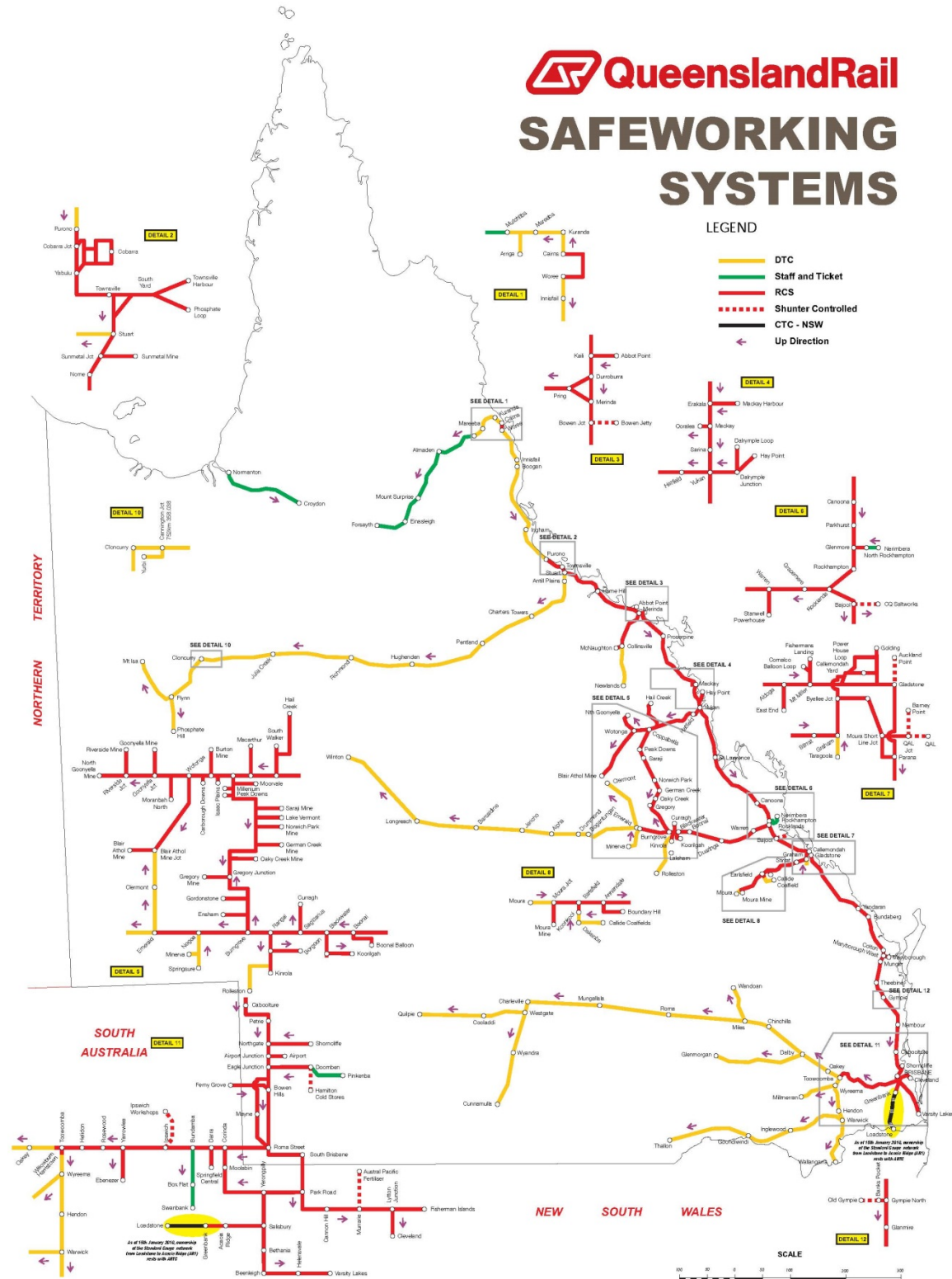
There are no weighbridges on this System as described herein.

Operational Systems & Train Control

The South Western System is operated by Remote Control Signalling (RCS) from Toowoomba to Harristown then Direct Traffic Control (DTC) for the rest of the system, with train movements controlled from Brisbane.

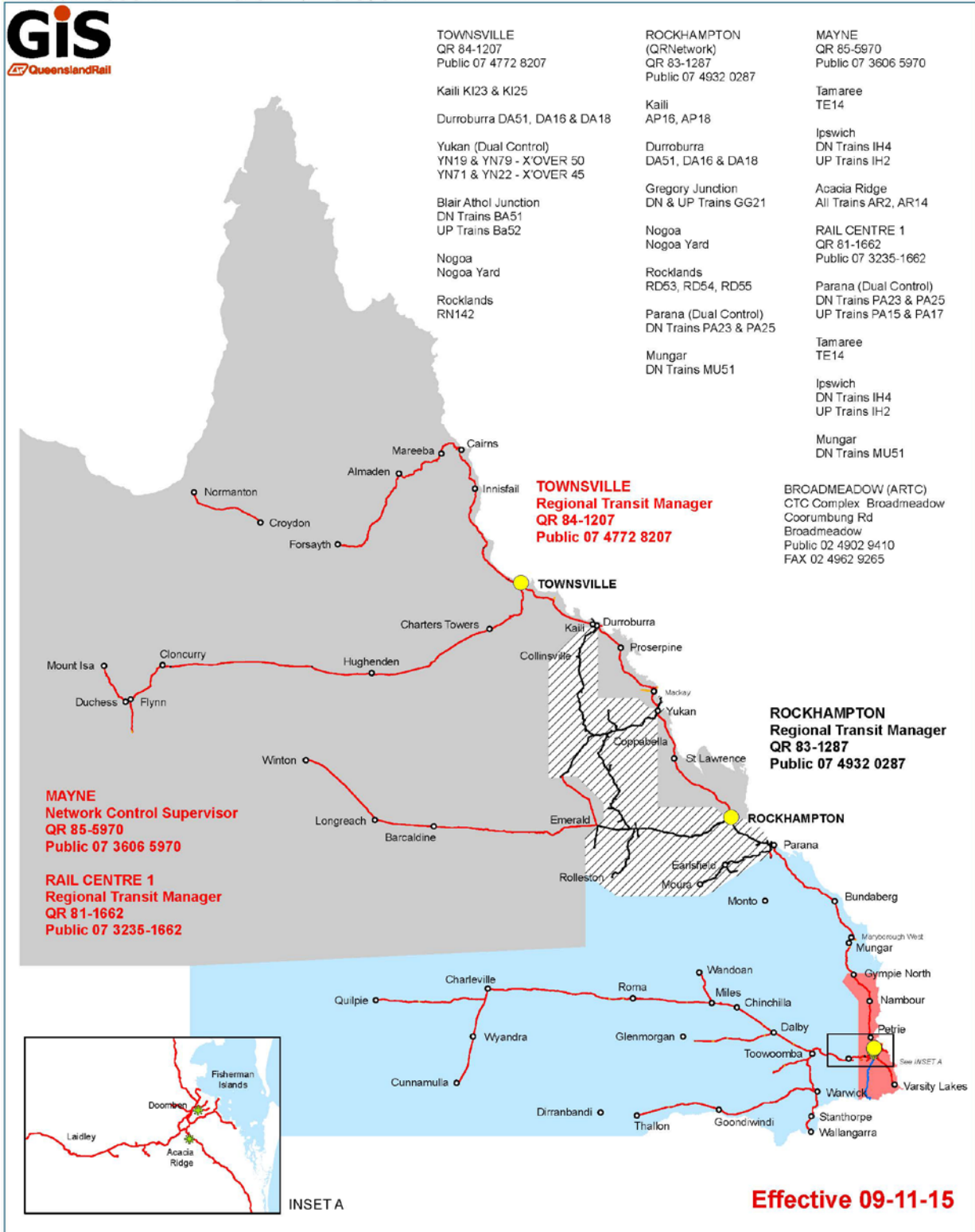
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SAFeworking SYSTEMS



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)

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Legend

- Network Control Centres
- Stations
- ★ Signalling Centres

COMPANY

- ARTC
- AURIZON
- PRIVATE
- QUEENSLAND RAIL
- Aurizon Network

- Mayne [BSA]
- Townsville
- RC1Control

**NETWORK CONTROL REGIONS
and
SIGNALLING CENTRES**

CREATED BY: J.L. - BPR003
 LAST MODIFIED: J.L. - 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 South 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 South 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.

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
Toowoomba	27° 33' S	151° 57' E
Wyreema	27° 39' S	151° 51' E
Warwick	28° 13' S	152° 02' E
Stanthorpe	28° 39' S	151° 56' E
Wallangarra	28° 55' S	151° 56' E

Thane	28° 09' S	151° 42' E
Gore	28° 17' S	151° 29' E
Inglewood	28° 25' S	151° 04' E
Goondiwindi	28° 32' S	150° 18' E
Toobeah	28° 25' S	149° 52' E
Thallon	28° 38' S	148° 51' E
Pittsworth	27° 43' S	151° 37' E
Millmerran	27° 52' S	151° 16' E

Rail / Road Interfaces

Operators on the South 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

Capacity Enhancements

Queensland Rail welcomes opportunities to work with customers with a view to transporting additional tonnages on this System.

We encourage Rail Operators, mining companies and/or processors to engage with Queensland Rail at the earliest possible opportunity. This will allow sufficient time to work through detailed capacity analysis and to determine the network upgrades necessary and negotiate appropriate commercial arrangements.

Capacity enhancements will continue to be delivered for future projects provided that contracted tonnages:

- Are sufficient to justify the necessary capital investment on commercial terms; and
- Adequate notice is given from the time of contracting capacity to deliver the required enhancements.

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)

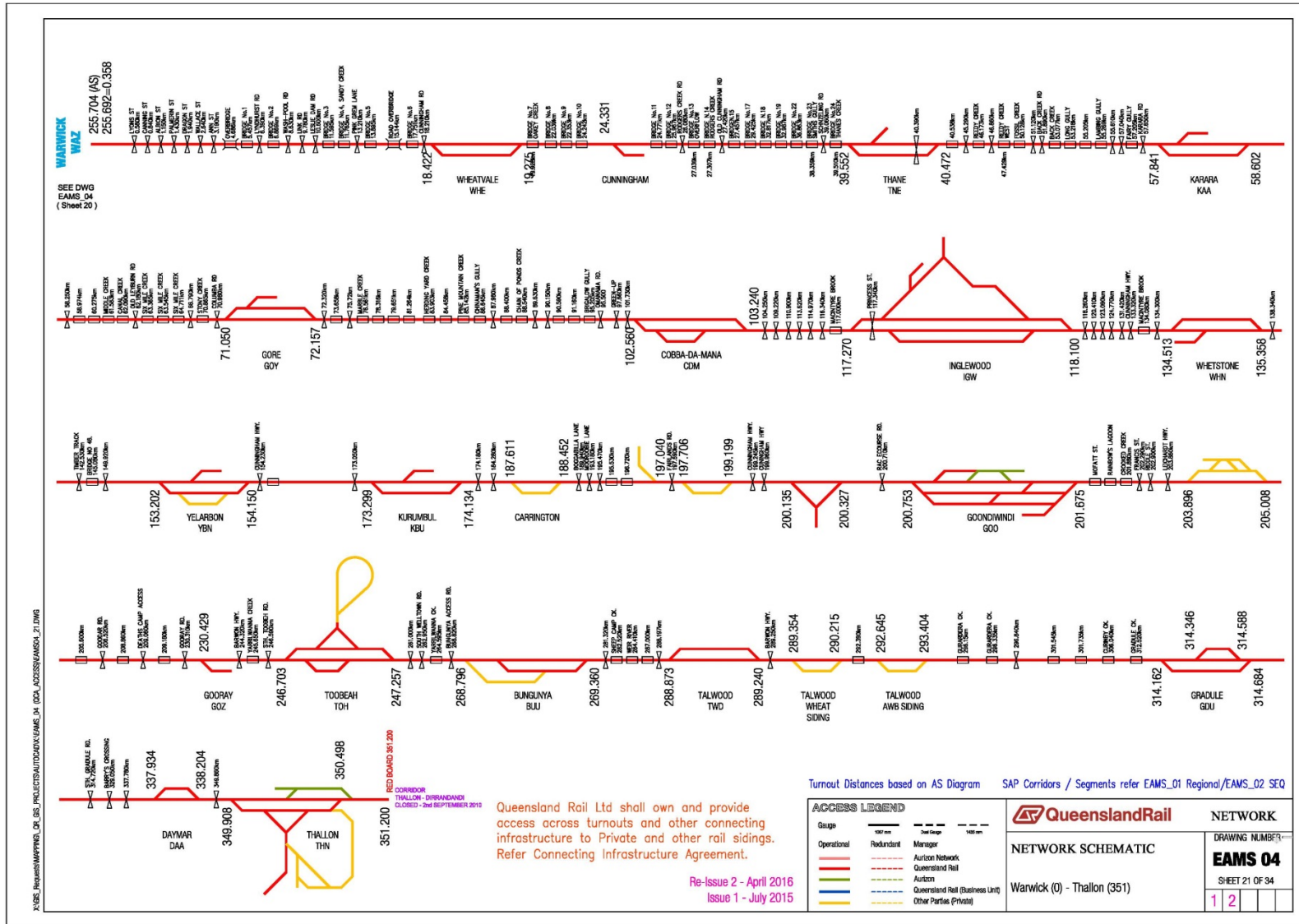
In track monitoring system to identify wheel flats.

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APPENDIX B

Schematic Layout

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APPENDIX C

Rail/Road Interface Details

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		CROSSINGS BY LINE AND KILOMETRAGE						
SURVEY SECTION								
<u>Description of Signage Types</u>								
G	Giveaway	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>	
MILLMERRAN BRANCH								
556	0.600	Wyreema-Cambooya Road	Public Level	Signs	X G	Open	LGA	
556	1.930	Property Access Road	Occupation	Nil		Open	PRI	
556	6.040	Rosenberger Road	Public Level	Signs	X G	Open	LGA	
556	8.000	Aramac Property Access Road	Occupation	Nil		Open	PRI	
556	9.110	Umbiram - Banchory Road	Public Level	Signs	X G	Open	LGA	
556	12.040		Occupation	Nil		Open		
556	15.810	Hoo-roo Property Access Road	Occupation	Nil		Open	PRI	
556	15.930	Hoo-roo Property Access Road	Occupation	Nil		Open	PRI	
556	16.570	Southbrook - Felton Road	Public Level	Signs	X G	Open	LGA	
556	17.830	Murray Street	Public Level	Signs	X G	Open	LGA	
556	19.030	Green Hill Access Road	Public Level	Signs	X T	Open	LGA	
556	20.280	Glenaven Access Road	Occupation	Nil		Open	PRI	
556	21.520	Broxburn Road	Public Level	Signs	X G	Open	LGA	
556	23.080	Toowoomba - Millmerran Road	Public Level	Flashing Lights		Open	LGA	
556	24.950	Vines Street	Public Level	Signs	X G	Open	LGA	
556	25.030	East Hadley Street (on siding)	Public Level	Signs	X T	Open	LGA	
556	25.690	Pedestrian Walkway	Pedestrian			Open	LGA	
556	26.060	Short Street	Public Level	Signs	X G	Open	LGA	
556	26.720	Helens Street	Public Level	Flashing Lights	X	Open	MRD	
556	26.850	Helens Street	Public Level	Flashing Lights		Open	LGA	
556	28.720	Dump Access Road	Public Level	Signs	X G	Open	LGA	
556	29.340	Gore Highway (Bypass Road)	Public Level	Flashing Lights		Open	MRD	
556	29.660	French Road	Public Level	Signs	X G	Open	LGA	
556	30.350	Property Access Road	Occupation	Nil		Open	PRI	
556	32.620	Kahler Road	Public Level	Signs	X G	Open	LGA	
556	33.780	Murlaggan Road	Public Level	Signs	X G	Open	LGA	
556	35.570	Roche Road	Public Level	Signs	X T	Open	LGA	
556	37.580	Yarranlea Road	Public Level	Signs	X T	Open	LGA	
556	39.240		Occupation	Nil		Open		
556	40.920	Longhurst Road	Public Level	Signs	X T	Open	LGA	
556	43.360	Longhurst Road	Public Level	Signs	X T	Open	LGA	
556	45.780	Millmerran Rd (Goondiwindi Highway)	Public Level	Flashing Lights		Open	LGA	
556	45.920	Brookstead East Connection Road	Occupation	Nil		Open	PRI	
556	46.690	Mann Silo Road	Public Level	Signs	X S	Open	LGA	
556	46.880	Access Road	Occupation	Nil		Open	PRI	
556	46.920	Access Road	Occupation	Nil		Open	PRI	
556	47.010	Access Road	Occupation			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>
556	47.120	Access Road	Occupation	Nil		Open	PRI
556	47.690	Property Access Road	Occupation	Nil		Open	
556	48.650	Elsden Road	Public Level	Signs	X G T	Open	LGA
556	49.230	Elsden Road	Occupation	Nil		Open	
556	49.800		Occupation	Nil		Open	PRI
556	50.010		Occupation	Nil		Open	
556	51.550	Pampas Pit Road	Public Level	Signs	X G	Open	LGA
556	54.330	Gilgai Lane	Public Level	Signs	X T	Open	LGA
556	58.720	Millmerran - Leyburn Road	Public Level	Signs	X T	Open	MRD
556	60.520	Halls Mccallums Road	Public Level	Signs	X G	Open	LGA
556	61.460		Occupation	Nil		Open	
556	63.390	Yandilla Pit Road	Public Level	Signs	X G	Open	LGA
556	65.490	Gore Highway	Public Level	Flashing Lights		Open	MRD
556	66.400		Occupation	Nil		Open	PRI
556	68.720	Cecil Plains Road	Public Level	Signs	X T	Open	MRD
556	69.530	Attleigh Street	Public Level	Signs	X G	Open	LGA
556	70.080	Commens Street (Gore Highway)	Public Level	Signs	X G	Open	MRD
556	70.200	Ann Street	Public Level	Signs	X G	Open	MRD
556	70.320	Clare Street	Public Level	Signs	X G	Open	LGA
556	70.380	James Street	Public Level	Signs	X G	Open	LGA

SOUTH WESTERN LINE

551	0.580	Lyons Street	Public Level	Flashing Lights		Open	LGA
551	0.840	Canning Street	Public Level	Signs	X G	Open	LGA
551	1.150	Albion Street	Public Level	Signs	X S	Open	LGA
551	1.430	Palmerin Street	Public Level	Flashing Lights		Open	LGA
551	1.940	Dragon Street	Public Level	Flashing Lights		Open	LGA
551	2.640	Wallace Street (New England Highway)	Public Level	Flashing Lights		Open	MRD
551	3.190	Ann Street	Public Level	Flashing Lights		Open	LGA
551	6.390	Lyndhurst Lane	Public Level	Flashing Lights	PWB	Open	LGA
551	8.630	Wash Pool Road	Public Level	Signs	X T	Open	LGA
551	9.780	Link Road	Public Level	Signs	X T	Open	LGA
551	10.600	Leslie Dam Road	Public Level	Flashing Lights		Open	MRD
551	11.480		Occupation	Nil		Open	PRI
551	12.040	Property Access Road	Occupation	Nil		Open	PRI
551	13.210	Pink Gum Lane	Public Level	Signs	X T	Open	LGA
551	14.710		Occupation			Open	
551	15.620		Occupation	Nil		Open	PRI
551	17.060		Occupation	Nil		Open	PRI
551	17.630		Occupation	Nil		Open	PRI
551	18.210	Leyburn-Cunningham Road	Public Level	Flashing Lights		Open	MRD
551	19.240		Occupation	Nil		Open	PRI
551	20.500		Occupation	Nil		Open	PRI
551	21.380	Property Access Road	Occupation	Nil		Open	PRI
551	26.080	Rodgers Creek Road	Public Level	Signs	X T	Open	LGA
551	27.420	Cunningham Road	Public Level	Signs	X T	Open	LGA
551	29.330		Occupation	Nil		Open	PRI
551	29.750		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>
551	32.240		Occupation	Nil		Open	PRI
551	32.490		Occupation			Open	
551	32.780		Occupation	Nil		Open	PRI
551	33.970		Occupation	Nil		Open	PRI
551	36.320		Occupation	Nil		Open	PRI
551	39.060	Schnitzerling Road	Public Level	Signs	X T	Open	LGA
551	40.390	Thanes Creek Road	Public Level	Signs	X S	Open	LGA
551	45.290		Occupation	Nil		Open	PRI
551	46.860	Forestry Access Road	Occupation	Signs	X T	Open	PRI
551	51.120	Forestry Access Road	Occupation	Signs	X T	Open	PRI
551	51.890	Back Creek Road	Public Level	Signs	X G	Open	LGA
551	55.610	Meklejohn Road	Public Level	Signs	X T	Open	LGA
551	57.040	Warrabah Road	Public Level	Signs	X T	Open	LGA
551	57.650	Toowoomba - Karara Road	Public Level	Flashing Lights		Open	MRD
551	62.160	Proposed Relocated Xing Waraghai Road	Public Level	Nil		Proposed	LGA
551	62.180	Waraghai Road	Public Level	Signs	X T	Open	LGA
551	63.620		Occupation	Nil		Open	PRI
551	66.790		Occupation	Signs	X T	Open	PRI
551	70.980	Columba Road	Public Level	Signs	X T	Open	LGA
551	72.320		Occupation	Signs	X T	Open	PRI
551	75.720	Access To Farm (Gore Road)	Public Level	Signs	X T	Open	LGA
551	80.820		Occupation	Nil		Open	PRI
551	83.180		Occupation	Nil		Open	PRI
551	87.980		Occupation	Signs	X T	Open	PRI
551	90.150	Access To Donavans Road	Public Level	Signs	X T	Open	LGA
551	95.500	Omanama Access Road	Public Level	Signs	X G	Open	LGA
551	97.660	Stanthorpe/ Inglewood Road (Green Up Road)	Public Level	Signs	X G	Open	MRD
551	101.730	Omanama / Cobba-da-mana Road	Public Level	Signs	X T	Open	LGA
551	104.250	Coolmunda Dam Access Road	Public Level	Signs	X G T	Open	LGA
551	109.220	Agostinellis Crossing Road	Public Level	Signs	X T	Open	LGA
551	110.900	Slack Road - (Old Warwick Road)	Public Level	Signs	X T	Open	LGA
551	111.610	Property Access Road	Occupation	Nil		Open	PRI
551	113.620	Zivianis Lane	Public Level	Signs	X T	Open	LGA
551	114.970	Valentes Lane	Public Level	Signs	X T	Open	LGA
551	116.340	Tompkins Street	Public Level	Signs	X T	Open	LGA
551	117.340	Princess Street	Public Level	Flashing Lights		Open	MRD
553	118.260	Mc Corkells Road	Public Level	Signs	X T	Open	LGA
553	120.410	Bethoar Road	Public Level	Signs	X T	Open	LGA
553	123.090	Bethoar Road	Public Level	Signs	X T	Open	LGA
553	124.770	Bethoar Road	Public Level	Signs	X T	Open	LGA
553	131.420		Occupation	Signs	X T	Open	PRI
553	133.320	Cunningham Highway	Public Level	Flashing Lights		Open	MRD
553	134.300	Whetstone Access Road	Public Level	Signs	X T	Open	LGA
553	138.340	Forestry Access Road	Occupation	Signs	X T	Open	PRI
553	142.530	Springborgs Road	Public Level	Signs	X T	Open	LGA
553	146.650		Occupation	Nil		Open	PRI
553	149.920	Suttons Road	Public Level	Signs	X T	Open	LGA
553	153.280		Occupation	Signs	X T	Open	

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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>
553	153.430	Sawmill Access Road	Occupation	Signs	X T	Open	LGA
553	154.170	Cunningham Highway	Public Level	Flashing Lights		Open	MRD
553	156.230		Occupation	Nil		Open	PRI
553	159.150		Occupation	Nil		Open	PRI
553	161.450		Occupation	Nil		Open	PRI
553	163.000	Gibben Bell Station Access Road	Occupation	Signs	X T	Open	PRI
553	164.690		Occupation	Nil		Open	PRI
553	165.200		Occupation	Nil		Open	PRI
553	167.840		Occupation	Nil		Open	PRI
553	169.200		Occupation	Nil		Open	PRI
553	171.400	Property Access Road	Occupation	Nil		Open	PRI
553	173.050		Occupation	Nil		Open	PRI
553	174.180	South Kurumbul Road	Public Level	Signs	X T	Open	LGA
553	176.440		Occupation	Nil		Open	PRI
553	184.280		Occupation	Signs	X T	Open	PRI
553	184.500		Occupation			Open	
553	186.970		Occupation	Nil		Open	PRI
553	189.480		Occupation			Open	
553	189.940	Boggabilla Lane	Public Level	Signs	X S	Open	LGA
553	191.200		Occupation			Open	
553	193.180	Mooroobie Lane	Public Level	Signs	X S	Open	LGA
553	194.280		Occupation			Open	
553	195.470	Cemetery Road	Public Level	Signs	X G	Open	LGA
553	196.935	Cemetery Road (on siding)	Public Level	Signs	X G	Open	LGA
553	197.690	Fairlands Road	Public Level	Signs	X T	Open	LGA
553	198.910		Occupation	Signs	X S	Open	PRI
553	199.100		Occupation	Signs	X S	Open	PRI
553	199.245	Cunningham Highway Bypass	Public Level	Flashing Lights		Open	MRD
553	199.960	Old Cunningham Highway	Public Level	Flashing Lights		Open	LGA
553	200.710	Racecourse Road	Public Level	Signs	X G T	Open	LGA
721	202.290	Francis Street	Public Level	Signs	X S T	Open	LGA
721	202.900	Riddle Street	Public Level	Signs	X S	Open	LGA
721	203.880	West Street - Barwon Highway	Public Level	Flashing Lights		Open	MRD
721	206.520	Goodar Road	Public Level	Signs	X G	Open	LGA
721	209.670	Deaths Camp Reserve Access Road	Public Level	Signs	X G T	Open	LGA
721	213.750	North Callandoon Road	Occupation	Signs	X G	Open	PRI
721	214.610	North Callandoon Road	Occupation	Nil		Open	PRI
721	224.680	Property Access Road	Occupation	Nil		Open	PRI
721	225.580		Occupation	Nil		Open	
721	227.920		Occupation	Signs	X T	Open	PRI
721	228.590		Occupation	Signs	X T	Open	PRI
721	230.310	Gooray Road	Public Level	Signs	X G	Open	LGA
721	235.340		Occupation	Signs	X T	Open	PRI
721	241.760		Occupation	Nil		Open	
721	242.380		Occupation	Signs	X T	Open	PRI
721	244.320	Barwon Highway	Public Level	Flashing Lights		Open	MRD
721	246.590	South Toobeah Road	Public Level	Signs	X	Open	LGA
721	248.520		Occupation	Signs	X T	Open	PRI
721	250.400		Occupation	Signs	X T	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>
721	253.850		Occupation	Signs	X T	Open	PRI
721	256.190		Occupation	Nil		Open	PRI
721	257.940	Property Access Road	Occupation	Nil		Open	PRI
721	261.000		Occupation	Nil		Open	PRI
721	262.950	South Welltown (Neilo) Road	Public Level	Signs	X G	Open	LGA
721	267.730		Occupation	Nil		Open	PRI
721	268.580		Occupation	Nil		Open	PRI
721	268.820	Main Street	Public Level	Signs	X G	Open	LGA
721	272.050		Occupation	Nil		Open	PRI
721	273.070	Delema Downs Access Road	Occupation	Nil		Open	PRI
721	273.370		Occupation	Nil		Open	
721	275.680		Occupation	Nil		Open	PRI
721	276.990	Lalaguli Station Access Road	Occupation	Nil		Open	PRI
721	277.390	Lalaguli No 2	Occupation	Nil		Open	PRI
721	278.300		Occupation	Nil		Open	PRI
721	281.320	Old Banwon Highway	Public Level	Signs	X T	Open	LGA
721	283.690		Occupation	Nil		Open	PRI
721	285.730		Occupation	Nil		Open	PRI
721	286.790	Old Banwon Highway	Occupation	Nil		Open	PRI
721	287.990		Occupation	Signs	X T	Open	PRI
721	288.180	Main Street	Public Level	Signs	X G	Open	LGA
721	288.740		QR	Nil		Open	QR
721	289.250	Main Street	Public Level	Signs	X G	Open	LGA
721	290.140		Occupation	Nil		Open	
721	293.800	Property Access Road	Occupation	Signs	X S	Open	PRI
721	296.840		Occupation	Nil		Open	PRI
721	300.090		Occupation	Nil		Open	PRI
721	314.720	South Gradule Road (Feas Road)	Public Level	Signs	X G	Open	LGA
721	323.450		Occupation	Nil		Open	PRI
721	329.050	Barrys Crossing	Public Level	Signs	X T	Open	LGA
721	334.350		Occupation	Nil		Open	PRI
721	337.780	South Daymar Road	Public Level	Signs	X G T	Open	LGA
721	343.340		Occupation	Nil		Open	PRI
721	348.730	Property Access Road	Occupation	Nil		Open	PRI
721	349.860	Camarvon Highway	Public Level	Signs	X G	Open	MRD
721	350.000	Pedestrian Pathway	Pedestrian			Open	LGA
721	350.100		QR	Nil		Open	QR
722	351.290	Pine Street	Public Level	Signs	X S	Open	LGA
722	354.850		Occupation	Signs	X T	Open	PRI
722	358.210		Occupation	Nil		Open	PRI
722	361.550		Occupation	Nil		Open	PRI
722	362.370		Occupation	Nil		Open	PRI
722	364.940		Occupation	Nil		Open	PRI
722	365.350		Occupation	Nil		Open	PRI
722	365.690	Property Access Road	Occupation	Nil		Open	PRI
722	371.040	Dunwinnie Siding Access Road	Occupation	Signs	X T	Open	PRI
722	372.130	Pine Park Road	Public Level	Signs	X S	Open	LGA
722	374.100		Occupation	Nil		Open	
722	376.440	Noondale Station 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>
722	378.650		Occupation	Nil		Open	PRI
722	383.020	Hawkston Station Access Road	Occupation	Nil		Open	PRI
722	384.120		Occupation	Nil		Open	PRI
722	388.050		Occupation	Nil		Open	PRI
722	391.500		Occupation	Nil		Open	PRI
722	393.420	Castlereagh Highway	Public Level	Signs	X G	Open	MRD
722	399.150		Occupation	Nil		Open	PRI
722	403.190	Bonathorne Station Access Road	Occupation	Nil		Open	PRI
722	406.060	Property Access Road	Occupation	Nil		Open	PRI
722	408.160		Occupation	Nil		Open	PRI
722	409.840		Occupation	Nil		Open	PRI
722	412.200	Castlereagh Highway	Public Level	Signs	X G	Open	MRD

SOUTHERN LINE

718	161.450	Russell Street	Public Level	Flashing Lights		Open	LGA
718	161.670	Margaret Street	Public Level	Flashing Lights		Open	LGA
718	161.850	Proposed pedestrian pathway	Pedestrian			Proposed	LGA
718	162.100	Herries Street	Public Level	Half Boomgates		Open	LGA
718	162.330	Car Park Access Road Proposed	Pedestrian	Nil		Proposed	LGA
718	162.540	James Street	Public Level	Half Boomgates		Open	MRD
718	163.650	Pedestrian Crossing	Pedestrian			Open	LGA
718	164.370	Pedestrian Walkway	Pedestrian			Open	LGA
718	165.920	South Street	Public Level	Half Boomgates		Open	LGA
718	166.770	Alderley Street	Public Level	Flashing Lights		Open	LGA
718	167.950	Ball Street	Public Level	Flashing Lights	PWB	Open	LGA
718	168.780	Luck Street Pedestrian Crossing	Pedestrian			Open	LGA
718	169.360	Laver Street Crossing	Occupation	Nil		Open	PRI
718	170.760	Maag Street	Public Level	Signs	X S	Open	LGA
718	172.120	Drayton Connection Road	Public Level	Flashing Lights		Open	MRD
718	173.940	Simpsons Road	Public Level	Signs	X T	Open	LGA
718	175.730	Allport Road	Public Level	Signs	X G	Open	LGA
718	175.748	Allport Road (Proposed Relocation)	Public Level	Nil		Proposed	LGA
718	176.740	Toowoomba / Karara Road	Public Level	Flashing Lights		Open	MRD
718	178.280	QR Maintenance Road	QR	Nil		Open	QR
719	184.680	Emergency Access Road	Occupation	Nil	S	Open	PRI
719	185.360	Cambooya Connection Road (Goondiwindi Highway)	Public Level	Flashing Lights		Open	MRD
719	189.650	Henry Road	Public Level	Signs	X G	Open	LGA
719	191.390	Monally Road	Public Level	Signs	X G	Open	LGA
719	193.170	Property Access Road	Occupation	Nil		Open	PRI
719	196.500	Binnie Street	Public Level	Signs	X G	Open	LGA
719	197.348	Greenmount Pedestrian Pathway	Pedestrian			Open	LGA
719	197.800	Hodgson / Pilton Streets Connection Road	Public Level	Signs	X G	Open	LGA
719	199.170		Occupation	Nil		Open	PRI
719	205.430	Nobby Pedestrian Pathway	Pedestrian			Open	LGA
719	205.660	Nobby Connection Road	Public Level	Flashing Lights		Open	LGA
719	210.920		Occupation	Nil		Open	PRI
719	213.970	Kates Street Connection Road	Public Level	Signs	X S	Open	LGA

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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>
719	214.170	Clifton Pedestrian Pathway	Pedestrian			Open	LGA
719	214.430	Mowen Street (East Street)	Public Level	Half Boomgates		Open	LGA
719	216.920		Occupation	Signs	X G	Open	PRI
719	218.210	Herzig Road	Public Level	Signs	X G	Open	LGA
719	222.610	Elphinstone Road	Public Level	Signs	X G	Open	LGA
719	228.440	Dalrymple Creek Road	Public Level	Flashing Lights		Open	LGA
719	231.780	Property Access Road	Occupation	Signs	X T	Open	PRI
720	238.550	Warwick / Allora Road (Tallegha Road)	Public Level	Flashing Lights		Open	MRD
720	241.510	Massie / Willowvale Road	Public Level	Signs	X G	Open	LGA
720	244.290		Occupation	Nil		Open	PRI
720	244.930	Warwick / Allora Road (Toolburra Road)	Public Level	Flashing Lights		Open	MRD
720	248.400	Gray Lane	Public Level	Signs	X G	Open	LGA
720	247.560	Lyndhurst Lane	Public Level	Signs	X G	Open	LGA
720	251.730	Rose Street	Public Level	Flashing Lights		Open	LGA
720	252.450	Marshall Street	Public Level	Flashing Lights		Open	LGA
720	252.870	Weewandilla Road	Public Level	Flashing Lights		Open	LGA
720	254.330	Oxenham Street	Pedestrian			Open	LGA
550	255.930	Little Pratten Street	Public Level	Flashing Lights		Open	LGA
550	257.060	Schnitzerling Street	Public Level	Nil		Open	LGA
550	258.140		Occupation	Signs	X T	Open	PRI
550	268.280	Property Access Road	Occupation	Nil		Open	PRI
550	270.540		Occupation	Nil		Open	PRI
550	271.790	Blake's Road	Public Level	Signs	X T	Open	LGA
550	275.780		Occupation	Nil		Open	
550	278.160		Occupation	Nil		Open	
550	278.170		Occupation	Nil		Open	
550	289.980		Occupation	Nil		Open	
550	292.130	Property Access Road	Occupation	Nil		Open	PRI
550	295.900		Occupation	Nil		Open	
550	298.330	Pine Crescent (Cottonvale Road)	Public Level	Signs	X G	Open	LGA
550	300.630	Middleton Road	Public Level	Signs	X S	Open	LGA
550	304.100	Amiens Road	Public Level	Signs	X S	Open	LGA
550	304.250	Private Road	Occupation	Signs	X T	Open	PRI
550	306.630	Mandelkow Road	Public Level	Signs	X S	Open	LGA
550	306.735	QR Road/Forklift Crossing	QR	Nil		Open	QR
550	307.235	New England Highway	Public Level	Flashing Lights	PWB	Open	MRD
550	307.350	Sawmill Road	Public Level	Flashing Lights	PWB	Open	LGA
550	307.400		Pedestrian	Signs		Open	QR
550	309.550	Taggart Road	Public Level	Signs	X T	Open	LGA
550	312.540	Old Warwick Road	Public Level	Signs	X T	Open	LGA
550	313.980	Aerodrome Road	Public Level	Signs	X T	Open	LGA
550	314.950	McKillop Lane extension (Proposed)	Public Level	Nil		Proposed	LGA
550	316.200	Amosfield Road	Public Level	Flashing Lights	PWB	Open	LGA
550	317.170	Casey Street	Pedestrian			Open	LGA
550	317.490	Stanthorpe Yard Access Road	QR	Nil		Open	QR
550	317.680	Stanthorpe Pedestrian Pathway	Pedestrian			Open	LGA
324	319.020	Sugarloaf Road	Public Level	Flashing Lights		Open	LGA
324	320.480	Property Access Road	Occupation	Nil		Open	PRI

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324	324.930	Beverley Road	Public Level	Signs	X S	Open	LGA
324	326.290	Back Creek Road	Public Level	Signs	X G	Open	LGA
324	330.080	Mount Stirling Road	Public Level	Signs	X T	Open	LGA
324	331.210		Occupation	Nil		Open	PRI
324	334.740	Fletcher Road	Public Level	Signs	X T	Open	LGA
324	336.390		Occupation	Nil		Open	PRI
324	337.330	Property Access Road	Occupation	Nil		Open	PRI
324	339.590		Occupation	Nil		Open	PRI
324	339.980	Eukey Road	Public Level	Signs	X T	Open	LGA
324	343.900	Anderson Road	Public Level	Signs	X T	Open	LGA
324	347.760	Pyramids Road	Public Level	Flashing Lights		Open	LGA
324	352.180	Old Wallangarra Road	Public Level	Signs	X S	Open	LGA
324	358.200	Woodlawn Street (on Siding)	Public Level	Signs		Open	LGA
324	358.430	Wallangarra Yard Access Road	QR	Nil		Open	QR
324	358.590	Woodlawn And Rookwell Streets	Public Level	Signs	X T	Open	LGA
324	358.750		Public Level	Nil		Open	

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APPENDIX D

Speed Boards

SOUTHERN LINE				SOUTHERN LINE			
Maximum Line Speed : 80kph				Maximum Line Speed : 80kph			
DISTANCE	FEATURE	UP	DN	DISTANCE	FEATURE	UP	DN
161.290	Toowoomba			214.677		80	25
161.420		10		214.980			50
161.525			10	215.983		60	
161.600		25		215.984			80
162.708		50		216.800			60
162.765			25	216.700		80	
163.533			50	218.310	Elphinstone		
163.583		60		221.044			80
164.546			60	221.153		60	
164.646		80		221.530			60
165.358		25	80	221.631		80	
166.000	Harristown			223.273			80
166.572		40	25	223.375		60	
166.793		80		224.396			60
166.915			25	224.495		80	
167.840		60		226.556			80
167.870			80	226.656		60	
168.240	Drayton			227.561			60
170.345			60	227.661		80	
170.445		80		228.310	Ellinthorp		
171.292			80	228.846			80
171.351		60		228.944		60	
172.074			60	229.069			60
172.174		80		229.169		80	
172.200	Finnie			231.295		50	
175.257			80	231.593		25	80
175.357		70		232.030	Hendon		
175.680	Shepperd			232.351		80	25
175.965			70	234.169			80
176.064		80		234.274		60	
177.759		50	80	234.837			60
177.982		25	50	234.914		80	
178.250	Wyreema			235.838			80
178.828		80	25	235.938		60	
179.594			80	236.720	Deuchar		
179.658		60		237.119			60
179.929			60	237.161		40	
180.009		40		237.547			40
180.431			40	237.647		60	
180.455		60		238.494			60
182.691			60	238.594		80	
184.435			80	241.480	Massie		
184.800	Cambooya			243.000		50	
185.035		60		243.333		25	80
185.322			80	243.520	Toolburra		
185.413		80		244.295		60	25
185.634			50	244.874			60
196.520		50		244.974		80	
196.825		25	80	246.001			80
197.420	Greenmount			246.101		60	
197.820		50	25	246.379			60
199.618		80	50	246.479		80	
204.939		60	80	247.500	Rosehill		
205.470	Nobby			250.924			80
206.606		80	60	251.031		60	
210.890	King's Creek			251.510		40	60
213.659		50		252.016			40
213.937		25	80	252.090	Millhill		
214.220	Clifton			252.293		25	

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SOUTHERN LINE				SOUTHERN LINE			
Maximum Line Speed : 80kph				Maximum Line Speed : 80kph			
DISTANCE	FEATURE	UP	DN	DISTANCE	FEATURE	UP	DN
252.497		80	60	283.487		40	
253.137		40		283.573			
253.139			80	283.880			40
254.903		25	40	283.983		30	
255.340	Warwick			284.175			30
255.973		80	25	284.276		40	
256.234			50	284.320	Cherry Gully		
258.080	Warwick Saleyards			284.909			40
258.258			80	285.083		30	
258.365		60		285.386			30
258.510			60	285.460		40	
258.621		80		285.833			40
259.530			80	285.945		30	
259.657		60		286.152			30
260.243			60	286.230		40	
260.336		80		286.715			40
260.685			80	286.812		30	
260.794		60		288.110	Kerrick		
261.750	Morgan Park			288.534		60	30
262.032			60	290.180	Temangum		
262.148		40		290.329			60
262.310			40	290.418		40	
262.403		60		291.419			40
264.202			60	291.502		30	
264.297		40		291.796			30
264.675			40	291.871		70	
264.816		60		292.493			70
265.089			60	292.593		40	
265.192		30		293.471			40
265.744			30	293.579		60	
265.862		60		294.294			60
267.469			60	294.027		40	
267.628		40		295.321			40
267.910			40	295.425		30	
268.034		60		296.185			30
269.067			60	296.310	Dalveen		
269.167		30		296.992		60	
270.269			30	299.983			60
270.375		40		300.660	Cottonvale		
271.570		40	40	301.086		60	
271.770	Silverwood			304.160	Thulimbah		
272.316		50	40	306.541		60	
273.385			50	306.690	The Summit		
273.393		30		309.540	Glen Niven		
277.795			30	312.470	Applethorpe		
277.900		40		315.516			80
279.290	Gorge Tank			315.619		40	
279.420			40	316.629		60	
279.522		30		317.302		25	60
280.095		15	30	317.610	Stanthorpe		
280.356			15	317.854		40	25
280.462		60		318.640			40
281.398			60	318.760		60	
281.493		30		319.080	Passmore		
281.944			30	319.163			60
282.006		60		319.220		70	
282.557			60	320.056			70
282.655		30		320.079		80	
283.383			30	321.690			80

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SOUTHERN LINE				SOUTHERN LINE			
Maximum Line Speed : 80kph				Maximum Line Speed : 80kph			
DISTANCE	FEATURE	UP	DN	DISTANCE	FEATURE	UP	DN
321.773		60		347.700		40	60
322.049			60	347.770	Wyberba		
322.226		40		348.885			40
322.461			40	348.976		60	
322.540		60		349.533		40	
323.295			60	349.551			60
323.398		80		350.145			40
324.282			80	350.250		60	
324.383		60		350.330			60
324.850	Severnlea			350.435		70	
325.261			60	350.685			70
325.354		80		350.810		80	
326.167			80	353.412			80
326.268				353.510		40	
326.273		60		353.841			40
326.999			60	353.925		60	
327.103		40		354.782			60
327.660		60	40	354.865		80	
330.036		25		355.950			80
330.037			60	356.056		60	
330.190	Glen Aplin			356.324			60
330.531		60	25	356.427		80	
332.159			60	357.602			80
332.268		80		357.695		40	
333.181			80	358.102		25	40
333.285		40		359.123	Wallangarra		
333.614			40				
333.694		60					
334.401			60				
334.463		40					
334.710	Fletcher						
336.940			40				
337.044		60					
337.624			60				
337.710		40					
338.218			40				
338.301		50					
339.436		25	50				
339.870	Ballandean						
340.000		80	25				
340.286			50				
341.065			80				
341.134		60					
341.431			60				
341.553		80					
342.319			80				
342.421		60					
342.976			60				
343.075							
343.077		50					
343.522			50				
343.622		80					
343.870	Lyra						
345.046			80				
345.153		50					
345.995			50				
346.001		40					
346.412			40				
346.515		60					

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SOUTH WESTERN LINE				SOUTH WESTERN LINE			
Maximum Line Speed : 80;70;60kph				Maximum Line Speed : 80;70;60kph			
DISTANCE	FEATURE	UP	DN	DISTANCE	FEATURE	UP	DN
0.449		25		59.883		80	60
0.687		40	25	60.621		60	80
1.462		60	40	60.970		80	60
2.051		80	60	61.895		50	
3.939		50	80	61.896			80
4.530		40	50	62.553		80	50
4.810		80	40	63.623		40	
5.264		60	80	63.678			80
5.621		80	60	64.392			40
7.090		60	80	64.400		60	
9.212		80	60	65.063		50	60
10.690	Allan			65.845		40	50
15.000	Leslie			66.547		80	40
16.101		60	80	67.636		40	80
16.244		80	60	68.629		80	40
18.145		25	80	70.822		25	80
18.396			25	71.250	Gore		
18.720	Wheatvale			72.162		40	
19.301		60	25	72.314			25
19.989		60		72.568		60	40
22.621		80	60	73.573		40	60
23.555		60	80	74.560		60	40
24.003		80	60	74.777		80	60
24.590	Cunningham			76.950		60	80
25.154		70	80	77.336			60
25.545		80	70	77.338		80	
26.742		60	80	78.088		60	80
27.976		80	60	79.817		80	60
29.491		60	80	80.917		60	80
29.830	Montrose			81.238		80	60
29.902		80	60	82.000		60	80
32.560	Greymare			82.260	Yuraraba		
34.120		60	80	82.558		80	60
35.151		40	60	83.641		70	80
35.366		60	40	84.035		80	70
37.073		80	60	85.182		60	80
39.143		15	80	85.944		40	60
39.479	Thanes Creek			86.215		80	40
39.589		25	15	87.515		60	80
39.790	Thane			87.690		80	60
40.557		80	25	88.446		15	80
40.902		60		88.675		80	15
41.621		40	60	90.120	Graysholm		
42.781		80	40	95.620	Omanama		
44.514		60	80	102.331		25	80
47.023		80	60	103.050	Cobba-da-mana		
48.815		60	80	103.280		60	
49.772		40	60	103.440			25
50.751			40	103.998		80	60
52.254			60	110.860	Coolmunda		
52.357		50		116.300		50	
53.360		80	50	116.881		15	80
54.310		50	80	117.082		25	15
56.232		40	50	117.420	Inglewood		
56.697		60	40	118.127		80	25
57.436		25	60	118.881			50
57.800	Karara			133.559		50	
57.835			25	133.992		15	80
58.649		40	25	134.177		25	15
59.418		60	40				

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SOUTH WESTERN LINE				MILLMERRAN BRANCH			
Maximum Line Speed : 80;70;60kph				Maximum Line Speed : 50;30kph			
DISTANCE	FEATURE	UP	DN	DISTANCE	FEATURE	UP	DN
135.380		80	25	0.632		50	25
135.563			40	9.370	Umbiram		
152.851		50		9.883			50
153.122		25	80	10.007		30	
154.030	Yelarbon			12.200			30
154.139		15		12.300		50	
154.248		80	25	12.972			50
154.427			40	13.054		30	
163.030	Gibinbell			13.485			30
173.103		25		13.599		50	
173.247			80	16.440	Southbrook		
174.130	Kurumbul			21.839			50
174.212		80		21.978		30	
174.352			25	22.872		40	30
184.300	Kildonan			23.303			40
188.030	Carrington			24.960	Pittsworth East		
196.975	Namoi Cotton Siding			26.036		25	50
198.840		40	80	26.420	Pittsworth		
199.204		40	40	27.150			25
200.702		25	40	27.153		30	
201.530	Goondwindi			32.560	Murlaggan		
201.800		40	25	37.660	Yarranlea		
205.028		70	40	46.679		25	30
207.890	Hunter			46.740	Brookstead		
214.520	Callandoon North			47.359		30	25
220.650	Carbuckey			51.650	Pampas		
230.410	Gooray			58.780	Yandilla		
242.050	Nula			69.500			30
246.245		50	70	69.600	Millmerran		
246.657		40	50				
246.830	Toobeah						
247.304		60	40				
260.990	Welltown						
268.870	Bungunya						
276.200		40	60				
278.800		60	40				
277.040	Lalaguli						
288.790	Talwood						
292.618		10R					
293.424			10L				
337.920	Daymar						
350.070	Thallon						

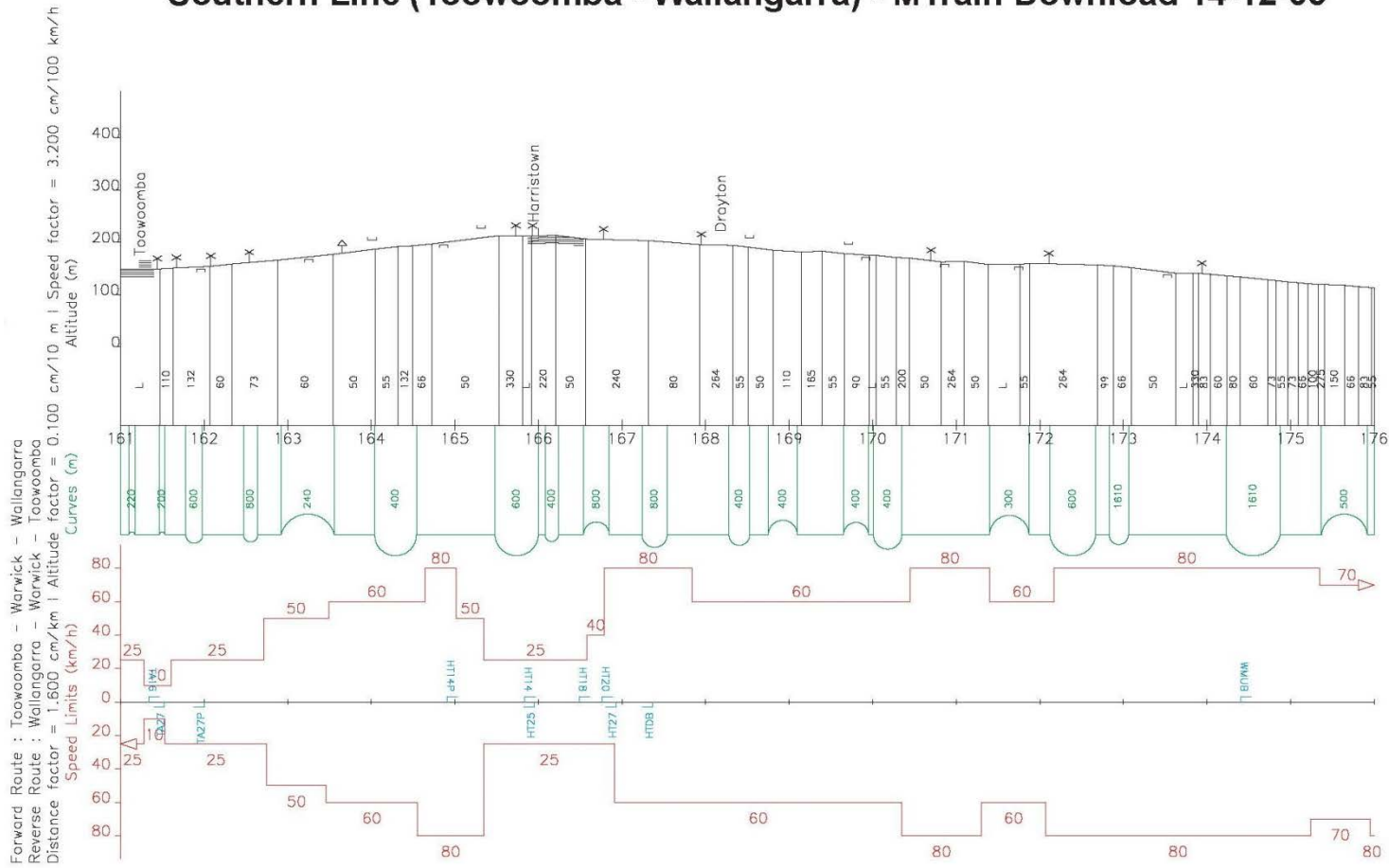
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APPENDIX E

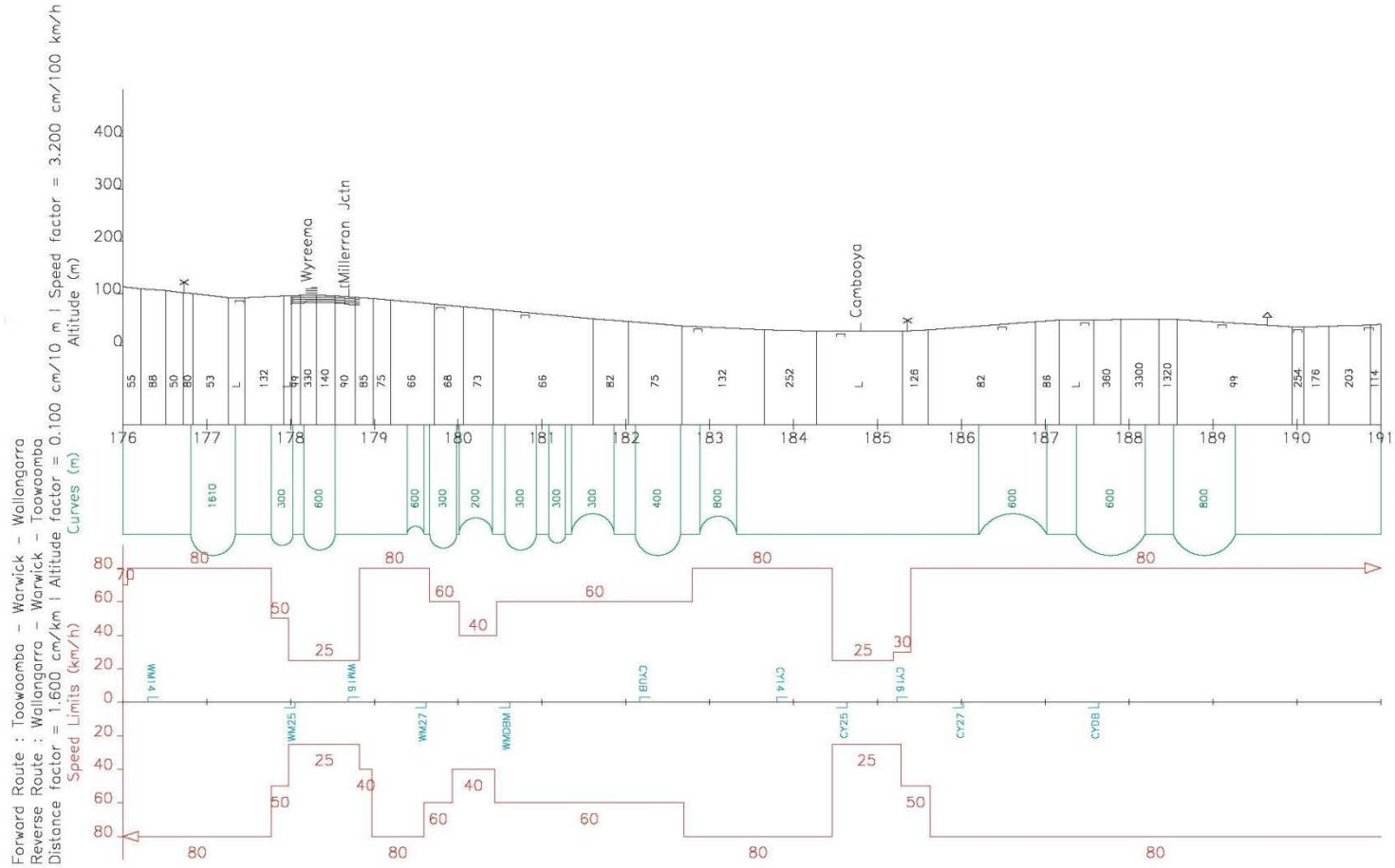
Track Data & Grade Diagrams

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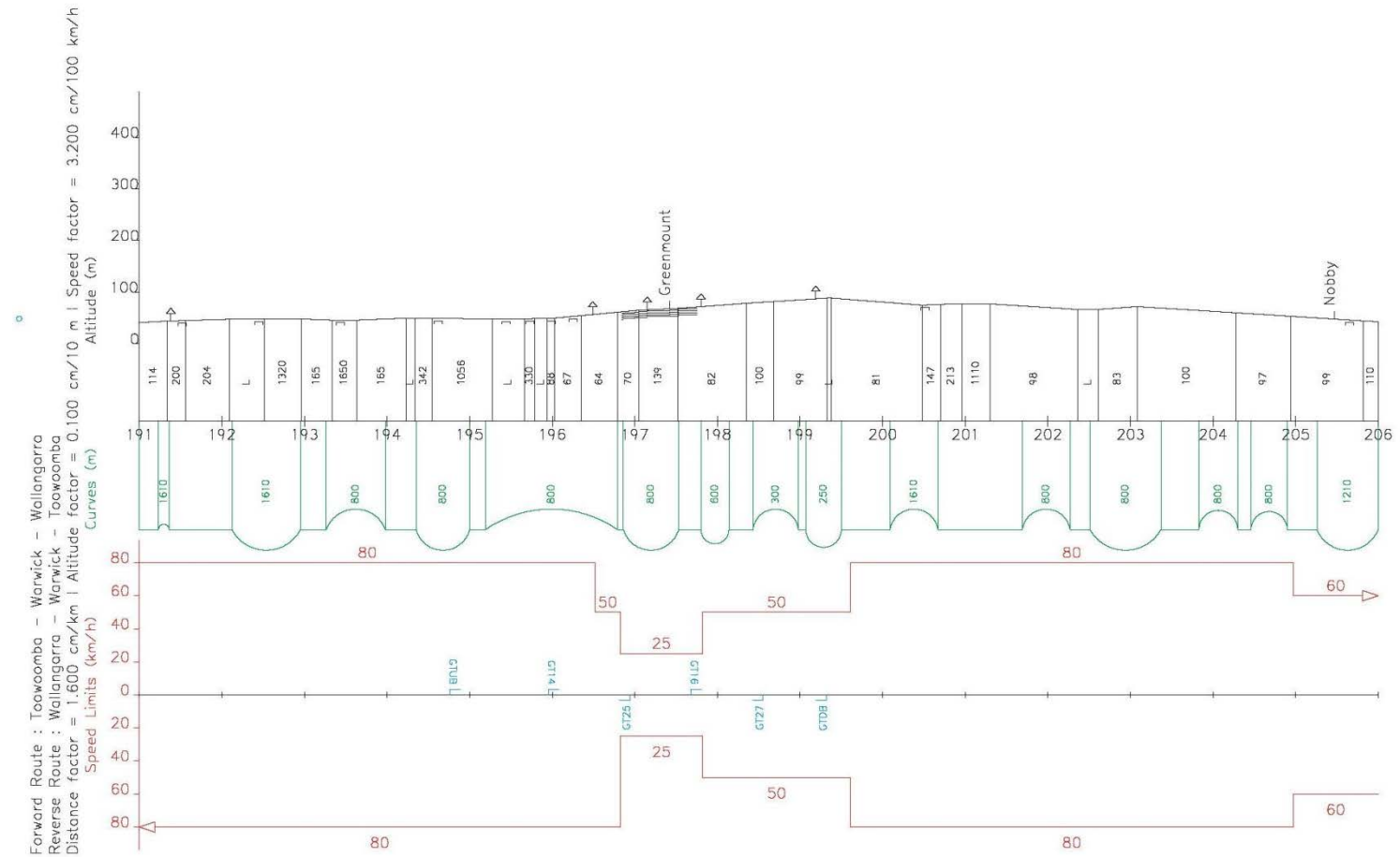
Southern Line (Toowoomba - Wallangarra) - MTrain Download 14-12-05



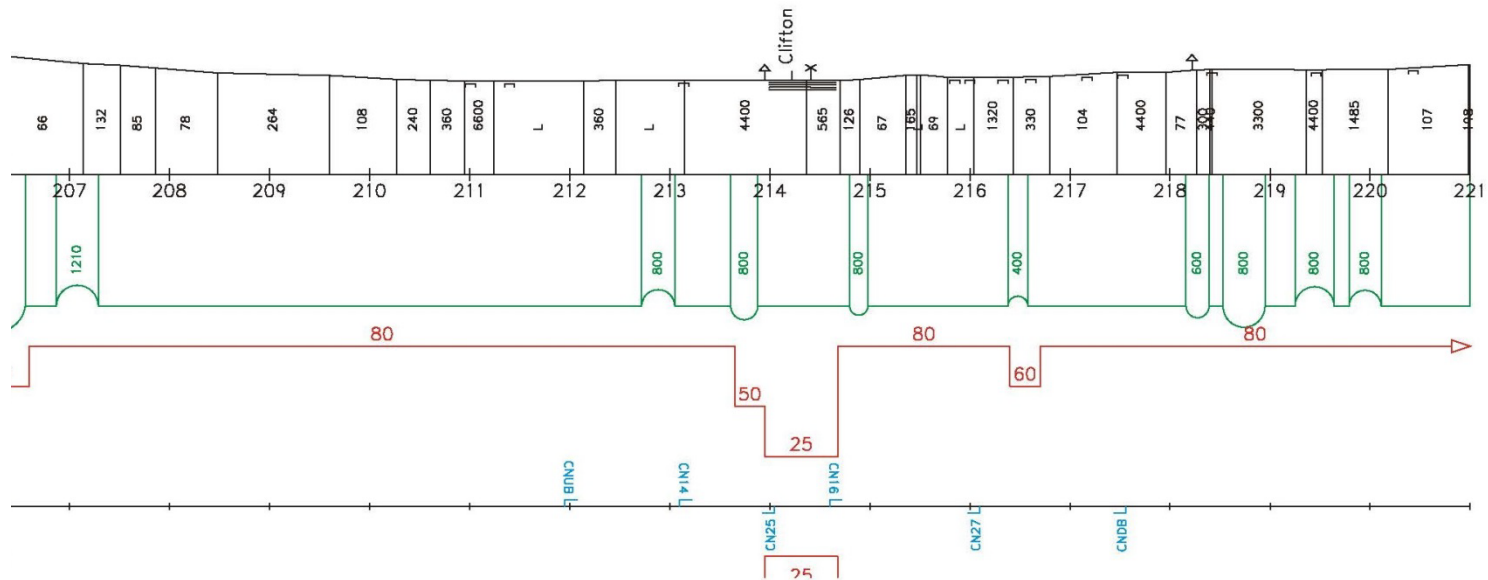
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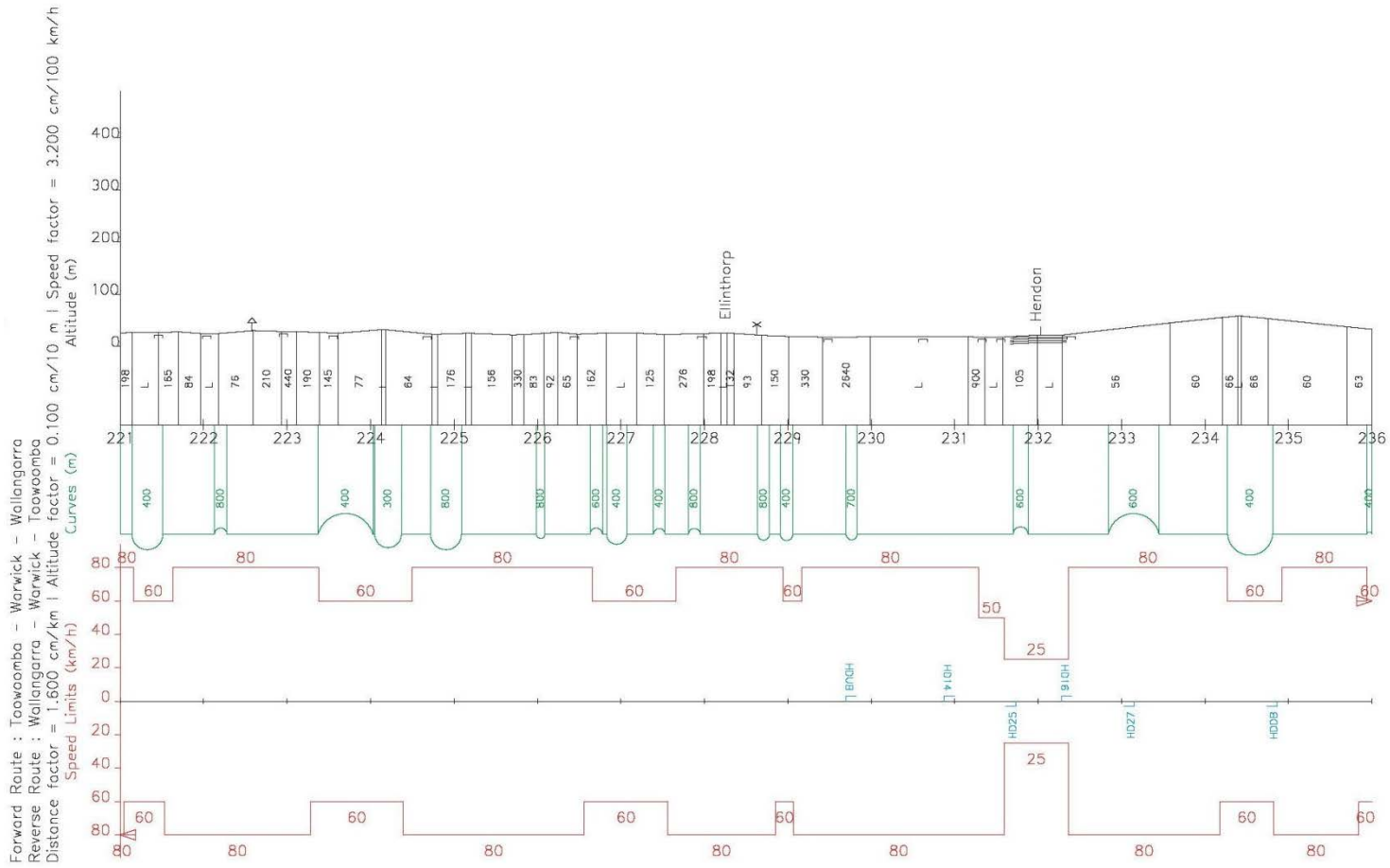
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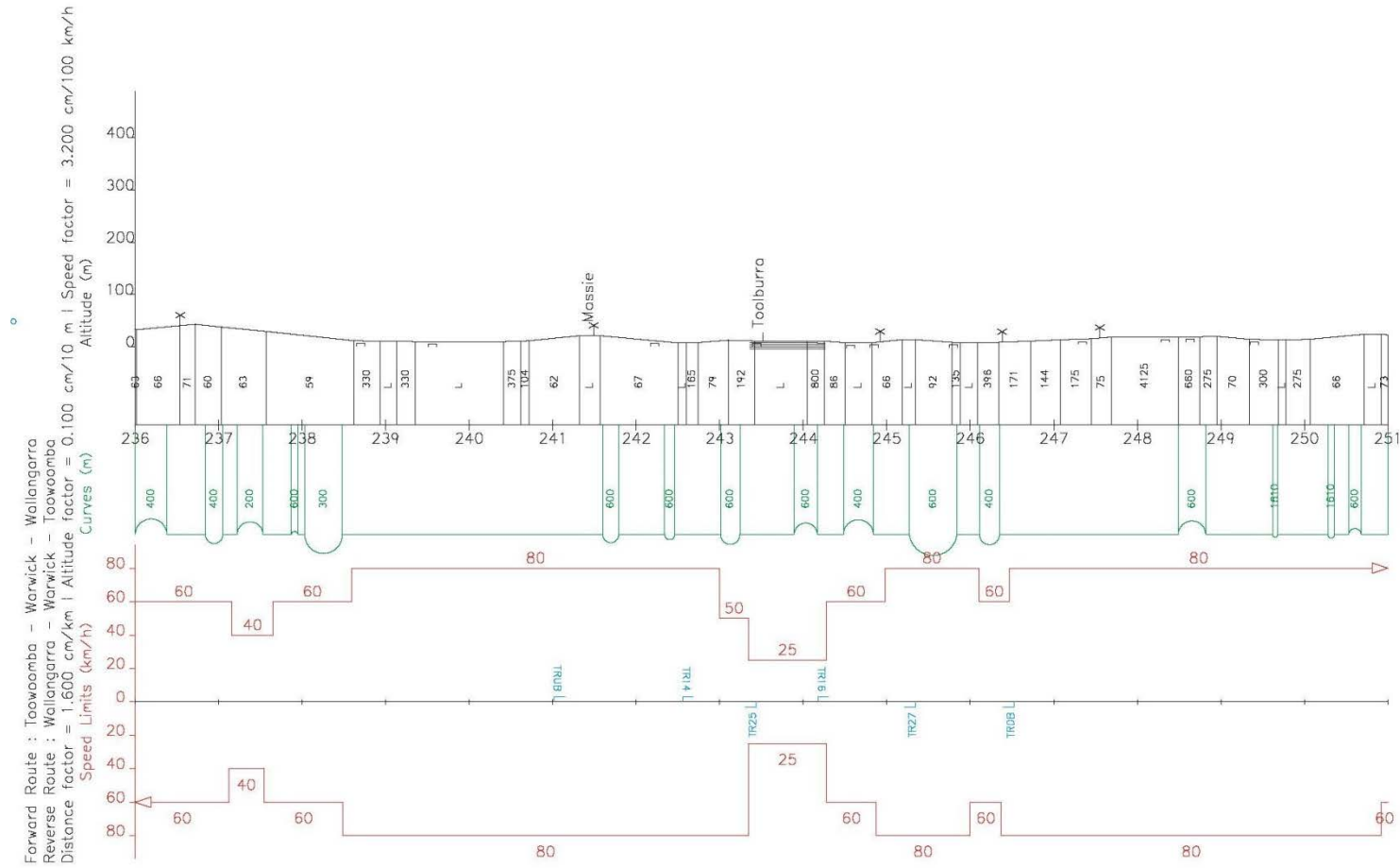
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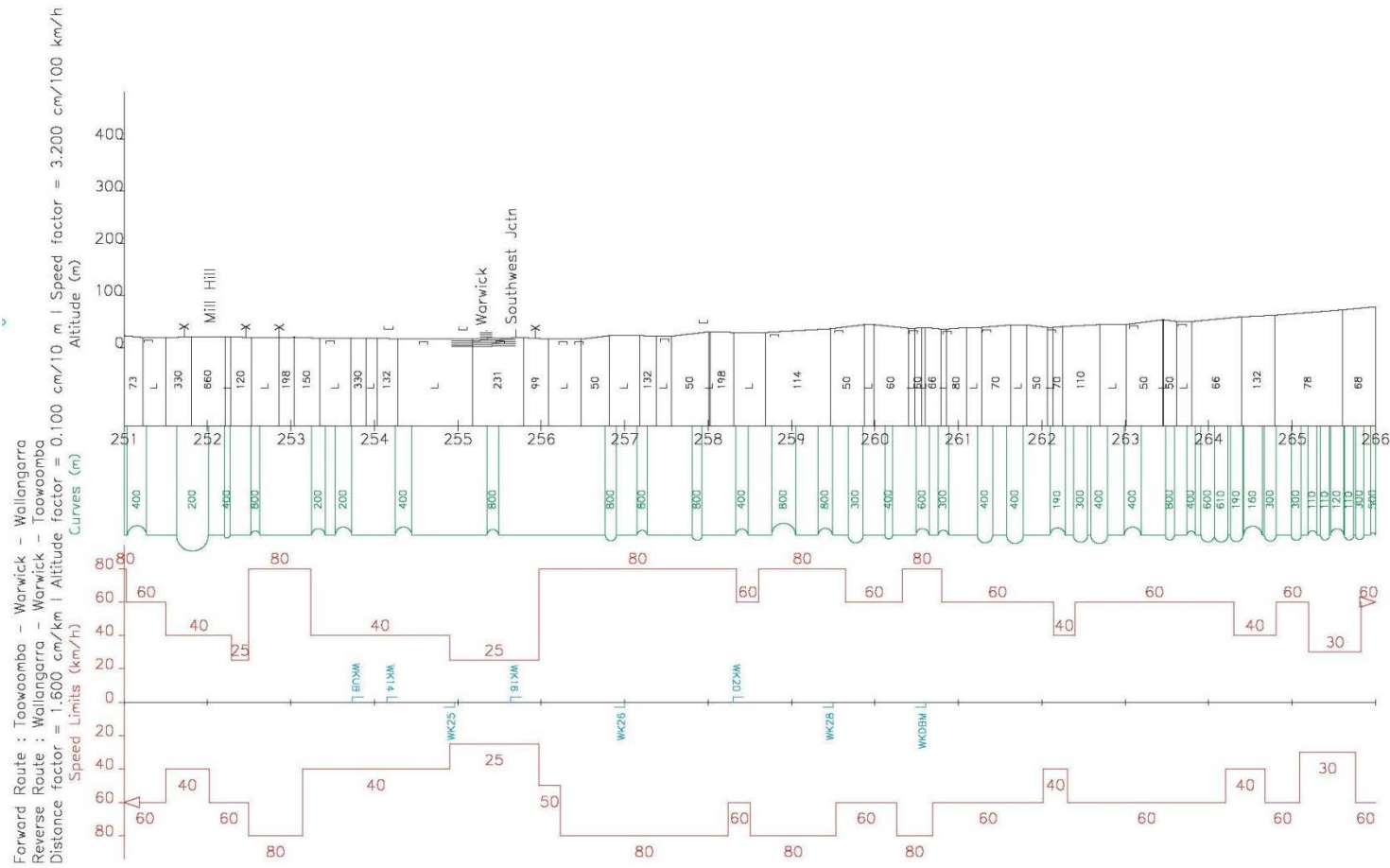
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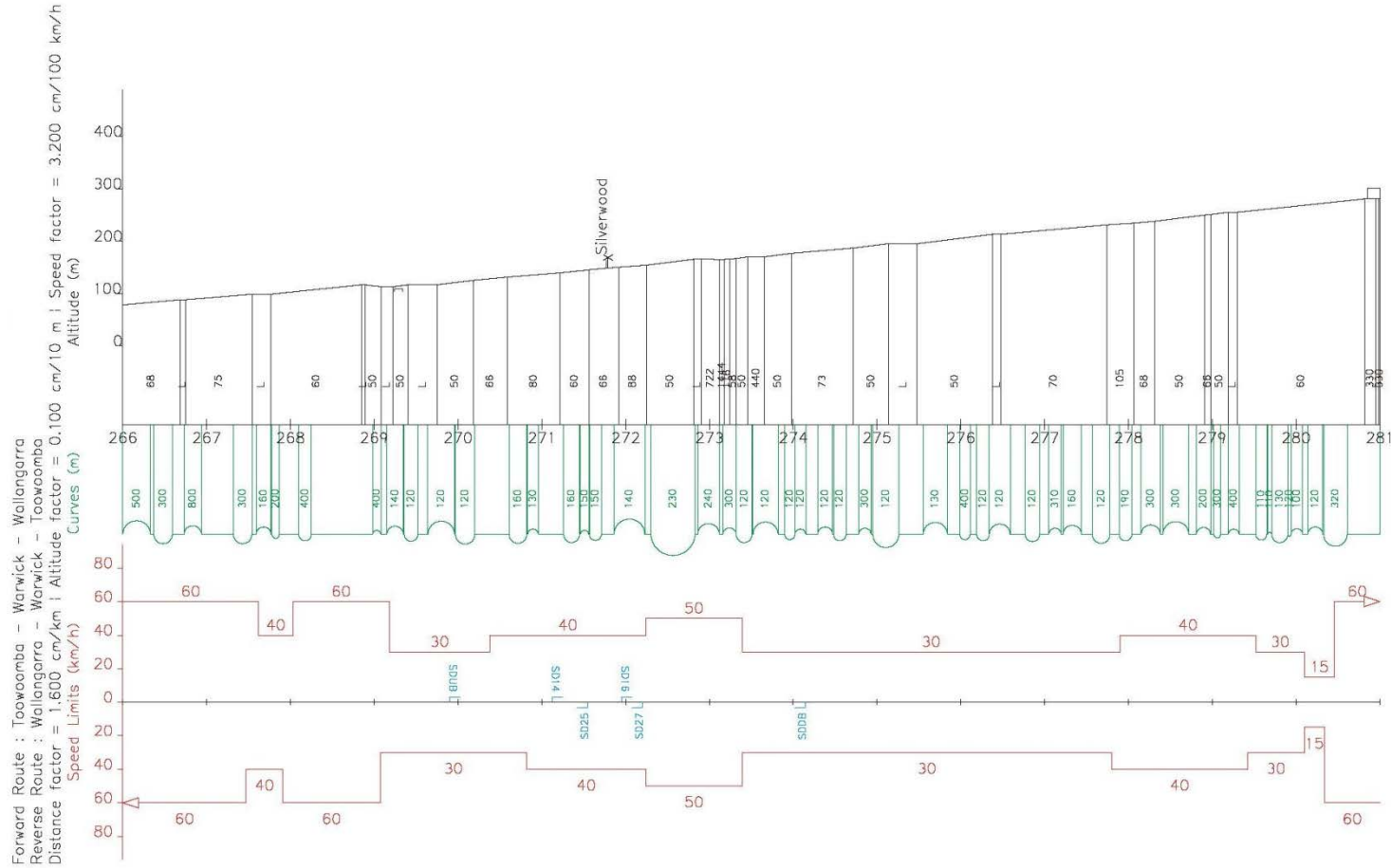
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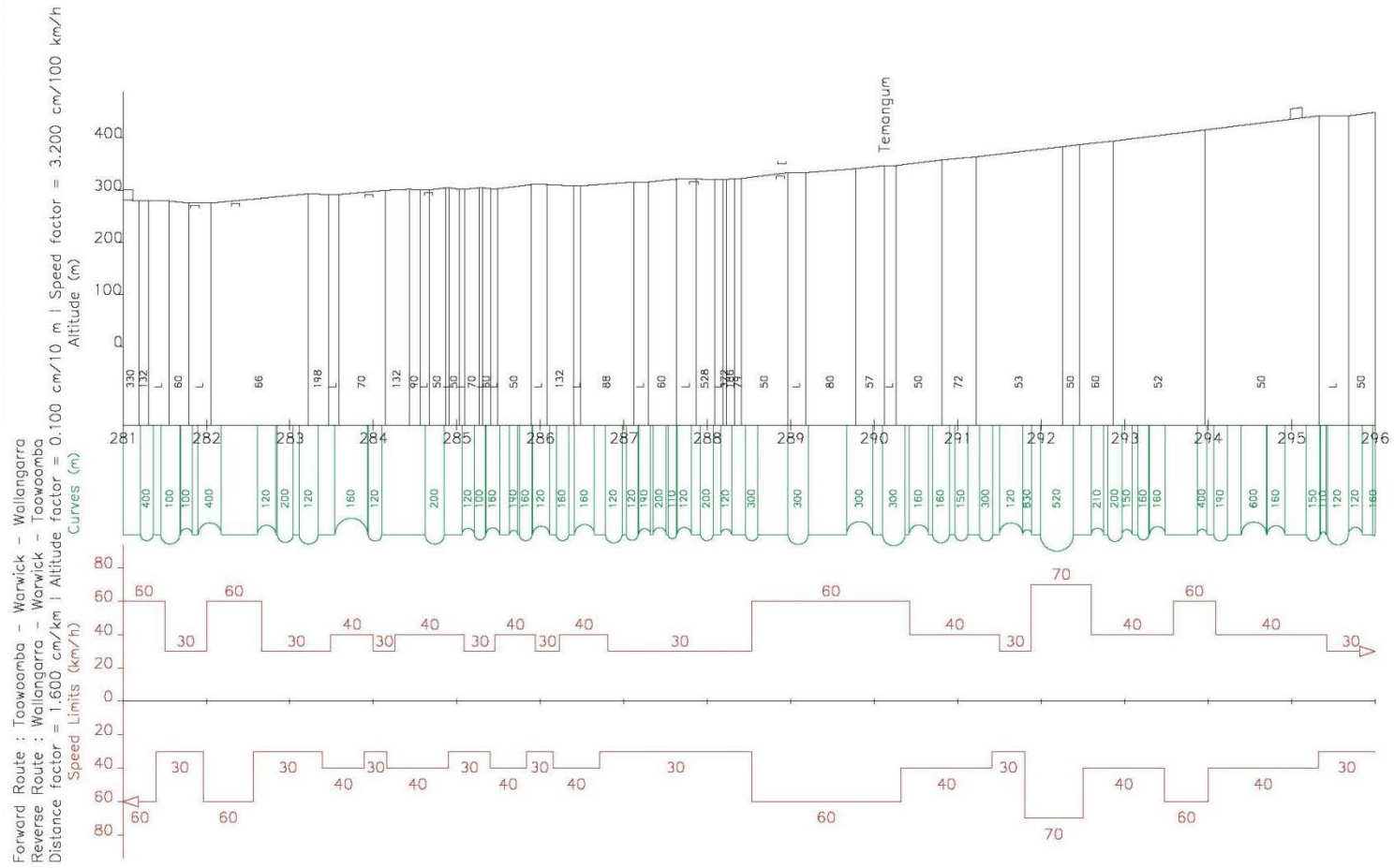
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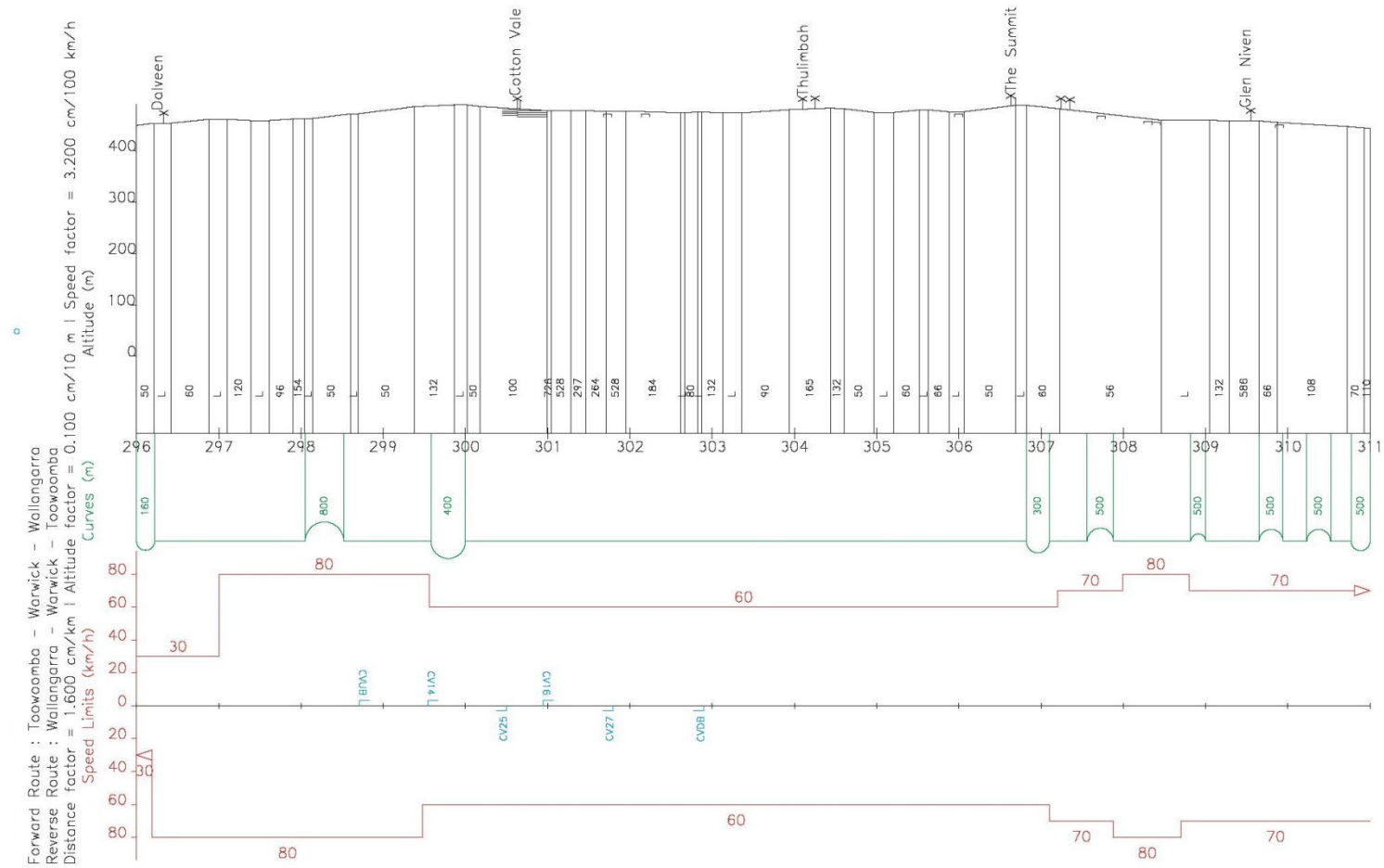
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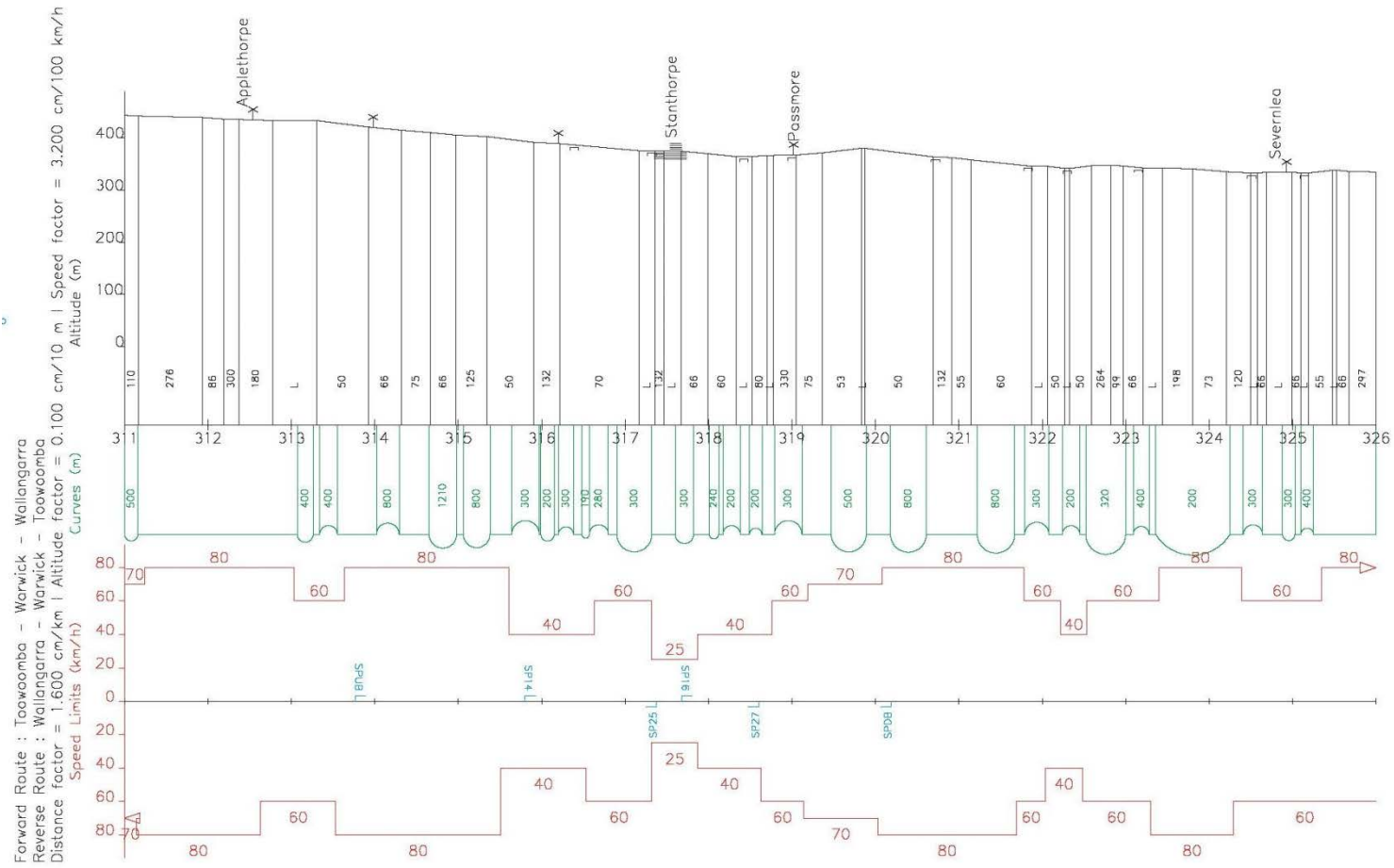
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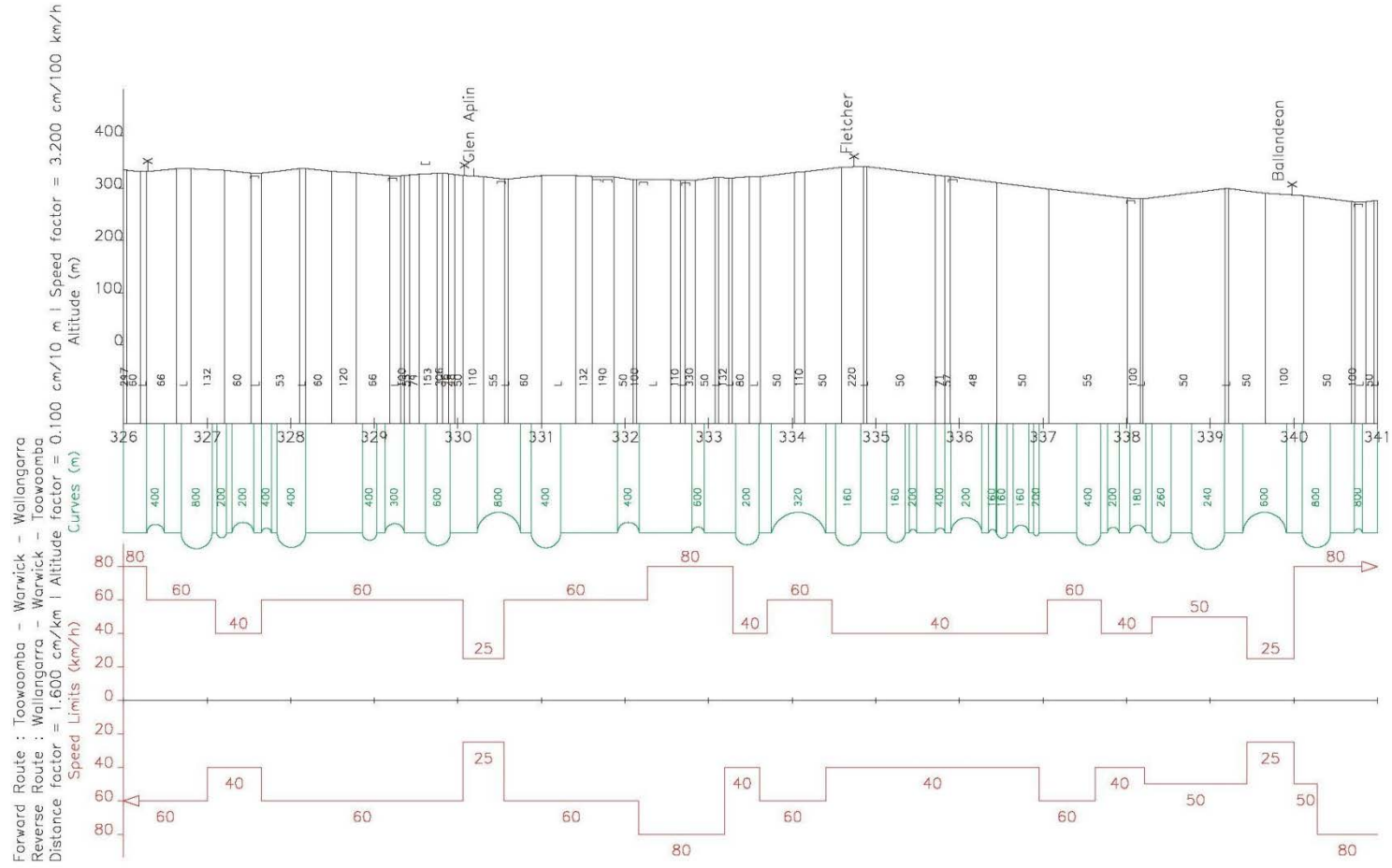
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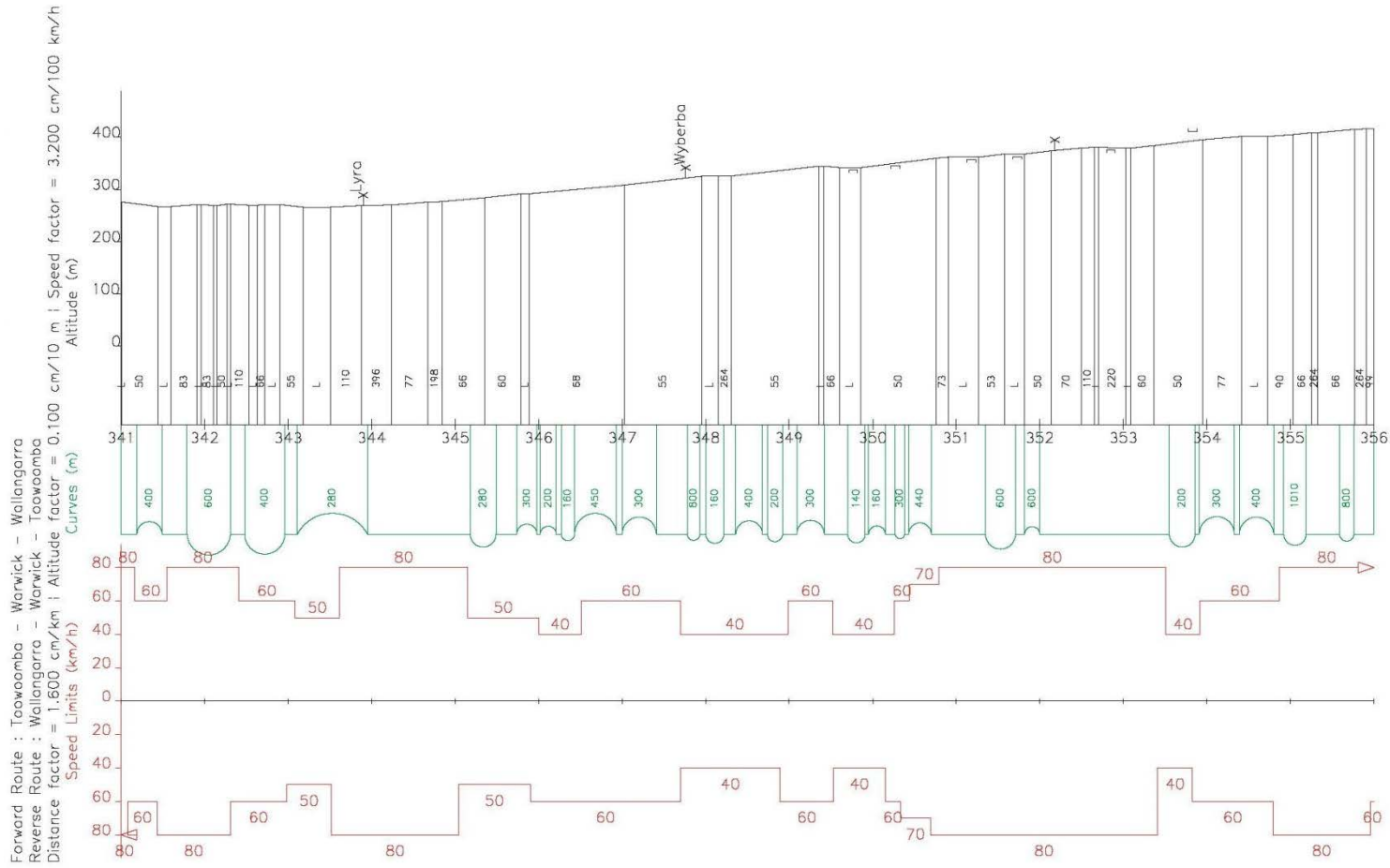
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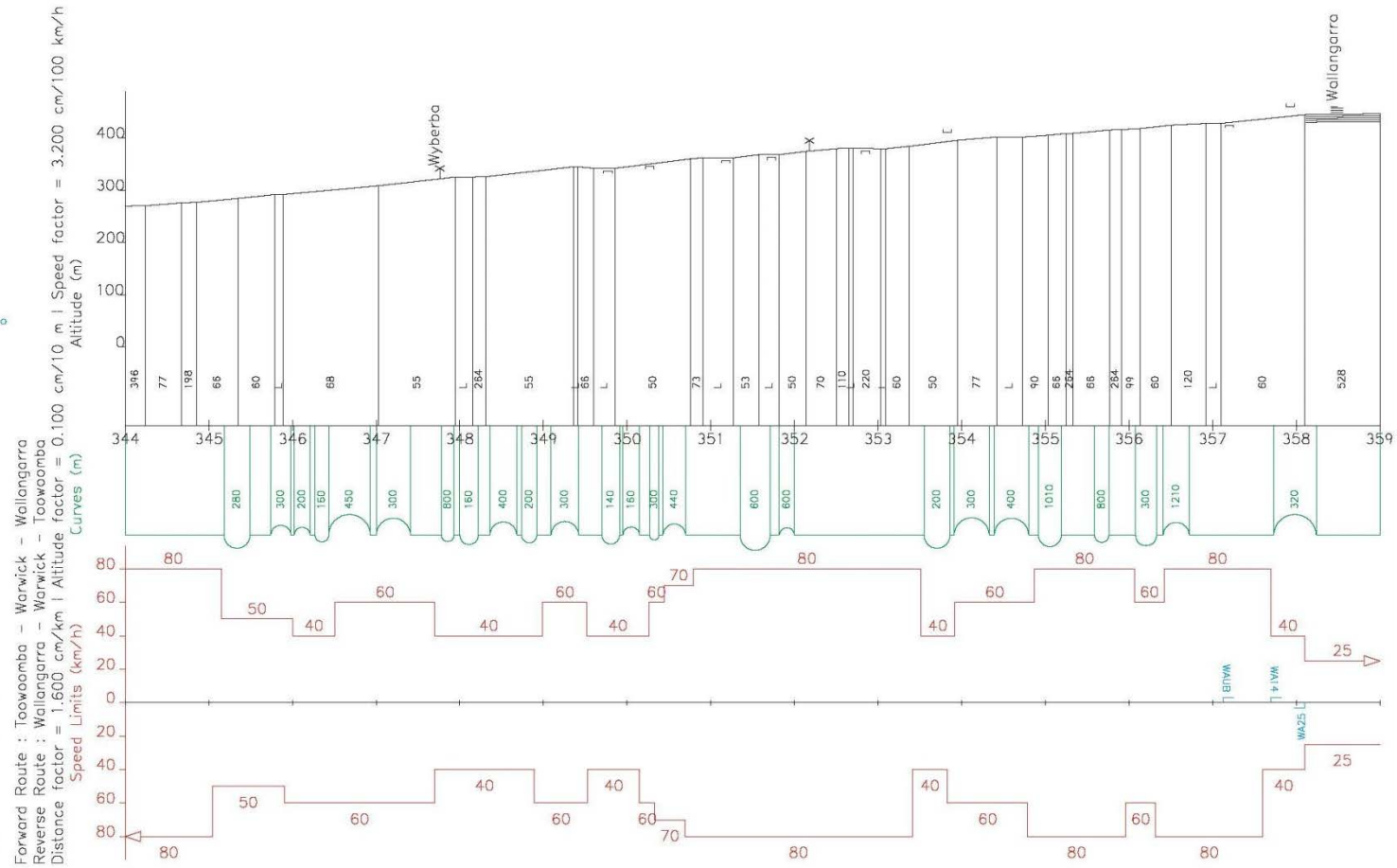
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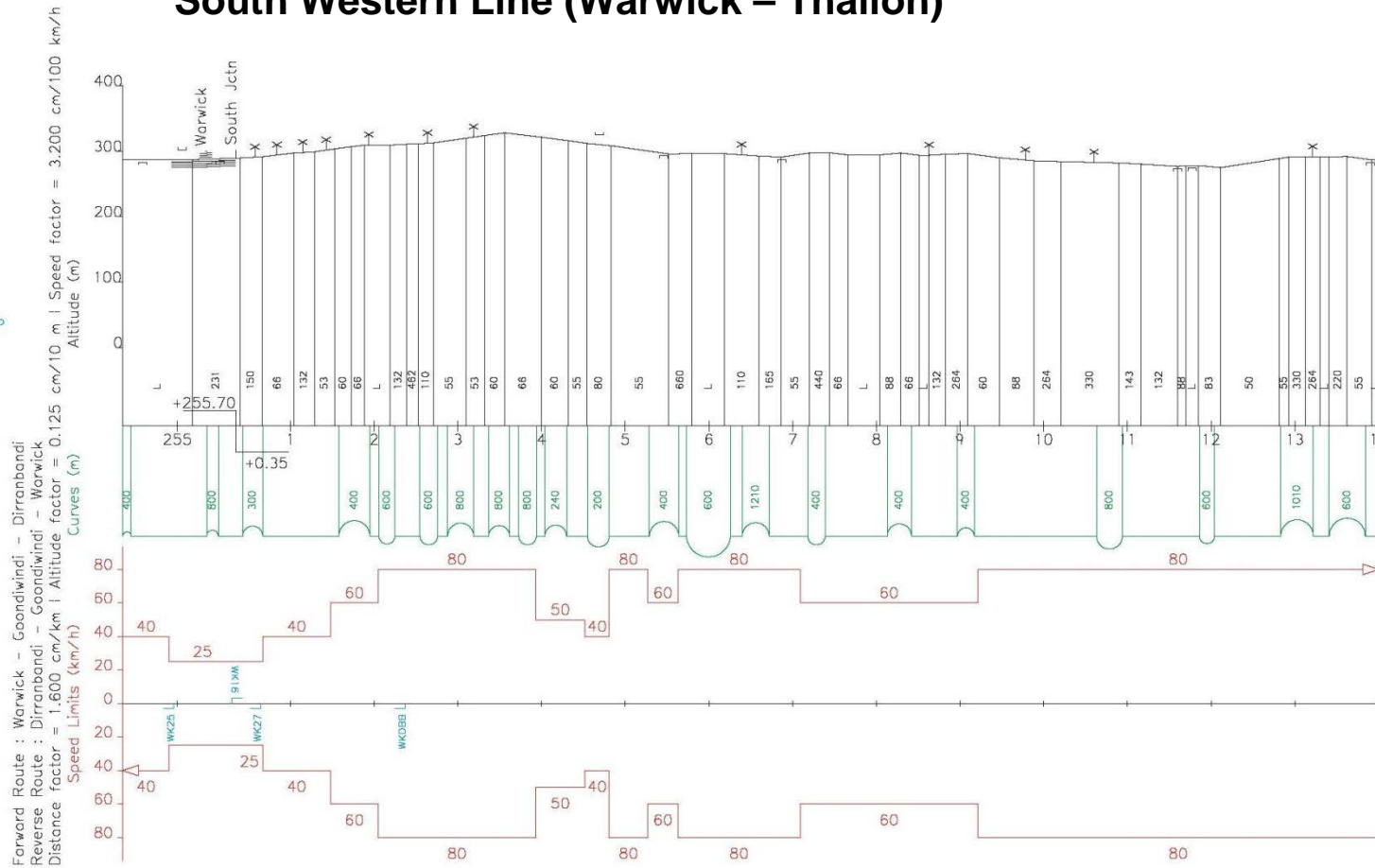


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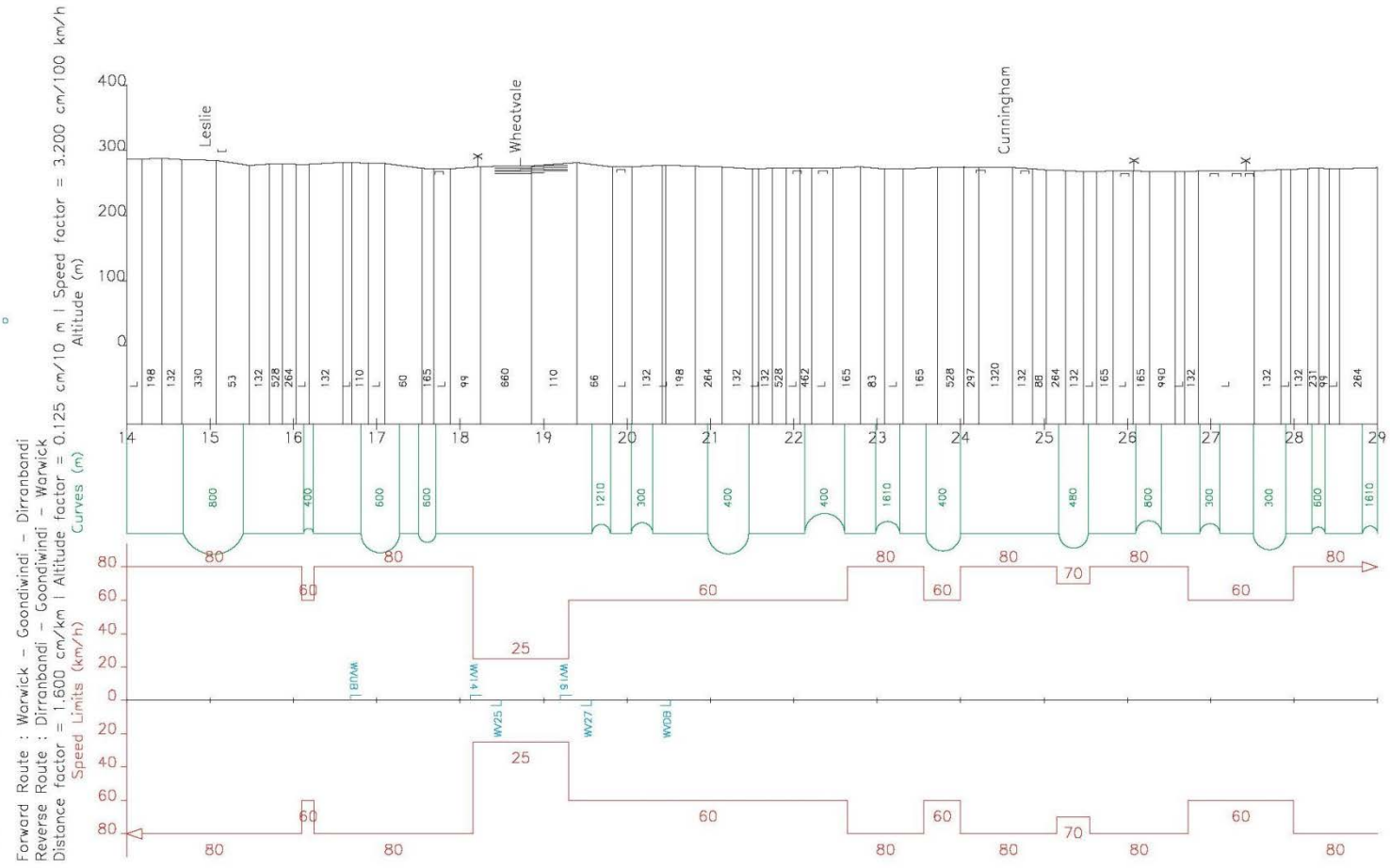


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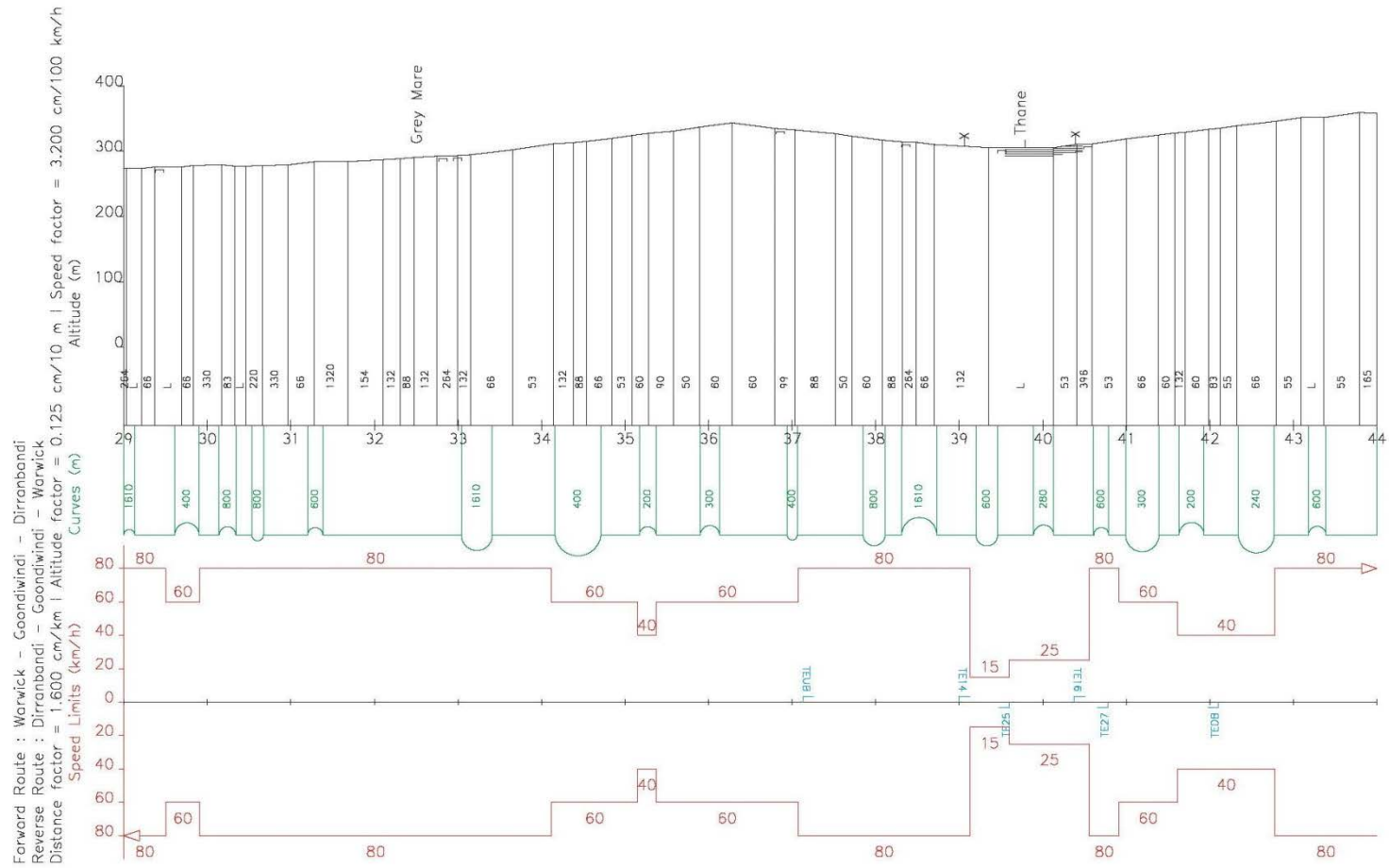
South Western Line (Warwick – Thallon)



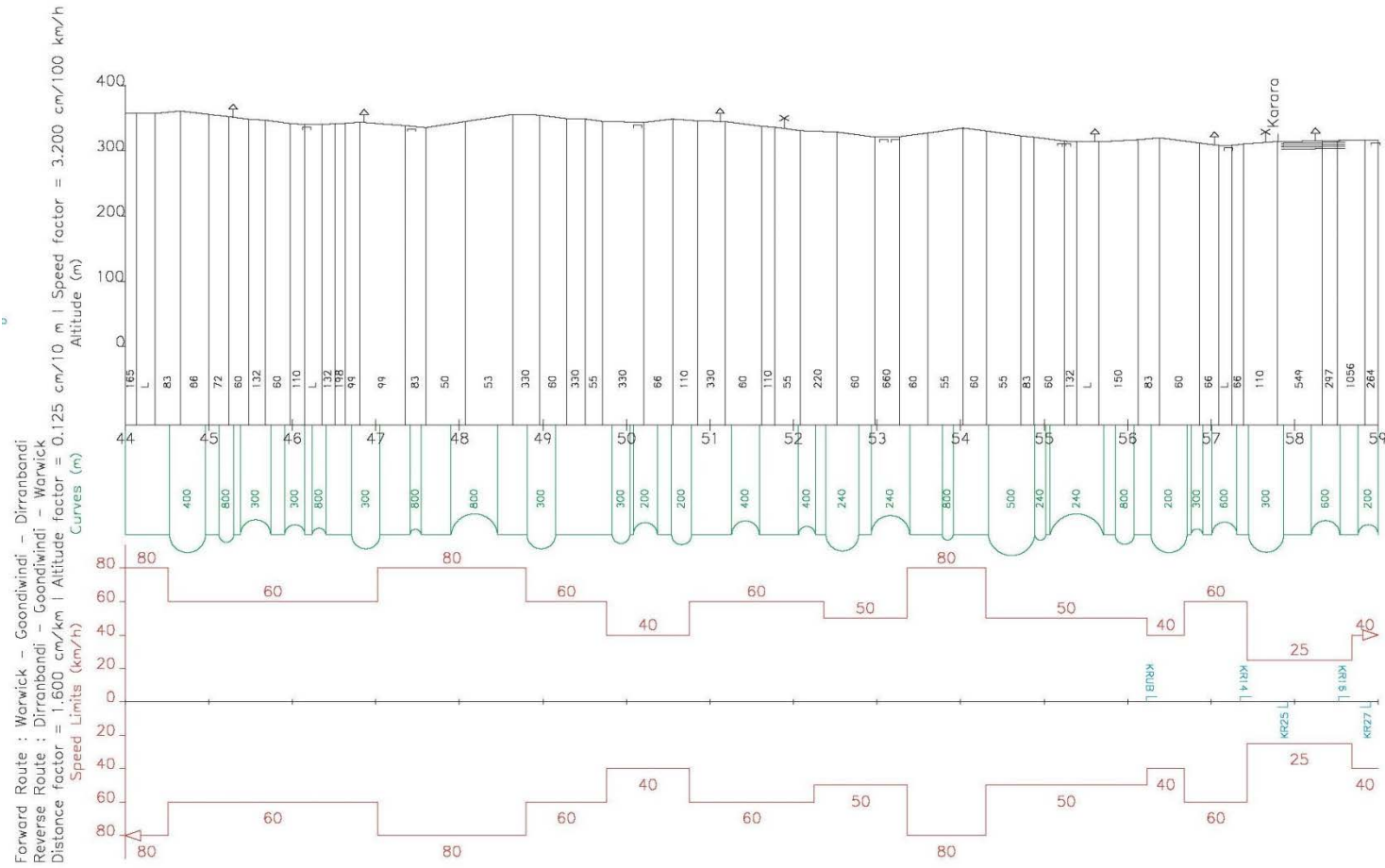
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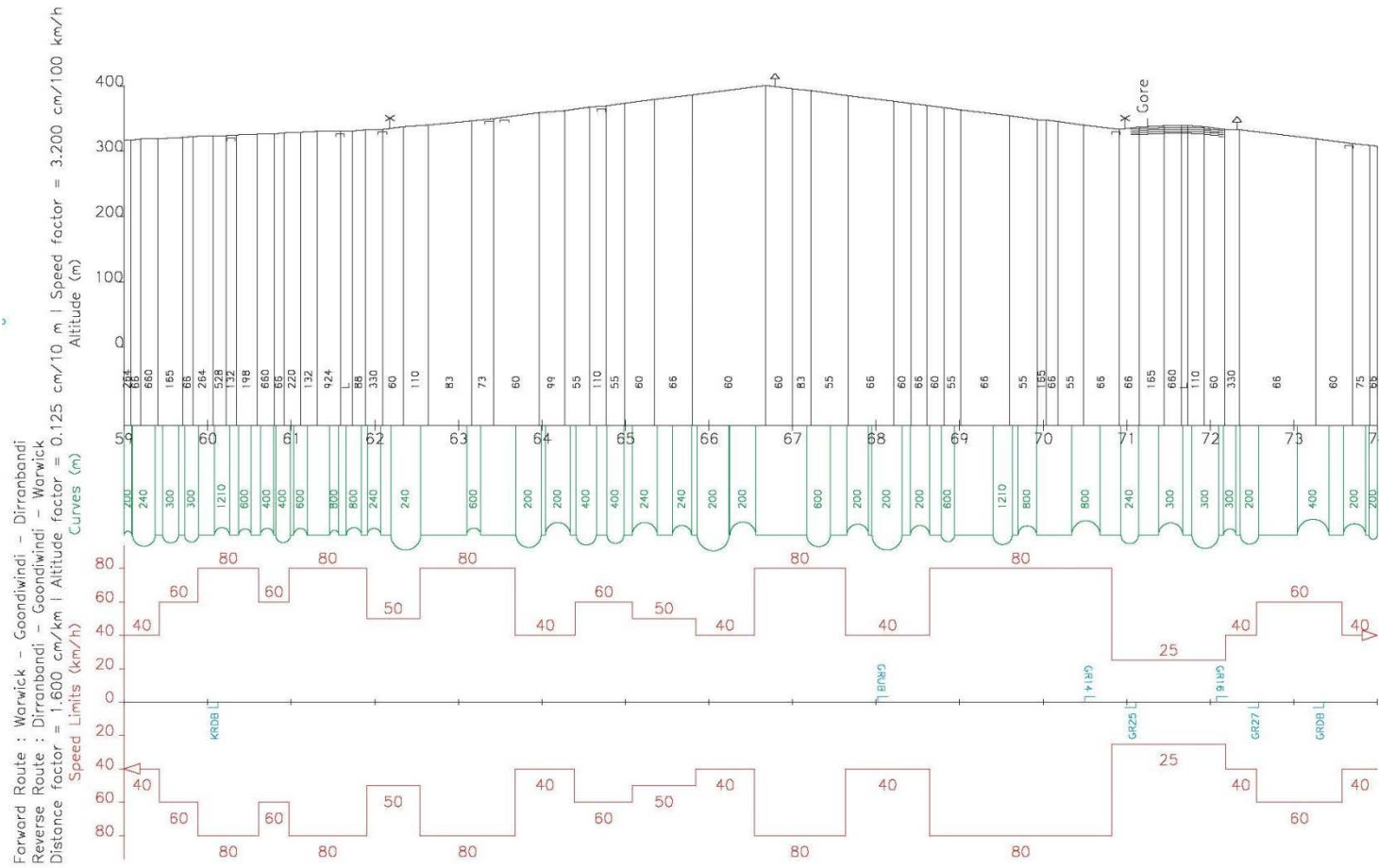
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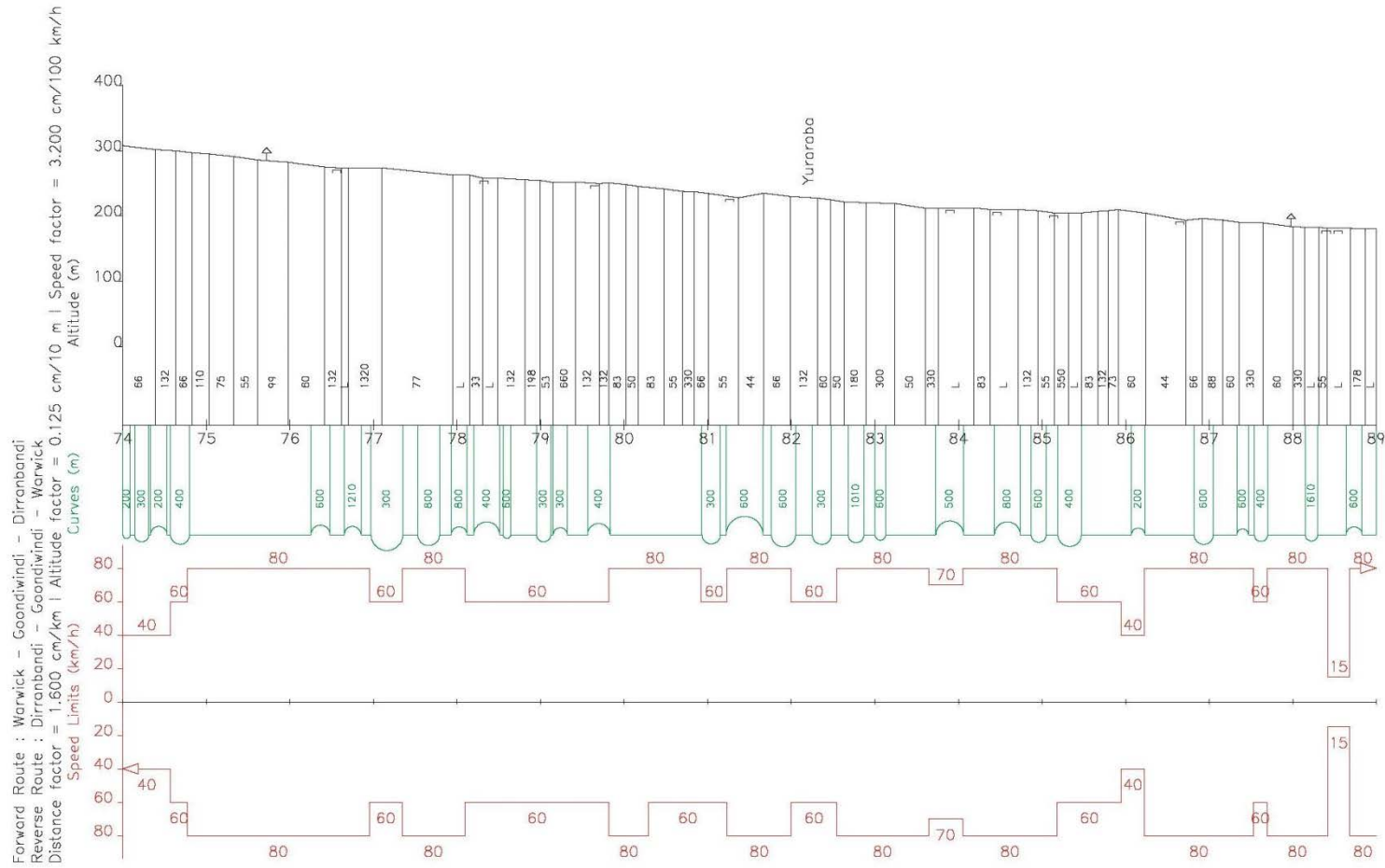
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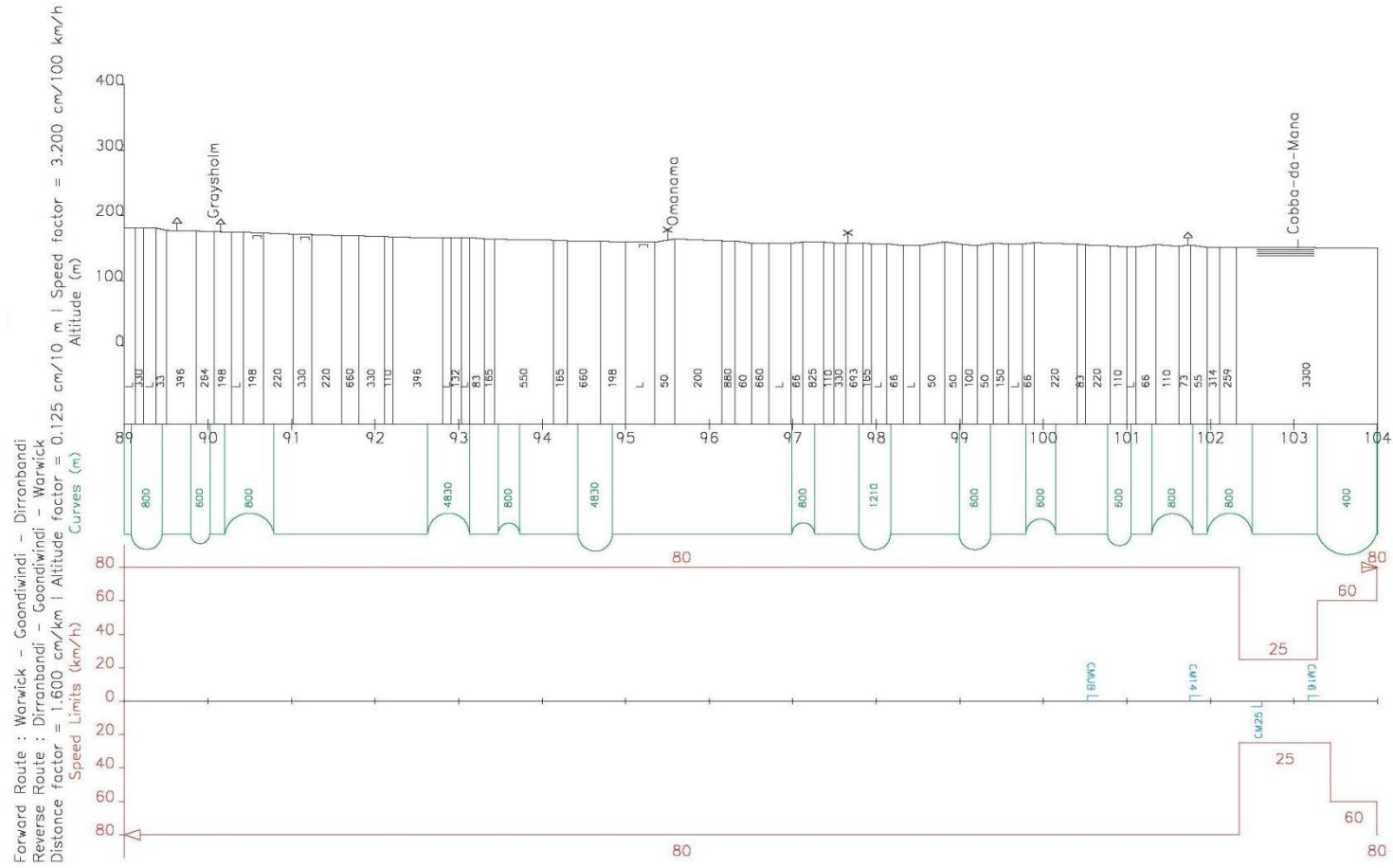
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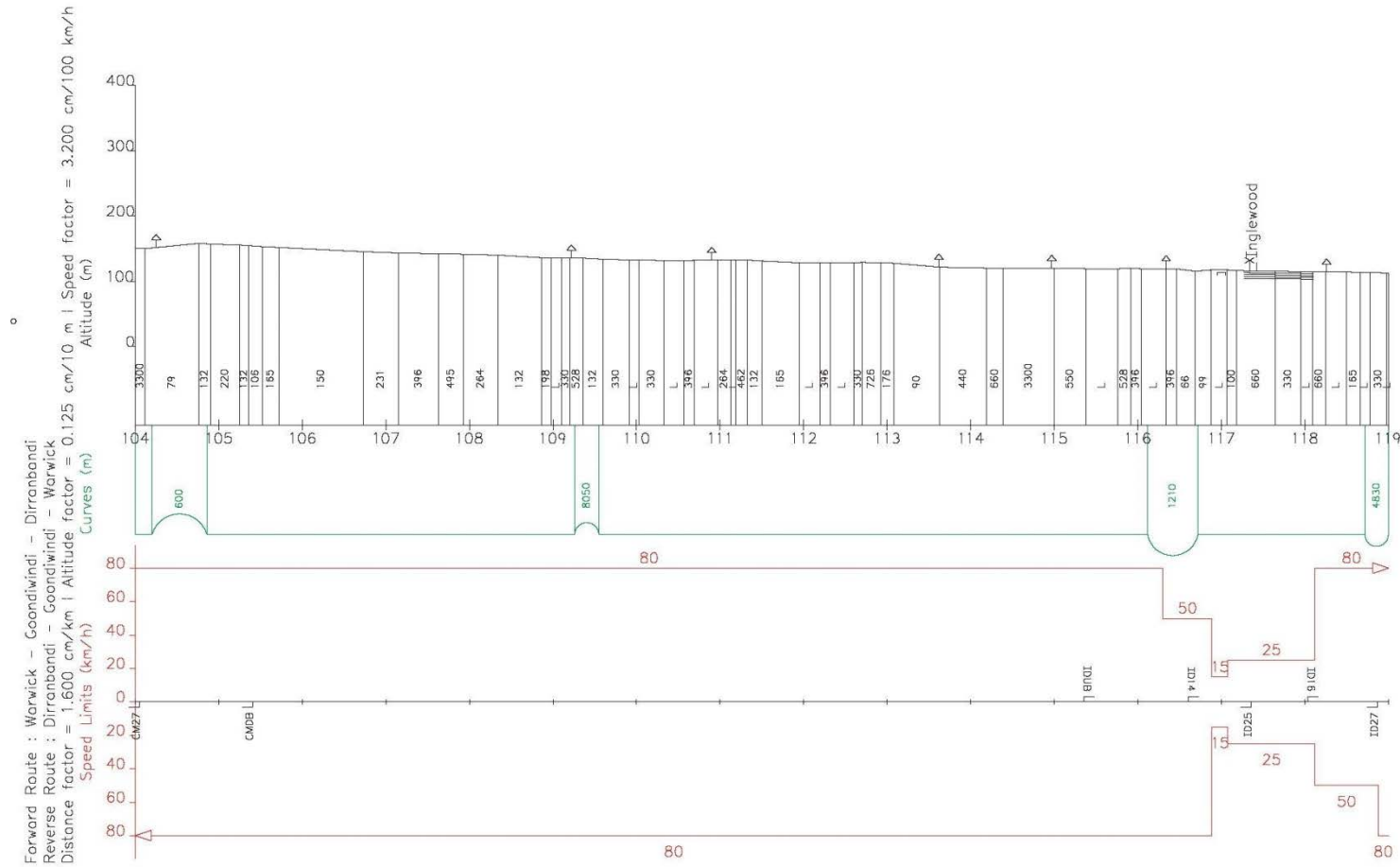
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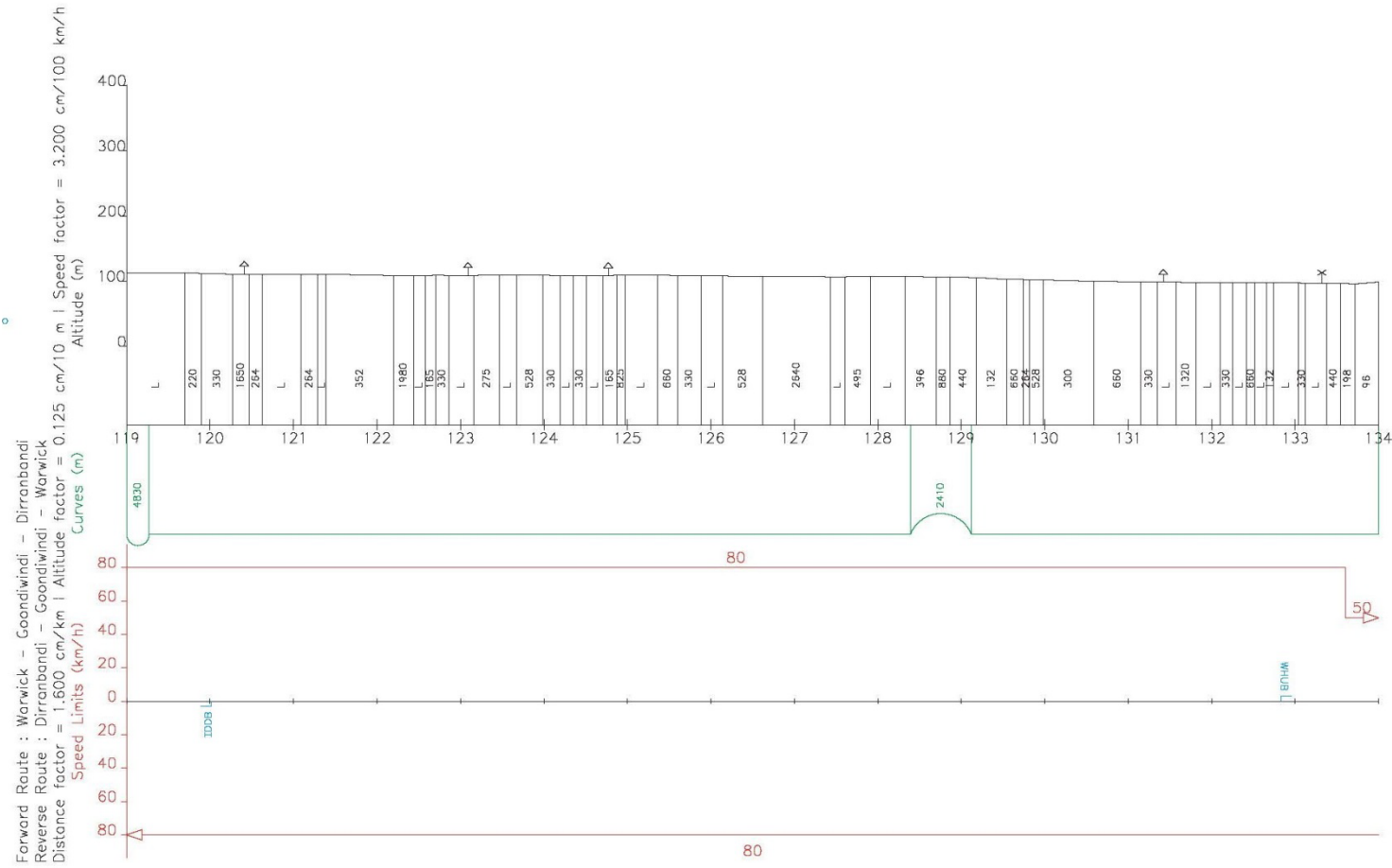
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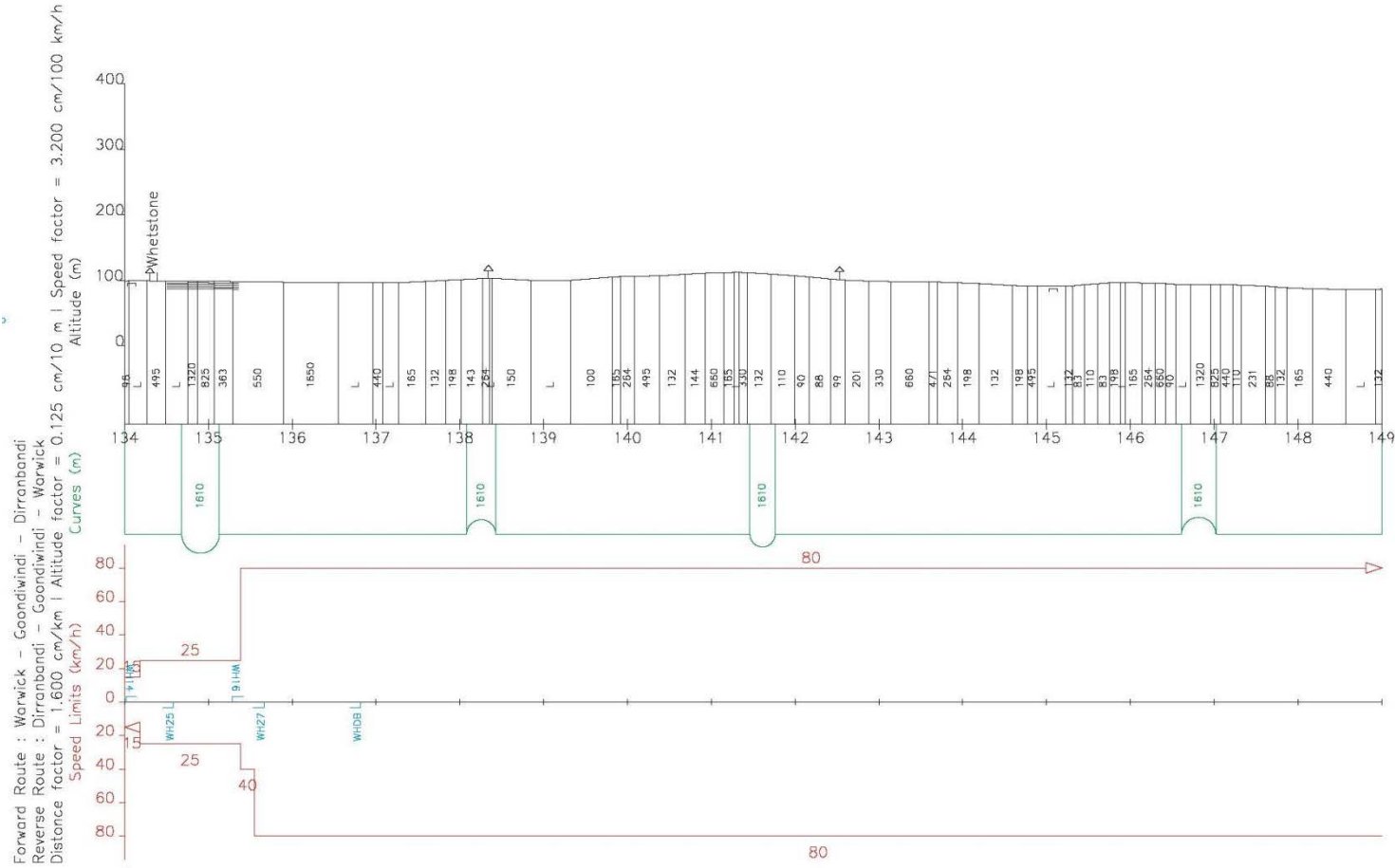
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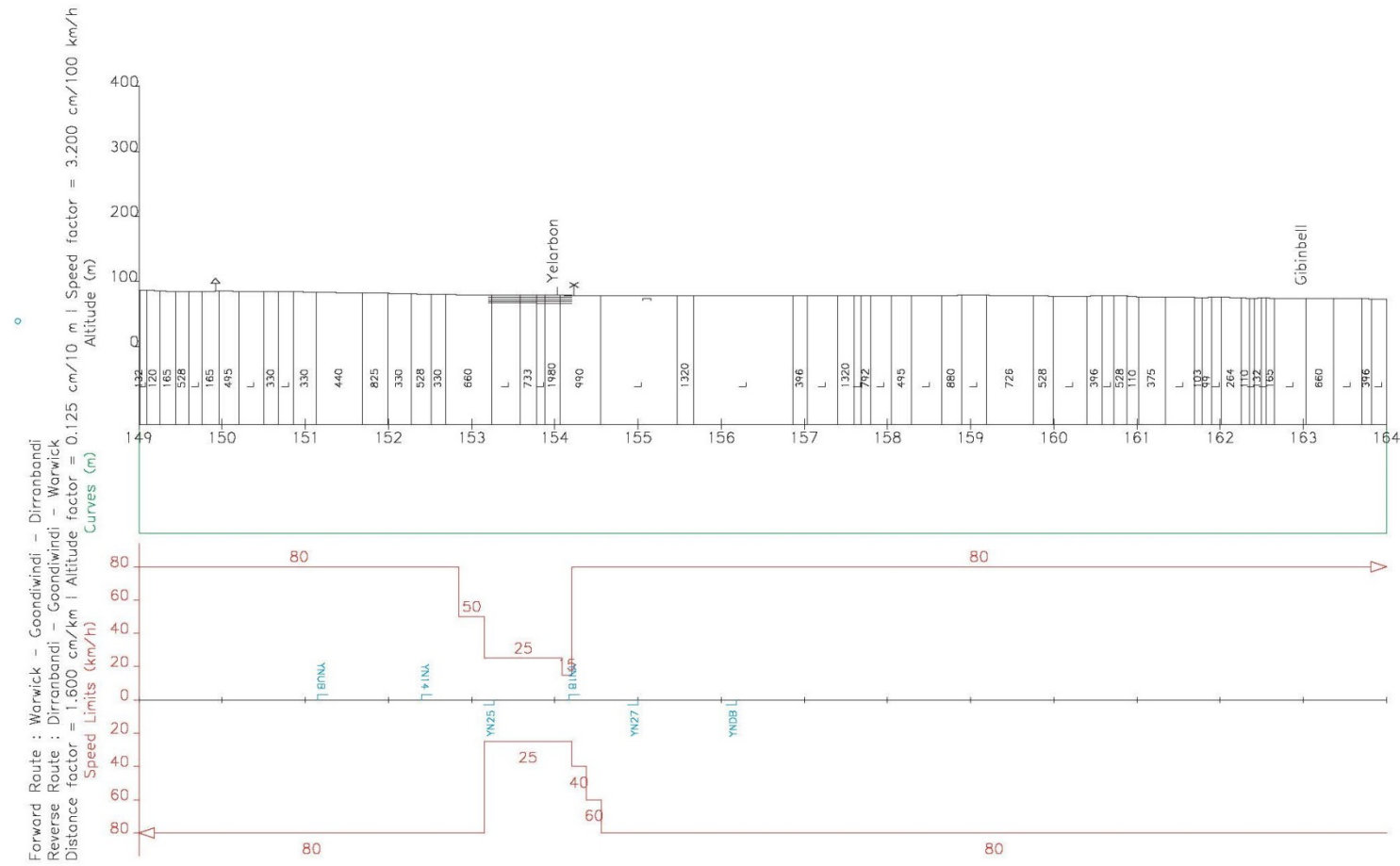
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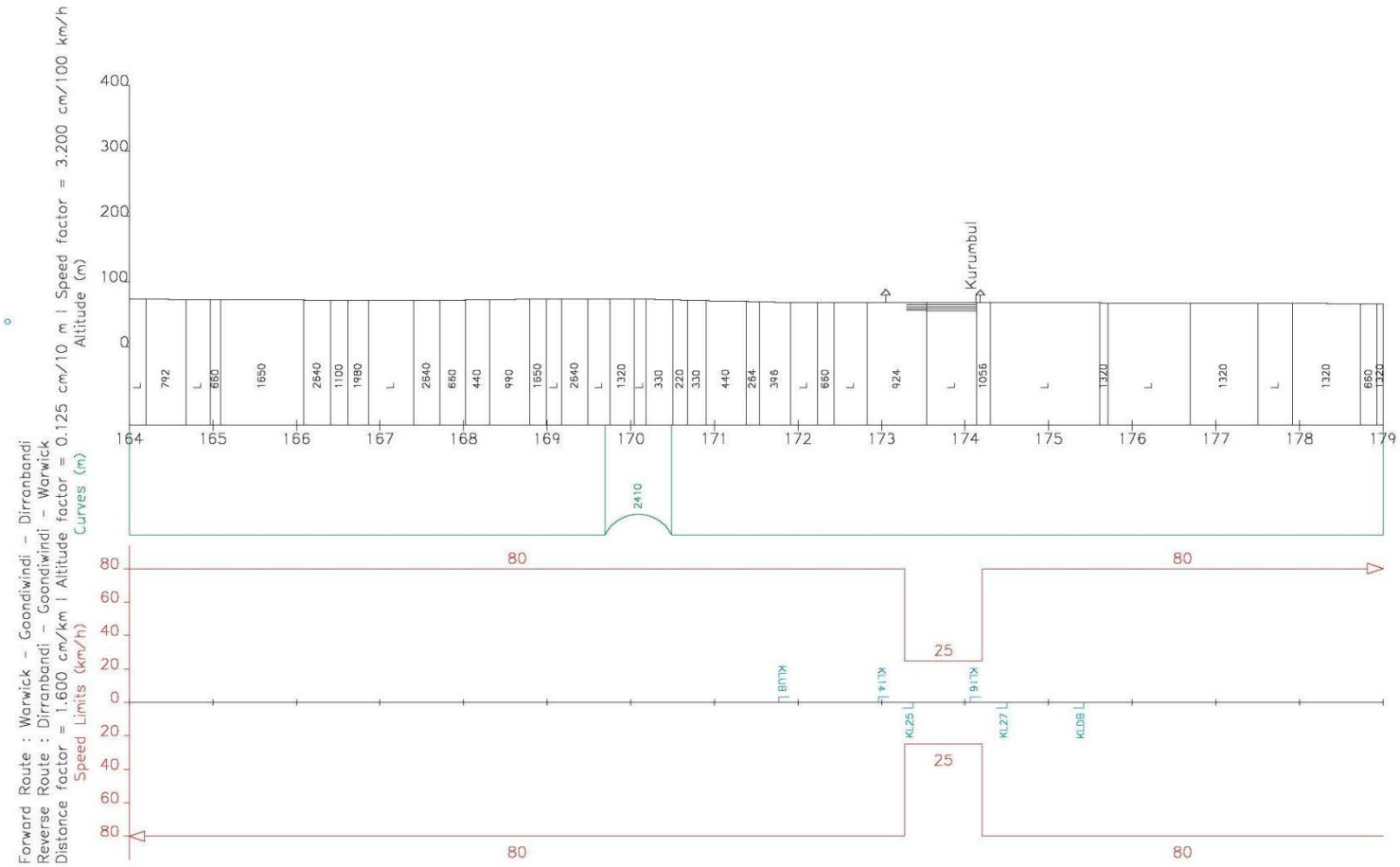
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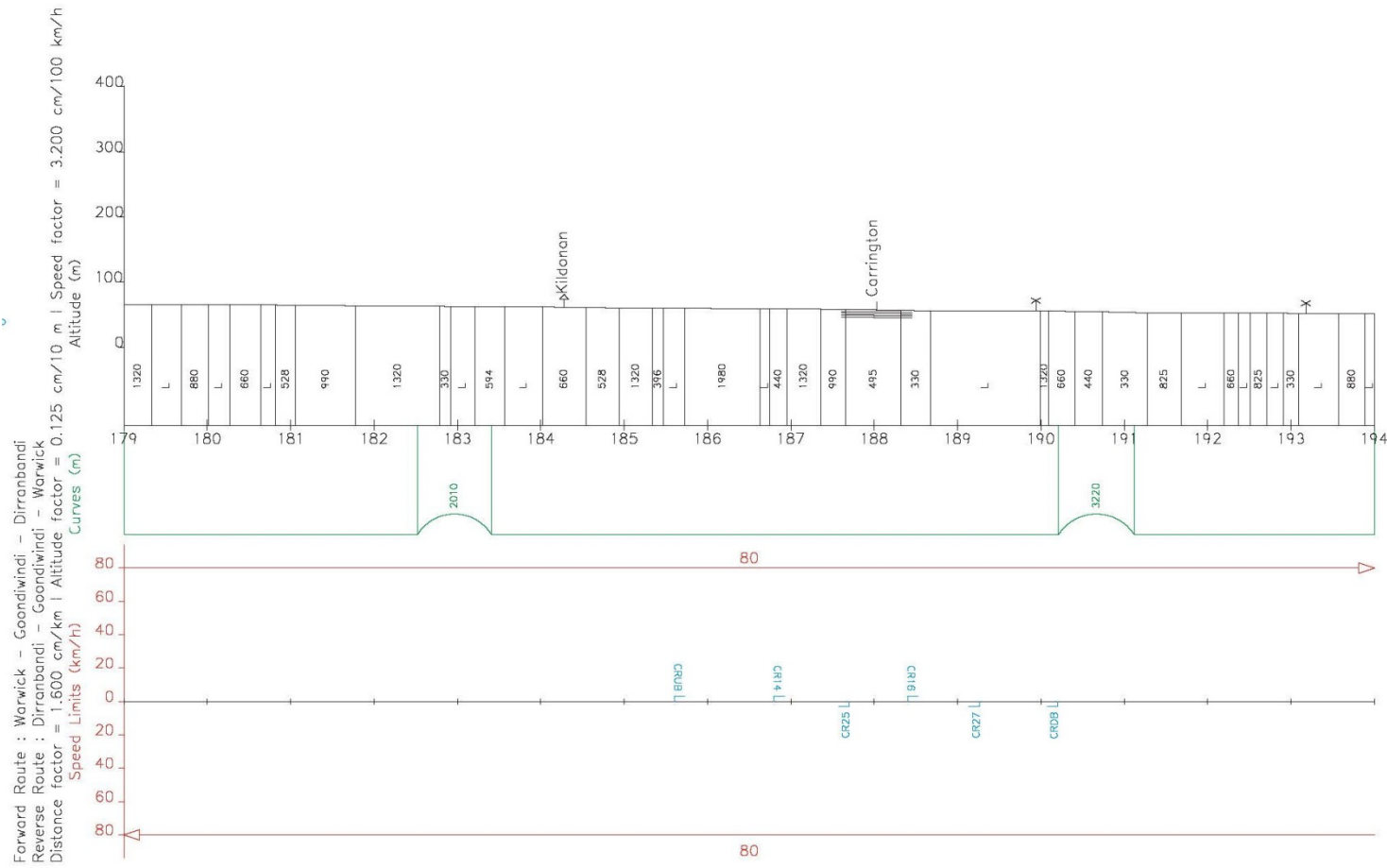
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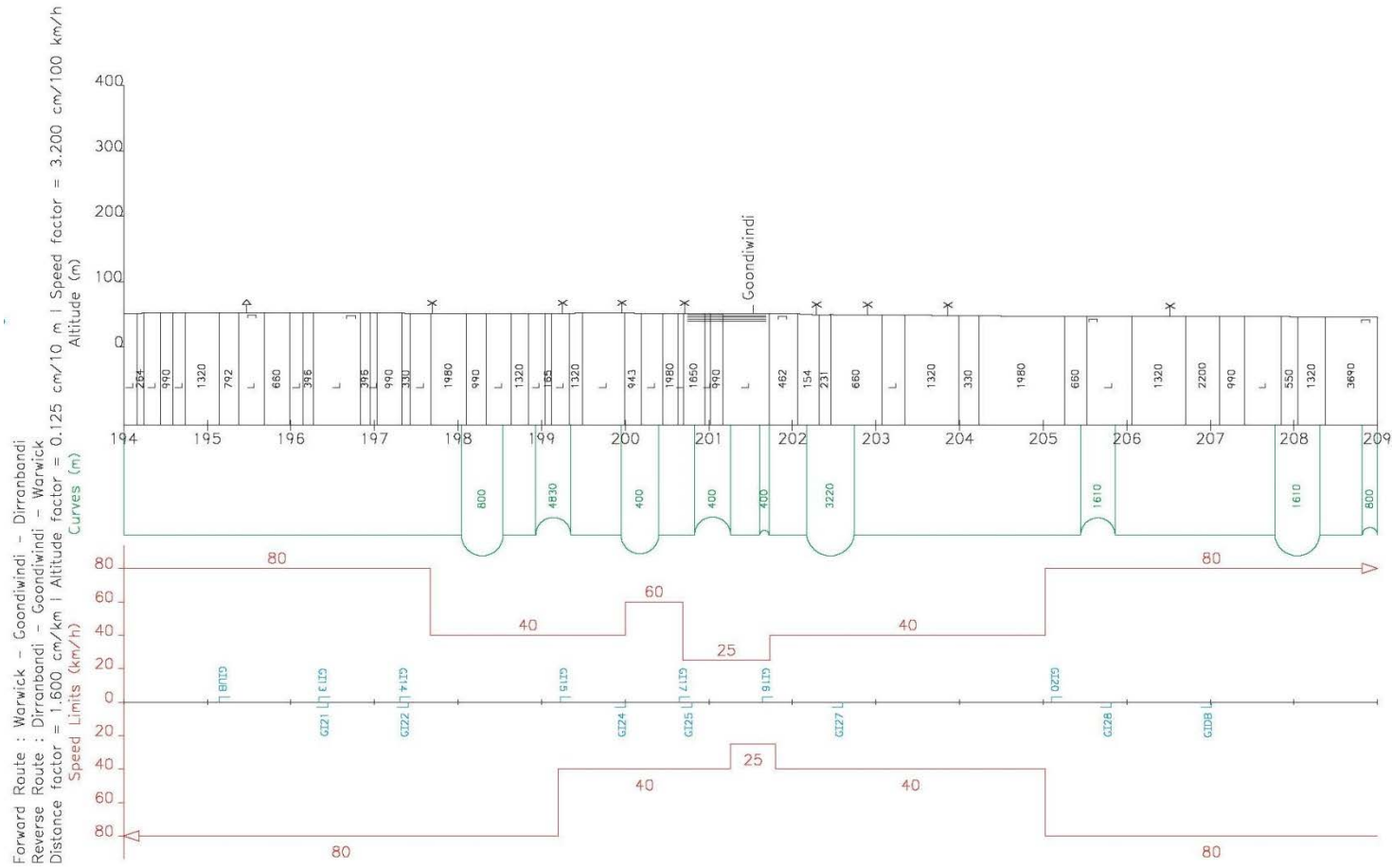
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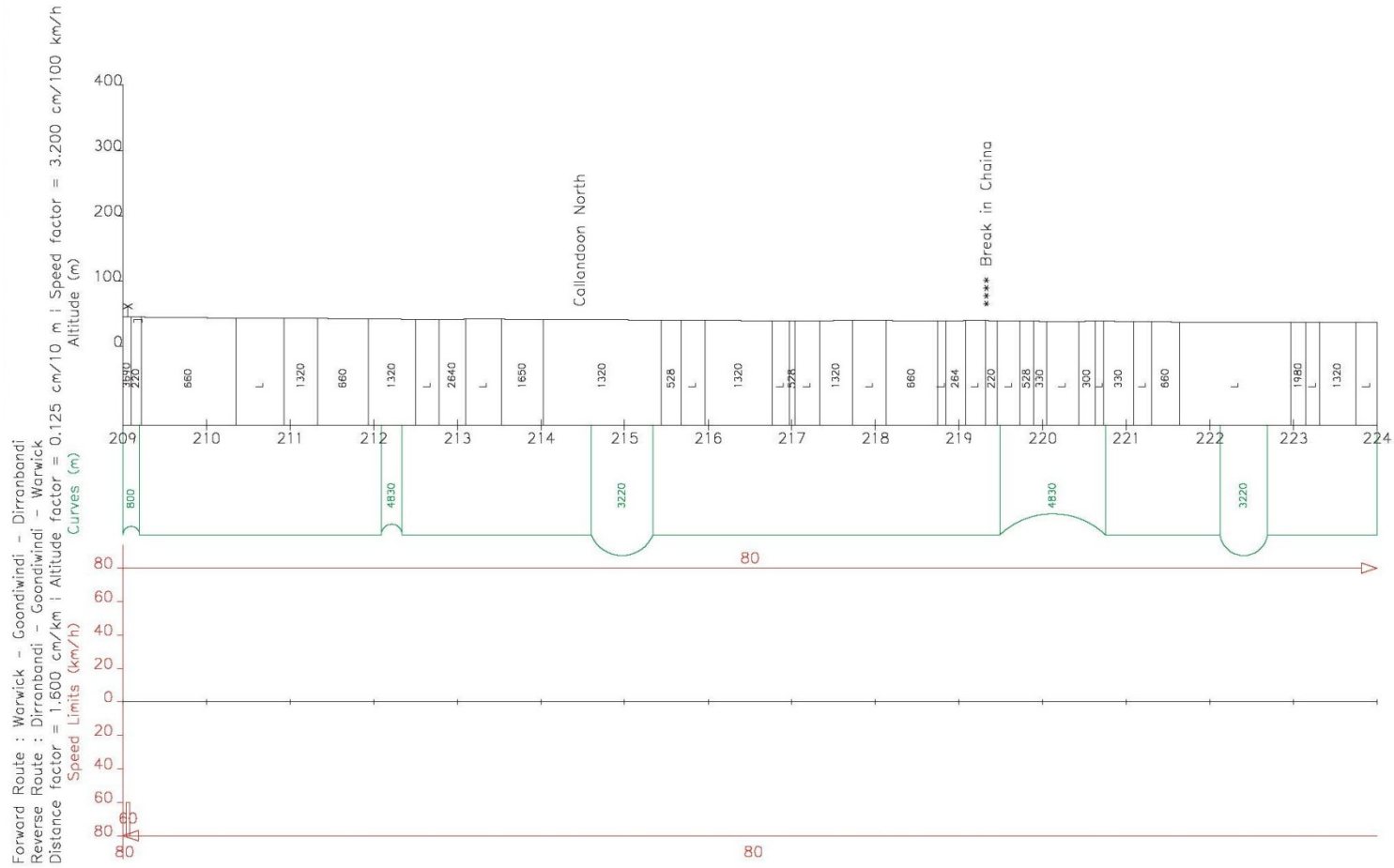
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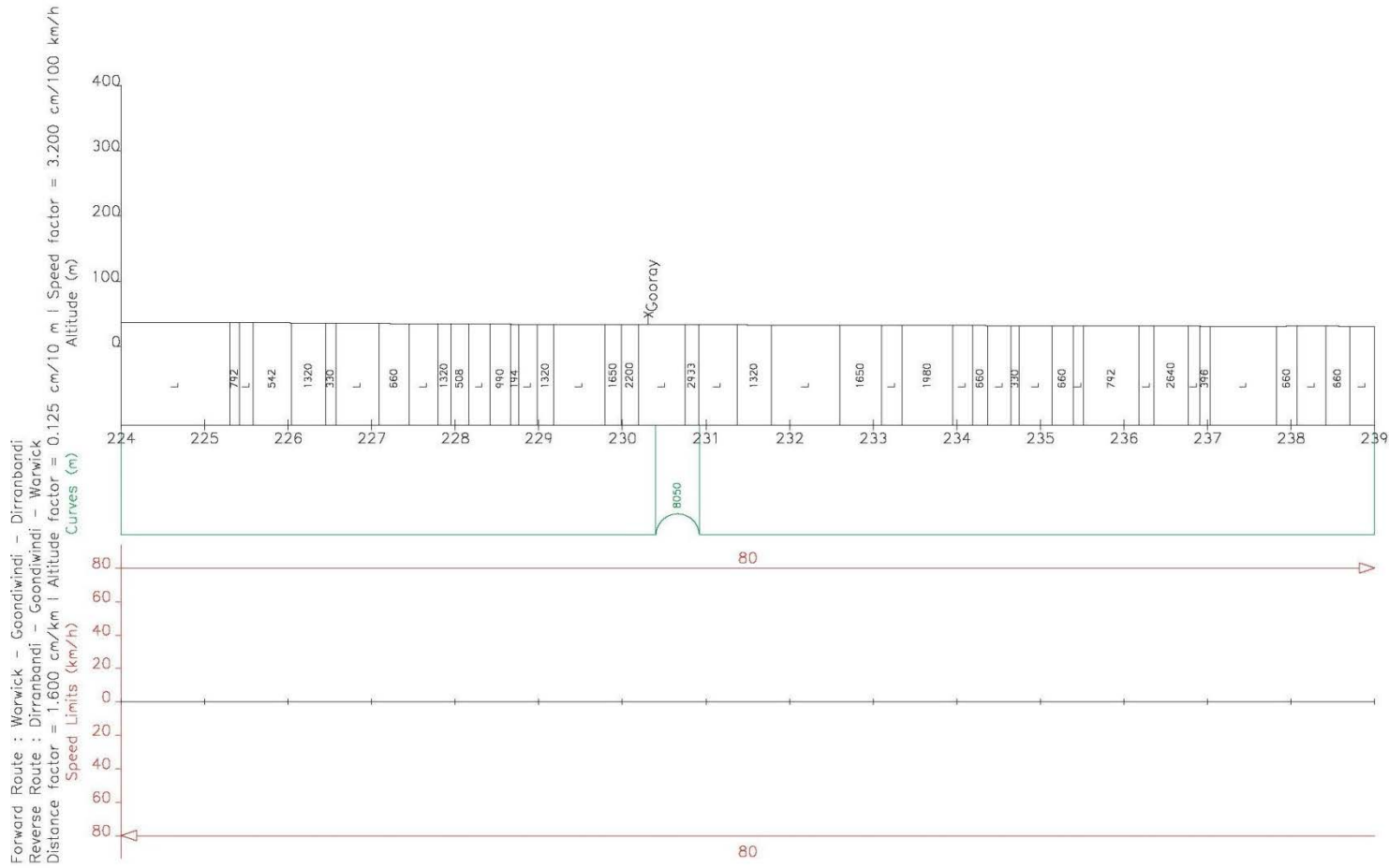
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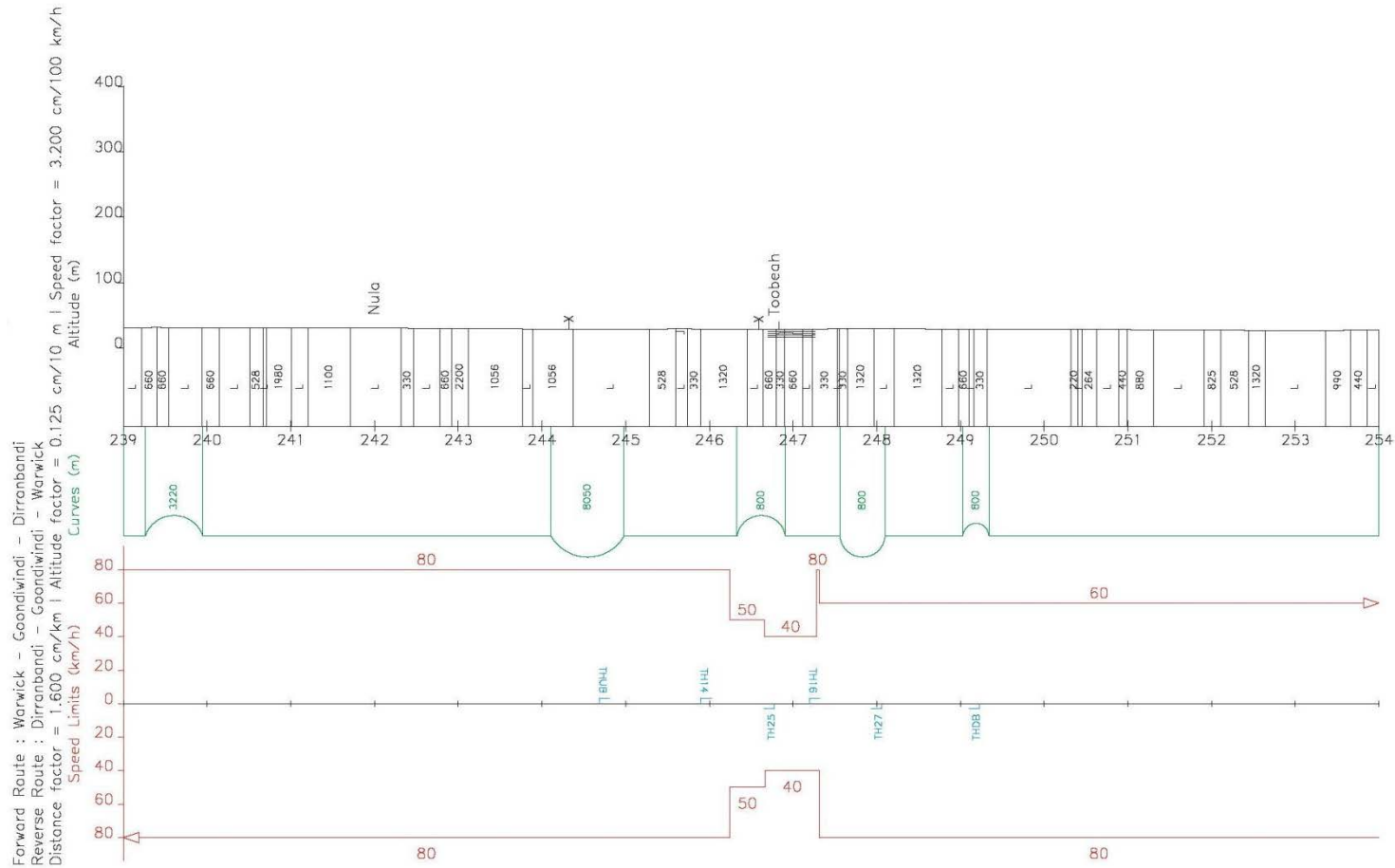
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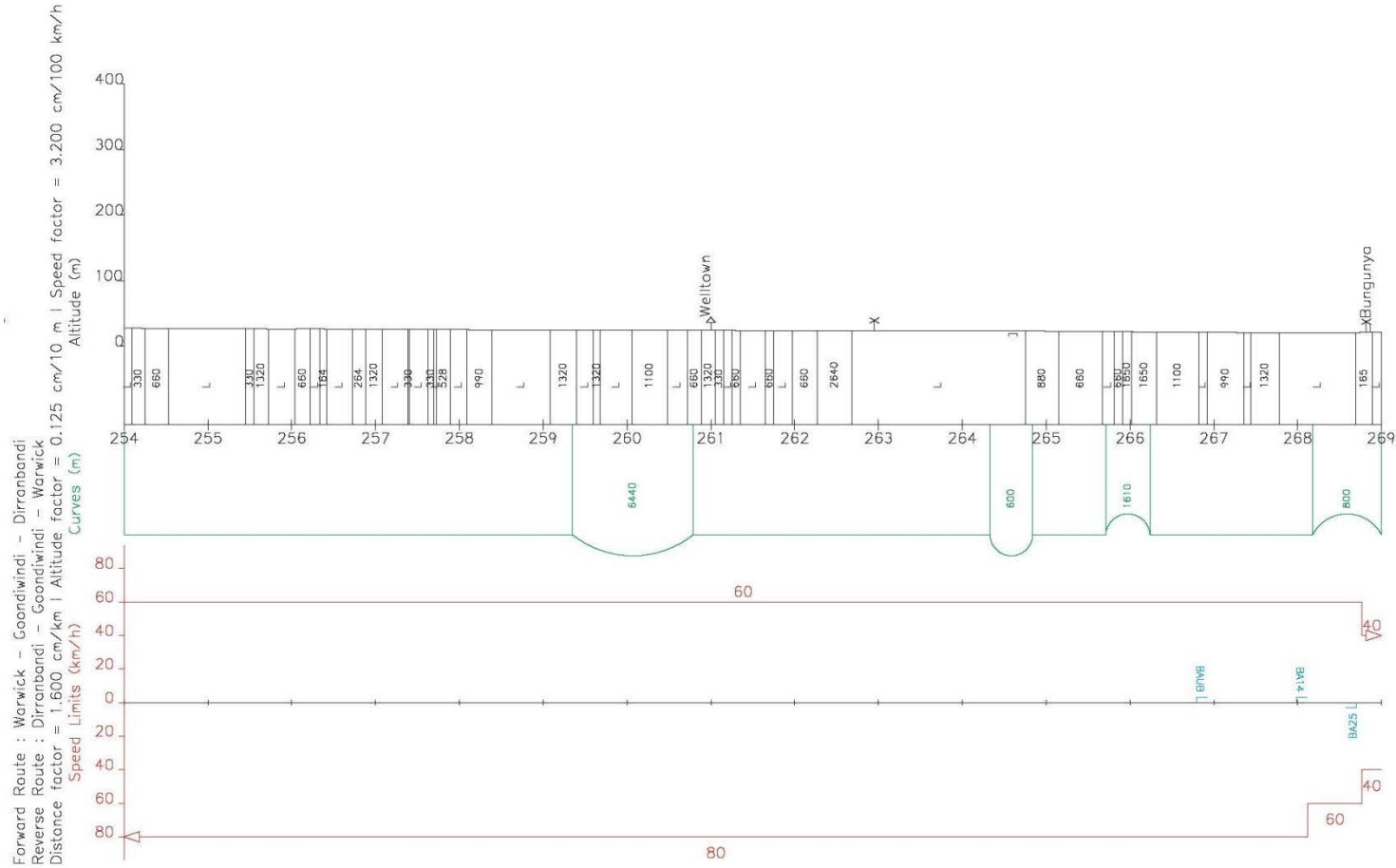
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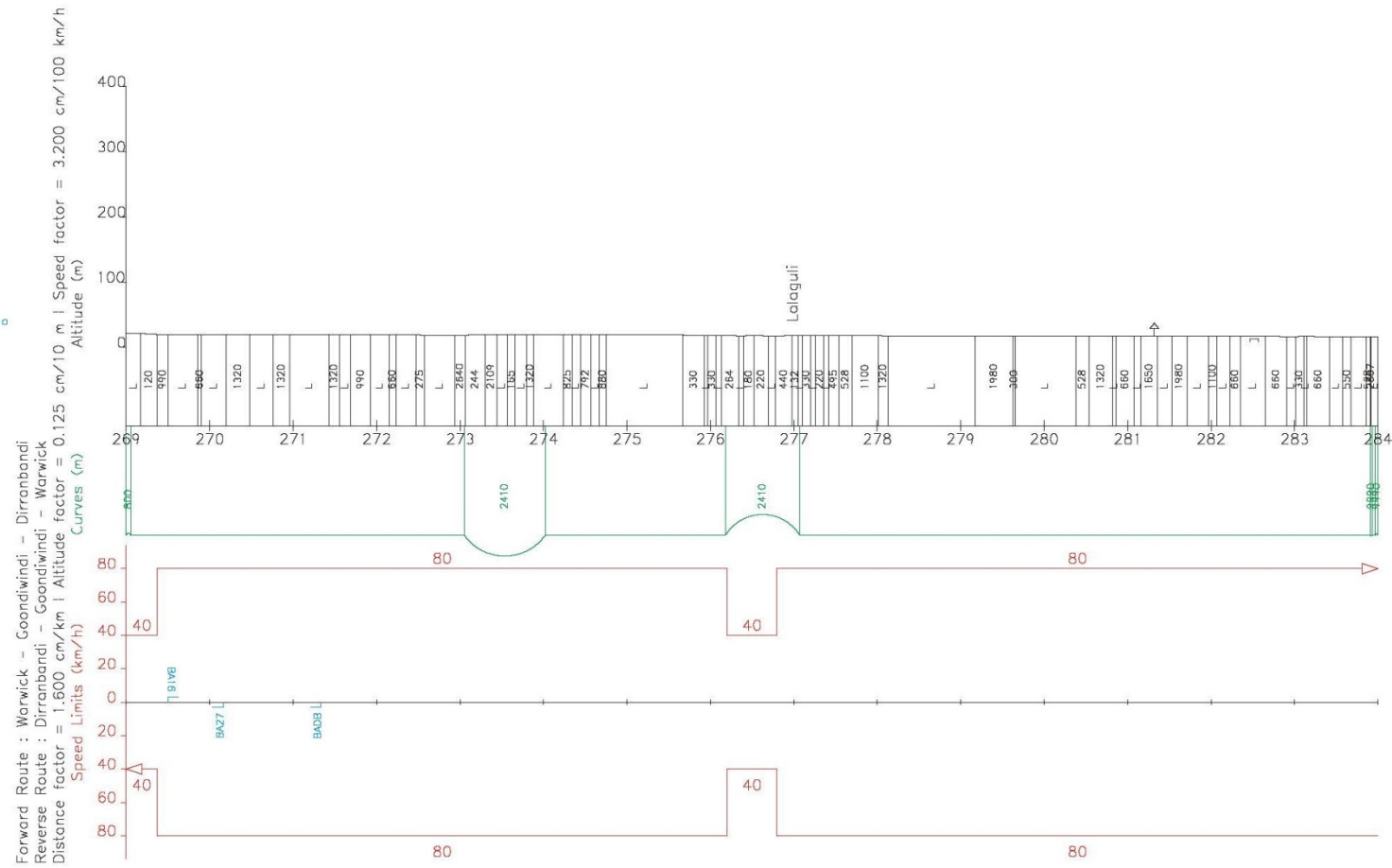
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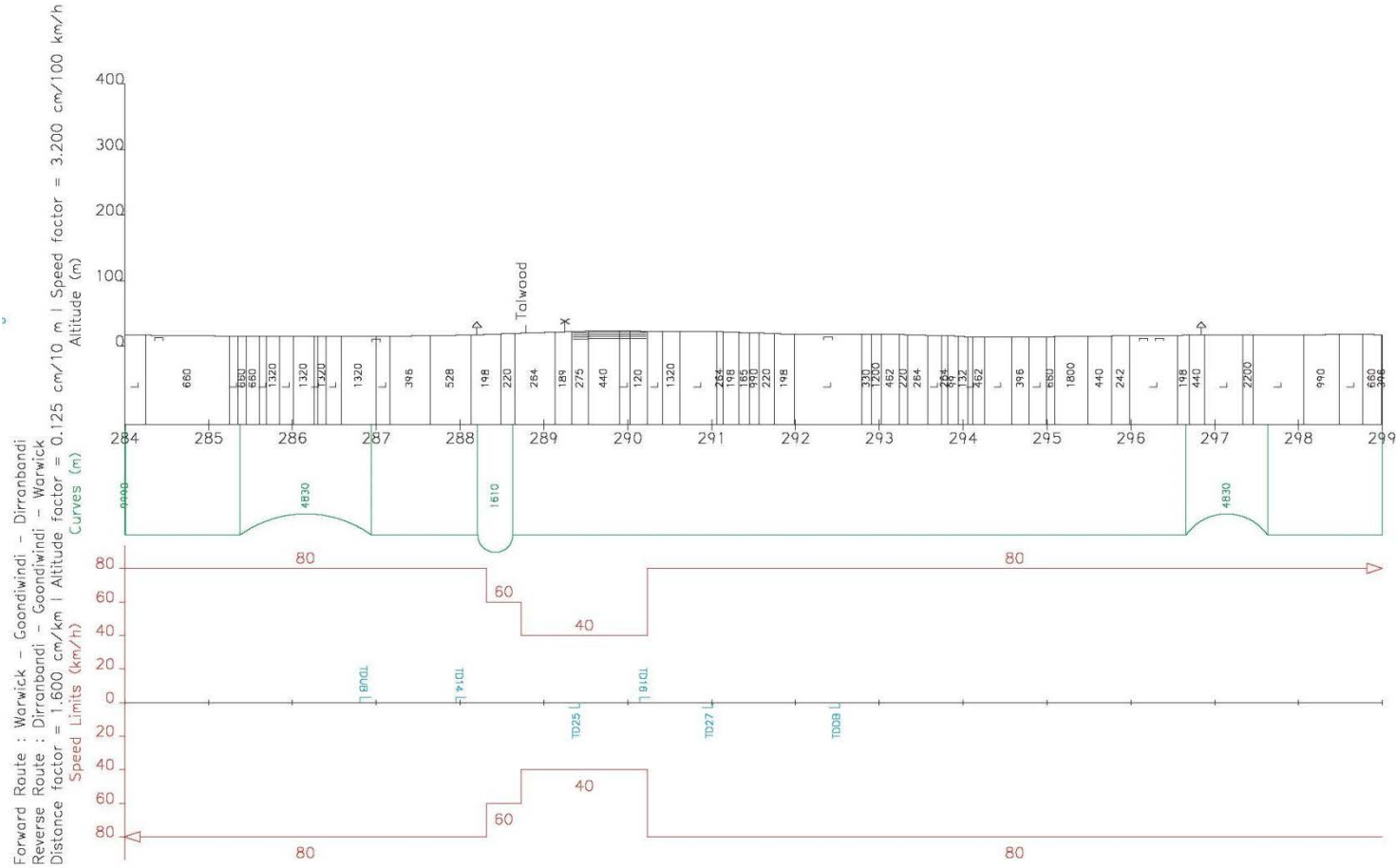
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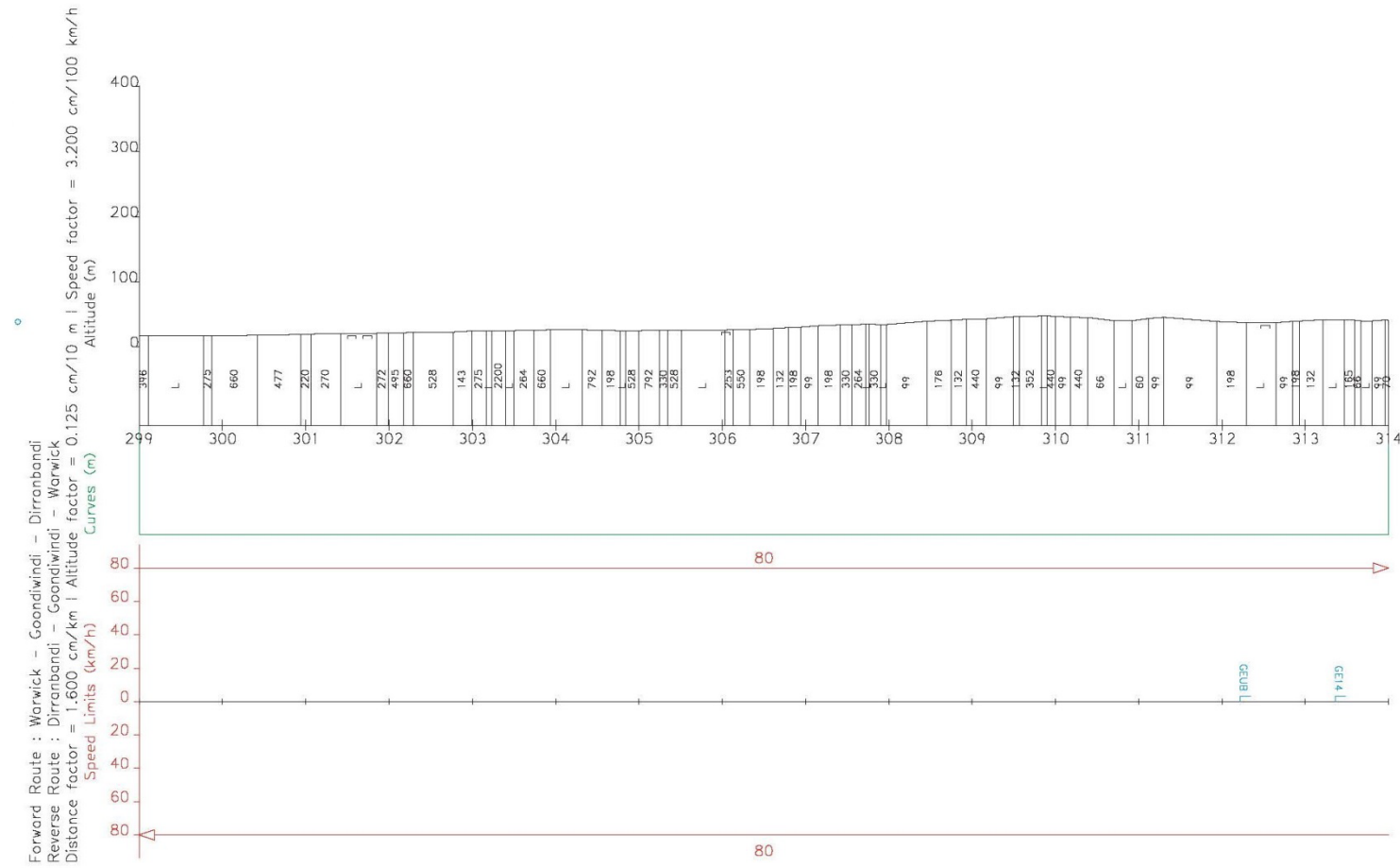
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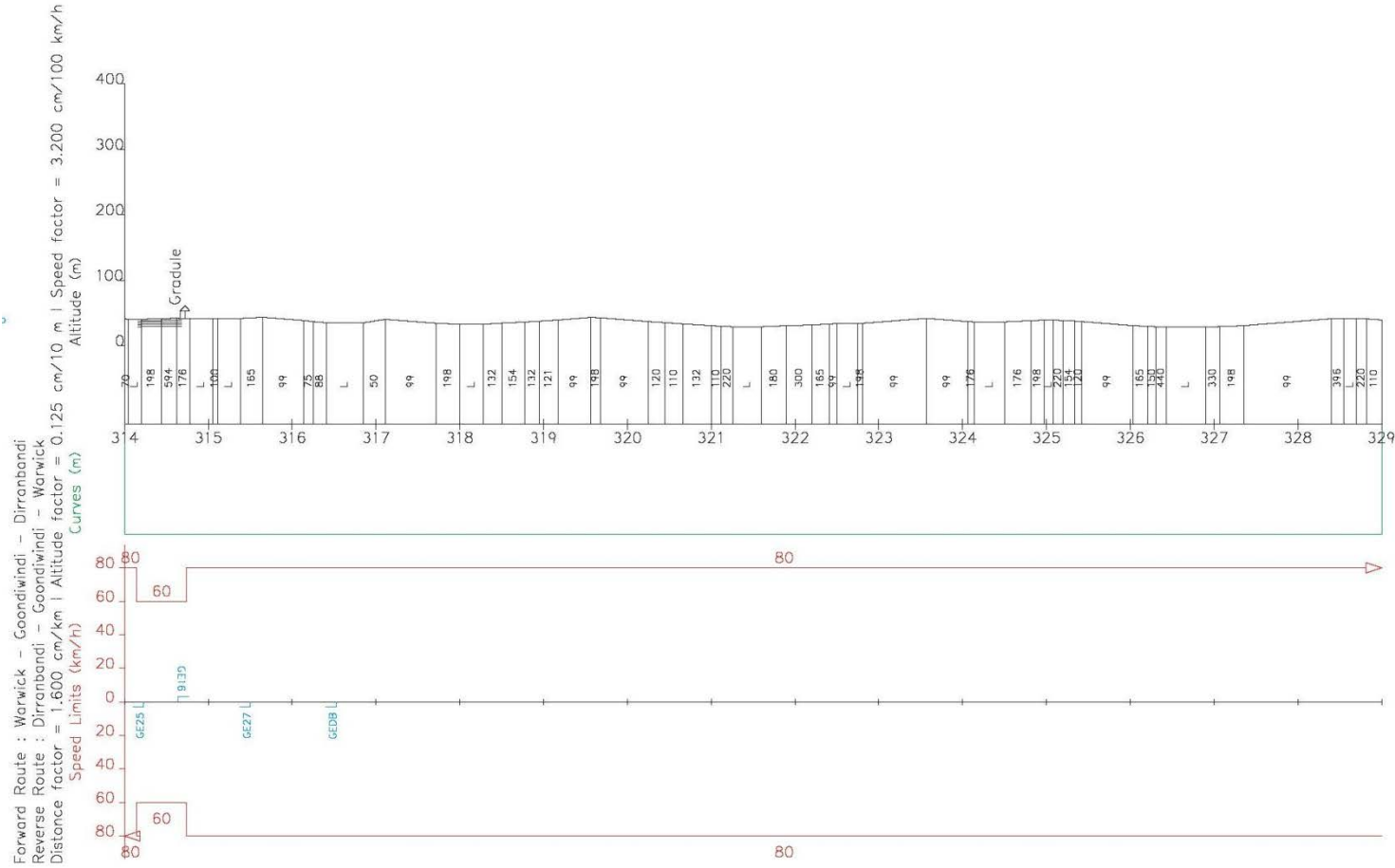
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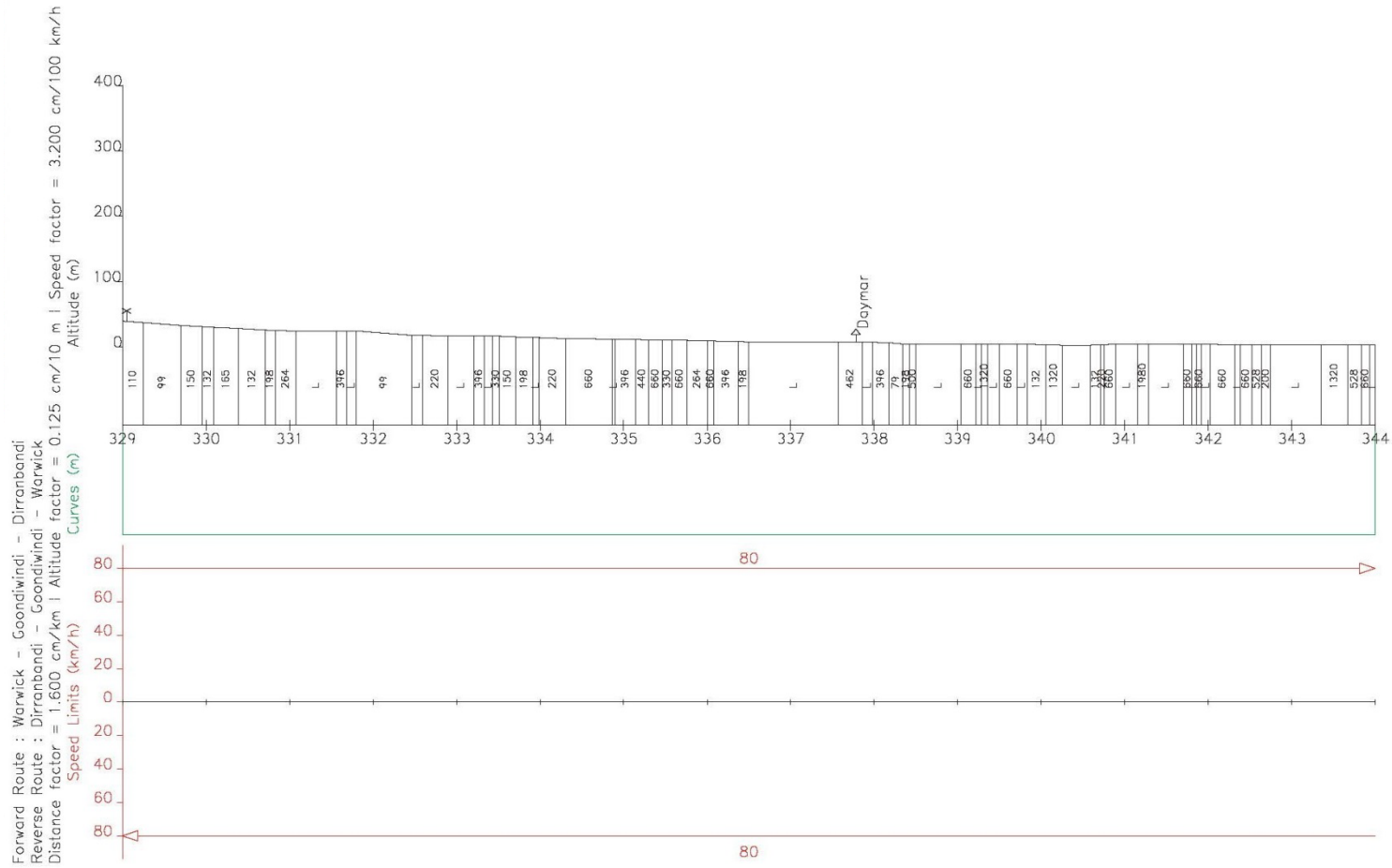
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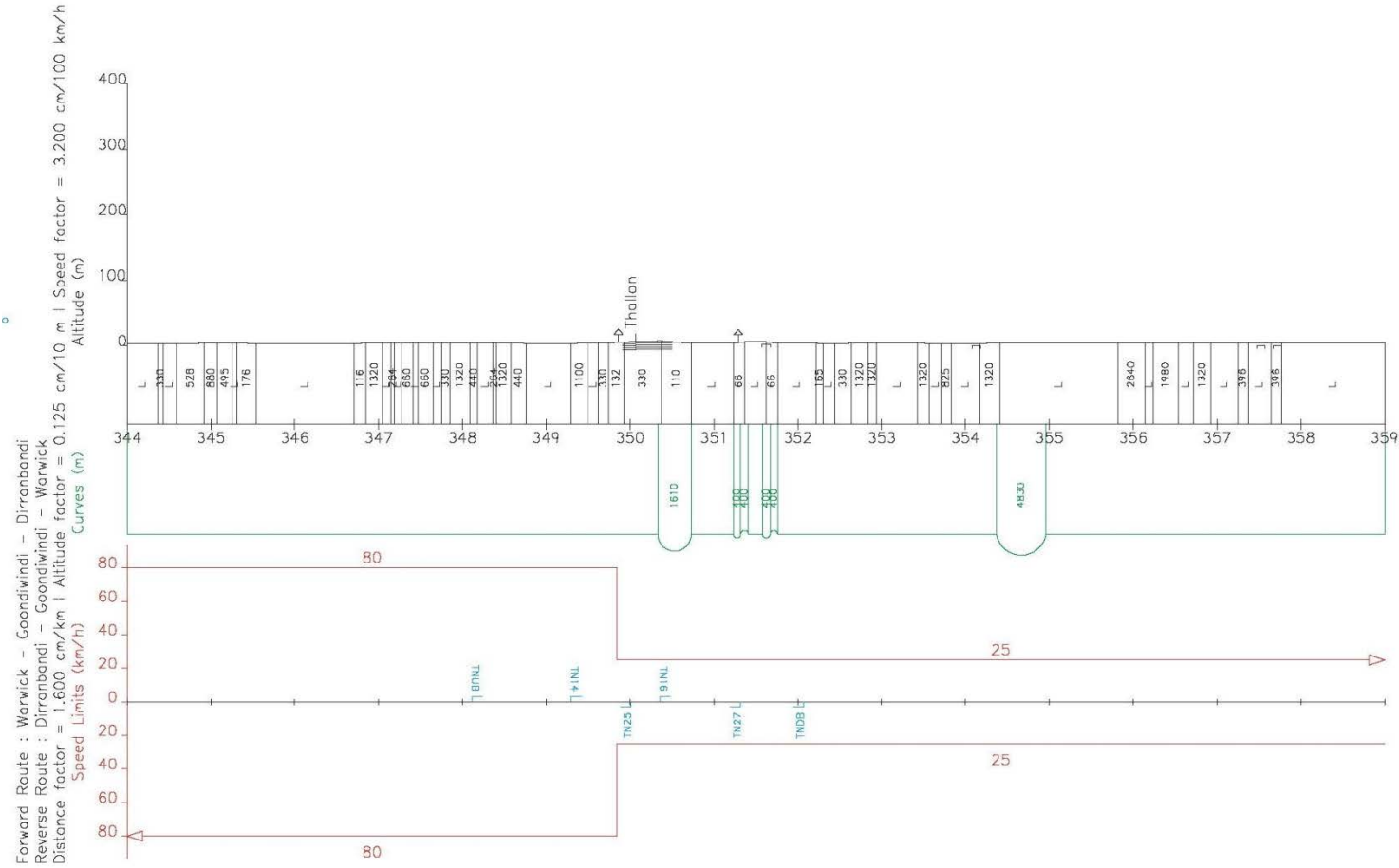
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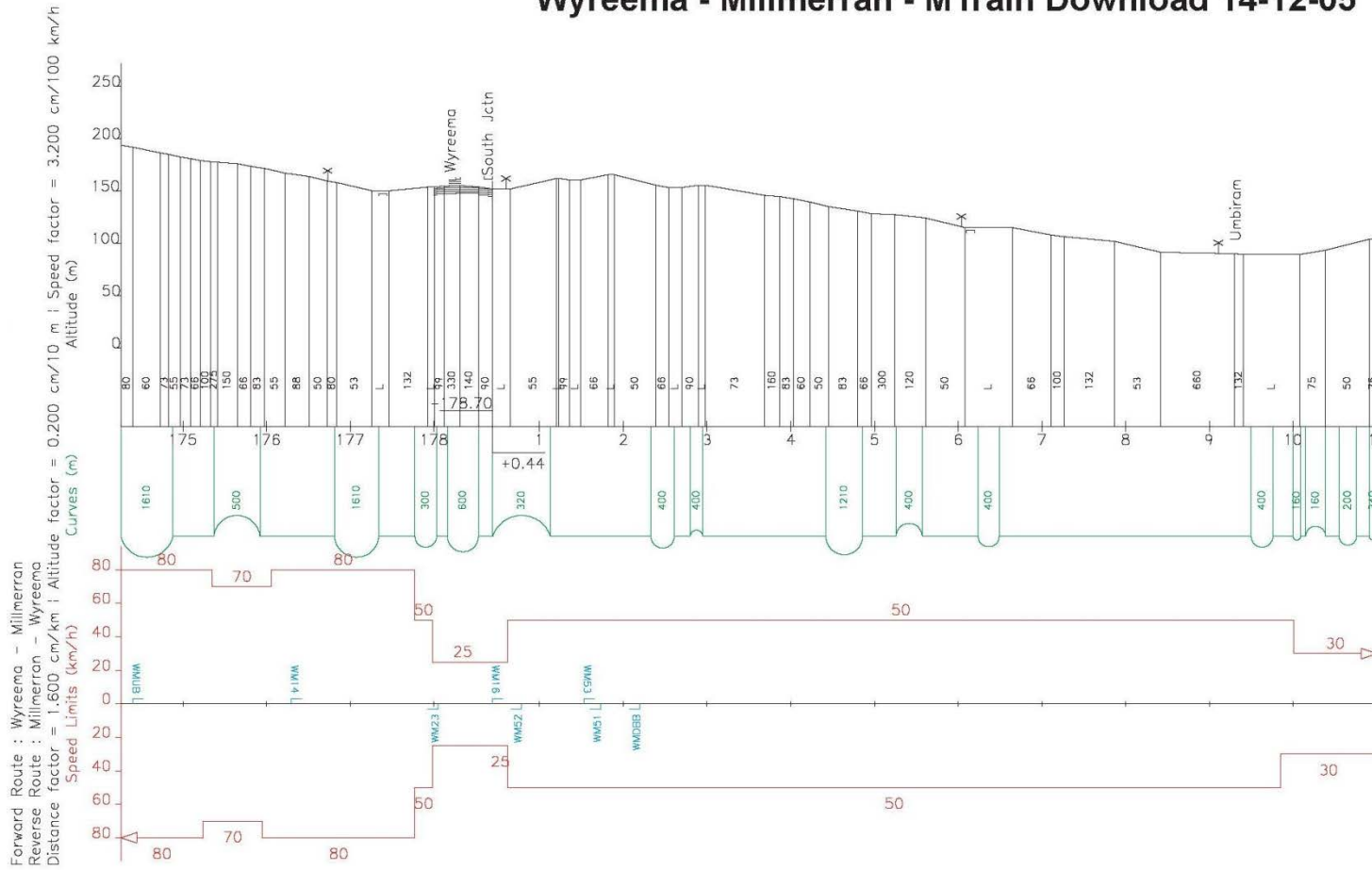


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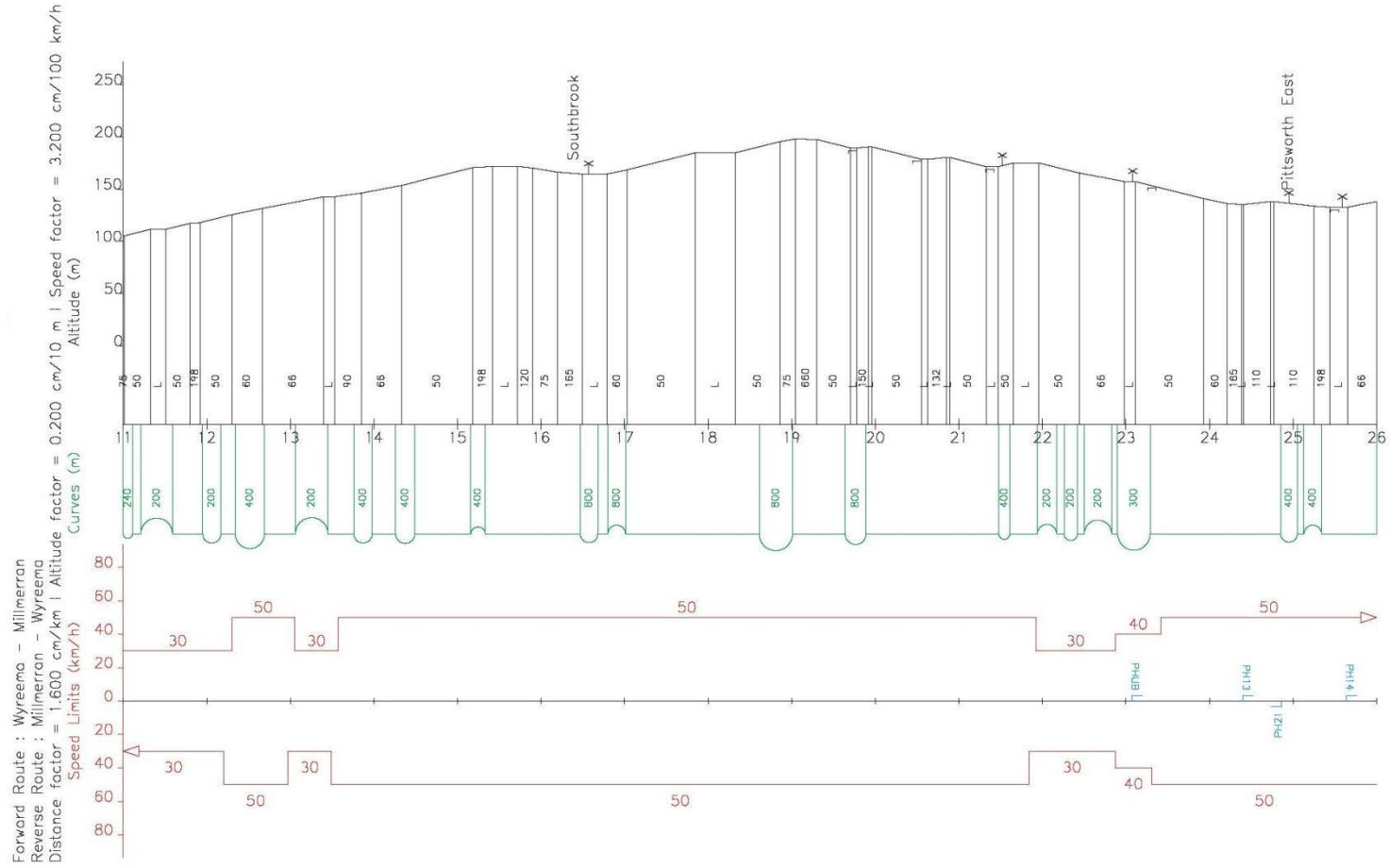


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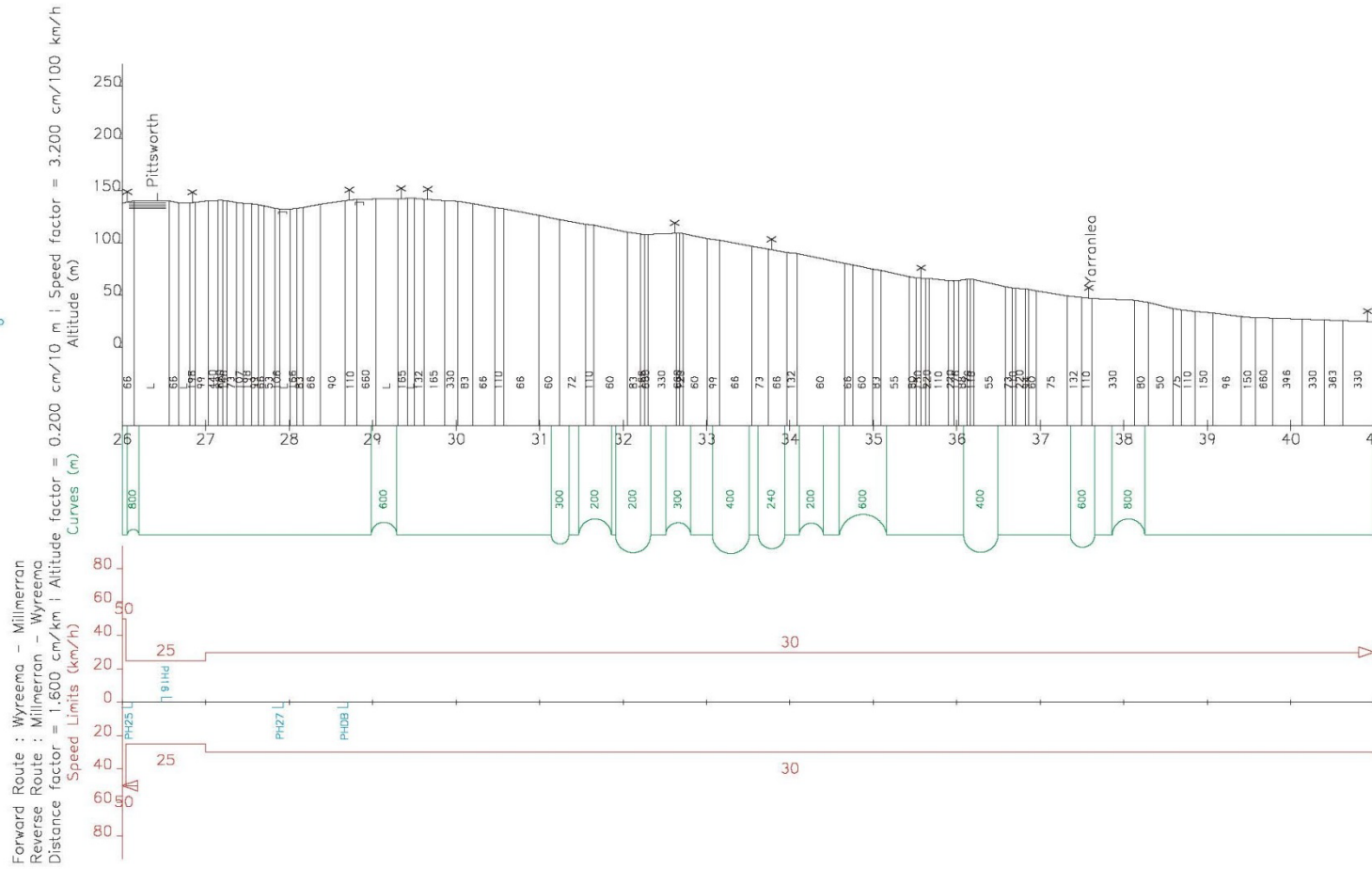
Wyreema - Millmerran - MTrain Download 14-12-05



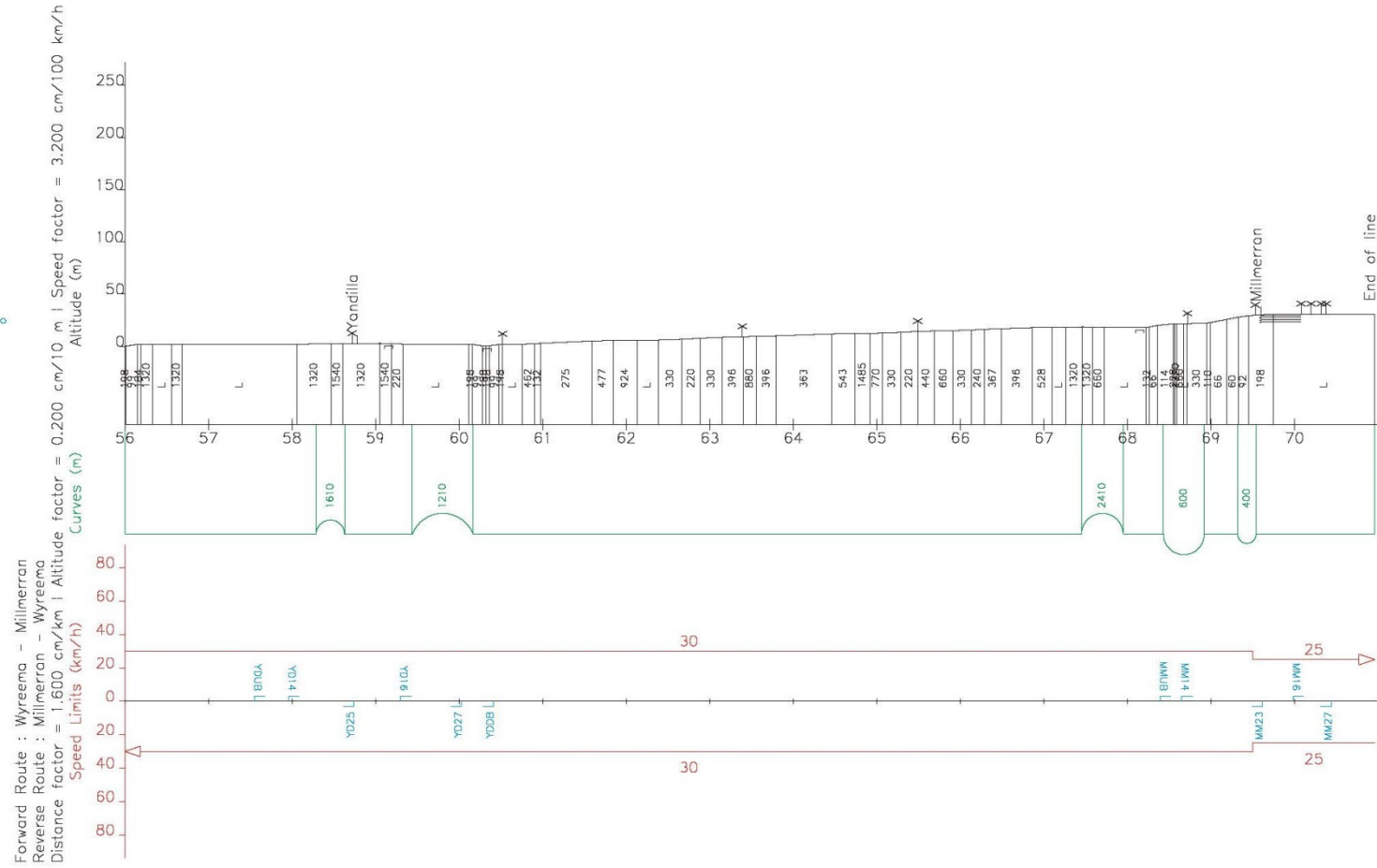
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APPENDIX F

Sectional Running Times

	FRT_60	FRT_60	FRT_60	FRT_60	FRT_80	FRT_80	FRT_80	FRT_80	TTRAIN	TTRAIN	TTRAIN	TTRAIN
	60K Freight	60K Freight	60K Freight	60K Freight	80K Freight	80K Freight	80K Freight	80K Freight	Travel Trains	Travel Trains	Travel Trains	Travel Trains
	Pass - Pass	Pass - Stop	Start - Pass	Start - Stop	Pass - Pass	Pass - Stop	Start - Pass	Start - Stop	Pass - Pass	Pass - Stop	Start - Pass	Start - Stop
Brookstead to Millmerran	44	46	47	49	44	46	47	49	44	45	46	47
Cobba-da-mana to Gore	56	58	59	61	56	58	59	61	56	57	58	59
Dirranbandi to Noondoo	30	32	33	35	30	32	33	35				
Noondoo to Noondale	31	32	33	33	31	31	31	34				
Noondale to Thallon	31	32	32	34	31	31	33	33				
Goondiwindi to Carrington Cotton Siding	15	17	18	20	15	17	18	20	14	15	16	17
Carrington Cotton Siding to Kurumbul	15	17	18	20	15	17	18	20	14	15	16	17
Kurumbul to Yelarbon	21	23	24	26	21	23	24	26	21	22	23	24
Yelarbon to Whetstone	22	24	25	27	22	24	25	27	22	23	24	25
Whetstone to Inglewood	20	22	23	25	20	22	23	25	20	21	22	23
Goondiwindi to Gooray	32	34	34	35	32	34	34	35				
Gooray to Toobeah	33	33	34	35	33	33	34	35				
Toobeah to Bungunya	32	34	35	37	32	34	35	37				
Bungunya to Talwood	28	30	31	33	28	30	31	33				
Talwood to Gradule	37	39	40	42	37	39	40	42				
Gradule B - Daymar 1	26	27	27	28	26	26	27	28				
Daymar 1 - Thallon A	25	26	27	28	25	26	27	28				
Goondiwindi to Toobeah	65	67	68	70	65	67	68	70				
Gore to Cobba-da-mana	40	42	43	45	40	42	43	45	32	33	34	35
Gradule to Thallon	51	53	54	56	51	53	54	56				
Hendon to Toolburra	18	20	21	23	18	20	21	23	21	22	23	24
Toolburra to Warwick	16	18	19	21	16	18	19	21	16	17	18	19
Hendon to Clifton	20	22	23	25	20	22	23	25	20	21	22	13
Clifton to Nobby	12	14	15	17	12	14	15	17	12	13	14	15
Nobby to Greenmount	13	15	16	18	13	15	16	18	13	14	15	16
Greenmount to Cambooya	14	16	17	19	14	16	17	19	14	15	16	17
Cambooya to Wyreema	14	16	17	19	14	16	17	19	14	15	16	17
Inglewood to Whetstone	20	22	23	25	20	22	23	25	19	20	21	22
Whetstone to Yelarbon	21	23	24	26	21	23	24	26	23	24	25	26
Yelarbon to Kurumbul	24	26	27	29	24	26	27	29	18	19	20	21
Kurumbul to Carrington Cotton Siding	19	21	22	24	19	21	22	24	14	15	16	17
Carrington Cotton Siding to Goondiwindi	19	21	22	24	19	21	22	24	13	14	15	16
Inglewood to Cobba-da-mana	20	22	23	25	20	22	23	25	19	20	21	22
Cobba-da-mana to Yuraraba	28	29	29	29	28	29	30	30				
Yuraraba to Gore	28	28	29	30	28	29	29	31				
Gore to Karara	27	29	30	32	27	29	30	32	27	28	29	30
Karara to Thane	31	33	34	36	31	33	34	36	31	32	33	34
Thane to Wheatvale	29	31	32	34	29	31	32	34	30	31	32	33
Wheatvale to Warwick	30	32	33	35	30	32	33	35	28	29	30	31
Millmerran to Brookstead	44	46	47	49	44	46	47	49	44	45	46	47
Millmerran to Yandilla	22	23	23	24	22	23	23	24	22	22	23	23
Yandilla to Brookstead	22	23	24	25	22	23	23	25	22	23	23	24
Brookstead to Pittsworth	45	47	48	50	45	47	48	50	45	46	47	48
Pittsworth to Wyreema	55	57	58	60	55	57	58	60	55	56	57	58
Noondoo to Thallon	62	64	65	67	62	64	65	67				
Stanthorpe to Wallangarra	67	69	70	72	67	69	70	72	67	68	69	70
Stanthorpe to The Summit	14	16	17	19	14	16	17	19	14	15	16	17
The Summit to Cotton Vale	6	8	9	11	6	8	9	11	6	7	8	9
Cotton Vale to Silverwood	56	58	59	61	56	58	59	61	56	57	58	59
Silverwood to Warwick	27	29	30	32	27	29	30	32	27	28	29	30
Thallon A - Daymar 1	25	26	27	28	25	26	27	28				
Daymar 1 - Gradule B	26	27	27	28	26	26	27	28				
Gradule to Talwood	37	39	40	42	37	39	40	42				
Talwood to Bungunya	32	34	35	37	32	34	35	37				
Bungunya to Toobeah	28	30	31	33	28	30	31	33				
Toobeah to Gooray	33	33	34	35	33	33	34	35				
Gooray to Goondiwindi	32	34	34	35	32	34	34	35				
Thallon to Gradule	51	53	54	56	51	53	54	56				
Thallon to Noondoo	62	64	65	67	62	64	65	67				
Toobeah to Goondiwindi	65	67	68	70	65	67	68	70				
Wallangarra to Stanthorpe	65	67	68	70	65	67	68	70	65	66	67	68
Warwick to Toolburra	17	19	20	22	17	19	20	22	15	16	17	18
Toolburra to Hendon	17	19	20	22	17	19	20	22	17	18	19	20
Warwick to Wheatvale	27	29	30	32	27	29	30	32	25	26	27	28
Wheatvale to Thane	29	31	32	34	29	31	32	34	29	30	31	32
Thane to Karara	28	30	31	33	28	30	31	33	28	29	30	31
Karara to Gore	29	31	32	34	29	31	32	34	19	20	21	22
Gore to Yuraraba	28	28	29	30	28	29	29	31				
Yuraraba to Cobba-da-mana	28	29	29	29	28	29	30	30				
Cobba-da-mana to Inglewood	19	21	22	24	19	21	22	24	17	18	19	20
Warwick to Silverwood	27	29	30	32	27	29	30	32	27	28	29	30

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Silverwood to Cotton Vale	63	65	66	68	63	65	66	68	63	64	65	66
Cotton Vale to The Summit	6	8	9	11	6	8	9	11	6	7	8	9
The Summit to Stanthorpe	14	16	17	19	14	16	17	19	14	16	17	19
Wyreema to Cambooya	10	12	13	15	10	12	13	15	10	11	12	13
Cambooya to Greenmount	14	16	17	19	14	16	17	19	14	15	16	17
Greenmount to Nobby	11	13	14	16	11	13	14	16	11	12	13	14
Nobby to Clifton	10	12	13	15	10	12	13	15	10	11	12	13
Clifton To Hendon	21	23	24	26	21	23	24	26	21	22	23	24
Wyreema to Pittsworth	50	52	53	55	50	52	53	55	50	51	52	53
Pittsworth to Brookstead	40	42	43	45	40	42	43	45	40	41	42	43
Brookstead to Yandilla	22	23	23	25	22	23	23	25	22	23	23	24
Yandilla to Millmerran	22	23	23	24	22	23	23	24	22	22	23	23
Toowoomba to Toowoomba Passenger Station	3	3	3	3	3	3	3	3	3	3	3	3
Toowoomba Passenger Station to Harristown	15	17	18	20	15	17	18	20	15	16	17	18
Harristown to Wyreema	16	18	19	21	16	18	19	21	16	17	18	19

APPENDIX G

Altitudes

	Metres above Mean Sea Level
Toowoomba	586
Harristown	650
Wyreema	534
Cambooya	465
Greenmount	505
Nobby	485
Clifton	438
Hendon	459
Toolburra	448
Millhill	458
Warwick	455
Silverwood	583
Dalveen	888
Cotton Vale	915
Thulimbah	917
The Summit	925
Glen Niven	895
Applethorpe	872
Stanthorpe	811
Glen Aplin	759
Ballandean	723
Wallangarra	878
Warwick	455
Wheatvale	442
Thane	471
Karara	480
Gore	503
Yuraraba	395
Cobba-da-mana	314
Inglewood	284
Whetstone	265
Yelarbon	245
Kurumbul	234
Goondiwindi	218
Toobeah	196
Bungunya	188
Talwood	186
Daymar	177
Thallon	176

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Wyreema	534
Southbrook	543
Pittsworth	519
Yarranlea	424
Brookstead	388
Yandilla	379
Millmerran	407

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APPENDIX H

Rollingstock Gauges

