



Local Network Instructions:

L2 Pukekohe - Hamilton and All Lines East of
Hamilton

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1. General Instructions

Heat Sheets

The Daily Heat Sheet for the ECMT and Branches can be found [here](#).

1.1 Bulletins

Terminals must be supplied with all bulletins for the areas shown:

Terminal	All Bulletins affecting
Westfield	<ul style="list-style-type: none"> • North Auckland Line • Auckland - Te Rapa (both routes) • ECMT • Mission Bush Branch • Manukau Branch • Onehunga Branch
Te Rapa	<ul style="list-style-type: none"> • NIMT • Te Rapa - Auckland (both routes) • Mission Bush Branch • ECMT • Mt Maunganui Branch • Hautapu Branch • Kinleith Branch • Waitoa Branch
Kinleith	<ul style="list-style-type: none"> • Kinleith Branch • ECMT • Mt Maunganui Branch
Mt Maunganui	<ul style="list-style-type: none"> • East of Hamilton (except Hautapu Branch, Waitoa Branch and Murupara Branch)
Kawerau	<ul style="list-style-type: none"> • Mt Maunganui - Kawerau • Murupara Branch

1.2 Automatic Signalling Rules

Automatic signalling operates on the:

- North Island Main Trunk between Hamilton and Pukekohe
- East Coast Main Trunk between Hamilton and Kawerau
- Kinleith and Mt Maunganui Branches.

Rail personnel will be in attendance at; Te Rapa, Kinleith, Mt Maunganui and Kawerau for all trains.

Train Control controls all interlocked stations:

- North Island Main Trunk between and including Te Rapa (including Hamilton) and Mercer
- East Coast Main Trunk between Hamilton and Kawerau
- Kinleith Branch and Mt Maunganui Branch

1.3 Track Warrant Control

The Track Warrant Control system is in operation on the Murupara Branch.

Murupara Branch	
Warrant Stations	Horomanga and Matahina
Intermediate Boards	Nil
TW Lever Locked Sidings	Nil

1.4 Shunting Trains and Light Locomotives

The area, hours and work of shunting trains will be arranged and advised by the Terminal Supervisor/ Team Leader. Work required by the Access Provider will be authorised by the Terminal Supervisor/ Team Leader at the Terminal in conjunction with the Train Controller. Shunting trains and light locomotives may run as arranged by each Terminal Supervisor/Team Leader within their respective area and directed by the Train Controller.

1.4.1 Crewing

When shunting trains and light locomotives are running under ATC conditions, the Train Controller must be advised.

The Train Controller must make a suitable endorsement on the train control diagram alongside the plot line for the intended movement.

1.4.2 Maximum Speed

Main line shunting services conveying express freight wagons only may travel at express freight speed. Should there be non-express wagons on the train, then the Operator must advise the Train Controller the speed of the train will only be at freight train speed.

1.4.3 Brake Test for Shunting Services between Tauranga / Te Maunga / Mt Maunganui

When the brake test of shunting services operating in the Tauranga / Te Maunga / Mt Maunganui areas is being carried out, an intermediate station test in accordance with **Rail Operating Code Section 5.3 Train Marshalling, Build and Inspection Procedures, 6.6 Intermediate Test** may replace the original starting station test (6.5.1 Terminal Test). However, the person making the test must stand alongside the rear-most vehicle.

1.5 Axle Counters

Automatic Signalling uses continuous track-circuiting and / or axle counters to:

- detect the presence of rail vehicles
- prevent following and opposing rail vehicle entry into occupied sections of track
- provide advanced warning of the status of the next signal.

If an axle counter track section still indicates occupied after a train has exited the section it will be necessary to undertake an axle counter reset.

1.5.1 Axle Counter Reset Requirements

For most instances, the reset process will require a cooperative reset between the Train Controller and an Operator.

When a track section is showing 'occupied' after the passage of a train:

The Train Controller must:

1. Confirm that the last signalled train movement has left the section complete and intact.
2. Confirm that the track indicates as occupied and displays 'red' on the panel.
3. Initiate a 'reset' in accordance with Local Signalling Instructions.
4. Contact the Operator of the next movement and instruct that a 'sweep' is to take place.
5. Set the route and authorise the movement in accordance with ASR rules.

The Operator must:

1. Proceed at low speed being prepared to find and stop short of an obstruction, a displaced rail, or defective level crossing warning equipment.

2. Once clear of the section to which the signal applies, confirm with the Train Controller that the train has left the section and is complete.

This action will normally restore the axle counter to the unoccupied state.

1.5.2 Failure of Normal Axle Counter Reset Process

If the 'sweep' movement fails to reset the track section to the unoccupied state, the Train Controller must:

- Arrange for a Signals Maintenance Representative to be in attendance.
- Confirm that the last signalled train movement has left the section complete and intact.
 - This will indicate a fault that will require a cooperative reset between the Train Controller and a Signals Maintenance Representative.
- Before authorising the Signals Maintenance Representative to operate the reset button, confirm that the affected section to be reset is clear of rail vehicles.

1.5.3 Hi-Rail Vehicle Movements

Kawerau – Awakaponga or Awakaponga - Hauone Hi-Rail vehicle movements must completely proceed through the axle counter area.

On / off tracking within the axle counter area is prohibited, with the following exception:

- at Caverhill Road Crossing at 165.36 km



NOTE

Hi-Rail Vehicle (less than 2000kg, i.e. LIV's) movements may only occur, when a Signals Maintenance Representative is in attendance to reset axle counters.

The Train Controller must confirm a Signals Maintenance Representative is in attendance to reset axle counters before authorising the movement(s).

Reason: Risk of Axle Counter Interference.

The Train Controller must:

Follow the procedures in **TS12 Hi-Rail Vehicles**, and:

- ascertain that there will be no conflicting movements during the time required by the Hi-Rail vehicle to travel through the area.
- clear subsequent signals in the direction of travel for the authorised route to lock the route.
- apply control tags to prevent trains from entering the occupancy area.

1.5.4 Track Evaluation Car EM80 or NDT Test Car (Speno) [when testing]

The recording movements of the track evaluation car EM80 or NDT Test Car [when testing] must only occur when a Signals Maintenance Representative is in attendance, or arrangements for Infrastructure personnel to reset the axle counters.

Reason: Risk of Axle Counter interference from recording wheels.

1.6 Maximum Speeds

1.6.1 Maximum Speed of Motive Power Units and Rolling Stock

Motive Power Type / Rolling Stock	Speed km/h
DC, DFT, DFB, DH, DXB, DXC and DXR	100
DL	80

1.6.2 Special Conditions – East Coast Main Trunk

Light locomotives must not exceed 65 km/h (or if less, the maximum permissible speed for the area concerned) between:

- Ruakura and Motumaoho

and between

- Pongakawa and Kawerau (including station limits)

1.6.3 North Island Main Trunk

Portion of Line DOWN TRAINS	Kilometres per hour		
	Exp P	Exp F	F
Pukekohe – Hamilton	100	80	55
From 603.87 km to 592.60 km (single line section)	80	..	50
EXCEPT			
Entering or leaving East Loop Huntly	..	15	15
Proceeding to West Sidings via Nos. 7 and 3 points	..	15	15
Taupiri – Huntly			
# From 566.280 km to 567.860 km (Private Crossing)	50	50	50

Portion of Line UP TRAINS	Kilometres per hour		
	Exp P	Exp F	F
Hamilton – Pukekohe	100	80	55
Taupiri – Huntly			
# From 566.280 km to 567.860 km (Private Crossing)	50	50	50
Huntly			
Entering or leaving East Loop	..	15	15
Proceeding to West Sidings via Nos. 7 and 3 points	..	15	15
Te Kauwhata – Amokura			
Through turnout from double to single line at 592.32 km	60	60	..
From 592.60 km to 603.87 km (single line section)	80	..	50
Through turnout from single to double line at 604.53 km	60	60	50

1.6.4 East Coast Main Trunk

Portion of Line	Kilometres per hour		
	P	Exp F	F
Hemopo – Te Maunga	80	80	55
Hamilton – Hemopo	80	80	55

Portion of Line	Kilometres per hour		
EXCEPT			
Past the Hamilton Travel Centre (underground) platform for CET wagons with doors open	..	25	25
Between 0.00 km and 3.00 km (includes Grey Street level crossing)	50	50	50
Between 3.00 km and 5.00 km	75	75	..
Waharoa			
Through Link Road with Kinleith Branch	60	60	..
EXCEPT			
CIMW Site between 92.40 km and 92.60km	..	60	..
Constant Speed required over site			
Between 97.40 km and 99.15 km (Includes Strand, Tauranga and Bridge 71)	55	55	..
Up trains from 97.045 km to 96.96 km at Tauranga (Depot crossing)	40	40	40
Up Trains from 2R Signal Tauranga to 98.20 km (Masonic Park Ped crossing)	50	50	50

Portion of Line	Kilometres per hour		
	P	Exp F	F
Te Maunga – Kawerau	70	70	55
EXCEPT			
Between 13 points (103.647 km) and 9 points (104.302 km) Te Maunga	40	40	40

**NOTE**

Rail movements may travel up 40 km/h along the Apata and Eureka loops and through the points, **TO10 Network Line Speeds, 4.3 Turnouts and 4.4 Lines other than Main and Branch Lines** are modified accordingly.

**NOTE**

At various stations between Pongakawa and Kawerau a permanent speed restriction applies for Express Freight trains approaching these stations as the spacing distance between Intermediate signals and Home signals is such that the adequate stopping distance is not provided between these signals.

When an Express Freight train is approaching these stations the train may resume normal line speed if the Intermediate signal is displaying “Clear, Normal Speed”.

1.6.5 Hautapu Branch

Portion of Line	Kilometres per hour
	F
Ruakura – Hautapu	25
EXCEPT	
Between 14.75 km and 15.20 km (over private level crossings)	10

1.6.6 Kinleith Branch

Portion of Line	Kilometres per hour		
	RC	Exp F	F
Waharoa – Putaruru	70	70	55
EXCEPT			
Waharoa			
Along link road between Junction turnouts at 1.10 km (Kinleith Branch) and 53.26 km (ECMT) for trains travelling to and from Hemopo	55	55	..
Putaruru			
Between A4LABC Down Approach along Main Signal and 8RA Departure from Main Signal when crossing a train berthed on the loop	25	25	25
Putaruru–Kinleith	70	70	55
# Over Wiltsdown Road at 46.93 km (between Lichfield and Tokoroa) for Down trains only.	25	25	25
Between 64.47 km and Kinleith Road level crossing, Down trains	..	20	20
Between 64.67 km and Kinleith Road level crossing, Up trains	..	20	20

Services may resume normal line speed when the locomotive is on the crossing.

1.6.7 Mt Maunganui Branch

Portion of Line	Kilometres per hour
	F
Te Maunga – Mt Maunganui	55

1.6.8 Murupara Branch

Portion of Line	Kilometres per hour	
	Exp F	F
Kawerau – Murupara	65	55
EXCEPT		
UP trains from 0.50 km to 0.20 km (includes Kawerau Road SH34 level crossing)	25	25

1.6.9 Rotowaro Branch

Portion of Line	Kilometres per hour
	F
Huntly – Rotowaro	25

1.6.10 Waitoa Branch

Portion of Line	Kilometres per hour
	F
Morrinsville – End of Line	25

1.7 Whistle Boards

Track Meterage		Locations at or Between	Warning for
For “Down” trains km	For “Up” trains km		
		North Island Main Trunk	

Track Meterage		Locations at or Between	Warning for
\$ 560.55	\$ 559.45	Ngaruawahia and Huntly	Prevention of possible trespass on bridge
567.80	567.29	Taupiri and Huntly	Private level crossing
## 622.60	## 621.80	Mercer and Pukekohe	Prevention of possible trespass
East Coast Main Trunk			
..	97.50	Tauranga No 1 Siding (erected on Link Road)	
131.80	..	Te Puke and Pongakawa	
..	139.45	Pongakawa and Hauone	Private level crossing
Kinleith Branch			
28.35	..	Hinuera and Putaruru	Private level crossing
# 34.75	# 35.15	Hinuera and Putaruru	School children crossing track
Murupara Branch			
28.50	..	Matahina and Horomanga	
..	38.02	Matahina and Horomanga	Forestry vehicles using private level crossing
38.60	..	Matahina and Horomanga	

\$ Only applies during daylight hours

Only applies between 08:00 and 17:00 hrs Monday to Friday

Only applies between 08:00 and 20:00 hrs

1.71 Trespass Hazards

Ngaruawahia Bridge

Operators are asked to be aware of the trespass hazard during summer months with members of the public trespassing on the bridge.

Operators must sound the warning device to warn trespassers of the approaching train, applying **TO04 Motive Power Unit Horn, 3.2 Sounding the Horn.**

Tauranga Bridge

Operators are asked to be aware of the trespass hazard during summer months with members of the public trespassing on the Waikareao Estuary Bridge at 96.57 km and Tauranga Harbour Bridge at 98.66 km.

Operators must sound the warning device to warn trespassers of the approaching train, applying **TO04 Motive Power Unit Horn, 3.2 Sounding the Horn.**

2. Level Crossings

2.1 Automatic Alarms

Automatic warning devices are installed at the level crossings listed in this instruction.

The following symbols indicate variations from standard flashing lights and bells:

Symbol	Meaning
A	Bell signals operate during restricted hours
B	Barrier arms also provided
C	Fitted with strobe lights
D	Fitted with Level Crossing Predictor
E	Bell signals and signs worded "TRAIN COMING" operates when a train is approaching
G	Pedestrian automatic gates also provided
H	Bell signals only
M	Manual Control instructions on following pages.
O	Equipped with control panel to switch alarms off
P	When a power failure occurs and Points Indicators have been illuminated or a signal cleared for a movement, these level crossing alarms will continue to operate for up to four minutes before cancelling. Under these conditions the Operator should approach the crossing with caution even if the alarms are operating.
R	Fitted with Remote Control for Hi-Rail vehicles
S	Fitted with special level crossing manual control panel
X	Enlarged white side lights.

Unless otherwise stated, level crossing alarms will start and cancel automatically for the passage of trains.

In signalled areas the alarms will operate in conjunction with the signals leading over them. If it is necessary to pass a signal at "Stop", all or some of the alarms in the section ahead may not operate correctly. In a number of cases as specified by S&I Diagrams, alarms will operate in conjunction with signals controlled by a local panel. Pressing the "Clear" button will initiate the alarms and after a short delay the signal will clear. Pressing the "Stop" button will restore the signals to Stop and after a time delay the alarms will stop.

At TWC motor points loops the alarms will operate in conjunction with the signal / indicators leading over them. "Alarms Start Here" boards may be provided to indicate where the alarms start. If it is necessary to pass these boards, but not the signal/indicator, the indication should be cancelled. If a train is required to pass a signal/indicator at "Stop" the alarms may not operate correctly.

Crossings fitted with Level Crossing Predictors do not have a fixed starting point; rather the warning time for the automatic alarms is computed from the speed of the approaching train. Therefore through movements approaching the crossing should not accelerate but maintain constant speed after passing a point approximately 500 metres from the crossing. If a movement stops on the approach to the crossing, provided it is not within 15 metres of the crossing, the alarms will cancel. When the movement restarts, the alarms will also restart automatically but the warning time may be reduced. The Operator must observe that the alarms are operating before proceeding over the crossing.

To avoid excessive operation of alarms when shunting, or for non-automatic operation, manual controls consisting of "Start" and "Cancel" buttons are provided as shown below. Alarms started manually will cancel automatically when the train clears the crossing unless otherwise stated. Once the alarms have been manually cancelled all subsequent operations must be manually operated until the train leaves the area. Under manual control the Operator must check the alarms are operating before proceeding onto

the crossing. Where barrier arms are provided the Operator must wait until the barriers are fully down before proceeding onto the crossing.



When manually cancelled or cancelled automatically after the train has passed over the crossing, if the train remains in the track circuit controlled area for a prolonged period the alarms may reactivate and should be manually re-cancelled. Manual controls must not be used to cancel alarms operating due to fault conditions.

Pedestrian crossings which have “O” feature are able to have the alarms turned off , with “Normal” and “OFF” facility, for work that needs to be carried out in the vicinity of these pedestrian crossings and may be interfered with axle counter tracks or track circuits.

When the key switch in the control box is switched to the "OFF" position the signals protecting the relevant crossing will be fixed at red and a manual indication will be illuminated on the Train Control panel to advise the Train Controller the pedestrian crossing alarms have been turned off.

Train Control is to be informed when the work is completed and the control restored to “Normal”

2.2 North Island Main Trunk

Km	Feature	Crossing	Locations at or between
548.10	B S	Te Kowhai Road	Rotokauri and Burbush
553.90	B R S	Horotiu Road	Burbush and Ngaruawahia

Km	Feature	Crossing	Locations at or between
555.54	B P S	Park Road	Burbush and Ngaruawahia
556.55	B P S	Saulbrey Road	Burbush and Ngaruawahia
557.61	A B P S	Havelock Road	Burbush and Ngaruawahia
558.74	A B P S	Ellery Street (SH39)	Ngaruawahia
559.41	A B P S	Princess Street	Ngaruawahia
559.55	A E	Jesmond Street Pedestrian	Ngaruawahia
559.67	A B S	Waingaro Road	Ngaruawahia
560.06	A B S	Old Taupiri Road	Ngaruawahia
565.18	B S	Kainui Road	Ngaruawahia and Huntly
571.86	B S	Tregoweth Lane	Ngaruawahia and Huntly
574.60	B S	Bell Crossing	Huntly
576.24	A B R S	Fletcher Street	Huntly
577.39	B S	East Mine Road	Huntly and Te Kauwhata
578.93	B S	Sutherlands Lane	Huntly and Te Kauwhata
591.43	A B S	Te Kauwhata Road	Te Kauwhata
604.26		Island Block Road	Amokura
606.60	B S	Oram Road	Amokura and Mercer
610.51	B S	Kellyville Road	Mercer
613.12	B M	McDonald Road	Mercer and Pukekohe
621.61	B S	George Street	Mercer and Pukekohe
625.68	B R S	Logan Road	Mercer and Pukekohe

2.3 East Coast Main Trunk

Km	Feature	Crossing	Locations at or between
2.73	B R S	Grey Street	Hamilton and Ruakura
3.70	B R S	Peachgrove Road	Hamilton and Ruakura
4.76	R	Ruakura Lane	Hamilton and Ruakura
6.22	B R S	Taiore Road	Hamilton and Ruakura
11.08	R	Telephone Road (SH1B)	Ruakura and Eureka
15.43	B R S	Waverley Road	Eureka
24.55	B R S	SH26 (Piako Road)	Motumaoho and Morrinsville
27.71	A B R S	Avenue Road	Morrinsville
28.62	A B R S	Lorne Street	Morrinsville
30.56	B R S	Kereone Road	Morrinsville
32.20	R	Kiwitahi Railway Road	Morrinsville and Kereone
37.98	B R S	Kiwitahi Station Road	Morrinsville and Kereone
43.55	B R S	Hutchinson Road	Kereone and Waharoa
87.05		Paparoa Road	Apata and Te Puna
95.68	B S	Bureta Road	Te Puna and Tauranga
96.48	A	Maxwell Road	Tauranga
98.01	B R S	Dive Crescent	Tauranga
98.27	B S	Wharf Street	Tauranga
98.28	P	Masonic Park Pedestrian	Tauranga
98.37	E	Spring Street Pedestrian	Tauranga and Te Maunga
101.96	B S	Matapihi Road	Tauranga and Te Maunga
108.84		Kairua Road	Te Maunga and Te Puke
113.05		Bell Road	Te Maunga and Te Puke
116.84	B R S	Collins Lane	Te Maunga and Te Puke
122.27		Kenana Road	Te Puke and Pongakawa

Km	Feature	Crossing	Locations at or between
123.69		Pah Road	Te Puke and Pongakawa
125.83	B S	Maketu Road	Te Puke and Pongakawa
127.41	B D R S	SH2	Te Puke and Pongakawa
134.27	B R S	Pongakawa School Road	Te Puke and Pongakawa
135.22		Pongakawa Station Road	Pongakawa
137.14	B R S	Benner Road	Pongakawa and Hauone
161.52		Manawahe Road	Hauone and Awakaponga
163.76		Simpsons Crossing	Hauone and Awakaponga
165.36	B R S	Caverhill Road	Awakaponga
177.42		SH30	Awakaponga and Kawerau

2.4 Hautapu Branch

Km	Feature	Crossing	Locations at or between
2.72	X	SH26	Ruakura and Hautapu Siding
7.13	B R S	Tauwhare Road	Ruakura and Hautapu

2.5 Waitoa Branch

Km	Feature	Crossing	Locations at or between
7.23	B R S	SH27	Morrinsville and Waitoa

2.6 Kinleith Branch

Km	Feature	Crossing	Locations at or between
1.17	A B S	Hawes Street	Waharoa
2.13	A B S	SH27 (Waharoa)	Waharoa
4.54	B S	Pohlen Road	Waharoa and Hinuera
7.30	B G R S	Broadway (SH24)	Waharoa and Hinuera
7.95	B R S	Tainui Street	Waharoa and Hinuera
9.20	A B R S	Burwood Road (SH27)	Waharoa and Hinuera
12.37		Puketutu Road	Waharoa and Hinuera
15.74	B R S	SH29 (Hinuera)	Hinuera
21.01		Rangipai Road	Hinuera and Putaruru
22.59		Totman Road	Hinuera and Putaruru
26.36	A B S	Okoroire Road	Hinuera and Putaruru
27.35	R	Bridge Street Pedestrian Crossing	Hinuera and Putaruru
35.77	B P S	Main Street	Putaruru
42.66		Kinloch Road	Putaruru and Tokoroa
43.77		Vospers Road	Putaruru and Tokoroa
..	M	Wood Road	Fonterra Private Siding Lichfield
46.93	B S	Wiltsdown Road	Putaruru and Tokoroa
54.59	A	Rollett Road	Putaruru and Tokoroa
56.51		Baird Road	Tokoroa
57.35		Bridge Street	Tokoroa
59.20	A	Balmoral Drive	Tokoroa and Kinleith
60.52		Campbell Road	Tokoroa and Kinleith
62.33		Galaxy Road	Tokoroa and Kinleith
64.60		Kinleith Road	Kinleith

Km	Feature	Crossing	Locations at or between
..	M	Administration Road	Carter Holt Harvey Private Siding Kinleith

2.7 Sulphur Point Sidings (Tauranga)

km	Feature	Crossing	Locations at or between
..	B S	Cross Road	Sulphur Point Sidings at Tauranga

2.8 Mt Maunganui Branch

km	Feature	Crossing	Locations at or between
0.14	B S	SH29A	Te Maunga
0.97	B R S	Matapihi Road	Te Maunga
2.72	B S	Hewletts Road (SH29)	Mt Maunganui and Te Maunga
4.30	B R S	Hull Road	Mt Maunganui
5.21	B G S	Totara Street	Mt Maunganui

2.9 Mt Maunganui Yard – Wharf

km	Feature	Crossing	Locations at or between
..	M X	Hull Road	No.1 Industrial Siding
..	B G S	Totara Street	No.3 Industrial Siding

2.10 Murupara Branch

Km	Feature	Crossing	Location
0.31		Kawerau Road (SH34)	Kawerau

2.11 Rotowaro Branch

Km	Feature	Crossing	Location
0.07	B S	Huntly Bypass (SH1)	Huntly
0.83	B S	Harris Street	Huntly

2.12 Alarms with Manual Control

2.12.1 McDonald Road between Mercer and Pukekohe

(This instruction is for trains running on the wrong line).

Trains are authorised to run at line speed over McDonald Road when running on the wrong line as the level crossing alarms will operate normally for an approaching train. The alarms will continue to operate for a short time after the rear of the train has cleared the crossing (typically 23-60 seconds depending on train speed).

2.12.2 Hull Road, No.1 Industrial Siding, Mt Maunganui Yard

Alarms operate in conjunction with locally controlled signals. The alarms will operate automatically and Y1 or Y2 signals will approach clear for trains from No.1 Industrial Line.

2.12.3 Totara Street, No.3 Industrial Sidings, Mt Maunganui Yard

Alarms do not start automatically. Manual control is available on either side of the road and next to the points between No.1 and No.3 Industrial Lines.

2.12.4 Administration Road, Carter Holt Harvey Private Sidings, Kinleith

Alarms do not start automatically for movements leaving from the mill. Manual control is available 80 metres from the road alongside the No.2 Pulp Mill siding and No.6 Paper Mill siding.

2.12.5 Wood Road, Lichfield

For trains heading towards the store, the alarms start automatically when a train is approximately 90 metres from the crossing and automatically cancel 10 metres beyond the crossing.

For trains heading from the store to the siding, the alarms need to be started manually by a push button control box located on the store (west side) of the alarms and will cancel automatically. If the movement decides not to cross the road once the alarms have been started, they may be cancelled by operating the “cancel” push button on the control box.

2.12.6 Totara Street, No.3 Industrial Line, Mt Maunganui

Movements from the yard to 22 Shed or Industrial No.3 sidings are controlled by TAI Indicator located approx. 160 metres from the hand points before the crossing.

For movements from the yard to the sidings, a purple arrow will indicate the position of the points (right arrow for 22 Shed siding, and left arrow for Industrial No.3 siding). The alarms will start automatically on the approach to the crossing if any purple arrow is illuminated.

A red aspect means permission is required from the Operations Leader to pass the indicator.



NOTE

The alarms may not start automatically and / or points may not be set for the intended route.

Manual control is also available on either side of the road. Movements from the sidings back towards the yard must use the start buttons to operate the crossing before the movement commences.

3. Standing Room for Wagons

3.1 North Island Main Trunk

Locations	Standing Room metres	Description of Siding
Hamilton Station	405	West Passenger Loop
Hamilton	570	West Crossing Loop
Huntly	698	East Loop
	398	West Loop
	285	No.1 Road West
Te Kauwhata	816	Up Main (between 8RA signal and level crossing)
	680	Loop
Whangamarino	885	Loop
Mercer	900	Loop

3.2 East Coast Main Trunk

Location	Standing Room metres	Description of Siding
Hamilton Station	315	East Passenger Loop
Ruakura	960	Loop
Eureka	900	Loop
Motumaoho	962	Loop
Morrinsville	779	Loop
	480	No.1 Road
Kereone	856	Loop
Waharoa	1850	West Main
Hemopo	863	Loop
Whatakao	870	Loop
Apata	1015	Loop
Te Puna	917	Loop
	203	No.1 Road
Tauranga	765	No.1 siding
	375	Next siding
Te Maunga	795	Loop
	450	No.1 Road
Te Puke	645	Loop
	135	No.1 Road
Pongakawa	795	Loop
Hauone	795	Loop
Awakaponga	805	Loop
	465	No.1 Road

3.3 Hautapu Branch

Location	Standing Room metres	Description of Siding
Hautapu	210	Public Siding

3.4 Kinleith Branch

Location	Standing Room metres	Description of Siding
Waharoa	795	Loop
	285	No.1 Road
Hinuera	840	Loop
	180	No.1 Road
Putaruru	743	Loop
	563	No.1 Road
Lichfield Siding	262	Siding
Tokoroa	810	Loop
Kinleith	615	No.1 Road
	518	No.2 Road

3.5 Murupara Branch

Location	Standing Room metres	Description of Siding
Matahina	585	Loop
Horomanga	608	Loop
Murupara	233	No.1 Road

3.6 Rotowaro Branch

Location	Standing Room metres	Description of Siding
Rotowaro	480	Loop

4. Clearances

4.1 Sidings and Structures

The following sidings and structures are not to standard height and/or side clearance. Exercise extra care when working in these localities. Yard clearances are advised with the Workplace Safety Plan.

Rolling stock must not be shunted past or through any structure without first ensuring that clearances are adequate.

An asterisk (*) alongside the name of the line or siding indicates that the distance shown in the column "Side Clearance from Centre Line of Track" is the distance between the centre lines of the two tracks and is substandard.

4.2 North Island Main Trunk

Location	Siding or line	Structure	Height above rail level mm	Side clearance from centre line of track mm	Remarks and rolling stock prohibited from passing structure
Hamilton	West Passenger Loop	Platform	..	..	JT, ZK and wagons loaded with 3.05m containers
Huntly	Down Main and Loop*		..	3480	

4.3 East Coast Main Trunk

Location	Siding or line	Structure	Height above rail level mm	Side clearance from centre line of track mm	Remarks and rolling stock prohibited from passing structure
Hamilton	East Passenger Loop	Platform	..	..	FC, JT, ZK, Ballast Cleaner, Concrete Sleeper Layer Unit
Tauranga	No.1 and No.2 Roads*		..	3330	
Tauranga	No.2 and No.3 Roads*		..	3320	
Te Puke	Loop and No.1 Road*		..	3350	FC wagons
122.69km between Te Puke and Pongakawa	Main Line	Bridge No.95	..	..	Bridge rails under standard clearance for FC

4.4 Kinleith Branch

Location	Siding or line	Structure	Height above rail level mm	Side clearance from centre line of track mm	Remarks and rolling stock prohibited from passing structure
Waharoa	Anchor Products Private Siding	Veranda Column	..	1800	
		Low level loading bank	830	1370	

Location	Siding or line	Structure	Height above rail level mm	Side clearance from centre line of track mm	Remarks and rolling stock prohibited from passing structure
27.30 km (between Hinuera and Putaruru)	Main Line	Bridge 11	..	..	Bridge handrails under standard clearance for FC wagons
Putaruru	Between Main and Loop*		..	3350	Speed of trains when crossing not to exceed 25 km/h
Putaruru	Between No.1 and No.2 Roads*		..	3260	FC

5. Radio Channels

5.1 Pukekohe - Hamilton

From Km / location	To Km / location	Channel
Hamilton Station – 191ABC Up Home NIMT & 181ABC Up Home ECMT	Te Rapa – 3ABC Down Home	6
Te Rapa – 3ABC Down Home	627.477 – Pukekohe South Junction	4

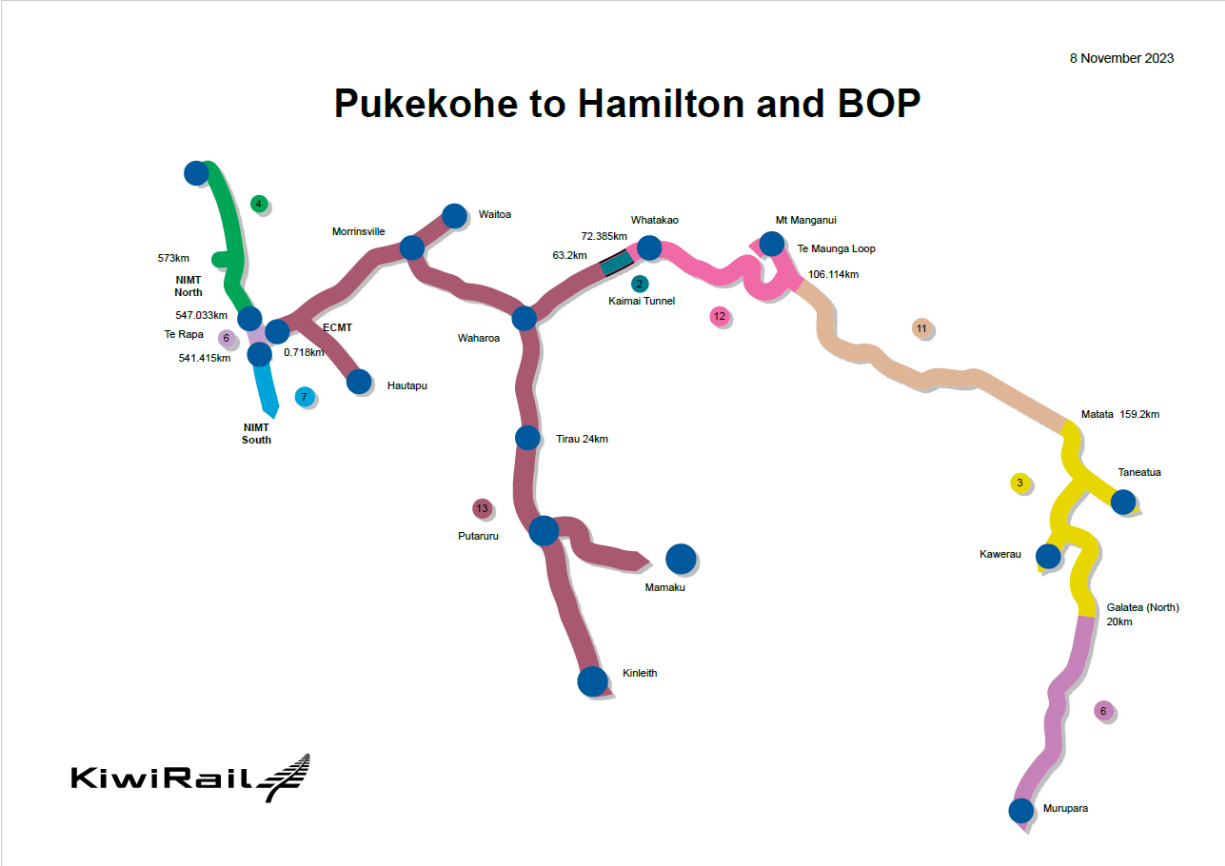
5.2 Rotowaro Branch

From Km / location	To Km / location	Channel
0.00 Rotowaro Branch	Rotowaro (end of line)	4

5.3 East Coast Main Trunk and Branches

From Km / location	To Km / location	Channel
0.40 – Hamilton 183 Departure Signal	63.20 Hemopo	13
63.20 - Hemopo	72.385 – Whatakao (Kaimai) Tunnel East Portal	2
72.385 – Whatakao (Kaimai) Tunnel East Portal	106.114 – Te Maunga Includes Mt Maunganui Branch	12
106.114 – Te Maunga	159.20 – Matata	11
159.20 – Matata	180.20 – Kawerau	3
Hautapu Branch		
0.00 – Hautapu	Hautapu (end of Line)	13
Waitoa Branch		
0.00 – Waitoa Branch	Waitoa	13
Taneatua Branch		
0.00 – Taneatua Branch	25.90 – Taneatua	3
Murupara Branch		
0.00 – Murupara Line	20.00 – Galatea (north)	3
20.00 – Galatea (north)	57.80 – Murupara	6
Kinleith Branch		
0.00 – Kinleith Branch	65.70 - Kinleith	13
Rotorua Branch		
0.00 – Putaruru – Rotorua Branch (mothballed)	29.00 – Mamaku	13

5.4 Snake Diagram



6. Electrification

All parts of the North Island Main Trunk electric traction overhead equipment must be treated as live at all times.

Emergency Isolation telephone numbers to isolate NIMT Traction sites are:

<p>From: The southern limit of electrification 135.32km (Palmerston North station limits)</p> <p>To: 452.242 km Mangapehi Switching Post (between Porootarao and Kopaki)</p> <ul style="list-style-type: none"> • Bunnythorpe Traction Substation • Tangiwai Traction Substation • Manunui Traction Substation 	<p>From: Mangapehi Switching Post 452.242km (between Porootarao and Kopaki)</p> <p>To: The northern limit of electrification 541.189 km (station limits Te Rapa)</p> <ul style="list-style-type: none"> • Hamilton Traction Substation
Haywards Regional Operating Centre Ph 04 563 5087	Otaguhu Regional Control Centre Ph 09 274 8736

6.1 Damaged Overhead

Any rail personnel observing any damage to the overhead or bonding must advise the Train Controller and Traction Control. If between Palmerston North and Te Rapa, trains should be stopped if the damage appears as if it will affect them.

6.2 Cut-Off of Overhead Power

The cut-off of overhead power is specially arranged by the Traction and Systems Controller who liaises with the Train Controller before carrying out isolation in specific areas. When isolation is required in non-interlocked, freight yard or locomotive depot areas then the Traction and Systems Controller will liaise with the person in charge for the area concerned.

For the overhead power to be cut off the following arrangements below will apply:

6.2.1 Planned Work

Usually for planned work on the main line(s), crossing loop or interlocked area, the area affected by the power cut off will be advised on an Information or Special Bulletin. In instances where short notice is given of a power cut-off and it is not practical to use a Bulletin then the cut-off can be authorised on an EF25 (for the Te Rapa to Palmerston North area) with the forms being completed by the Traction and Systems Controller and Train Controller.

6.2.2 Unplanned / Emergency Work

When the overhead power is required to be cut-off in unplanned or emergency situations, this will be covered on an EF25, depending on the area affected.

6.2.3 Special Instructions

All messages on the EF25 forms must be repeated back to the sender.

All overhead power cut-offs in a Train Control area must be drawn on the Train Control diagram.

The authority of the Train Controller must be obtained before the overhead power is cut off. The Traction and Systems Controller must advise the Train Controller when the overhead power has been restored.

**NOTE**

A similar arrangement will apply between the Traction and Systems Controller and the Person in Charge where the Train Controller is not involved.

On the bulletin the overhead power cut-off will be shown as follows (example only):

Cut-Off of Overhead Power

In connection with the work (work details will state the hours) the overhead will be cut-off:

- From: Isolator 123 just north of Taumarunui
- To: Isolator 456 just south of National Park

**WARNING**

During the period the overhead power is cut-off between the points specified on the Bulletin or EF25, the movement of electric services with pantographs raised from the “live” area to the “dead” area is prohibited

**NOTE**

Switching: An EF25 is not required for switching operations, for section of overhead where the power is not intended to remain off.

6.3 Emergency Overhead Cut-Off Pushbuttons and Freephone

Overhead emergency cut-off operation in Train Control and Traction Control cuts all power to the traction overhead.

When the emergency cut-off system is operated by the Train Controller the following instructions must be observed:

- While a Traction and Systems Controller is on duty the emergency catenary cut off system should only be used in life threatening emergencies.
 - When the emergency system has been operated by the Train Controller, the Traction and Systems Controller must be advised immediately of the situation to enable power to be restored to unaffected areas.
 - If any doubt as to whether a situation is life threatening or not the emergency catenary cut-off system should be operated.
 - It is not safe to approach the overhead at any time unless Traction personnel have given a clearance to do so. If the Train Controller has advised they have a green indication and there is a life threatening situation, the overhead may be approached up to the emergency rescue distance of 750 mm.

Instruction for the use of the emergency overhead cut-off pushbutton

The type of circumstances which might require this action includes an earthquake, fire or a level crossing accident.

- All traction alarms activate a tele-pager which will call out a Traction Control Room Operator. Operation of the emergency overhead cut-off pushbutton will generate an alarm.
- Any request to the Train Controller to cut off power where life is threatened will result in the emergency overhead cut-off pushbutton being operated.
- Any request for the power to be cut off, where lives are not threatened, should be passed on to the Traction and Systems Controller.

Time before restoration of power

- If the power is lost due to a fault during normal working hours then the system will automatically re-close the circuit breaker after five seconds.
- If the circuit breaker opens again because the fault is still present then the Traction Control Operator will wait five minutes before re-closing. This is to allow for any emergency calls to be made to the Train controller or Traction and Systems Controller.
- If the circuit breaker trips again immediately after re-closing then the linesmen will be called out and the operator will try progressively energising sections of the line to locate the position of the fault.
- A fault locator machine in Traction Control may be used to more accurately pinpoint the problem.

Red and Green Indication Lamps located on emergency pushbutton consoles

The **Red** lamp is lit when any part of the overhead is alive. The Green lamp is lit when all track circuit breakers have tripped.

Emergency Freephone Line

The emergency telephone for all emergencies is: 0800 808 400.

Cutting Power Off in an Emergency

When the Train Controller receives an emergency request to cut the power off they must establish:

- the identity of the caller
- the nature and location of the emergency
- a contact phone number of the caller

when activating the Overhead Emergency Cut-Off Pushbutton.

The Train Controller must cut off the power if there is any confusion about whether life is threatened.

Operate the SCADA software and/or hold the pushbutton down for 10 seconds or until the red indication light goes out and the green light comes on (usually within 5 seconds).

Should the Emergency Overhead Cut Off system not provide a green indication light after operating the pushbutton then the following action is to be taken:

- Contact Transpower's North Island Control Centre, Grid Controller.
- Identify yourself to the operator.
- Request an emergency shut down the North Island Main Trunk (NIMT) electrified system.
- Wait for verification.

The Traction Controller will initiate the prescribed procedures for the cut off of power by completing the appropriate EF form.

6.4 Loss of Overhead Power

When the overhead power supply trips out, the Operators of EF locomotives must advise the Train Controller of their operating condition just prior to losing power. A Mis.346 with the relevant information must be forwarded to their Team Leader.

If the overhead power is lost, the Operator must stop the train with the air brake as the regenerative brake does not work without the power supply connection. Loss of overhead power is indicated by a "volts out of range" alarm and the voltmeter reading "0" volts.

If the overhead power is not restored within 15 minutes, the Operator must secure the train unless otherwise instructed by the Train Controller. The pantograph is to be left up and the Operator must if possible maintain radio contact with the Train Controller while securing the train.

When power is restored and indicated by the voltmeter, the Operator must press the reset button and proceed as directed by the Train Controller. If radio reception is poor, the Operator must proceed to a position where the Train Controller can be contacted.

6.5 Advice of Power Failure

When the power fails, the Traction and Systems Controller must advise the Train Controller as soon as possible of the extent and duration of the failure. The Train Controller will inform the Operators of trains affected.

When it is necessary to isolate power, the Traction and Systems Controller must advise the Train Controller who will tell affected Operators that there will be a momentary loss of power while switching procedures are carried out.

6.6 Planned Cut-Off of Overhead Power

During the period the overhead power is cut-off between the points specified, the movement of electric services with pantographs raised from the "live" areas to the "dead" areas and vice versa is prohibited.

6.6.1 Mondays Only

Due to the changing train schedules, the actual time for the cut-off of overhead power and the associated train arrangements may be modified in the Information Bulletin.

Refer to **LNI L3.1 Hamilton - Waikanae**.

7. Pukekohe to Hamilton

7.1 Derusting Loops

At Te Rapa East Passenger Loop, Huntly, Mercer, and Te Kauwhata, at least one train per day (Monday to Friday), must be routed via the loop to stop the build-up of rust.

7.2 Ballast Cleaner

Due to the depth and location of the fibre optic cable, the Ballast Cleaner is prohibited from working in the following locations:

- Between Pukekohe and Mercer (south of George Street, Tuakau)
- From 621.600 km and 618.000 km (Up & Down Mains)

This instruction will stay in effect until the cable can be fixed into ducting or thrust where ducting is not suitable.

7.3 Mercer

7.3.1 CIMW Alerts

When a CIMW alert requires vehicles to be reduced at Mercer, the vehicles may be left unattended on the loop provided:

- The train crew obtain permission from the Train Controller
- The vehicles are secured with handbrakes to prevent movement in accordance with **Rail Operating Code Section 5.1 Shunting Procedures, 2.6 Procedures for Securing Rail Vehicles**.

TO08 Shunting, 7.3 Standing at Stations is modified accordingly.

7.3.2 Turnouts / Points awaiting commissioning

A new turnout has been installed at the south end of the Mercer loop at the 608.869 km (20m north of 4LB Down Starting from Loop signal).

The turnout has been bolted and secured with a PS bolt and padlock for loop running. The turnout is **not** to be opened as there is no adjoining track connected leading off the loop.

7.4 Amokura

Throttle:

When Te Huia consists are being driven from the SRV cab in push mode, the locomotive throttle must not be used above Notch 4 through turnout No.3B at the 604.395 km.

This is to ensure that the rear carriage does not derail in the event of a sudden loss of power.

Maximum Length:

When being driven from the SRV cab in push mode the consist must not exceed four carriages.



NOTE

Length restriction does not apply if being hauled by locomotive.

7.5 Te Kauwhata

Throttle:

When Te Huia consists are being driven from the SRV cab in push mode, the locomotive throttle must not be used above Notch 4 through turnout No.7 at the 598.836 km.

This is to ensure that the rear carriage does not derail in the event of a sudden loss of power.

Maximum Length:

When being driven from the SRV cab in push mode the consist must not exceed four carriages.



NOTE

Length restriction does not apply if being hauled by locomotive.

7.6 Huntly

7.6.1 East Loop Passenger Stop

The platform and passenger shelter are located on the East Loop. Passenger trains undertaking passenger work must be berthed on the East Loop.

When berthing an Up passenger train to the East Loop, 16RB signal should be held at stop to prevent build up of traffic over Bell Crossing. When the passenger train is ready to depart the Operator must call the Train Controller and request 16RB signal is set to proceed.

7.7 Rotowaro Branch

7.7.1 Safe Working Requirements

The Rotowaro Branch may be manned and worked under ATC conditions.

Only one rail vehicle (or group thereof) can run / work on the line at a time unless authorised by the Officer Controlling Train Running.

Train Controller permission must be obtained for all rail vehicle movements / work on the Rotowaro Branch, as per rules and local instructions.

The Train Controller must record all movements on the train control diagram between No.12LAB Down Home signal and the All Trains Stop board at 6.40 km Rotowaro Branch.

The Train Controller must first ensure the line is clear before setting No.12R Up Starting signal to proceed.

Trains departing from Rotowaro must not pass the All Trains Stop board until permission has been obtained from the Train Controller who must first ensure the line is clear.

7.7.2 Train Movements

The pilot (TX operations from Huntly) must get permission from the Solid Energy Control Room Operator (either verbally or by phone 07 828 4758) before a train enters Rotowaro. The pilot must also check that the intended route is correctly set and clear for arriving and departing movements.

Trains will berth on the designated road for the train concerned as directed by the pilot, and the locomotive will run around on the adjacent road.

An arriving train may be held at the ATS board when another train is at the loading/unloading site, and the locomotive is running around its train.

The yard beyond the ATS board will be Rotowaro station limits. More than one train may berth in this area at one time. The Operator of each train at Rotowaro must clearly understand each other's movements while working in the area.

KiwiRail Manager Te Rapa has issued special local instructions regarding precautions for train movements in the coal unloading area.



CAUTION

Rail Personnel must take additional care when working in this area.

7.7.3 Hi-Rail or other Track Maintenance Vehicle Movements

HRV Drivers and Operators of Track Maintenance Vehicles must get permission from the Solid Energy Control Room Operator at 07 828 4758. Check the intended route to ensure it is correctly set and clear.

7.7.4 Rail Personnel Inductions

Rail Personnel using the Coal Car and accessing the Rotowaro yard via the Solid Energy site must have completed a Solid Energy site induction session.

7.7.5 Train Crew Change

Due to Health and Safety and site induction issues, Train Crew changes must not occur within the Solid Energy Rotowaro site.

7.8 Ngaruawahia

When No.13 Signal is required to be set to proceed, No.24 points at Ngaruawahia must be set to normal as they work in conjunction.

When Up services are crossing Down services at Ngaruawahia, they must be held at No.1 Signal (Up Home) to prevent fouling of crossings.

7.9 Te Rapa

7.9.1 Locations within Station Limits

Three locations are commonly referred to, these are:	
Hamilton	All lines south of Massey Street overbridge
Te Rapa	All lines north of Massey Street overbridge
Crawford Street	CT site and Cool Store area

7.9.2 Load Inspections

Rod steel loads from Auckland on open wagons (such as US wagons) must be inspected at Te Rapa.

7.9.3 Maximum Speeds

The speed of all trains, shunts, and light locomotives, must not exceed 15 km/h within:

- the marshalling yard.
- Locomotive depot (refer to the Joint Operating Plan Te Rapa).

- within the gates of the Crawford Street Fonterra/CT site complex.

This instruction includes trains routed via the through arrival or departure roads.

7.9.4 All Trains Stop Boards

ATS boards that require marshalling yard authority to pass:

- North end of the marshalling yard (Crawford Street) on the through road, arrival road (facing the CT site), and north departure roads 1 and 2.



NOTE

There is only one ATS board for each direction between the through and north departure road 1. The board has double arrows indicating it applies to both roads.

- Through 1, 2, 3, 4 and 5 roads by the first set of points.



NOTE

There is only one ATS board for 3 and 4 roads. It is located between the roads. The board has double arrows indicating it applies to both roads.

Train and shunting movements must not pass ATS boards until authorised by the Marshalling Yard Person in Charge or nominee. The Person in Charge is usually the Yard Team Leader, but the nominee may be the Yard TX Operations or the Remote Control Operator.

The TX Operations will authorise incoming and outgoing train movements to/from the marshalling yard via the radio on channel 1 or 45/46.

Before authorising any movements, TX Operations must make sure the intended hand points route is correctly set. If necessary, TX Operations must also check with the yard shunt and Signaller to ensure no conflicting movements.

Yard shunt movements will be authorised by the Team Leader or, in his absence, the Remote Control Operator. The yard shunt communicates on dedicated ASP channels and may move past the ATS boards after ensuring the intended route is clear and there are no conflicting movements. Authority must still be obtained to pass ATS boards.

The following ATS boards require Signaller authority to pass:

- On the through road south end of the Crawford Street CT site (facing south).
- On the through road north of Crawford Street, cross over (right-hand side facing north).
- On the arrival road, just outside the Crawford Street CT site (facing north).



NOTE

A separate notice identifies the boards - **Permission to Pass is Required from the Train Controller.**

Trains and shunting movements must not pass these ATS boards until the Operator has obtained authority from the Signaller.

7.9.5 Shunting at Crawford St to Fonterra and Container Transfer Site

The working of this area is included in a joint operating plan which includes the operation of security gates to access the area.

7.9.6 Routing of Northbound trains from the Through Road

All northbound freight trains departing from the through road will usually be routed via the north end of Crawford Street, cross over to the north departure road 1 and depart via a signalled route to the NIMT up main.

7.9.7 Internal Roadway

The Te Rapa marshalling yard has designated access points for the Te Rapa yard vehicles. The following speeds must be observed when using the internal roadway/access points:

- Sealed roadways must not exceed 30 km/h.
- Unsealed roadways must not exceed 15 km/h.
- Driving across rail tracks at designated access points must not exceed 10 km/h.

7.9.8 North Departure Road 2

The following movements are prohibited as they are a non-signalled route:

- Any movement from F1 to R7 must not be authorised to set back to T2.
- Any movement from T2 to R7 must not be authorised to set back to F1.

7.9.9 Locomotive Crew and Locomotive Changes

All crew and locomotive changes take place opposite the operations building.

Trains may be left unattended on the Up and Down mains for crew changes.

7.9.10 Locomotive Changes

Passenger Trains

Passenger trains attach or detach Class 30 electric locomotives on the West Passenger Loop at Hamilton.

Down Freight Trains

Down through freight and express freight trains attach an EF class electric locomotive either at the south end of the main (NIMT) or Through Road at Te Rapa marshalling yard, or at Hamilton station as arranged by the marshalling yard Person in Charge or their nominee.

Up Freight Trains

All Up freight and express freight trains hauled by EF Class electric locomotives may change locomotives at Hamilton on the south side of Massey Street overbridge as arranged by the marshalling yard Person in Charge, or their nominee.

Up through trains which are to continue their journey within one hour may be secured in accordance with the **Rail Operating Code Section 5** instructions for securing rail vehicles before locomotives or wagons are detached.

After the locomotive has been detached from the train, the Operator must advise the Train Controller who will set an electrified route and clear the necessary signals for the locomotive to run to the Locomotive Depot.

After a diesel electric locomotive has been attached to a through train and it is ready to proceed, the Operator must advise the Train Controller who will set the route and clear the necessary signals.

7.9.11 Signalling Instructions

B National points have been secured in normal (no track off reverse road).

All controlled signals, motor points and switchlocks are operated by the Train Controller.

A special indicator on signals 82 and 127 will display a white letter “E” when an electrified route has been set up and signalled.

Route indicators comprising two square light units mounted one above the other are on signals 119, 121, 163, 165, 167, 169 and 171.

“Electric Loco Limit” boards define the end of running for electric locomotives on roads partly wired.

Coded crank handles are provided as shown to prevent interchanging.

Signalling Instructions

When yard personnel are on duty at Te Rapa, the Train Controller, must obtain permission from the Marshalling Yard Person in Charge or their nominee before signalling trains to enter the yard.

All Trains Stop Boards which require the Train Controller authority to pass are as follows:



NOTE

These boards will be identified by a separate notice attached saying “Permission to Pass required from the Train Controller”.

ATSB #	Location
3	On the Up main south end of Crawford Street CT site (facing south)
4	On the Through Road north of the Crawford Street crossover, right hand side facing north.
8	On the Arrival Road, just outside the Crawford Street CT site (facing north)

Train and shunting movements must not pass these All Trains Stop boards until the Operator has obtained authority from the Train Controller.

When Shunting Personnel are not on Duty

During periods when through freight trains are running, which may require them to stand over and be berthed off the main lines while no shunting personnel are on duty, the following arrangements will apply:

- Before completing work and there is no immediate incoming shift, the Marshalling Yard Person in Charge must advise the Train Controller that the Through Road and the No. 1 Road / North Departure Road 1 are clear and safe for traffic with the hand points correctly set for through movements.
- In addition, the marshalling yard Person in Charge or their nominee will give permission for the Train Controller to clear No.82 signal.
- The Train Controller is to endorse this advice on the Train Control diagram.
- The Train Controller must route Up trains via the No.1 Road / North Departure Road 1 and Down trains via the Through Road.

- The Train Controller may then give permission for trains to pass the All Trains Stop boards on the No.1 Road / North Departure Road 1 and the Through Road while the Marshalling Yard is unattended.

Radio Communication - Te Rapa Station Limits

User	Channels
Train Control	VHF 6
Note: Base calls should be used to initiate contact	UHF (ASP) 11

7.9.12 Rail Vehicles unattended on West Berthing / East Berthing No.2

Rail Vehicles may be left unattended on the West Berthing / East Berthing No.2 Roads at Te Rapa provided:

- the train crew obtain permission from the Train Controller, and
- the vehicles are secured with hand / park brakes and chocks in accordance with **Rail Operating Code Section 5.1 Shunting Procedures, 2.6 Procedures for Securing Rail Vehicles**

TO08 Shunting, 7.3 Standing at Stations is modified accordingly.

7.9.13 Access to East / West Berthing Roads

Referring to current S&I Diagram for Te Rapa, the following process applies for Rail Personnel intending to foul the West Berthing or East Berthing No.2 roads for the purpose of:

- planned container work
- planned loading of ballast wagons
- planned loading / unloading of infrastructure material
- planned maintenance by Rolling Stock Maintenance Representatives on stabled rail vehicles

The Person in Charge must contact the Train Controller and request protection to foul the applicable road. They must provide:

- name
- contact details
- confirmation they hold relevant Permit to Enter, and have advised Te Rapa Operations Team Leader
- the road they intend to foul (West Berthing or East Berthing No.2)
- nature of work, and
- expected duration of work.

The Train Controller must endorse the Train Control diagram with the relevant information, and apply signal blocking to the applicable section of track.

Once the work is complete, the Person in Charge must advise the Train Controller that the signal blocking can be removed.

The Train Controller must update the Train Control diagram accordingly and remove the signal blocking.



IMPORTANT

This process applies to Rail Personnel working on the off side of the rail vehicles only. Fouling of adjacent lines requires a track occupancy authorisation using **TS06 Blocking**.

**NOTE**

For secondary track occupancy requests on these roads (e.g. for the purpose on on / off tracking West Berthing), the track user intending to foul either road must ascertain:

- if tonnage is present, ensure it is correct secured to prevent movement, and
- if other activities are observed as been undertaken, a safe working arrangement with the Person in Charge must be in place before requesting a track occupancy from the Train Controller.

7.10 Crawford Street CT Site

7.10.1 Fonterra Pedestrian Crossing

Boards and back-to-back indicators have been erected to protect pedestrians crossing 11, 12 and 13 roads.

**NOTE**

The indicator positioned between 11 and 12 roads will apply to both roads.

When displaying a steady red indication, all rail movements must stop at the Stop on Red Signal boards. When a rail movement is required to cross the pedestrian crossing, the shunter will activate a request on the remote control device.

The indicator will flash red to acknowledge the request and when it is safe (barriers will be lower to prevent pedestrian access). The indicator will display a white T.

**CAUTION**

All trains must stop at the fouling markers and must not pass these markers until a white T light is illuminated on the indicator and permission has been given by the shunter.

7.11 Hamilton Station

7.11.1 Southeast Back shunt

Before the Train Controller uses the southeast loop extension, it must be ensured that the proposed movement is understood by the Shunter in Charge and that there will be no conflicting movements by the yard shunting locomotive.

7.11.2 West Passenger Loop – Loco Backshunt

Due to the build-up of rust caused by infrequent use of No.192ABC points to the Loco Back shunt, the following safeguard procedures will apply for these points:

- Before movements are signalled over No.192 points to the Loco Backshunt, it must be ensured there will be no conflicting movements until the movement is clear of the points and they are locked in normal. This includes placing a control tag on any signal leading to the affected points.
- Each signalled move across 192C and the backshunt will need a rundown of the approach lock release timer before the route can be changed. This is done automatically by the interlocking.

8. Hamilton to Tauranga

8.1 Testing K-Mart Tunnel Radio System

Infrastructure personnel who have received training will test the tunnel radio system in a Hi-Rail vehicle as follows:

Tunnel	Test Frequency	Normal Test Day
K-Mart Tunnel Hamilton	Twice weekly	Tuesday and Friday

When the Hi-Rail vehicle is in the tunnel and positioned correctly:

Select the correct Train Control radio channel.

- Press the * button to send call (where appropriate).
- The Train Controller will hear this, but nothing will be displayed on the MSP radio computer screen.
- A reply will be sent automatically to the Hi-Rail vehicle with 2 selcall tones.
- Once 2 selcall close together have been heard then the system is operating correctly.
- The Hi-Rail vehicle must advise the Train Controller of the test results. This information must be noted on the Train Control diagram and 155 contacted for any reported faults.

If the Hi-Rail vehicle cannot perform these tests during any given week:

- The Train Controller must be advised and arrange for a locomotive to perform the test.
- In this case, the test will be performed by sending a Base Call in the tunnel and the Locomotive Engineer confirming that the call has “locked on”.
- The Train Controller will confirm that the Base Call was received.

8.2 Tainui Inland Port Siding

8.2.1 Contact Information

Train Control	04 498 3366
Network Control Manager	021 440 112
Te Rapa Operations	07 846 8281 or 021 210 3678
Tainui Inland Port Siding Rail Operator	027 297 9485 / <Ruakura.Operations@kiwirail.co.nz>

8.2.2 Interlocking Arrangements

The Signalling and Interlocking is now operational for train movements into and out of the Inland Port with shunting movements permitted between siding roads 1 and 2 to the backshunt leg at each end of the Port, clear of mainline movements.

Shunting movements between the Sidings and the backshunt are available by a local pushbutton request panel beside 1854AI and 1871AI Arrow Indicators.

8.2.3 Train Running Procedure

Entry to and Exit from Tainui Inland Port Siding:

The current Tainui Port Rail Operations procedure for opening and closing the port gates when receiving and dispatching trains still apply.

**IMPORTANT**

Rail Operations staff must confirm to the Train Controller that the gate is open before the Train Controller set a route into and out of the siding from / to the mainline.

8.3 Hautapu Branch

A concrete buffer stop has been placed at the end of the line, about 50 metres on the Cambridge side of the main highway level crossing.

An ATS board is erected 150 metres north of the main line points at the north end. Trains must not pass the ATS board unless piloted by the Train/Rail Operator, who must first make sure it is clear for the intended movement.

Only one rail vehicle movement (or group thereof) can run / work on the line at a time unless authorised by the Officer Controlling Train Running.

Train Controller permission for all rail movements / work on the Hautapu Branch must be obtained as per the rules and local instructions. The relevant information must be endorsed on the Train Control diagram.

8.3.1 Shunting Hautapu Site

The instruction for shunting at Fonterra siding at Hautapu is given in the Joint Operating Plan for Hautapu issued by the Operations Manager, Terminal Te Rapa.

As there is a TR shunting locomotive based at the Fonterra Hautapu site, the following arrangements will apply:

- The Hautapu site is common territory for both KiwiRail and Fonterra locomotives.
- Before entering the Hautapu site, permission must be obtained from the Fonterra Representative.
- The Fonterra Representative must make sure that the Fonterra locomotive is standing clear and that Fonterra personnel are aware of the intended movements of the KiwiRail locomotive.
- Permission may then be granted for the KiwiRail locomotive to enter.

**IMPORTANT**

Rail Personnel involved with the working of trains at Hautapu must be familiar with the arrangements in the Joint Operating Plan.

8.4 Slip Alarm (between Motumaoho and Morrinsville)

A slip detection array is located at 26.70 km between Motumaoho and Morrinsville at an existing embankment slip.

The array consists of two tilt sensors which are activated when movement is detected and a sensor tilts beyond a pre-defined angle. The site also has a camera which can take a series of photos during day and an infrared photo at night if movement is detected.

When movement is detected, the sensors will:

- send an alarm to the Train Control signalling screen, and

- send an email to Operations Support & the Network Control Manager.

Upon receiving activation of the slip warning system, the Train Controller must:

- advise Operators of the slip alarm activation, and stop any train clear of the slip alarm area.
- advise Operations Support (155) to arrange infrastructure personnel to undertake a remote or physical inspection.
 - Infrastructure Maintenance Representative will advise the Train Controller if it is suitable to run trains through the slip alarm area, and if a temporary speed restriction is required.
- enter any temporary speed restriction details in OMS if required, and advise any trains that are already running.
- not allow any trains to traverse the slip until:
 - clearance from infrastructure personnel has been received to run trains, and
 - the slip warning system has been reset, or
 - an Infrastructure Maintenance Representative are at the 26.7 km to pilot the train over the slip

Operations Support will work with Harvest to reset the alarm.

8.5 Morrinsville

The Dairy Co siding and the running road to/from the Waitoa Branch is common territory for freight and network vehicle movements and a Dairy Co locomotive. The arrangements are covered in a Joint Operating Plan between KiwiRail and Fonterra.

8.5.1 Morrinsville Dairy Company Siding

The Dairy Company siding and in particular the running road used as the connection to Waitoa Branch is common territory used for movements by KiwiRail locomotives, KiwiRail Network maintenance vehicles and the Dairy Company shunt tractor.

The Operator / Ganger in Charge must ensure all shunting locomotives / tractors at the Morrinsville Dairy are standing clear of the intended movement before proceeding.

All rail movements through the Dairy Company siding running road in either direction must be piloted by either a Morrinsville Shunter or second person on the locomotive or Operator of the track maintenance machine group who must ensure the route is correctly set to / from the Waitoa Branch.

The high column switch stand (W) points leading to the Waitoa Branch off the Dairy Company Siding running road must be kept set for the backshunt road alongside the Dairy Company Cool Store when not in use.



NOTE

The high column switch stand target indicator will display Yellow with the letter B (route set to the backshunt) and Red with the letters IL (route set to / from the Waitoa Branch).

As required in the joint operating KiwiRail / Fonterra Morrinsville joint operating plan the Dairy Company personnel must ensure all KiwiRail movements are clear of the siding before commencing any shunting.

8.6 Waitoa Branch

The Waitoa Branch commences from 5 points Morrinsville.

8.6.1 Safe Working Requirements

Only one rail vehicle (or groups of) must run / work on the Waitoa Branch at a time unless authorised by the Officer Controlling Train Running.

Train Control permission for all rail movements / work on the Waitoa Branch must be obtained as per the rules and local instructions. The relevant information must be endorsed on the Train Control diagram.

8.6.2 All Trains Stop Boards

These are located 50 metres apart for departing/arriving movements.

8.6.3 Departing Movements

A double boarded sign (top board shows “All Trains Stop”, bottom board shows “Obtain authority from Train Control before entering Branch Line”) is located about 320 metres inside the Dairy Company siding and marks the start of the line.

All movements must stop and obtain permission to pass the board from the Train Controller who must establish that there are no conflicting movements on the Waitoa Branch.

8.6.4 Arriving Movements

An All Trains Stop board is erected at the entrance to the Morrinsville Dairy Company Siding.

All movements arriving from the Waitoa Branch must stop at the board and obtain permission to pass the board from the Train Controller who must establish that there are no conflicting signalled movements.

8.7 Waitoa

8.7.1 Arriving Movements

An All Trains Stop board is erected 237 metres from the security gate at Waitoa. This board defines station limits Waitoa.

A separate KiwiRail and Fonterra joint operating plan operates at Waitoa which includes the opening/closing of gates across the main line / loop 237 metres inside the station limits.

Before passing the All Trains Stop board the Operator or Ganger in Charge must:

- establish that the Waitoa Dairy Company locomotive is standing clear of the common territory
- ensure that the route is clear
- advise the Train Controller when clear of the Waitoa Branch.

8.7.2 Departing Movements

A double boarded sign (top board shows “All Trains Stop”, bottom board shows “Obtain authority from Train Control before entering Branch Line”) is located at station limits Waitoa.

All movements **must** stop and obtain permission to pass the board from the Train Controller, who must establish that there are no conflicting movements on the Waitoa Branch.

8.8 Kaimai Tunnel

8.8.1 Number of Persons on Freight / Work Trains or Service Vehicles

To deal with an emergency situation in the tunnel, emergency services must be aware of the number of people in the tunnel.

Prior to entering the Kaimai Tunnel, Operators of service vehicles, RPO's and Locomotive Engineers of trains must advise the Train Controller if there is more than one person (in the cab).

The Train Controller will note this on the diagram beside the plot line, in black pen. This is to ensure that if required an accurate count of people in the tunnel can be given.

8.8.2 Passenger and Train Crew

Operators must advise the Train Controller of the total number on the train (passengers and crew).

8.8.3 Safety Precautions

Locomotives - If, for any reason, the train stops with the locomotive in the tunnel and it is unable to move within 15 minutes, the engines must be shut down.

Hi-Rail vehicles - Must not follow a train from Hemopo until the train arrives at Whatakao.

8.8.4 Walkways

Walkways are on both sides within the tunnel, but train crews should normally use the walkway on the side of the tunnel with Trolley Refuges.

Drain covers have been installed on the man refuge side of the tunnel between 63.343 and 64.620 km (Hemopo end).

8.8.5 Hygiene Precautions

The Kaimai tunnel is built in a geothermic activity area and has several locations where natural forming arsenic has been sampled and is being monitored.

It is important to recognise the hygiene practises required when working in the Kaimai tunnel.

These include:

- Wearing gloves at all times.
- Hand washing should be undertaken before eating or drinking.
- Avoid eating or drinking in work areas where there is dust.
- Rail Personnel carrying out Infrastructure activities must wear disposable cover overalls to prevent skin contamination and if dust generating activities are being carried out, then a P1 dust mask should be worn.

8.8.6 Protected Work Area using TS02 Protected Work Area - Single Worksite

Management of Protected Work Area which includes the Kaimai Tunnel will use the following:

- The Safe Place will be designated by the RPO at the Hemopo portal area, with a designated emergency safe place in the Whatakao loop area.
- The standard lock-on frame may be replaced with a purpose built worksite register board (magnetic white) with lock-on facilities at the Hemopo Safe Place additional to the Worksite Tracking Board.
- The Worksite Tracking Board will also be used showing:
 - Protected Work Area limits (**TS06 Blocking** – Line Impassable)
 - Worksite limits (use common limits)
 - Vehicles and configuration in worksites
 - Worksite / repair area meterage
 - Radio call signs
- All Site Protectors must hold a current TS90 form for their work group, which forms part of the Tunnel Safety Plan.
- At the end of the day, work groups must exit the tunnel and sign-off on their work group TS90, then the Site Protector must ensure the work group has locked-off the work site register board.
- The Track must not be handed back until all padlocks have been removed from the site register board, except when isolated in an emergency and the RPO has confirmed all personnel are accounted for in the Safe Places.

Emergency Exit required to the Whatakao Portal

The RPO must advise the Train Controller that emergency evacuation of Kaimai Tunnel requires personnel / plant to exit via the Whatakao Portal.

The Site Protector must:

- conduct a roll call at the Whatakao Safe Place against the TS90
- contact the RPO, and confirm who has exited
 - “ All personnel and plant in work group _____ have been accounted for, and are off and clear”

The RPO must then cross-check personnel and plant at Whatakao with the SP for each work group and isolate these padlocks with an “Exited Whatakao” tag.

Protocol

RPO - “Is _____ off and clear?”

SP – “Affirmative. Person / Plant _____ is off and clear” or

– “Negative. Person / Plant _____ is not off and clear at Whatakao

RPO – “Padlock for Person / Plant _____ is now isolated”

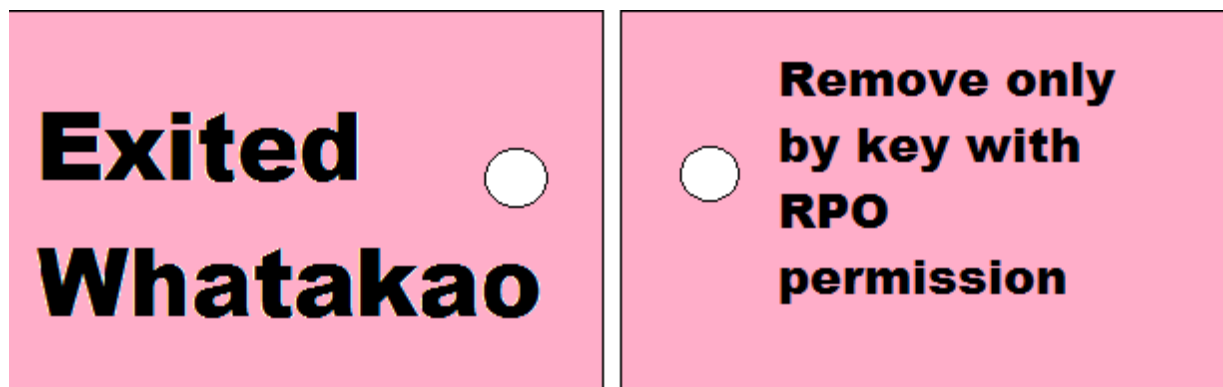
Process to continue until all required padlocks have been isolated.

Once all padlocks have been isolated,

RPO - SP “Workgroup _____, all padlocks have been isolated. xx number of plant and xx number of people. Your workgroup is authorised to leave site.”

SP- “Affirmative RPO. Workgroup _____, all padlocks have been isolated. xx number of plant and xx number of people. My workgroup _____ is authorised to leave site.”

RPO – “Roger. RPO out”



Re-Entry into Kaimai Tunnel from Whatakao Portal is Prohibited

The RPO is to advise the Train Controller when all personnel and plant have been accounted for.



NOTE

When personnel or plant are not able to be located, the Network Control Manager must be contacted

Padlocks must remain isolated until the key holder is able to return to Hemopo to remove the padlock.

The SP exiting at Whatakao must endorse their completed TS90 forms "Exited Whatakao".

TS02 Protected Work Area is modified accordingly.

8.9 Train Delays in the Kaimai Tunnel

Operators travelling in the Kaimai Tunnel must notify the Train Controller if they are going to exceed the basic (normal) running time for the area.

8.9.1 Disabled Train

When the Operator of a disabled train in the tunnel advises the Train Controller of the train location (this must include the **reference number for the nearest man refuge**; and whether it is east or west of the disabled train) for assistance, then they may remain in the locomotive.

The placing of detonators 200 metres from the disabled train and piloting the relief locomotive from that point is not required, provided that radio contact is maintained between the Operator of the disabled train and the relief locomotive and train signals are displayed.

RP16 Disabled Train Recovery, 2. Securing and Protecting is modified accordingly.

8.9.2 Setting Back towards Hemopo

Locomotive Engineers may exit the tunnel:

- in an emergency situation
- when communications fail
- when experiencing locomotive problems
- for personal safety.

The Train Controller should be contacted if possible before setting back.

If unable to contact the Train Controller, stop at Trolley refuge TR03 at 64.550 km, which is 1207 metres from the tunnel portal, (between MR6 and MR7) and 1339 metres from 4R Home Signal (distance between portal and 4R Home Signal is only 132 metres).

The train could be set back to this point with the train crew permitted to walk out after shutting down locomotive(s) and securing the train.

TO09 Setting Back and Propelling and, **SO02 Automatic Signalling Rules, 5. Setting Back in Block Section Authority** are modified accordingly.



NOTE

A SWA is not required for this movement

8.9.3 Train Control Timer for Train Movements

A tunnel timer is installed on the signalling system and will activate after the track circuit in the tunnel has been occupied for 25 minutes. If the timer activates, the Train Controller must attempt to contact the train and must institute an emergency response if contact is not made within 2 minutes.

8.10 Passenger Trains Kaimai Tunnel

Passenger Services may only operate when authorised by the Chief Operating Officer.

8.10.1 Radio Instructions for Locomotive Hauled Passenger Trains

The Train Manager is to be equipped with a UHF portable channel radio which must remain switched on between Hemopo and Whatakao. (Use the diesel locomotive's portable radio.)

UHF Channel 46 allows communication to up to twelve carriages distance between the Operator and Train Manager.

8.10.2 Locomotive Hauled Passenger Trains

Trains conveying passengers through the Kaimai Tunnel must only use motive power units that have fully operating fire suppression systems.

All vents, windows and doors must be closed before entering the Kaimai Tunnel and remain closed, until clear of the tunnel. Carriages with air-conditioning system that can be closed or set to recycle mode must be closed before departing Hemopo (eastbound) and Whatakao (westbound)

Passenger trains which include non-air-conditioned passenger cars or carriages which cannot be sealed against an exterior air supply may not enter the Tunnel unless an interval of at least 60 minutes has elapsed since any preceding train (in either direction) has cleared the tunnel.

When passenger trains stop for any reason in the tunnel the Train Manager must immediately contact the Operator to establish the reason for the stop. If radio communication cannot be established with the Train Manager, the Operator when necessary will sound the locomotive whistle. This will signify that assistance is not required and that the Train Manager should remain on the train. The Operator must immediately contact the Train Controller if their train stops in the tunnel.

8.10.3 Steam Locomotive Restrictions

Must be diesel hauled between Waharoa (eastbound) and Apata (westbound) for the movement through the tunnel.

ONLY personnel with gas detector, Gas mask and filter and / or closed circuit breathing apparatus may be in the cab of the steam locomotive between Waharoa and Apata. The regulator of the steam locomotive must be closed when the diesel locomotive is attached and not opened again until the diesel locomotive is detached.

8.11 Kaimai Tunnel Radio

8.11.1 Radio Coverage

- Train Control VHF link is continuous
- Coverage on Channel 1 is restricted to about 100 metres.
- UHF portable Channel 4 is continuous
- UHF Channel 46 allows communication to up to twelve carriages distance between Operator and Train Manager.

8.11.2 Radio Alarm

In the event of a radio alarm being activated by a rail vehicle. The rail vehicle must not be moved until permission is received from the Train Controller as assistance may approach from either end of the tunnel.

8.11.3 Testing of Tunnel Radio System

The tunnel radio system must be tested once every 8 hours.

The Train Controller will be prompted by a CTC message to "TUN RADIO TEST" a train in the tunnel approximately every 8 hours.

A successful base call acknowledgment is sufficient to confirm the radio is operational.

8.11.4 Radio Failure Process

When there is a failure of a locomotive radio, radio link or radio computer system, a train must not enter the tunnel unless the locomotive is manned by a second locomotive running person or a person qualified in second person duties, holding a current gas awareness competency and has local knowledge of the Kaimai tunnel operation. This however will not apply to passenger trains accompanied by a Train Manager.

Train movements between Hemopo and Whatakao during a radio system failure will be timed by the Train Controller (using the timer function on radio screen). Time to be normal running time plus 15 minutes.

If no contact has been received from the train radio call and / or alarm indications on the radio screen, the Train Controller is to instigate the Kaimai Tunnel emergency procedures

8.12 Train Control Telephones and Refuges in the Kaimai Tunnel



WARNING

All telephones are currently inoperative.

Train Control Telephones are placed in the following Trolley Refuges**:

2, 4, 6, 8, 9, 11, 13, 15, 17, 19 and 21

Telephones are contained in waterproof boxes.

By lifting the receiver, you can talk directly to the Train Controller.

All refuges, are numbered consecutively, commencing from the Hemopo Portal on both sides within the Kaimai tunnel. These are identified by a reflectorised number fixed appropriately to be clearly visible from the locomotive cab for both Up and Down trains and are to be used by the Train Controller to establish exact train locations in the event of a train stopping in the tunnel.

Left Hand Side from Hemopo end		Right Hand Side from Hemopo end	
Man Refuge	Meterage	Trolley Refuge	Meterage
MR01	63.444	TR01	63.750
MR02	63.546	TR02**	64.145
MR03	63.648	TR03	64.550
MR04	63.882	TR04**	64.945
MR05	64.014	TR05	65.327
MR06	64.348	TR06**	65.723
MR07	64.747	TR07	66.173
MR08	65.136	TR08**	66.553
MR09	65.525	TR09**	67.034
MR10	65.948	TR10	67.401
MR11	66.363	TR11**	67.765
MR12	66.793	TR12	68.168
MR13	67.218	TR13**	68.524
MR14	67.583	TR14	68.913
MR15	67.967	TR15**	69.387
MR16	68.346	TR16	69.788

Left Hand Side from Hemopo end		Right Hand Side from Hemopo end	
MR17	68.718	TR17**	70.188
MR18	69.150	TR18	70.581
MR19	69.588	TR19**	70.986
MR20	69.988	TR20	71.388
MR21	70.384	TR21**	71.777
MR22	70.784	-	-
MR23	71.187	-	-
MR24	71.517	-	-
MR25	71.647	-	-
MR26	71.882	-	-
MR27	71.987	-	-
MR28	72.092	-	-

8.12.1 Telephone Outage

Cable faults have made all telephones inoperative.

8.13 Signalling of trains Kaimai Tunnel

8.13.1 Intermediate Signal No.7099 – East End of Tunnel

Track occupancy detection has been removed from permissive intermediate signal No.7099 for the section of track between that signal and No.8LAB Down Home signal at Whatakao.

As a result of this modification, signal No.7099 will not show a “Red over Red” or “Stop” aspect when a Down train occupies the section between that signal and No.8LAB Down Home signal at Whatakao.

All other aspects will continue to be displayed on signal No.7099 to provide the standard advance information displayed by the Home signal ahead. **Network Signal, Indicators and Boards, 3.5 Aspects Displayed by Signals and Indicators** and **SO04 Defective Signals, 5. Defective Signals** are modified accordingly.

The Train Controller must remind all movements following a down train which is occupying the Hemopo–Whatakao section of these signalling arrangements.

8.13.2 Passenger Trains

Before clearing the Down Departure signal at Hemopo or the Up Departure signal at Whatakao for a passenger train to enter the Kaimai Tunnel, the Home Signal at the other end of the tunnel must be at Proceed for the train to emerge from the tunnel.

This instruction may only be varied in the case of a signal failure or other unusual circumstance. The train crew must be advised before the train enters the tunnel.

8.14 Whatakao

8.14.1 Stopping Trains

To avoid rail burn and prevent locomotives from stalling, Freight trains hauling a maximum load must not be stopped whenever possible at 4RAB Up Home signal.

When trains are being crossed for crew change purposes, the Up train must be berthed on either the main or loop first, before the Down train enters station limits for the change.

8.15 Tauranga

Before operating “A” & “B” electrically detected hand operated points fitted with high column switch-stand, permission must be obtained from the Train Controller.

The siding end of the B switch-stand are Wynn Williams points which are chain locked in normal with an AS padlock.

When not in use, the Wynn Williams points on the siding end of the B switch-stand must be kept locked and set for the Sulphur Point siding.

8.15.1 Station Limits

At Sulphur Point, the speed of all movements from a point near 14R shunt signal must not exceed 10 km/h (speed boards have been erected).

8.15.2 Radio Communication

For radio communication between Locomotive Engineers and Rail Operators within Tauranga station limits, Locomotive Engineers must contact the Tauranga Rail Operators on Channel 46. They will tell the appropriate channel to use.

8.15.3 Entering / Departing Sulphur Point Siding Arrangements

No.12LC Down Home (Train Controller operated) and No.14R Shunt from Link Road (shunter operated) signals are for movements to Sulphur Point sidings. Before signals are cleared, permission must be obtained from the Sulphur Point Yard Pilot.

Entering: (with permission from Tauranga Operations)

- Via Direct Connection - 12LC Signal
 - operated by the Train Controller (No.11 points set in reverse)
- Via Link Road - 14R Signal
 - signal cleared by Tauranga Operations (No.11 points set in normal)

Departing:

- Via Direct Connection – 14L Signal
 - operated by the Train Controller (No.11 points set in reverse)
- Via Link Road – 14L Signal
 - signal cleared by Tauranga Operations (No.11 points set in normal)

8.15.4 Port Security Gates

Near Cross Road level crossing, Port Security gates have been installed and are normally across the Sulphur Point line. They rise clear, operating in conjunction with the level crossing / signalling circuitry when a rail movement approaches.

In addition, shunting personnel have been issued with a swipe card to operate the gates to enter the port area ahead of the shunt.

When the gates fail to rise the Port Security will manually operate them.

8.15.5 Coupled in Motion Weighbridge Site (CIMW)

A coupled in motion weighbridge is installed at 92.50 km ECMT.

Fault conditions are alerted to the Train Controller and broadcast locally by radio on Channel 1.

Operators hearing a warning message must:

- obey any message instructions to reduce speed or stop, and
- must immediately contact the Train Controller for further instructions.

8.15.6 Bridge 71 – Trespasser Camera

An AI camera system has been set-up on ECMT Bridge 71 (Tauranga Harbour Bridge). This camera will identify people on the bridge and will send an alert message on Channel 1 to advise any rail vehicles in the area.

The alert message has a short warning tone (as used on CIMW site alerts) followed by “Trespasser on Bridge 71 ECMT”, the message is repeated several times.

Upon hearing the message, Operators may continue across the bridge but are to exercise caution and be prepared to stop.



NOTE

This system does not provide any notification to the Train Controller.

9. Rotorua Branch

9.1 Line Closed

The Rotorua Branch is closed to traffic and wooden sleepers fixed across the rails with red stop discs placed at the 1.200 km point on the Rotorua Branch.

If it is necessary for train movements on the Rotorua Branch, this must be authorised by special bulletin (only one train movement can run at any one time unless authorised by the Officer Controlling Train Running) and the following arrangements will apply:

- The Train Controller must obtain permission from the KiwiRail Infrastructure Area Manager before any movement takes place and on completion of train movements on the Rotorua Branch,
- A suitable endorsement to this effect is to be made on the Train Control diagram.

All movements on the Rotorua Branch beyond 1500m are operated under the Rotorua Ngongotaha Rail Trust operating licence.

10. Kinleith Branch

10.1 Derusting Loops

At Hinuera, Putaruru, Waharoa and Tokoroa at least one train (Freight or Shunt) per day (Monday to Friday) is to be routed via the loop to stop the build-up of rust.

10.2 Matamata

10.2.1 Build-Up of Leaves on Track

During the autumn season a heavy build-up of leaves on the track in the Matamata area (6.25 km to 9.67 km Kinleith Branch) can cause unreliable track circuit operation.

Infrastructure Representatives carrying out patrols or otherwise working in the area must be on the lookout for such conditions and advise the Train Controller when these conditions exist.

Once advised of the conditions the Train Controller must immediately make the following arrangements:

Arrange a 10 km/h speed restriction over the following level crossings:

- Broadway 7.30 km
- Tainui Street 7.95 km
- Burwood Road (SH27) 9.20 km

After the dispatch of a train into the Waharoa – Hinuera CTC block section, the Train Controller must immediately protect against entry to that section. No opposing or following train may be permitted to enter the section until it has been ascertained that the previous train has cleared the section.

These arrangements must remain in force until a Signals Maintenance Representative can certify that track circuit operation is again reliable.

10.3 Putaruru

10.3.1 Rail Vehicles Unattended on Loop

Rail Vehicles may be left unattended on the loop at Putaruru provided:

- The train crew obtain permission from the Train Controller
- The vehicles are secured with hand / park brakes and chocks in accordance with **Rail Operating Code Section 5.1 Shunting Procedures, 2.6 Procedures for Securing Rail Vehicles**

TO08 Shunting, 7.3 Standing at Stations is modified accordingly.

10.3.2 Rusty Rail

Due to rusty rail conditions the following signalling and interlocking arrangements apply:

- 12LAB Down Directing from Loop, will not display a “Normal Speed” aspect to Rotorua Branch.
- 4LAB Down Directing Along Main signal, will not display a “Medium Speed” aspect to Rotorua Branch.
- 6L Down Starting to Rotorua Branch, signal, is fixed at “stop”.
- 12RABC Up Home from Rotorua Branch, signal, is fixed at “stop”.
- 6RAB Up Outer Home from Rotorua Branch, signal, is fixed at “stop”.

The signals mentioned above may be passed in accordance with **SO04 Automatic Signalling Rules, 4.1 Starting Signal Movement Authority** and or **SO01 Responding to Signals, 4.3 Authorising Passing of Signals at Stop**, as the case may be.

No.9 motor points have been immobilised in normal (will display a normal indication). If required, may be hand operated to reverse. When in reverse, following movements must not be authorised until it has been confirmed the previous movement is clear, and it is clear and safe for the intended movement.

10.4 Lichfield Siding

The siding end points of LWLA Switchlock (Tokoroa end) are fitted with throw over points and an electric lock.

When the switchlock mechanism is released, this in turn electrically releases the throw over points which remains released for as long as the switchlock is released. Both sets of points have to be operated separately.

When Down shunting movements proceed from the siding through LWLA switchlocked points towards Wiltsdown Road level crossing, the alarms will not operate immediately. A "Shunting Movement Slow 25 km/h" board has been erected adjacent to No.4674 Intermediate signal to remind crews of this.

Before LWLA switchlock can be locked both the siding and main line points must be in normal.

To prevent excessive operation of the alarms at Wiltsdown Road, both sets of points must be restored to normal once movements over them have been completed.

RP14 Operating Switch Lock Sidings is modified accordingly.

10.5 Tokoroa

10.5.1 Rail Vehicles Unattended on Loop

Rail Vehicles may be left unattended on the loop at Tokoroa provided:

- The train crew obtain permission from the Train Controller
- The vehicles are secured with hand / park brakes and chocks in accordance with **Rail Operating Code Section 5.1 Shunting Procedures, 2.6 Procedures for Securing Rail Vehicles**

TO08 Shunting, 7.3 Standing at Stations is modified accordingly.

10.6 Kinleith

10.6.1 All Trains Stop Boards

The main line on the Kinleith Branch ends at the ATS board on the right-hand side of the main line at 64.72 km. Trains must not pass this board until authorised by the person responsible for movements.

10.6.2 10R Signal

10R Up Departure signal is jointly controlled by the Signaller, Kinleith and the Train Controller.

10.6.3 Speed Limits

- At Kinleith, the speed on all roads from number 10L Down Home signal must not exceed 15 km/h.
- Single DL operation: For trains exceeding 1600 tonne.
- Tokoroa to Putaruru (55.5 to 49.5 km and 44 to 36.5 km).

Descending these grades, the braking method for train handling is maintaining braking, with the following restrictions:

- The maximum speed descending must not exceed 60 km/h.
- Releasing speed:
 - 1601 to 1850 tonne – 25 km/h.

- 1851 to 2250 tonne – 15 km/h.
- 2251 to 2450 tonne – 10 km/h.

If dynamic braking is unavailable, serial braking must be used descending these grades, with the following restrictions:

- The maximum speed at the top of the gradient is 40 km/h.
- The maximum speed descending is 50 km/h.
- Releasing speed:
 - Up to 1600 tonne – 15 km/h.
 - Over 1600 tonne – Stopped (bunched).

**NOTE**

Refer Operating Procedures Kinleith Branch - Steep Grades Job Aid 4 – Issue 1

10.6.4 Hi-Rail Vehicle Movements

Kinleith is not an interlocked signal box and Hi-Rail vehicle movements within station limits at this location will be verbally authorised by the Officer in Charge.

11. Mt Maunganui to Kawerau

11.1 Derusting Loops

At Hauone, Pongakawa, Te Maunga and Te Puke at least one train or shunting service must be routed via the crossing loop daily (Monday to Friday) to stop the build-up of rust.

11.2 Mt Maunganui

11.2.1 Rail Vehicles Unattended on Arrival and Departure Roads

Wagons may be left between 2LB and 6R signals on No.2 Arrival & Departure Road at Mt Maunganui for up to 72 hours with approval from the Train Controller. The wagons must be secured to prevent them from moving.

TO08 Shunting, 7.3 Standing at Stations is modified accordingly.

11.2.2 Totara Street Level Crossing: No.3 Industrial Siding

All train movements over the Totara Street level crossing must be piloted, and the speed of trains over the crossing must not exceed 10 km/h.

11.2.3 Hull Road Level Crossing: No.1 Industrial Siding

Between the 'Trains must not pass this point without permission to enter the yard' board and Hull Road on No.1 Industrial siding; the speed of trains must not exceed 10 km/h.

11.2.4 All Trains Stop Boards - Down Trains

ATS boards are on 1 and 2 arrival/departure roads next to 8L and 10L down starting signals for trains arriving at Mt Maunganui. Trains must not pass these boards unless authorised by the Yard Pilot.

11.3 Te Maunga

11.3.1 Derusting

No.9 and 13 points have been isolated in normal but are not secured and available for hand winding.

All signals at Te Maunga for services routed via the Branch or Connecting Line will operate normal except when No.9 and 13 points are hand wound in reverse.

11.3.2 Rail Vehicles Unattended on Loop

Rail Vehicles may be left unattended on the loop at Te Maunga provided:

- The train crew obtain permission from the Train Controller
- The vehicles are secured with hand / park brakes and chocks in accordance with **Rail Operating Code Section 5.1 Shunting Procedures, 2.6 Procedures for Securing Rail Vehicles**

TO08 Shunting, 7.3 Standing at Stations is modified accordingly.

11.4 Te Puke

11.4.1 Stopping Trains

To avoid rail burn and prevent locomotives from stalling, freight trains hauling a maximum load must not be stopped whenever possible at No.4RABC Up Home signal.

When trains are being crossed for crew change purposes, the Up train must be berthed on either the main or loop first before the Down train enters station limits for the change.

11.4.2 Rusty Rail Conditions

Due to the build-up of rust because of infrequent use of points, safeguard procedures as detailed below will apply for switchlocks WL1B and WL1C. Before movements are signalled over the above points when reversed it must be ensured there will be no conflicting movements until the movement is clear of the points and they are locked in normal, this includes placing a control tag on any signal leading to the affected points.

Any route in or out of the main or loop will need a rundown of the approach lock release timer before the route can be changed. This is done automatically by the interlocking.

11.5 Awakaponga

11.5.1 Axle Counters

The following track sections use axle counters to determine track occupancy between:

- 16752 Up Intermediate signal (between Kawerau and Awakaponga) and 16375 Down Intermediate signal (between Awakaponga and Hauone).

11.6 Kawerau

The speed of all trains entering station limits at Kawerau beyond the two ATS boards must not exceed 15 km/h.

2R Up Departure signal is jointly controlled by the Signaller and the Train Controller. Before 4L Down Starting signal can be placed at proceed, the Signaller must confirm the Operator of the service is in possession of an active Track Warrant.

11.6.1 All Trains Stop Boards

ATS boards are at:

- Main line - 392 metres beyond 2LAB Down Home from the Main signal.
- Murupara Branch - 787 metres beyond 4RAB Up Home from Branch signal.

Down trains from Awakaponga and Up trains from the Murupara Branch must not pass the ATS boards until authorised by the Team Leader or his nominee.

11.6.2 Shunting Norske Skog and CHH Tasman Pulp Siding

Security gates protect the entrance to the siding. Shunting movements are not permitted to enter the siding until permission has been obtained from Security Personnel at Tasman, who will open the gates.

When the shunting is completed and the movement has returned to the station yard, Security Personnel at Tasman must be advised so that the security gates can be closed.

11.6.3 Hi-Rail Vehicle Movements

Kawerau is not an interlocked signal box and Hi-Rail vehicle movements within station limits at this location will be verbally authorised by the Officer in Charge.

12. Murupara Branch

12.1 All Trains Stop Boards

Trains must not pass the ATS board unless authorised to enter Murupara yard by the Train Examiner Operations. Before authorising the movement, the Train Examiner Operations must ensure the route is correctly set for the intended movement.

12.2 Radio Communication

The Operator on trains running on the Murupara Branch has an E band portable radio for use in an emergency. An E band base radio is in the Team Leader's office at Kawerau for communicating with the Operator. Channel 6 is to be used to communicate between the Operator and the Team Leader's office.

12.3 Fire Patrols

During the summer months (usually from November to March) there is a risk of fires being started by trains on the Murupara Branch.

To ensure there is an immediate detection of any fires a Hi-Rail vehicle is to follow trains during this period when considered necessary.

Arrangement for summer months:

- Each day when trains are running, the Ganger in Charge at Kawerau will contact the Fire Officer at Fletcher Forestry to establish the fire risk situation and if patrols are necessary.
- When patrols are necessary the Ganger in Charge will advise the Train Controller.
- After permission has been received to on-track the patrolling Hi-Rail vehicle must travel at least 15 minutes behind each train.
- The driver of the patrolling Hi-Rail vehicle is to communicate with the Operator of the train being followed at about the 19 and 38 km pegs. If communication cannot be established then contact is to be made via the Train Controller.
- A train must not depart Kawerau and Murupara until the patrolling Hi-Rail vehicle is ready to follow.
- If any fires are encountered during a patrol the driver is to advise the Train Controller who in turn must advise the Fire Service to standby.

12.4 Private Level Crossings

The following private level crossings are being used by log trucks to cross the main line:

- 13.34km Old Country Road 31.96km Ash Road
- 18.63km Cross Road 38.65km Billet Road
- 22.36km Station Road 41.14km Koki Road
- 25.43km Fletcher Road 44.82km Gibbs Road
- 27.77km Strawberry Road



CAUTION

A sharp lookout must be kept for log trucks on these crossings.

12.5 36 - 45 Wagon Log Trains

To be read in conjunction with:

- [M9203 - 82 Murupara Long Train Log Wagon Loading Rules](#), and
- Operating Procedures Over 35 Wagon Log Trains Steep Grades Murupara to Kawerau. Job Aid.



IMPORTANT

If a run-in occurs, the Operator of the train must:

- Immediately bring the train to a stop.
- Check the whole train (checking also for any log movement).
- If there is any log movement, secure logs (if this is not possible, wait for assistance).
- When the train is secure, proceed at 25 km/h to Kawerau.

12.6 FIB Class Unit Log Trains – Train Handling

On the Murupara branch, 22 FIB wagon consists may be hauled by a single DL locomotive using the following rules.

12.6.1 Train Makeup

The FIB wagons should be run as unit consists of 22 wagons. One FIH may be supplemented for one FIB if required. This ensures that these consists brake consistently.

12.6.2 Maintaining Braking

- Maintaining braking (air and dynamic brake) must be used on all ruling grades when dynamic brake has been proven to be operational.
- Dynamic brake function must be confirmed inbound to Murupara.
- Dynamic brake function must be confirmed between 33 km and 31.5 km prior to descending the Matahina and Tahuna banks.
- On the Matahina and Tahuna banks dynamic brake should be set to the mid-level, supplemented with air brake applications and releases. The mid-level dynamic brake setting avoids large wheelslide corrections in adverse adhesion conditions.
- Maximum speed on the Matahina and Tahuna banks must be 60 km/h.
- Maximum releasing speed must be 15 km/h.
- If Dynamic brake fails at any time, Serial Braking rules apply.

If the alternate method of setting airbrake to minimum reduction supplemented by dynamic brake to hold speed steady is used, maximum speed between 14.0 km and 6.0 km on the Murupara branch is restricted to 30 km/h. This is to prevent the wagon wheels overheating. This restriction is based on data using airbrake alone on the Tranz Alpine between Arthurs Pass and Otira.

12.6.3 Serial Braking: For FIB consists up to 1300 tonnes.

- Maximum speed over the top of the Matahina and Tahuna banks is 40 km/h.
- A minimum reduction must be made as the rear of the train comes onto the grade.
- Maximum speed is 55 km/h.
- Maximum releasing speed is 15 km/h.
- As the automatic brake is released, the independent brake must be applied to 150 kPa until a full brake pipe recharge has been obtained.
- Once the brake pipe is fully recharged, the independent brake must be released.

12.6.4 Burst Hose Procedure

At the end of a burst hose repair procedure, creeping movement may occur on some sections of the Matahina and Tahuna banks, when the final automatic brake application is released. If the train begins to creep in this situation the following applies:

1. Release the automatic brake
2. Reduce the independent brake to 150 kPa
3. Once the brake pipe has fully recharged, release the independent brake

12.6.5 Best Adhesion Method

If wheelslip begins to occur frequently on the ruling grades the following method can be used to optimise adhesion performance:

Speed	Throttle Notch	Action
Falls to 30 km/h	8	Apply independent brake to 100 kPa and leave at that setting until speed rises to 32 km/h
Falls to 25 km/h	8	Reduce throttle to notch 7
Falls to 20 km/h	7	Reduce throttle to notch 6
Falls to 5 km/h	6	Reduce throttle to notch 5

Speed	Throttle Notch	Action
Rises to 10 km/h	5	Increase throttle to notch 6
Rises to 20 km/h	6	Increase throttle to notch 7
Rises to 25 km/h	7	Increase throttle to notch 8
Rises to 30 km/h	8	Release the 100 kPa independent brake application.

Best adhesion performance will occur when the wheels begin to squeal indicating that controlled wheel creep is occurring. Wheel creep at this level improves the wheel - rail adhesion.

13. Signalling and Interlocking

13.1 North Island Main Trunk

Mercer - Pukekohe

Current S&I Diagram No.3425

Amendments:

- Change meterage from M6259 towards Pukekohe from 1352 to 1263

Te Kauwhata - Amokura

Current S&I Diagram No.3183

Huntly

Current S&I Diagram No.3369

Amendments:

- Sheet 1, rename Rotowaro Industrial Line to Rotowaro Branch Line

Ngaruawahia

Current S&I Diagram No.3446

Rotokauri - Burbush

Current S& I Diagram No.3370

Te Rapa

Current S& I Diagram No.3371 (replaces No.3210)

13.2 East Coast Main Trunk

Ruakura

Current S&I Diagram No.3424

Motumaoho - Eureka

Current S&I Diagram No.3292

Morrinsville

Current S&I Diagram No.3373

- Move 0 km peg for Waitoa Branch to 5 points Morrinsville.

Waharoa - Kereone

Current S&I Diagram No.3436

Whatakao - Hemopo

Current S&I Diagram No.3100

Te Puna - Apata

Current S&I Diagram No.2990

Tauranga

Current S&I Diagram No.3374

Te Maunga

Current S&I Diagram No.3454

Te Puke

Current S&I Diagram No.3343

Hauone - Pongakawa

Current S&I Diagram No.3376

Kawerau - Awakaponga

Current S&I Diagram No.3213

Amendments:

- Rename 'Flax Road' level crossing at 163.76 km between Awakaponga and Hauone to 'Simpsons Crossing'.

13.3 Kinleith Branch

Hinuera - Matamata

Current S&I Diagram No.3288

Putaruru

Current S&I Diagram No.3115

Amendments

- Delete WL1B switchlock
- Delete WL3 switchlock and replace with straight rail.

Kinleith - Tokoroa

Current S&I Diagram No.3209

13.4 Mt Maunganui Branch

Current S&I Diagram No.3442 (replaces No.3295)

13.5 Murupara Branch

Current S&I Diagram No.3377

14. Signalling and Interlocking Out of Use

Points at the following stations or sidings are bolted in normal and secured with a PS padlock pending removal.

If it is necessary to shunt any of these sidings below, the KiwiRail Infrastructure Area Manager or their deputy, must be in attendance.

Unless otherwise stated, Train Controller permission must be obtained and if in a Track Warrant area, a Track Warrant must be issued before the points are unlocked. The Officer from whom permission to unlock the points was obtained must be advised when the points are again padlocked.

Waharoa

WL1A and WL1B switchlocks have been clamped and secured in normal due to track conditions.

Te Puna

WL1A and WL1B switch locked points.

Te Maunga

WL1A switchlock has been secured in normal.

Te Puke

WL1B switch locked points has been PS bolted.

Hinuera

No.5A and 5B switchlock points are secured in normal.

Horomanga

No.1 and 9 points have been secured in normal pending repairs.