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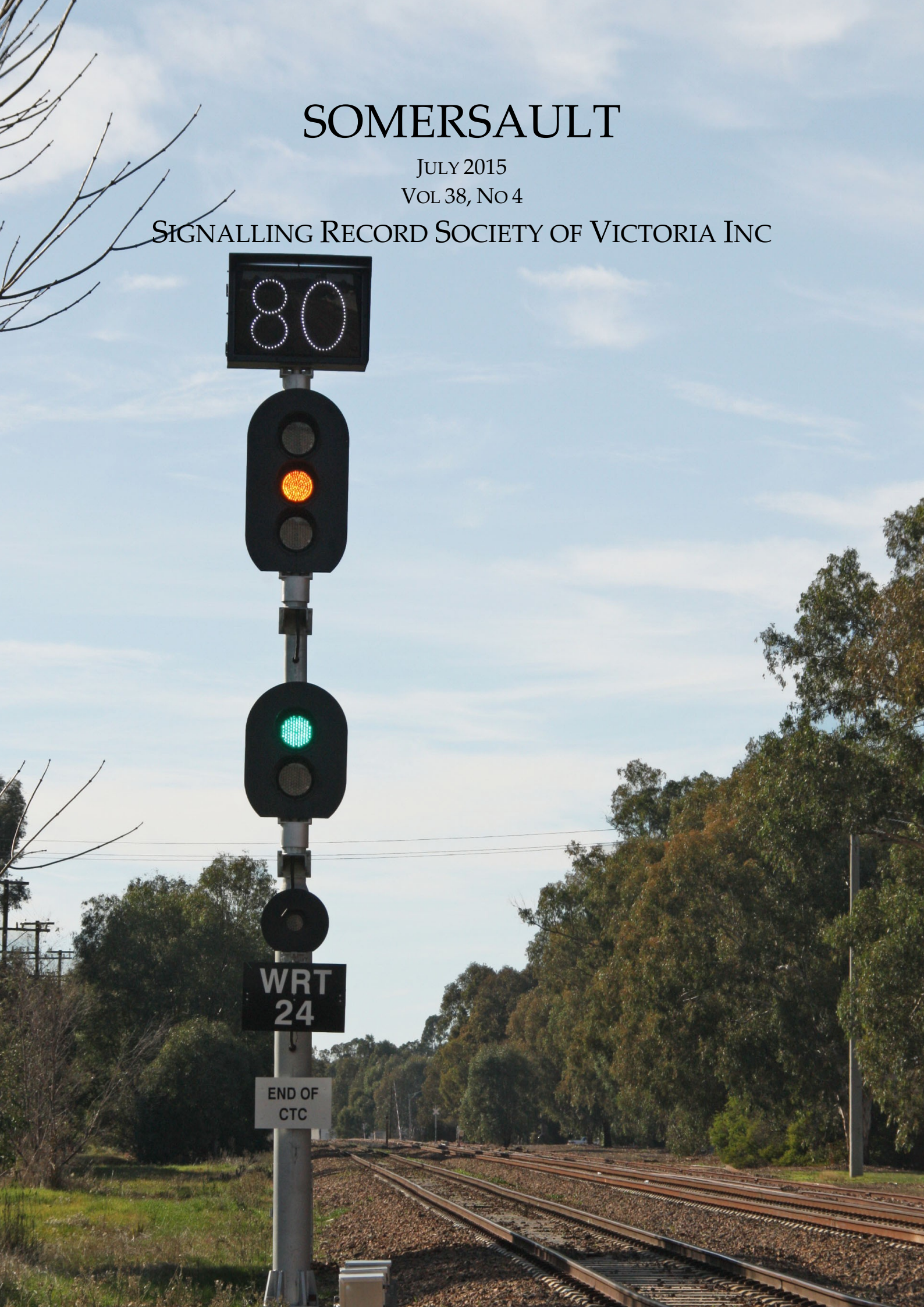

SOCIETY CONTACT INFORMATION

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MINUTES OF MEETING HELD FRIDAY 15 MAY 2015, SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS

Present: – Wilfrid Brook, Graeme Cleak, Glenn Cumming, Graeme Dunn, Michael Formaini, Ray Gomerski, Chris Gordon, Judy Gordon, Bill Johnston, David Jones, Keith Lambert, David Langley, Andrew McLean, Alex Ratcliffe, Laurie Savage, Brian Sherry, David Stosser, Andrew Waugh and Andrew Wheatland.

Apologies: – Steven Dunne, Chris King, Steve Malpass, Tom Murray, Colin Rutledge and Peter Silva.

The President, Mr. David Langley, took the chair & opened the meeting at 20:07 hours.

Minutes of the March 2015 Meeting: – Accepted as read. David Stosser / Wilfrid Brook. Carried.

Business Arising: – Nil.

Correspondence: – The annual return for 2014 was sent to Consumer Affairs Victoria. David Stosser / Michael Formaini. Carried.

Reports: – David Langley reported that power had been restored to the archives rooms at Seymour this week and that building repairs had commenced.

General Business: – Glenn Cumming advised that membership renewal forms had been sent and urged members to renew their membership.

Michael Formaini reported that V/Line had commenced a structural assessment of signal posts.

Michael Formaini tabled copies of articles from signal engineers that had been published in the newsletters of the Institute of Transport from the 1950's.

Keith Lambert provided details about various works in the Metropolitan District. A summary of the discussion follows: –

- St Albans Signal Box was abolished last weekend.
- Grade separation of the level crossing at Furlong Road, Ginifer, will now be included in the grade separation project at Main Road, St Albans.
- During July 2015, the Down platform at St Albans will be closed for demolition works.
- Grade separation of the level crossing at Heatherdale Road, Heatherdale, will now be included in the grade separation project for Blackburn Road, Blackburn.
- Grade separation of the level crossing at Centre Road, Bentleigh, and McKinnon Road, McKinnon, will now be included in the grade separation project at North Road, Ormond.
- Platform 3 at Ringwood will be closed in June 2015 for upgrade works.
- Rail services on the Stony Point Line operated by Sprinter railcars have been suspended due to allegations that the railcars are not operating level crossing equipment. The proposed solution is to install axle counters at all level crossings on the Stony Point Line.

(Front cover) 'Reduce to Medium Speed' with an '80' speed modifier on Home WRT24 south of Wangaratta indicates that the Down day XPT on Sunday, 8 June 2013, has been signalled along the West Line to the main platform at Wangaratta, and then via the 80 km/h crossover north of Wangaratta to the East Line for the journey onwards to Wodonga. WRT24 is typical of the signals provided by ARTC in 2010/11 on the rebuilt and regauged NE main line. The former Alumatta Loop lies largely intact but out of use on the far side of the two standard gauge lines. Photo: Andrew Waugh

- Re-signalling works between Richmond – Camberwell have been delayed due to design issues.
- There are no trains between Dandenong – Pakenham – Cranbourne this weekend to allow rebuilding of the South Gippsland Highway level crossing.

Andrew Waugh discussed the recent derailment of an Amtrak train North of Philadelphia USA.

Keith Lambert tabled a copy of the History of the Kerang – Stony Crossing Line.

Andrew McLean noted that information sessions for the proposed Bendigo metropolitan services had been advertised.

Syllabus Item: - The President introduced Member Keith Lambert to present the Syllabus Item.

Keith presented a selection of 20 digital images from Victoria in the form of a "Where is it" type quiz.

The images came from a variety of sources and featured a variety of locations, both country and metropolitan, and from different eras.

The meeting was given ample opportunity to view the images and deduce, estimate or just plain guess the location of each image, with many images receiving appreciative comments.

Andrew Waugh and David Langley top scored with a few other members also scoring very well.

The presentation was thoroughly enjoyed by those present at the meeting, probably more for the great collection of images rather than being able to identify all the locations.

At the completion of the Syllabus Item, The President thanked Keith for the entertainment & this was followed by acclamation from those present, along with the promise of a future invitation to do it all again at a future meeting.

Meeting closed at 22:02 hours.

The next meeting will be on Friday 17 July, 2015 at the Surrey Hills Neighbourhood Centre, Bedford Avenue, Surrey Hill, commencing at 20:00 hours (8.00pm).

SIGNALLING ALTERATIONS

The following alterations were published in WN 16/15 to WN 26/15 and ETRB A circulars. The alterations have been edited to conserve space. Dates in parenthesis are the dates of publication, which may not be the date of the alterations.

04.01.2014 Emerald (A2/14)

On Saturday, 4.1., a Down Approach Bell was provided in the Safeworking Room at Emerald. It will normally only operate when a Down train operates the Pinnocks Road flashing lights. It has a different tone to the existing Up Approach bell (which will continue to operate for all trains).

26.11.2014 Ashburton (SW 153/15, WN 17/15)

On Wednesday, 26.11., the siding was booked out of use due to sleeper condition. Points 3D have been secured normal.

04.12.2014 Lakeside (A14/14)

On Tuesday, 2.12., a 4 lever ground frame with 3 working levers was provided immediately beyond the Up end of the platform. Lever 1 works the Down Outer Home, Lever 2 the Down Inner Home to No 2 Road, and Lever 3 the Down Inner Home to No 1 Road. Lever 4 is not provided. A lockable flap is provided to secure the all the levers either normal or reverse.

Levers 2 and 3 are interlocked and cannot be reversed at the same time. Lever 1 is not interlocked with either of the other two levers. The existing detection is unaltered (the Outer Home does not detect anything, while the Inner Homes detect the position of the points and the plunger).

Levers 2 & 3 in the Up end ground frame, and levers 13 & 14 in the Down end ground frame are fitted with electrical locks. Only one of these levers can be reversed at any one time.

The existing tail quadrant levers (working the Down Outer Home) on the platform, and the two ground mounted quadrant levers (working the Down Inner Homes) were removed.

10.04.2015 Dandenong (SW 134/05, WN 17)

On Friday, 10.4., the SSI interlocking data was amended to correct signalling control problems.

Sidings 4 & 9 were booked out of service (note Siding 5 was already booked out of service). Points 636, 646, & 656 have been secured normal. SW 233/14 will continue to be in force.

16.04.2015 Minyip (TON 221/15, WN 16)

On Friday, 16.4., the Up end points (318.912 km) were booked out of use.

19.04.2015 North Melbourne - Kensington (SW 145/15, 147/15, & 151/15, WN 16)

On Sunday, 19.4., Posts NME461 and NME562 on the East Suburban line were converted to LED and equipped with TPWS. Post NME461 is now approach operated.

Diagram 5/15 (Kensington – Essendon) replaced 9/14.

19.04.2015 **Newport Workshops** **(SW 143/15 & 150/15, WN 16)**

On Sunday, 19.4., the motorised train stabling security Gates Nos 661 (Sidings 3 – 8), 663 (Up end Sidings 9 – 17), and 417 (Down end Sidings 13 – 17) were equipped for automatic operation and connected to the signalling system.

Diagram 13/15 (Newport) replaced 45/11.

(21.04.2015) **Book of Rules, Section 3, Rule 1 (Detention at an Automatic Signal)** **(SW 160, WN 16)**

SW 121/15 (Trial of voice recording system) was reissued to clarify that the trial only involves MTM drivers.

(21.04.2015) **Carwarp Loop – Yelta** **(SW 43/15 & 44/15, WN 16)**

There are three Train Order sections beyond Carwarp Loop: Carwarp Loop – Yatpool Block Point – Lakeside Block Point – Yelta. Redcliffs, Mildura Cement Siding, and Mildura are intermediate sidings in the Yatpool BP – Lakeside BP section. Merbein is an intermediate siding in the Lakeside BP – Yelta section.

Local movements between Merbein, Mildura Cement Siding, and through to Yelta are permitted to be issued with return Train Orders covering the adjoining single line sections. Examples of the Train Order wording is:

- 'Proceed to Merbein and lock away'. For a Down arriving train that will stable at Merbein
- 'Proceed to the Cement Siding, shunt as required, then return to Merbein and lock away.' For a shunt movement from Merbein to the Cement Siding and return to Merbein.
- 'Shunt as required in the Lakeside Block Point – Yelta section then lock away at Merbein.' For shunting in the single line sections at the Up and Down ends of Merbein and then lock away.
- 'Work as required in the Yatpool Block Point – Lakeside Block Point – Yelta sections then proceed to…' A train requiring to work between Merbein and Mildura Cement Siding, then to Yelta, then back to Merbein, and then departing toward Melbourne.

While a Train Order is in force in the Yatpool BP – Lakeside BP – Yelta sections, a Train Order can be issued at Carwarp Loop to shunt into the single line section towards the Up location board and then return into the loop.

SW 1086/02 is cancelled. Operating Procedure 131 (Train Order Territory) was reissued and SW 176/14 is cancelled.

(28.04.2015) **Book of Rules, Section 3, Rule 1 (Detention at an Automatic Signal)** **(SW 163, WN 16)**

SW 160/15 (Trial of voice recording system) was reissued. This changed the definition of 'extreme caution' to be: at a speed that allows the train to be stopped within half the distance which can be seen ahead, but not more than 25 km/h. The telephone number of the automated voice recording system has also been stored in the DTRS radio units.

(28.04.2015) **Non-signalled moves in the Metrol controlled area** **(SW 164/15, WN 17)**

New Inner Group Operating Procedure 5 (Metrol controlled area – Non signalled moves) has been issued.

When a non-signalled move is to be performed over interlocked points within the Metrol controlled area, the Signaller Metrol must: 1) ensure the points are in the correct position for the move with points sleeved commands applied; 2) attempt to obtain a yellow or green route line over the entire route (this may require the involvement of the Metrol technicians); and 3) arrange to have all points in the route secured by hand locking bars or points clips if a yellow or green route line cannot be obtained.

29.04.2015 **Walpeup** **(TON 304/15, WN 20)**

On Wednesay, 29.4., Walpeup siding (501.464 km – 502.050 km) was booked out of use. The points were secured normal.

04.05.2015 **Epsom** **(SW 45/15 & 48/15, WN 17 & 18)**

On Monday, 4.5., control of Home EPM30 from the Bendigo Corridor signalling VDU was enabled. The Home will now be normally controlled from Centrol and the hand requirement to have a local signaller at Epsom was cancelled.

09.05.2015 **St Albans** **(SW 173/15 & 174/15, WN 19)**

On Saturday, 9.5., and Sunday, 10.5., the signal box equipment and interlocking frame was removed. The crossover and lead to the former No 3 Road were removed. Down Home SAB35 was redressed as an Automatic and renumbered M619. Up Home SAB9 and co-acting Home SAB9P were redressed as Automatics and renumbered M650 and M650P respectively.

Diagram 21/15 (Albion – St Albans) and 1/15 (Keilor Plains – Sydenham) replaced 19/14 and 61/12 respectively.

(12.05.2015) **Tandarra – Mitiamo** **(SW 55/15, WN 19)**

Diagram 132/14 (Tandarra – Mitiamo) replaced 106/13 as in service.

17.05.2015 Geelong (SW 54/15, WN 19)

At 0700 hours on Sunday, 17.5., the Geelong Signalling Centre was closed. Operation of the Manor Junction – Geelong and Marshall – Waurn Ponds sections was transferred to Centrol.

The Train Description Bells on the Geelong line were taken out of use. Trains will normally operate as per the Network Service Plan. If it is necessary to signal a train out of regular order, or for an extra to run, each Signaller must verbally notify the Signaller in advance.

(19.05.2015) Central (SW 291/15, WN 20)

The room assignments at Centrol are as follows. Note the rooms are now identified by letters instead of numbers:

Room	Use	Lines
G	Geelong Corridor Train Controller	Melbourne – Warnambool Murtoa – Hopetoun Dimboola - Yaapeet
GS	Geelong Corridor Signaller	Manor Junction – Geelong Marshall – Waurn Ponds
BT	Ballarat Train Controller	Melbourne – Ballarat – Ararat North Geelong – Maryborough - Yelta Ouyen – Panitya Dunolly – Korong Vale – Robinvale Korong Vale – Mittyack Ararat – Maryborough – Moolort
STC	Senior Train Controller	
BO	Bendigo Train Controller	Melbourne – Bendigo – Echuca – Deniliquin Barnes - Moulamein Bendigo – Swan Hill – Piangil Eaglehawk – Inglewood
W	RRL Signalling Zone 2	Spencer St 15/15 – Spion Kop & Melbourne Yard
R	RRL Signalling Zone 3	South Kensington – Deer Park – Manor Junction & Deer Park West
L	Latrobe Valley Train Controller	Melbourne – Bairnsdale
N		Sunshine – Brooklyn Brooklyn – Newport (West Line) Melbourne – Tocumwal Toolamba - Echuca Shepparton - Dookie

(19.05.2015) North Williamstown – Williamstown (SW 190/15, WN 20)

Diagram 3/14 (North Williamstown – Williamstown) replaced 49/11 account closure of pedestrian subway at North Williamstown and provision of pedestrian gates.

(19.05.2015) Morwell – Morwell Industrial Siding (SW 57/15, WN 20)

Diagram 52/14 (Morwell – Morwell Industrial Siding) replaced 112/11 as in service.

20.05.2015 Bagshot (SWN 56/15, WN 20)

On Wednesday, 20.5., boom barriers will be provided at the existing flashing lights at Midland Highway (179.874 km). The level crossing will be operated by axle counters. Active Advance Warning Signs are provided. Healthy state indicators and yellow whistle boards will be provided. Remote monitoring equipment will continue in service. The fate of the infringement camera located at this crossing was not mentioned, but it was probably removed.

Due to overlapping axle counter equipment at Reillys Rd (180.773 km), an axle counter reset keyswitch will not be provided at Midland Highway, and the existing axle counter reset keyswitch at Reillys Rd will be removed. On and off tracking road/rail vehicles will not be permitted at either level crossing.

Amend Diagram 114/14 (Epsom – Echuca).

28.05.2015 Ouyen (SW 60/15, WN 21)

On Thursday, 28.5., Up Homes Posts 3 & 6 were renewed with new posts. The new posts have LED heads. Amend Diagram 8/07 (Ouyen – Carwarp).

31.05.2015 Kananook – Frankston (SW 185/15, WN 21)

On Sunday, 31.5., the Up side pedestrian barriers at Syke Road (42.424 km) were upgraded to pedestrian wickets with magnetically latched bypass gates. Amend Diagram 41/12 (Bonbeach – Frankston).

06.06.2015 **Kananook – Frankston** **(SW 185/15, WN 21)**
On Sunday, 6.6., the Down side pedestrian barriers at Syke Road (42.424 km) were upgraded to pedestrian wickets with magnetically latched bypass gates. Amend Diagram 41/12 (Bonbeach – Frankston).

04.06.2015 **Melton** **(SW 65/14, WN 23)**
On Thursday, 4.6., Siding A will only be available for track machines. The dual control point machine on Catch 25 was electrically isolated and will be hand operated for all movements. Catch 25 is secured normal. TON 201/11 is cancelled.

05.06.2015 **Newport Workshops** **(SW 210/15, WN 23)**
On Friday, 5.6., the Down end of the Test Track (No 1 Track) will be booked out of use account the Siemens Project. The points in the Test Track near the Loco Overhaul Shops will be secured to lie towards the Carriage Overhaul Shops.

05.06.2015 **Lake Boga** **(TON 372/15, WN 23)**
On Tuesday, 5.6., the siding was booked out of service. The Up and Down end points are secured normal.

13.06.2015 **Dingee** **(SW 67/15, WN 23)**
On Saturday, 13.6., No 2 Road was abolished. The plunger locked points (Points B and C) were abolished together with the adjacent signal quadrants. Dingee remains available for follow on movements and is classified as an Intermediate Train Order Station.

15.06.2015 **Geelong** **(SW 71/15 & 72/15, WN 24)**
On Monday, 15.6., new Stabling Roads 1 – 5 were provided at the Geelong Locomotive Depot between the West Line and Vlocity Fueling Facility. Nos 1 & 2 Roads have a clear standing room of 237 metres, while the remaining Roads (including Roads 6 & 7) have a standing room of 159 metres.

Diagram 6/15 (Geelong Locomotive Depot) replaced 20/11. Operating Procedure 61 (Geelong) was reissued and SW 17/15 is cancelled.

15.06.2015 **Dingee** **(SWN 67/15, WN 23)**
On Monday, 15.6., Dingee was abolished as an Intermediate Train Order Station (replaced by Hopes Block Point). Down Home Post 1, Up Home Post 2, the quadrants on the platform, and the Up and Down Location Boards were abolished.

15.06.2015 **Hopes Block Point** **(SW 67/15 & 68/15, WN 23)**
On Monday, 15.6., Hopes Block Point was established at 216.000 km between Dingee and Pyramid. The Train Order sections are now Woodvale Block Point – Hopes Block Point – Kerang.

Up and Down Block Point signs were provided (white triangle with the name in black letters). Up and Down Location Boards were provided 2,500 metres in the rear of the Block Point signs (yellow triangle with the name in black letters). Location clearance signs are provided on the rear of each Location Board. TAILS is not provided.

Amend Diagram 132/14 (Tandarra – Mitiamo). Operating Procedure 161 (Train Order Territory) was reissued and SW 44/15 was cancelled.

(16.06.2015) **Book of Rules, Section 3, Rule 1 (Detention at Automatic Signals)** **(SW 222/15, WN 24)**
The trial of the automated voice mail facility used when passing an Automatic signal at Stop has been extended until 0001 hours on Sunday 28.6.2015.

21.06.2015 **Deer Park West Junction – Manor Junction**
On Sunday, 21.6., services commenced on this line. Tarneit and Wyndham Vale were opened for passenger traffic. The official opening of both stations was on Sunday, 14.6.

21.06.2015 **Arcadia – Kennedys Road** **(SW 74/15, WN 25)**
On Sunday, 21.5., boom barriers were provided at Kennedys Rd (157.634 km) which was a passive crossing. Operation of the booms is by a predictor and RFR predictor indicator boards were provided. Trains travelling at more than 50 km/h at the predictor boards may accelerate before reaching the crossing. Healthy state indicators and yellow whistle boards were provided. Remote monitoring equipment was provided.

21.06.2015 **Frankston – Stony Point** **(SW 221/15, WN 24)**
Between Monday, 15.6., and Sunday, 21.6., axle counter equipment were installed at the following protected level crossings: Clarendon St; Robinsons Rd; Golf Links Rd, Baxter – Tooradin Rd; Hastings Rd, Eramosa Rd; Park Lane, Bungower Rd; Mornington – Tyabb Rd; Hodgins Rd, Cool Store Rd; High St; Reid Pde; Stony Point Rd; Urquhart Cres; Disney St; and Naval Depot Rd. Testing will commence Monday, 22.6.

22.06.2015 **Waurn Ponds – Pettavel Road** **(SW 75/15, WN 25)**
On Monday, 22.5., boom barriers were provided at Pettavel Rd (90.409 km) which was a passive crossing. Operation of the booms is by a predictor and RFR predictor indicator boards were provided. Trains travelling at more than 50 km/h at the predictor boards may accelerate before reaching the crossing.

Healthy state indicators and yellow whistle boards were provided. Remote monitoring equipment was provided.

Amend Diagram 90/14 (Waurn Ponds).

22.06.2015 Kensington – Essendon & Flemington Racecourse branch (SW 187/15, WN 24)

Between Saturday, 20.6., and Monday, 22.6.15., the following alterations took place on these lines.

Kensington

Long train release was provided for Down Automatic KEN595.

Kensington – Newmarket

Down Automatic E181 was converted to a Controlled Automatic and renumbered NKT559. Track circuit E181T was renumbered 559T.

Flemington Racecourse branch

Down Automatics R221 and R247 were converted to Controlled Automatics and renumbered SGS551 and RCE545 (respectively). Up Controlled Automatic SGS550 was converted to an uncontrolled Automatic and renumbered R218. Track circuits R221T, SGS550T, R218T, & R247T were renumbered 551T, R218T, R216T, & 545T respectively.

Newmarket – Essendon

Down Automatics E277 & E291 were converted to Controlled Automatics and renumbered MPD551 & ESD549 respectively. Down Banner Indicator E277BI was renumbered MPD551BI. Track circuits E277T & E291T were renumbered 551T & 549T respectively.

Essendon

Crossovers 434, 446 & 447, and Points 437 & 442 were provided with M23A dual control point machines. The crank handle in the circuit controller in the SM's office was removed.

Diagrams 17/15 (Kensington – Essendon) & 7/15 (Flemington Racecourse Line) replaced 5/15 & 37/13 respectively.

25.06.2015 Bendigo (TON 445/15, WN 26)

On Thursday, 24.6., No 2 Road Bendigo Goods Yard was booked back into service. Nos 1, 5, & 6 Roads remain booked out of service (booked out 4.3.13), and Nos 3 & 4 Roads in service. TON 35/13 is cancelled.

26.06.2015 Hattah (SW 81/15, TON458/15, WN 26)

Commencing Friday, 25.6., Hattah siding was booked in for stabling track machines. The siding is only accessible from the Down end Plunger Locked points. A hand operated Derail block is provided in the siding, and the Siding is baulked at the Up end. SW 139/05 is cancelled.

26.06.2015 Dingee (SW 76/15, WN 25)

On Friday, 26.6., boom barriers were provided at Evans St (211.132 km) which was a passive crossing. Operation of the booms is by axle counters. Healthy state indicators and yellow whistle boards were provided. Remote monitoring equipment was provided.

An Up two position Home signal was provided 145 metres on the Up side of Dingee platform. The Home signal is controlled by a CLIQ5P key switch located at the Up end of the platform. The normal position of the signal will be at proceed, and it may be restored to Stop if a train is delayed in the platform.

Diagram 12/15 (Tandara - Mitiamo) replaced 132/14.

26.06.2015 Shepparton (TON 454/15, WN 26)

On Friday, 26.6., the Fruit Siding (No 5 Road) was booked out of use. The points leading to the siding have been clipped.

28.06.2015 Book of Rules, Section 3, Rule 1 (Detention at Automatic Signals)
(SW 213/15, SW 72/15, SW 222/15, WN 24 & 25)

At 0001 hours, Sunday, 28.6., Section 3, Rule 1 (Detention at Automatic Signals) was amended. The modified rule applies to all operators on both the V/Line and Metro networks. The following is a précis of the amended rule.

1. Automatic Signal at 'Stop'

a) When a Driver brings their train to a stand at an Automatic signal displaying Stop, they must ring the automated voice mail system and listen to an automated message giving instructions. The driver will then be prompted to state their name, the identifier of the leading vehicle, and the signal.

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VICTORIAN STAFF SECTIONS C1986

In the late 1980s I, like a number of others, used to regularly visit the late Neville Hallas (the last Interlocking Engineer) in his office on Level 5 Transport House. I think Neville enjoyed compiling lists and one in his handwriting is a list of Victorian safeworking sections – including details of the then patterns of electric staff and staff & ticket in use. The Secretary recently commented on this list and lamented that he had not copied it or taken any notes. Fortunately, Neville had copied the list for me, and after much searching and visiting a locksmith to get a key made for a four draw filing cabinet, the copy turned up.

The staff details have been extracted and entered in the following table. In the notes column the following abbreviations have been used for electric staff instruments:

GE	Generator, Earth Return
GM	Generator, Metallic Return
BE	Battery, Earth Return
BM	Battery, Metallic Return
AGE	Automatic, Generator, Earth Return
AGM	Automatic, Generator, Metallic Return
AB	Automatic, Battery
ABE	Automatic, Battery, Earth Return
ABM	Automatic, Battery, Metallic Return
IES	Intermediate Electric Staff instrument
IBP	Intermediate Block Post
BM	Balancing magazine

The number following the staff instrument type (GE, GM, BE, BM, AGE, AB, ABE, or ABM) appears to be the number of staffs for the section.

Section	Type	Pattern	Notes
West Tower – Webb Dock	TS&T	White	No tickets
Newport – Brooklyn (West Line)	LES	Grey	GM30, IES Brookwood
Brooklyn – Sunshine	LES	Red	GM30, IES Market Siding
Newport – Brooklyn (East Line)	MES	A	GM30
Brooklyn – Tottenham	MES	B	GM30
Geelong B – South Geelong	MES	A	GE40
South Geelong – Winchelsea	MES	B	GM42, IES Waurn Ponds
Winchelsea – Colac	MES	C	GM42, BM, IBP: Birregurra
Colac – Camperdown	TST	White	IBP: Pirron Yallock
Camperdown – Warrnambool	TST	Black	2 Master Keys
Camperdown – Terang	TST	Red	
Terang – Warrnambool	TST	Blue	
North Geelong B – North Geelong C	MES	B	GE30
North Geelong C – Gheringhap	MES	D	GE40, IES Thompson St
Gheringhap – Lethbridge	MES	C	GE40, BM
Lethbridge – Meredith	MES	A	GM40, BM
Meredith – Lal Lal	MES	B	?30, BM
Lal Lal – Warrenheip	MES	D	GM30, BM
North Geelong C – Warrenheip	TST	White	Special for weekends
North Geelong C – Grain Loop	TST	Black	No tickets
North Geelong C – Fyansford	TST	White	No tickets
Gheringhap – Inverleigh	MES	A	AB28
Inverleigh – Wingeel	MES	B	AB28
Wingeel – Cressy	MES	A	AB?
Cressy – Berrybank	MES	B	ABE32
Berrybank – Lismore	MES	A	ABE30
Lismore – Derrinallum	MES	B	ABM30
Derrinallum – Pura Pura	MES	A	ABM30
Pura Pura – Westmere	MES	B	ABE30
Westmere – Tatyoon	MES	A	ABE30
Tatyoon – Maroona	MES	B	ABM30
Rockbank – Melton	MES	C	GM40, BM
Ballarat D – Trawalla	MES	A	GM30, BM
Trawalla – Beaufort	MES	B	GM40
Beaufort – Buangor	MES	C	GM40, BM
Buangor – Ararat	MES	A	GM40
Ballarat – Eureka	TST	Red	No tickets, (Line closed)
Ballarat D – Cattle Sidings	TST	Black	

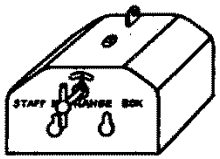
Section	Type	Pattern	Notes
Ballarat D – Skipton	TST	Red	
Ararat – Jacksons Loop	MES	D	AGE30
Jacksons Loop – Maroona	MES	C	AG30
Maroona – Willaura Loop	MES	A	AGE30
Willaura Loop – Glen Thompson	MES	B	AGE30
Glen Thompson – Dunkeld	MES	D	AGE30
Dunkeld – Grampians Loop	MES	C	AGE30
Grampians Loop – Miakite Loop	TST	Black	
Miakite Loop – Myamyn Loop	MES	D	AGE30
Myamyn Loop – Heywood	MES	C	AGE30
Heywood – Portland	TST	White	
Heywood – Mt Gambier	TST	Red	
Heywood – Dartmoor	TST	Black	
Dartmoor – Mt Gambier	TST	White	
Ararat A – Maryborough	TST	Black	IBP: Avoca
Lubeck – Bolangum	TST	White	No tickets, Line closed
Murtoa – Warracknabeal	TST	Red	IBP: Minyip, Sheep Hills
Warracknabeal – Hopetoun	TST	White	IBP: Beulah
Hopetoun – Patchewollock			No safeworking shown, but "No ticket", line closed
Horsham – East Natimuk	TST	White	IBP: Vectis
East Natimuk – Carpolac	TST	Black	No tickets, line closed
Dimboola – Yaapeet	TST	Blue	(NB: Prev Dimboola – Jeparit Blue, J – Yaapeet White
Jeparit – Yanac	TST	Black	Line closed
Ballarat C – Sulky Loop	LES	Grey	AGM30, IES: SEC Siding
Sulky Loop – Tourello Loop	LES	Green	AGE30
Tourello Loop – Talbot	LES	Blue	AGE30
Talbot – Maryborough	LES	Grey	GE30
Maryborough – Dunolly	MES	C	GE30, BM
Dunolly – St Arnaud	MES	D	GM30, BM, 2 Compo Staffs (Bealiba)
Dunolly – Emu	MES	A	GE30, BM
Emu – St Arnaud	MES	B	GE30, BM
St Arnaud – Donald	LES	Grey	GE30, 2 Compo Staffs (Cope Cope)
St Arnaud – Sutherland	LES	Green	GE30
Sutherland – Donald	LES	Blue	GM30
Donald – Watchem	LES	Green	GE30, 2 Compo Staffs (Litchfield)
Watchem – Birchip	LES	Blue	GE30
Birchip – Woomelang	MES	C	GM30, 2 Compo staffs 31, 32 (Curyo), BM
Woomelang – Speed	MES	B	GE30, Comp staff 31 (Lascelles, Gama)
Speed – Ouyen	MES	C	GE30, Compo staffs 33, 34
Ouyen – Hattah	MES	A	GE40, Compo staffs 43, 44 (Kiamal)
Hattah – Carwarp	MES	B	GM40, Compo staffs 43, 44 (Nowingi)
Carwarp – Redcliffs	MES	A	GE30, BM
Redcliffs – Irymple	MES	B	GE30, Compo staff 31
Irymple – Mildura	MES	A	GE30, Compo staff 31
Mildura – Yelta	TST	White	IBP: Merbein
Maryborough – Castlemaine	TST	Blue	IBP: Carisbrook
Dunolly – Inglewood	TST	Black	
Ouyen – Underbool	TST	Black	IBP: Galah, Torrita
Underbool – Cowangie	TST	White	
Cowangi – Pinaroo	TST	Blue	IBP: Panitya
Redcliffs – Meringur	TST	Red	IBP: Merrinee, Werrimull
Bendigo D – Eaglehawk	MES	A	BM40
Eaglehawk – Bridgewater	TST	White	IBP: Leichardt
Bridgewater – Inglewood	TST	Red	
Inglewood – Korong Vale	LES	Red	BM30, 2 Compo staffs (staff also applies to Wedderburn)
Korong Vale – Charlton	TST	Red	IBP: Wychitella, Buckrabanyule
Charlton – Wycheproof	TST	Blue	IBP: Glenloth

Section	Type	Pattern	Notes
Wycheproof – Berriwillock	TST	Black	IBP: Nullawil
Berriwillock – Sea Lake	TST	Red	IBP: Boigbeat
Sea Lake – Kulwin	TST	White	
Korong Vale – Boort	LES	Grey	GE30 (also shown as TST White)
Boort – Quambatook	LES	Red	GE30 (also shown as TST Red)
Quambatook – Ultima	LES	Green	GM30, 2 Compo staffs (Cannie, Lalbert (repeater stn), Meatian) (also shown as TST Black)
Ultima – Manangatang	TST	Blue	IBP: Chillingollah
Korong Vale – Ultima	TST	?	"Temporary Staff 9.9.86"
Manangatang – Robinvale	TST	Black	IBP: Annuello
Bendigo D – Swan Hill	TST	Red	Special for weekend
Eaglehawk – Dingee	TST	Blue	Master Key
Dingee – Pyramid	TST	Black	Master Key, IBP: Prarie
Pyramid – Kerang	TST	Red	
Kerang – Swan Hill	TST	White	IBP: Mystic Park
Kerang –Lake Boga	TST	Red	NB: same pattern as Pyramid – Kerang!
Lake Boga – Swan Hill	TST	Blue	
Swan Hill – Piangil	TST	Black	IBP: Nyah West
Piangil – Kooloonong	TST	Red	Line closed
Kerang – Koondrook	TST	Black	Line closed
Bendigo D – Elmore	TST	Black	
Elmore – Rochester	TST	Red	
Rochester – Echuca	TST	Blue	
Echuca – Barnes	LES	Blue	AGE30, BEK: Echuca to Up end Murray River Bridge
Barnes – Wakool	TST	Black	IBP: Bunnaloo, Caldwell
Wakool – Moulamein	TST	Red	IBP: Burraboi
Moulamein – Balranald	TST	White	Line closed
Barnes – Deniliquin	TST	Red	IBP: Mathoura
Elmore – Lockington	TST	White	Line closed
Lockington – Cohuna	TST	Red	Line closed
Mangalore – Avenel	MES	B	GM40, BM
Avenel – Longwood	MES	D	GM40, BM
Longwood – Euroa	MES	A	GM40, BM
Euroa – Violet Town	MES	C	GM40, BM
Violet Town – Benalla A	MES	B	GM40, BM
Benalla B – Wangaratta	MES	D	GM30, BM, IES Alumatta
Benalla B – Glenrowan	MES	A	GM40, BM
Glenrowan – Wangaratta	MES	B	GM30, BM
Wangaratta – Springhurst	MES	C	GM30, BM
Springhurst – Wodonga A	MES	B	?30
Springhurst – Barnawatha	MES	D	GM30
Barnawatha – Wodonga A	MES	A	GM30
Mangalore – Nagambie	LES	Green	?
Nagambie – Murchison East	MES	A	GM30, 2 Compo Staffs, BM
Murchison East – Shepparton	MES	B	GM30, 2 Compo Staffs, IES Toolamba
Shepparton – Numurkah	LES	Grey	GM30, Comp Staff 31, IBP: Tallygaroopna
Numurkah – Strathmerton	LES	Green	ABM30, 2 Comp Staff 33, 34, IBP: Katunga
Strathmerton – Tocumwal	TST	Red	
Toolamba – Kyabram	TST	Black	
Kyabram – Echuca	TST	White	
Shepparton – Katamatite	TST	White	IBP: Pine Lodge, Yabba North, Line closed beyond Dookie
Strathmerton – Cobram	TST	White	
Benalla B – Yarrawonga	TST	White	IBP: Goorambat, Devenish, Tungamah
Yarrawonga – Oaklands	TST	Black	IBP: Rennie
Bowser – Peechelba East	TST	Black	No tickets, line closed
Bowser – Myrtleford	TST	Blue	Line closed
Myrtleford – Bright	TST	White	No tickets, Line closed

Section	Type	Pattern	Notes
Springhurst – Rutherglen	TST	White	NB: no staff shown for Rutherglen – Wahgunyah
Wodonga A – Livestock Siding	LES	Green	AGM30, IES: Coal Sidings, Bandianna, Automatic inst at Livestock
Bunyip – Longwarry	MES	A	?
Morwell – Traralgon	LES	Blue	BM30, IES Maryvale
Traralgon – Sale	LES	Red	BM30, 2 Compo Staffs (Rosedale), BEK to 158.923km
Sale – Stratford	LES	Grey	BM30, 2 Compo Staffs, IES Stratford Junction
Stratford – Bairnsdale	LES	Green	BM30, 2 Compo Staffs
Bairnsdale – Orbost	TST	White	IBP: Bruthen, Nowa Nowa, Special BP: Waygara, line closed
Traralgon – Cowwarr	LES	Green	BM30, 2 Compo Staffs, BEK to 158.265 km, Line closed
Cowarr – Maffra	TST	Red	Line closed
Maffra – Stratford Jn	TST	White	No tickets
Dandenong – Lang Lang	TST	White	Special section
Dandenong – Cranbourne	LES	Red	GM30, 2 Compo Staffs (Lyndhurst)
Cranbourne – Koo Wee Rup	LES	Grey	BM30, 2 Compo Staffs
Koo Wee Rup – Lang Lang	LES	Blue	BM30
Lang Lang – Korumburra	LES	Red	BE30, IBP: Nyora
Korumburra – Leongatha	LES	Green	BE30, Compo Staff
Leongatha – Yarram	TST	Black	IBP: Buffalo, Fish Creek, Alberton; Staff also applies to Barry Beach; line closed Welshpool – Yarram
Williamstown – Williamstown Pier	TST	White	No tickets
Fawkner – Gowrie	TST	Black	
Gowrie – Upfield	TST	White	
Upfield – Somerton	LES	Grey	GM30, IES Ford's Sdg
Lalor – Epping	TST	Blue	
Greensborough – Eltham	MES	C	GM30
Eltham – Hurstbridge	TST	White	
Eltham – Diamond Creek	TST	Red	
Diamond Creek – Hurstbridge	TST	Black	
Lilydale – Healesville	TST	White	Line closed Coldstream - Healesville
Lilydale – Yarra Glen	TST	Red	
Yarra Glen – Healesville	TST	Blue	
Frankston – Baxter	LES	Red	GM30, Compo Staff
Baxter – Somerville	LES	Green	GM30, Compo Staff
Somerville – Hastings	LES	Blue	GM30, IES Long Island Jn
Hastings – Stony Point	TST	Blue	
Crib Point – Stony Point	TST	Red	(NB Hastings – Stony Point not shown)
Crib Point – Naval Base	TST	Black?	No Ticket

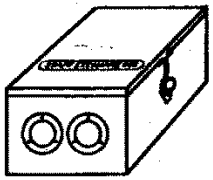
The list also included information about the Staff exchange boxes at the various stations:

Type	Description	Locations provided
N269	Staff Exchange Box (Large Type)	Camperdown, Talbot, Watchem, Inglewood, Ultima, Numurkah, Strathmerton, Sale, Stratford, Cowwarr, Cranbourne, Koo-Wee-Rup, Baxter, and Somerville
K127	Staff Exchange Box (Miniature) Type C	Winchelsea, Gheringhap, Lethbridge, Meredith, Lal Lal, Dunolly, Bealiba, Woomelang, Speed, Hattah, Carwarp, Redcliffs, Irymple, Avenel, Longwood, Euroa, Violet Town, Glenrowan, Wangaratta, Springhurst, and Barnawartha
F1949	Staff Ticket Exchange Box	Colac, Camperdown, Berriwillock, Strathmerton, Yarrawonga, and Crib Point
F2751	Staff Exchange Box for Large & Miniature staffs	Colac, St Arnaud, and Murchison East
F2922	Composite Staff Exchange Box	Winchelsea (2F2922), Nagambie, Murchison East, Sale, Stratford, and Baxter



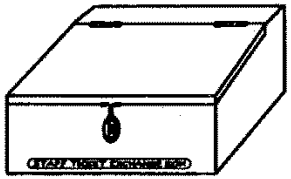
STAFF EXCHANGE BOX
MINIATURE STAFF

DRAWING K127



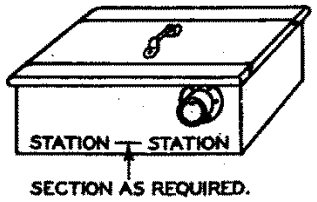
STAFF EXCHANGE BOX
LARGE STAFF

DRAWING N269



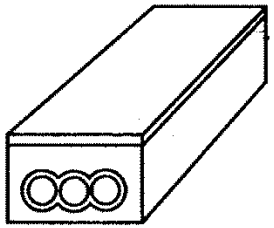
STAFF TICKET
EXCHANGE BOX

DRAWING F1949



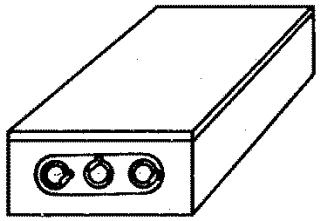
STAFF TICKET BOX
ORDINARY STAFF

DRAWING N274



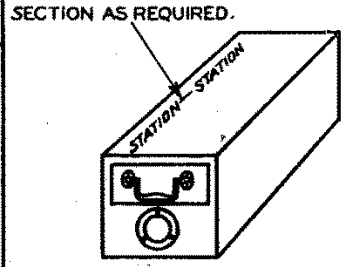
STAFF SWITCH BOX
LARGE STAFF

DRAWING N146



STAFF SWITCH BOX
MINIATURE STAFF

DRAWING N244



STAFF
TICKET BOX
FOR DIVIDED STAFF
LARGE STAFF

DRAWING B744

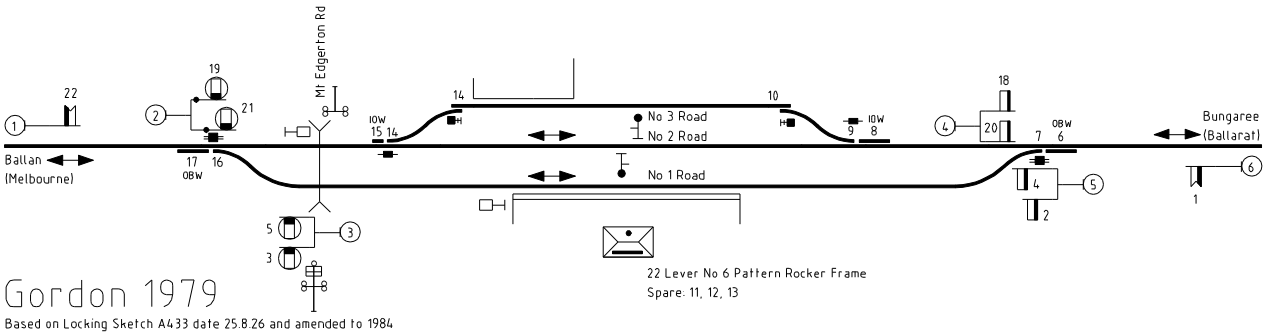
FOR STAFFS SEE F4404

V.R. BOXES
FOR STAFF WORKING
ON SINGLE LINES 8-8-30.

CHIEF ENG. SIGS&TELS.	DRAWN BY P.J.D.	TRACED BY P.J.D.	
			F2617

GORDON IN 1981

David Langley took a trip to Gordon, on the Sunshine – Ballarat main line on Friday, 25 September 1981 – just prior to the station closing for passengers on 3 October 1981. Opened in May 1879 as 'Gordons', the station was originally the terminus of the short minor branch line that left the main line (via Geelong) at Warrenheip. The branch was so minor that it didn't even appear to be equipped with Staff and Ticket for many years. The branch was extended to Ballan in December 1886 as part of building the direct (via Bacchus Marsh) line. This was opened in December 1889. The station was interlocked in 1892 from a 22 lever rocker frame which lasted until the end. Electric staff instruments replaced Train Staff and Ticket working on 22 July 1898, and miniature instruments were provided on February 1912. The frame was located at the back of the signal bay. Never very busy for either passengers or goods, Gordon was one of the many minor stations closed to passengers under the 'new deal' reinvention of country passenger services which saw many minor stations closed. After closing to passengers in October 1981, it lasted a little longer as a crossing loop. The end came on 28 March 1985 when Bungaree Loop replaced both Gordon and Bungaree. The station building, with signal box, survives today and is cared for by the ARHS Victorian Division.



(Above and below): The front and rear of the Gordons station building with the skillion roofed 'signal bay' at the end of the building. It appears that the main station building was erected in 1880 – a contract was entered into with J.H. Cowley in November 1879 for construction of the passenger station. A signal box would have been provided in 1891 in preparation for interlocking in 1892, but no contract is recorded and it was likely to have been second hand. It is unlikely that the signal bay in the photos is the original. The skillion roof, lack of continuous glazing across the front of the bay, and the small domestic style windows suggest that the bay was provided in the 1940's or '50s. It is known that the signal frame was 'raised' in December 1941; this could mark the provision of the new signal bay. (Opposite top) The Melbourne end of the crossing loop with the two position light signals and the flashing lights at Mount Egerton Rd. These were provided in 1979. (Opposite lower) The Ballarat end of the crossing loop. The main line was slued to run through No 2 Road in June 1926, which probably explains why Post 5 was so far from the track. The Departure Home signals were provided at the same time.

REORGANISATION OF SIGNAL AND TELEGRAPH DEPARTMENTS, VICTORIAN GOVERNMENT RAILWAYS

The following article was printed in the British technical magazine 'The Railway Engineer' of February 1923. Although no author is credited, the article was almost certainly written by someone in the Victorian Railways. It is interesting to note the subtle elisions – note the calm transfer of control from Philpott to Ballard in 1894. The S&T Branch only lasted until

For the purpose of obtaining a more efficient and economical working the Commissioners of the Victorian Government Railways formed, as from July 1, 1922, a separate signal and telegraph branch under a chief engineer of signals and telegraphs reporting direct to the Commissioners. Hitherto the Signal Department had been a section of the Way and Works Branch under the Engineer of Signals, who reported to the Chief Engineer of Way and Works, and the Telegraph Department, although having been a separate branch prior to the retirement of the Telegraph Superintendent in 1919, had been a section of the Electrical Engineering Branch under the Chief Electrical Engineer.

The first signal engineer on the Victorian Government Railways was Mr E. Philpott, who was sent to Victoria by McKenzie & Holland in charge of their exhibit at the Melbourne Exhibition in 1879. He entered the railway service as signal engineer in 1882, and remained in this position until he was succeeded in 1894 by Mr E.H. Ballard, the present Chief Engineer of Way and Works, who was followed in 1905 by Mr F.M. Calcutt, the present Chief Engineer of Signals and Telegraphs. During this period great progress has been made in providing efficient signalling and safe-working appliances throughout the State, and it is interesting to note that on January 1, 1880, there were 12 interlocked places with 218 interlocked levers, whilst on January 1, 1900, there were 395 interlocked places with 5943 interlocked levers.

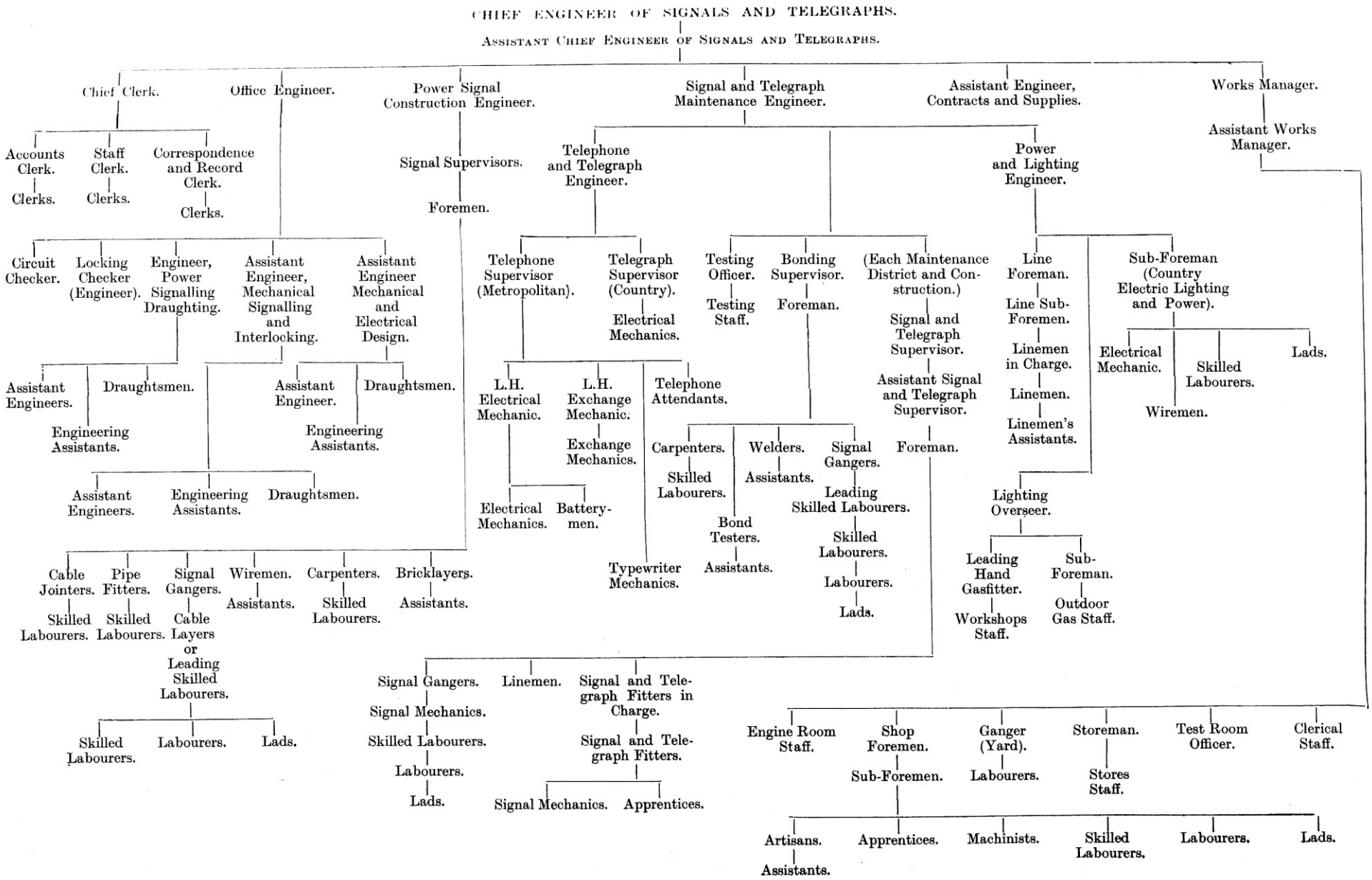
The Signal and Telegraph Branch will be responsible for the installation and maintenance of signals, interlocking and safe-working appliances, telegraphs, telephones and the pole lines and wires required for these purposes: traction bonding, cable trunking and overhead earthing connections required for the Melbourne electrified railways; electric bells (with the exception of those used in the railway power-house at Newport and the different sub-stations), electric clocks and clock controls, train describers, train departure clocks and indicators, fire alarms and time recorders; gas, lux and kerosene lighting at stations, level crossings, depots, &c., including stationary oil-gas holders and gas pipe lines; and, outside the electrified area, all electric lighting and (with a few exceptions) electric power required for railway purposes. The erection and maintenance of signal-boxes and all buildings required by the Signal and Telegraph Branch, as well as the painting of signal masts and fittings, will continue to be carried out by the Way and Works Branch.

At the end of the penultimate financial year, June 30, 1921, there were on the 5-ft. 3-in. track gauge lines 8,102 interlocked levers over a route mileage of 4,274 miles, 3,944 miles being single track, with 5,801 signals, 5,012 points, 1,087 lock bars; 3,520 ½ miles were protected by electric safe-working appliances, comprising 317 Winter's block instruments, 582 electric staff or tablet instruments, &c., with 1,092 track circuits.

On June 30, 1922, there were 7,719 miles of telegraph and telephone wire, with 2,738 miles of wire used in connection with electric staff and block working, electric bells, and signal repeaters, together with 7,678 miles of postal, telegraph, and telephone wires, all on railway poles. An additional 876 miles of railway telegraph and telephone wire are on postal poles, and these are maintained by the Commonwealth Postal Department. There are in service nearly 400 telegraph stations and 3,700 telephones, not including automatic telephones. An automatic telephone exchange, having a capacity of 500 lines, has been in service for metropolitan railway purposes for the last 10 years. This exchange is one of the heaviest worked switchboard installations in Australia, and it has a switching capacity of 40 per cent. Another automatic telephone exchange, having a capacity of 50 lines, has been installed for the exclusive use of the electrification services.

The power and automatic signalling in the Melbourne suburban area, portions of which have been described in the Railway Engineer, has been planned and installed by the staff employed by the Railway Commissioners. A large portion of the apparatus used in connection with signalling is manufactured in the signal shops at Newport. It is the policy of the Victorian Railways Commissioners to manufacture all such material as can be economically done, with the exception of appliances which are highly specialised. The telegraph workshops now located at Spencer Street, Melbourne, are to be transferred to Newport, and combined with the present signal shops to form the signal and telegraph workshops. The shops are under the control of a works manager, who reports to the Assistant Chief Engineer of Signals and Telegraphs, and who is responsible for the manufacture and repair of materials, as well as supervising all stores required for the branch. The number of men employed in the combined workshops will be about 510.

We are indebted to Mr Calcutt for the chart showing the organisation of the new branch. The clerical section is in charge of a chief clerk, and the engineering portion is divided into four sections. The drawing office staff engaged on mechanical signalling and interlocking, power signalling and electrical circuits and mechanical and electrical design is under the supervision of an office engineer. The office engineer has the assistance of a circuit checker and a locking checker and an officer in charge of each division of the office work. The installation of power and automatic signalling is in charge of a construction engineer, who has under him the signal supervisors and the necessary outside staff. The maintenance of all



Organisation of Signal and Telegraph Branch, Victorian Government Railways.

apparatus connected with the branch is under the direction of the signal and telegraph maintenance engineer and a power and lighting engineer, who are responsible for the technical details of such matters. The State is divided into eight districts for maintenance purposes, each district being in charge of a signal and telegraph supervisor, who has control of the staff engaged upon the maintenance of all apparatus connected with branch. In the suburban area a bonding supervisor is responsible to the maintenance engineer for installing and maintaining the traction bonding and overhead structure earthing connections, and has charge of the men engaged on this work. A testing officer, with staff, is under the maintenance engineer for conducting all electrical tests of any description. All large construction works, as well as some of the larger maintenance renewal works, are carried out be construction supervisors with headquarters at Melbourne.

An assistant engineer is placed in charge of all contracts between the branch and outside firms. He prepares all specifications for tenders and co-operates between the different engineers and the workshops for the prompt supply of material.

SIGNALLING ALTERATIONS

(Continued from Page 61)

b) The Driver may then pass the signal at Stop and proceed at extreme caution. Extreme caution is defined as a speed allowing the train to be stopped in half the distance viewable ahead, provided it does not exceed 25 km/h or the line speed (whichever is lower). The driver must be prepared to find the track occupied, obstructed, or damaged.

c) If the Automatic signal clears before the automated message is completed, the Driver must state "Signal cleared" at the prompt. The Driver can then proceed in accordance with the indication displayed.

d) If the Driver cannot reach the automated voice mail system, they may pass the Automatic signal after 30 seconds have passed. They must then proceed at extreme caution. Train Control must be notified at the first opportunity.

2) A Driver must not: pass an Automatic signal at Stop if they know that the section in advance is occupied by a train; assume the signal is defective; be distracted while the train is in motion (the train must be brought to a stand before the any other task is performed); or pass the signal unless in full control of the train.

3) A Driver need not pass an Automatic signal at Stop if they consider it to be unsafe (for various listed reasons). The Driver must inform Train Control of the reason for not passing the Automatic signal at Stop.

4a) A Driver must never be told that a signal is defective when it is at Stop.

4b) After passing an Automatic signal at Stop, the Driver must not increase the speed of the train until it has completely passed the next signal.

4c) Where there are parallel lines and the Driver sees a train ahead, the Driver must stop their train until they have confirmed that the train ahead is on the parallel line.

4d) If a Driver becomes aware of another train ahead in the section, the Driver must stop their train and wait until the first train has proceeded on its journey (or authorised by the Train Crew of the first train to move cautiously forward). When the first train moves off, the Driver of the second train may follow at a distance to avoid colliding with the first train if it stops.

4e) If the next signal is an Automatic signal, and it too is at Stop, the provisions of this Rule apply.

4f) Where the train must pass over an active level crossing which is not operating, the Driver must move forward cautiously until the protection equipment starts operating. The Driver must not enter the level crossing until the protection equipment is operating and it is safe to do so. The whistle must be used frequently.

4g) Where the train must pass over an active level crossing protected by a two position Automatic signal in a Train Order or Staff section, and the signal is at Stop, the Driver must bring their train to a stand for 30 seconds. The train can then be moved forward cautiously until the protection equipment starts to operate. The Driver must not enter the level crossing until the protection equipment is operating and it is safe to do so. The whistle must be used frequently. The train may resume normal speed after passing over the level crossing.

SW 163/15, SW 505/02, SW 1009/02, and SWP 5/02 have been cancelled.

29.06.2015 Melton (SW 83/15, TON 457/15, WN 26)

On Monday, 29.6., Siding A was booked out of service due to contaminated rail head caused by infrequent use. The point machine on Points 25 has been electrically isolated, and the selector and hand throw levers on Points 25 and Catch 25 have been secured by Signal Maintenance Technicians padlocks.

SW 65/15 is cancelled.