

SOMERSAULT

MARCH 2017

VOL 40, No 2

SIGNALLING RECORD SOCIETY OF VICTORIA



SOCIETY CONTACT INFORMATION

Published by the Signalling Record Society Victoria Inc (A0024029F)

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MINUTES OF MEETING HELD FRIDAY 17 FEBRUARY 2017, AT THE BELGRAVE (NG) RAILWAY STATION, BELGRAVE, VICTORIA.

Present: – Glenn Cumming, Ray Gomerski, Chris Gordon, Chris King, Keith Lambert, Andrew McLean, Phillip Miller, Alex Ratcliffe, Colin Rutledge, Peter Silva, David Stosser, Andrew Waugh & Andrew Wheatland.

Apologies: – Wilfrid Brook, Judy Gordon, Bill Johnston, David Langley, Bruce McCurry & Rod Smith.

Visitors: – David Langberg & Patrick Waugh.

The Secretary, Mr. Glenn Cumming, took the chair & opened the meeting at approximately 19:00 hours, and welcomed everybody to the Belgrave (NG) Railway Station.

General Business: – The February 2017 meeting consisted entirely of a visit to the Puffing Billy Railway locations at Belgrave and Menzies Creek.

Under the guidance of PBR Signalling Manager (and SRSV member) Andrew Wheatland, members inspected the signalling equipment in the Belgrave NG Yard. Andrew provided a description of the workings of the yard along with plans for the future including the construction of an elevated signal box. The inspection party then walked to East Belgrave Loop where the ten lever cam and tappet machine was demonstrated and signals including a drop off controller inspected.

When the inspection of Belgrave was complete, members boarded a collection of PBR track trolleys for the journey from Belgrave to Menzies Creek.

At Menzies Creek, the signal box was switched in to allow Andrew to demonstrate the features of this recently completed facility. Explanations were also given of the development of the signalling for the layout at Menzies Creek along with the staff and ticket working on the Puffing Billy Railway.

With darkness closing in, the trolleys (with members aboard) departed for Belgrave to conclude the evening's activities.

No other business was transacted during the meeting.

At the conclusion of the visit, the Secretary thanked Andrew Wheatland and his PBR colleagues for making all the arrangements for the evening and for acting as our guide during the tour.

Meeting closed at approximately 22:00 hours.

The next meeting will be on Friday 17 March, 2017 at the Surrey Hills Neighbourhood Centre, Bedford Avenue, Surrey Hill, commencing at 20:00 hours (8.00pm).

MINUTES OF 2016 ANNUAL GENERAL MEETING HELD FRIDAY 18 MARCH, 2016, AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS.

Present: – Noel Bamford, Wilfrid Brook, Graeme Cleak, Glenn Cumming, John Dennis, Graeme Dunn, Michael Formaini, Ray Gomerski, Chris Gordon, Judy Gordon, David Jones, Chris King, Keith Lambert, David Langley, Neil Lewis, Steve Malpass, Colin Rutledge, Brian Sherry, David Stosser, Stuart Turnbull and Andrew Wheatland.

(Front cover). The signalling on the Puffing Billy Railway must balance heritage characteristics, modern safety requirements, and the need to optimise the number of staff and volunteers required to operate it. The result is a fascinating signalling installation. This photo is of the Down Home applying to trains leaving the platform at Belgrave; the disc applies to moves into the East Belgrave loop. Photo Andrew Waugh

Apologies: – Jon Churchward, Steven Dunne, Bill Johnston, Trevor Penn, Peter Silva and Andrew Waugh.

The President, Mr. David Langley, opened the 2016 Annual General Meeting @ 20:05 hours.

Minutes of the March 2015 Annual General Meeting: – Accepted as read. Graeme Dunn / Andrew Wheatland. Carried.
Business Arising: – Nil.

President's Report: – The President, David Langley, presented the President's Report to the meeting.

It is with pleasure again that I present this report. Six well attended meetings were again held in 2015 and unusually all six meetings were held at Surrey Hills. The February meeting saw the Syllabus Organiser be the syllabus item himself and Bill presented a video about the signalling in Anglia all of which is about to be "modernised" or has by now been modernised. The March meeting was the AGM, the May meeting was Keith Lambert's presentation of mystery images in the form of a "where is it? quiz, in July Andrew Waugh gave a talk about the evolution of plunger locks on the VR, September was Bob Taaffe's talk about the evolution of the electric staff design, and in November the annual screening of more slides from the late Stephen McLean's collection.

"Somersault" again appeared six times through the year and is now, as we speak, in its 39th year. This continues to be an incredible achievement by Andrew given his family and work commitments, and enormous appreciation has to be extended to Andrew for keeping the content interesting and informative. In order to ensure Somersault's continuation please give generously.

My thanks for another successful year go to our committee – Vice President Bill Johnston, Secretary Glenn Cumming, Treasurer Peter Silva, and committee men Wilfrid Brook and David Stosser for all the work that has progressed through the year thus enabling our little society to see another year out.

Again I thank Keith Lambert and all the staff at Metro who so kindly permit us to visit locations not normally available to the general public with visits to Glen Huntly, Caulfield, Burnley, Camberwell, Riversdale and Ashburton. Please pass on my thanks to those concerned, we are very grateful.

Finally I wish to thank the members of the society for turning up to meetings, to tours and for providing all the little bits of information concerning our specialist interest that is not normally available in the main stream information highway. Thank you for your support and I move this report -----

David Langley President. David Langley / David Stosser. Carried.

Treasurer's Report: – In the absence of The Treasurer, Peter Silva, the presentation of the the Treasurer's Report for the year ended 31 December 2015 was deferred.

Auditor's Report: – In the absence of The Auditor, Jon Churchward, the presentation of the Auditor's Report was deferred.

Tours Report: – The Tours Officer, Glenn Cumming, presented his report.

I am pleased to report that the SRSV conducted one signal box tour during 2015.

The tour for the year was held on Saturday 19th September 2015.

The locations visited this year were Glenhuntly, Caulfield, Burnley, Camberwell, Riversdale and Ashburton. A variety of signalling equipment was viewed including one mechanical interlocking machine and the signalmen at each location were friendly and co-operative.

As was to be expected, this tour was well attended and this justified the effort required to arrange this tour. SRSV members travelled from interstate to attend this tour.

Thanks to all members & friends who participated & helped to ensure the success of the tour. A pleasant day out was enjoyed by all.

Special thanks must go to the officers of the various railway operating & engineering companies who allow the SRSV to visit areas not normally open to the general public. Their assistance is very much appreciated. Without their co – operation, SRSV tours would not occur. This year, the SRSV appreciated the co – operation and assistance of David Ward, Trevor Wyatt and Keith Lambert at Metro Trains Melbourne. My thanks to these gentlemen for their assistance.

The Tours Officer always welcomes suggestions & comments regarding the conduct of SRSV tours, especially ideas for future tours.

Glenn Cumming Tours Officer. Glenn Cumming / Michael Formaini. Carried.

Membership Report: – The Membership Officer, Glenn Cumming, tabled the Membership Report.

Type	2015	2014	Movement
V	63	66	– 3
K	29	28	+ 1
N	2	2	–
KL	2	2	–
VH	3	3	–
Total	99	101	– 2

Analysis of Movement

Additions: – Neil Lewis (K)

Non – Renewals: – Mark Bau (V)

Transfers: – Nil

Final Departures: – Reg Lloyd (V), Greg O'Flynn (V)

Glenn Cumming Membership Officer. Glenn Cumming / Colin Rutledge. Carried.

Editorial Report: – In the absence of the Editor, Andrew Waugh, the President tabled the Editor's Report for 2015.

Four issues of "Somersault" have been distributed to members during the year, with an additional issue (January 2016) with the printer and the final issue being worked on. We are consequently about one issue behind.

The Editor would like to apologise for the late running of "Somersault". It takes a significant amount of time to produce the magazine and time has been in short supply over the past six months. Computer issues have not helped. It is hoped that we will chip away at the late running of the magazine over the coming months.

Articles and other content (e.g. photos etc.) would greatly assist the Editor in achieving this.

Members are encouraged to contribute to "Somersault".

Andrew Waugh Editor. Colin Rutledge / Michael Formaini. Carried.

SRSV President David Langley urged all SRSV Members to assist the Editor wherever possible.

Archives Report: – Colin Rutledge presented the Archives Report for 2015.

There has been significant progress in the past year.

Improvements and changes over the past 12 months were described.

Plans for the future were outlined.

Colin Rutledge Archives Sub – Committee. Colin Rutledge / Andrew Wheatland. Carried.

Market Street Report: – Glenn Cumming presented the Market Street Project Report for 2015.

There has been no progress in 2015.

We are waiting for the ARHS Victorian Division to make a decision on this matter.

Glenn Cumming Market Street Sub – Committee.

Elections: – The Vice-President, Bill Johnston, chaired the meeting for the election of the new Committee.

No written nominations were received.

The following verbal nominations were received at the meeting: –

President: – David Langley, nominated by Colin Rutledge and seconded by Chris King.

Vice President: – Bill Johnston, nominated by Colin Rutledge and seconded by Chris King.

Secretary: – Glenn Cumming, nominated by Colin Rutledge and seconded by Chris King.

Treasurer: – Peter Silva, nominated by Colin Rutledge and seconded by Chris King.

Committeeman: – Wilfrid Brook nominated by David Stosser and seconded by Michael Formaini.

Committeeman: – Colin Rutledge nominated by Andrew Wheatland and seconded by Michael Formaini.

There being no further nominations, all nominees were declared duly elected to the position.

General Business: – David Stosser asked about progress on a new SRSV website. There has been no progress.

Meeting adjourned @ 20:25 hours.

The March 2016 Annual General Meeting was followed by the March 2016 Ordinary Meeting.

MINUTES OF THE RESUMED 2016 ANNUAL GENERAL MEETING HELD FRIDAY 20 MAY 2016 AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS.

Present: – Wilfrid Brook, Glenn Cumming, Graeme Dunn, Michael Formaini, Ray Gomerski, Chris Gordon, Judy Gordon, Andrew Gostling, Chris Guy, Bill Johnston, David Jones, Keith Lambert, David Langley, Neil Lewis, Bruce McCurry, Andrew McLean, Michael Menzies, Colin Rutledge, Laurie Savage, Rod Smith, David Stosser, Rob Weiss, Andrew Wheatland and Ray Williams.

Apologies: – Ken Ashman, Jon Churchward, Graeme Cleak, Steven Dunne, Chris King, Steve Malpass, Peter Silva, Alex Ratcliffe and Andrew Waugh.

Visitors: – Jim Gordon.

The President, Mr. David Langley, took the chair & opened the meeting @ 20:03 hours.

Treasurer's Report: – In the absence of the Treasurer, Peter Silva, the Secretary, Glenn Cumming, presented the Profit and Loss Statement and the Balance Sheet for the year ended 31 December 2015.

The SRSV recorded a small loss for the year.

Glenn spoke to the statements and explained the details of the statements and noted variations when compared with the previous year and the reasons for the loss in 2015.

Motion: That the Treasurer's report is received and adopted.

Glenn Cumming / Andrew Wheatland. Carried.

There were no questions and no further discussion.

Auditor's Report: – In the absence of The Auditor, Jon Churchward, the Secretary, Glenn Cumming, tabled the Auditor's Report.

Motion: That the Auditor's Report be accepted.

Glenn Cumming / Andrew McLean. Carried.

There were no questions and no further discussion.

General Business: – Nil.

Meeting closed @ 20:09 hrs.

The May 2016 Annual General Meeting was followed by the May 2016 Ordinary Meeting.

SIGNALLING ALTERATIONS

The following alterations were published in WN 1/17 to WN 9/17, 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.

- | | | |
|---------------------|--|--------------------------|
| 27.12.2016 | Blackburn | (SW 425/16, WN 1) |
| | The signal panel was permanently closed at 0300 hours on Tuesday, 27.12. | |
| 06.01.2017 | Huntingdale – Clayton | (SW 433/16, WN 1) |
| | On Friday, 6.1., the pedestrian crossing on the Up side of Clayton Road was closed to allow regrading works. Automated pedestrian gates 8 & 9 were closed. | |
| 09.01.2017 | Camperdown | (SW 2/17, WN 2) |
| | Effective Monday, 9.1., Camperdown was reclassified as an Intermediate Train Order Terminal Station. The fixed signals at Camperdown will normally be at stop when a signaller is in attendance. Operating Procedure 76 (Camperdown) was issued to cover the procedure for crossing trains and the issuing of train orders. | |
| 09.01.2017 | Clayton – Westall | (SW 432/16, WN 1) |
| | On Monday, 9.1., the Up and Down lines were slued in the vicinity of Centre Road. Home WTL724 (21.200 km) was relocated to the slued line. Automatic D650 (21.327 km) was replaced by a new post on the slued line. Home WTL726 and Automatics D634 & D664 were re-focused for the new track alignment. The boom barriers and flashing light masts were upgraded and relocated to suit the altered level crossing. The two pedestrian crib crossings were altered to cross the lines at right angles, but remain passive crossings. The pedestrian crossing on the Down side was temporarily closed (expected reopening in March 2017) | |
| (10.01.2017) | Traralgon – Sale | (SW 150/16, WN 2) |
| | Diagrams 106/14 (sic) (Traralgon) and 104/14 (sic) (Rosedale – Sale) replaced 46/13 and 24/13 respectively. The principle changes are the provision of notice boards at Traralgon, Rosedale and Sale. | |
| 13.01.2017 | Blackburn & Ringwood | (SW 425/16, WN 1) |
| | At 1700 hours on Friday, 13.1., Blackburn signal box was closed. Control of the Blackburn interlocking was transferred to Ringwood signal box. | |
| 13.01.2017 | Menzies Creek | (A1/17) |
| | On Friday, 13.1., pedestrian wicket gates were provided at the foot crossing over No 1 Road at the Down end of the island platform. The arrangement of the gates is similar to the automated wicket gates on the Metro network. Masts with a warning bells and crossing protection lights are provided on each side of the line. The Down side mast has an electronic warning bell and the Up crossing protection light, and the Up side mast has an electric bell and the Down crossing protection light. An indication was provided on the illuminated track diagram to show that the gates are closed, and the 'Signal Power On' light was removed from the diagram. Down Moves. Push buttons to start the operation of the gates were provided immediately inside the No 1 Road door of the signal box and on the Up end post of the barrier fence at the Down end of No 1 platform. These push buttons will only be active when No 1 Road is occupied and Home 9 (Down Home No 1 Rd) is at proceed. When either push button is depressed, both bells will commence to ring. After 7 seconds the | |

gates will commence to close across the foot crossing. When both gates are detected as fully closed, the electric bell (the louder) will be silenced, both crossing protection signals will begin to flash, and the red LED on the illuminated track diagram in the signal box will commence to flash. The gates will remain closed until No 1 Road is clear, or Signal 9 is restored to stop. Restoring Signal 9 to stop will immediately cancel both crossing protection signals, and, after 45 seconds, will cause the gates to open.

Up Moves. The gates will operate automatically for all Up moves and will work in conjunction with the flashing lights at School Rd. The gates will commence to close as soon as the flashing lights are triggered, and will open when the rear of the train clears the pedestrian crossing.

Shunts. A Down train which enters the pedestrian crossing and then sets back will cause the gates to reopen when the train clears the pedestrian crossing.

16.01.2017 Caroline Springs (SW 1/17, WN 2)

On Monday, 16.1., track and signal alterations in connection with the new station at Caroline Springs were provided. Passenger traffic at the new station commenced on Sunday, 29.1. Located at 21.256 km, the station comprises an island platform 193 metres in length.

The Up line was extended around the back of the new island platform and joins the single line at a new set of points (Points DPW27D). This line is named the No 1 Road, and the original single line was named No 2 Road. A short dead end siding is provided at the Down end of No 1 Road, but this is not available for train movements.

Down Automatic A201 and Up Automatic A246 were altered to display normal and medium speed aspects. Down Home DPW730 was renumbered DPW706. Down Dwarf DPW732 was renumbered DPW708. Up Dwarf DPW724 was renumbered DPW714. Up Home DPW726 was relocated in the Down direction to 20.085 km. Up Homes DPW710 & DPW712 and Down Departure Homes DPW730 & DPW732 were provided. Up Automatic A208 was abolished.

Points 630 and 724 were renumbered DPW7D and DPW9 respectively. Points DPW7U were brought into use. Crossover DPW27 was provided. All new points will be operated by dual control point machines.

Train Stop TPWS was provided at all Home signals at Deer Park West. All 'track circuits' between Homes DPK922/DPW706 and the down side of Points DPW27 are axle counter circuits.

The line speed for Up trains is reduced to 130 km/h at Home DPW726. The passive 160 sign for Down trains was relocated to be opposite DPW726.

The signalling at the new station forms part of the Deer Park West interlocking and is worked from the Ballarat Corridor VDU at Centrol.

Amend Diagram 26/15 (Ardeer – Rockbank)

16.01.2017 Oak Park (SW 8/17, WN 2)

On Monday, 16.1., the trap track circuit was removed from Devon Road. SW 26/16 was cancelled.

16.01.2017 Blackburn (SW 425/16, SWP 1/17, WN 1 & 2)

On Monday, 16.1., the line between Blackburn and Ringwood was closed for grade separation works.

Down Automatic BBN304 was converted to a Home signal and provided with a low speed light. Down Automatic BBN308 was converted to a Home signal, and provided with a low speed light and illuminated letter 'A'. A friction buffer was provided on the Down side of Home BBN310. A temporary pedestrian crossing was provided on the Down side of the friction buffer and Home BBN310 for pedestrian access.

The Blackburn CBI was upgraded to a Westrace Mk 2.

Diagram 27/16 (Blackburn – Ringwood) replaced 81/13.

Burnley Group Operating Procedure 6 (Blackburn failure of signals) was reissued.

14.01.2017 Centrol & Ararat (SW 7/17, WN 3)

On Saturday, 14.1., the Ararat WestCAD VDU at Centrol was removed. The control of Ararat was integrated in the Ballarat Corridor VDU at Centrol.

(17.01.2017) Ardeer – Rockbank (SW 8/17, WN 3)

Diagram 6/17 (Ardeer – Rockbank) replaced Diagram 26/15 account the commissioning of the signalling at Caroline Springs.

(17.01.2017) Ararat (SW 6/17, WN 3)

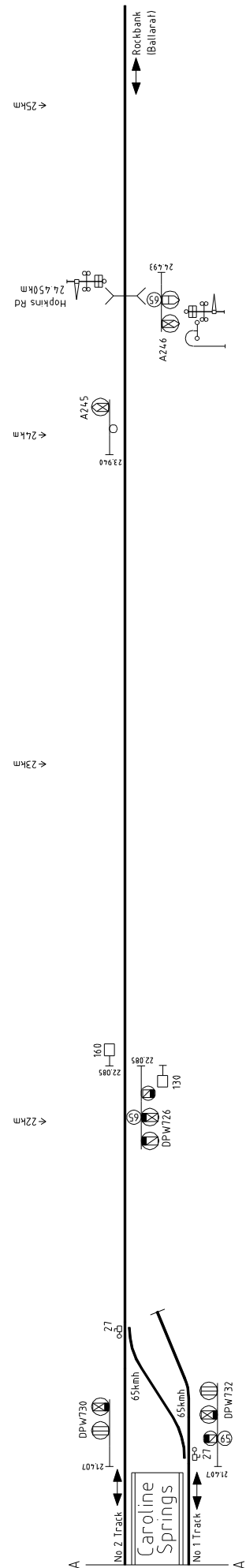
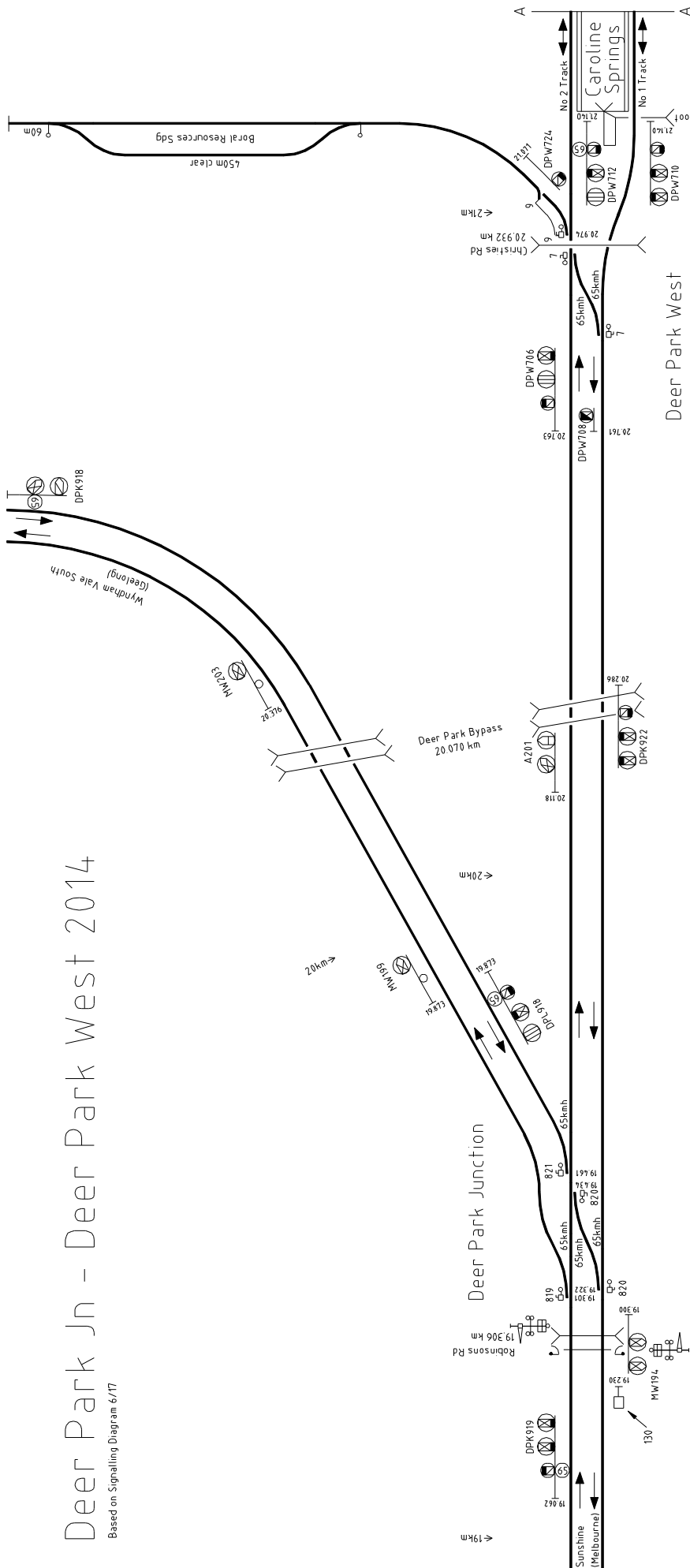
Operating Procedure 82 (Ararat) was reissued. The main alteration was altered instructions dealing with securing the Train Staff. SW 185/09 was cancelled.

17.01.2017 Pascoe Vale (SW 9/17, WN 2)

On Tuesday, 17.1., the trap track circuit was removed from Gaffney St. SW 26/16 was cancelled.

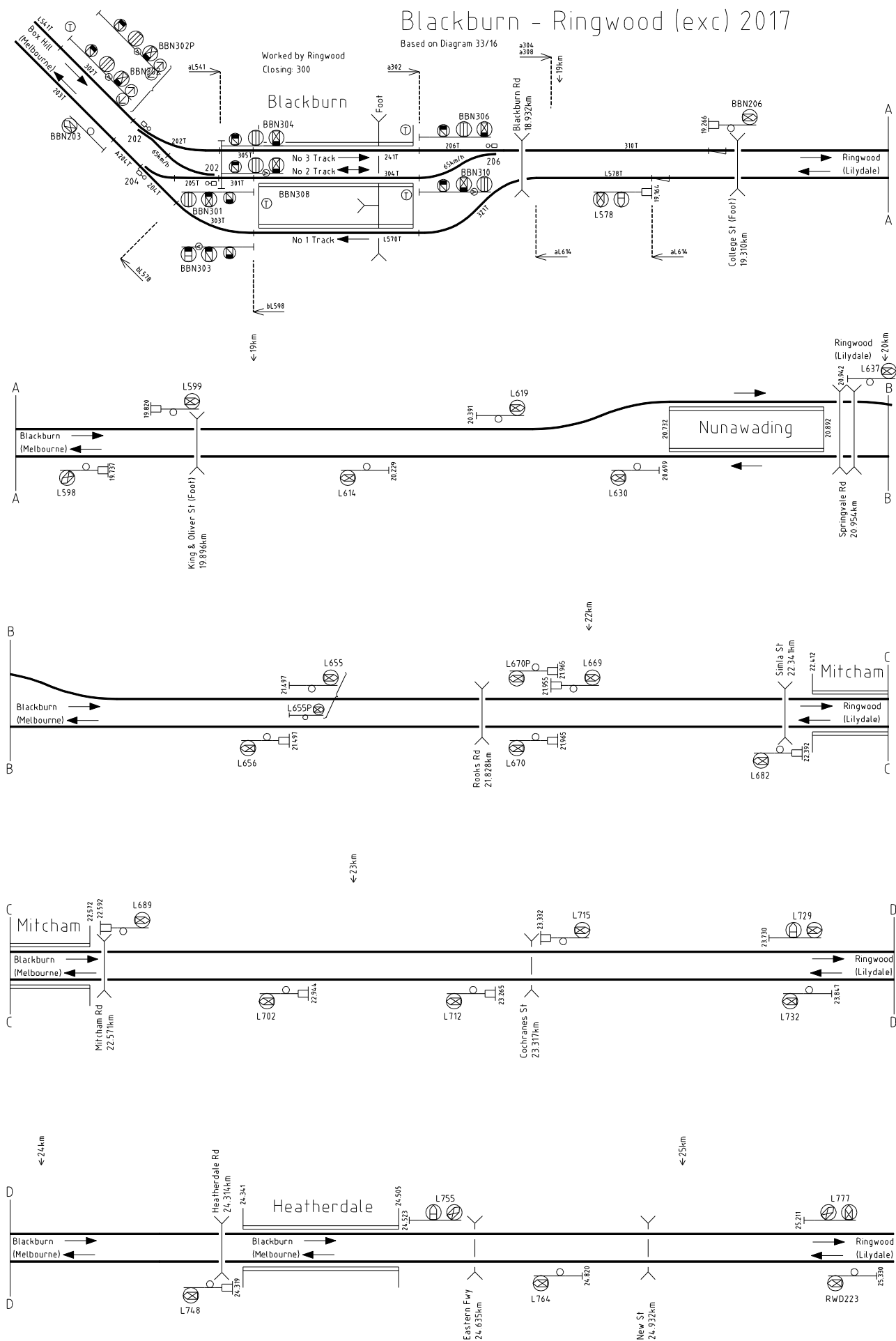
Deer Park Jn - Deer Park West 2014

Based on Signalling Diagram 6/17



- 17.01.2017 Menzies Creek (A2/17 & A3/17)**
On Tuesday, 17.1., an additional indicator was provided for the Down Pedestrian Gates Crossing Protection signal. It repeats the crossing protection signals for the pedestrian gates at the Down end of No 1 Road and will operate for all trains (both Up and Down). The indicator faces in the Up direction is located under the No 1 Road platform verandah above the Up end bay windows for the signal box. Guards of Down trains in No 1 Road must see that the repeating signal is flashing prior to giving the signal to start.
- 17.01.2017 Pakenham (SW 22/17, WN 4)**
On Tuesday, 17.1., the '80' speed indicators on Homes PKM6 and PKM28 were disabled. This was due to the TPWS equipment incorrectly causing over speed interventions.
- 18.01.2017 Glenroy (SW 10/17, WN 2)**
On Wednesday, 18.1., the trap track circuit was removed from Glenroy Rd. SW 26/16 & 77/16 were cancelled.
- 21.01.2017 North Dynon (SW 4/17, WN 3)**
On Saturday, 21.1., Points VTD40 (Up end broad gauge connection between Nos 9 and 7 tracks) was removed. No 7 Track will be booked out for broad gauge movements. Points VTD22 (Down end broad gauge connection to No 7 Track) was secured to lie for No 5 Track.
- 23.01.2017 Carnegie (SW 19/17, WN 3)**
On Monday, 23.1., the station was temporarily closed for grade separation works. The control of the signals was altered to allow for express running through the station. The stopping selection for Down trains between Caulfield and Murrumbeena has been disabled and all level crossings between Caulfield and Murrumbeena will operate under express conditions. The Up stopping selection for Koornang Road has been suppressed and all trains will operate under express conditions.
- (24.01.2017) Deer Park West – Wendouree (SW 13/17, WN 4)**
Operating Procedure 67 (Deer Park West – Wendouree Defective Signals) was reissued due to the alterations at Caroline Springs. SW 58/16 was cancelled.
- (24.01.2017) Frankston (SWP 2/17, WN 4)**
An existing special instruction was codified as a new Caulfield Group Operating Procedure 10B (Frankston – Operating restriction Siding No 5).
Due to insufficient clearance, trains or rail vehicles must not arrive into Frankston Siding No 5 while people are working on trains in Sidings 4 or 6. The Driver must confirm with the Signaller that no staff are attending to trains in Sidings 4 or 6 and visually check that no employees are present. When a Driver is to dock a train from Sidings 4 or 6, they must inform the Signaller prior to attending the train or commencing the train preparation. When possible, trains in Sidings 4 and 6 must be removed from the sidings before any movement in Siding 5 is undertaken.
- 27.01.2017 Broadford (SW 19/17, WN 5)**
From Friday, 27.1., Broadford may be switched in as a Double Line Block Post. SW 40/16 is cancelled.
- 30.01.2017 Ringwood (SW 23/17, WN 4)**
On Monday, 30.1., the Westrace Mk2 data will be updated. The changes include commissioning the traffic light co-ordination for the Bedford Rd/Great Ryrie St intersection and updates to the WestCAD.
- 30.01.2017 Bayswater (SW 20/17, WN 4)**
Between Friday, 27.1., and Monday, 30.1., the signal offset brackets on Home BAY310 were replaced.
- (31.01.2017) Book of Rules – Disconnecting track circuits during trackwork (SW 23/17, WN 5)**
Section 4 Rule 4 will no longer be used on the V/Line Network. Section 36 Rule 5 clauses b and c will no longer apply. Clause 5.4. of NIST 2650 will be followed instead. This requires that signals maintenance staff must be advised in advance when rails are to be removed or cut in track circuited areas so that signalling arrangements can be made. It also highlights the potential need to provide flagging protection at active level crossings.
- (31.01.2017) Book of Rules - Switching a block signal box in or out during an instrument failure (SW 18/17, WN 5)**
The rules in the Book of Rules, Section 20, Rule 21 dealing with switching a block post in or out during an instrument failure were amended.
Clause f (Switching out where a failure has occurred) was reissued. The Train Controller must confirm with the Signal Maintenance Technician that switching out the signal box will not affect resolving the failure. The Train Controller must then ensure that all trains have cleared the block sections on either side. The Train Controller can then authorise the signal box to be switched out in the normal way. If the failure does not permit the correct operation of the signalling (including operation of the switch out lever), the signal box must remain switched in. If the through block section is found to be working, normal operation can be resumed. Otherwise, trains must be worked under system failure conditions.

Based on Diagram 33/16



A new Clause J (Switching in where a failure has occurred) was added. The Train Controller must confirm with the Signal Maintenance Technician that switching in the signal box will not affect resolving the failure. The Train Controller must then ensure that all trains have cleared the through block section. The Train Controller can then authorise the signal box to be switched in. Trains are to be worked through the block sections under system failure conditions, unless the local block sections are found to be working. In this case normal working can be resumed.

- (31.01.2017) Camperdown (SW 22/17, WN 5)**
Operating Procedure 76 (Camperdown) was reissued. The alteration was to Clause 12 respecting the operation of fixed signals before the setting back of a passenger train from No 1 Road. SW 2/17 is cancelled.
- 31.01.2017 North Ballarat (SW 3/17, 5/17, & 20/17, WN 2, 3, & 5)**
On Tuesday, 31.1., pedestrian gates were provided at Heinz Lane (159.441 km, Maryborough line) with emergency gate control locks. Amend Diagram 16/15 (North Ballarat).
- 06.02.2017 Blackburn – Nunawading (SW 4/17, WN 2)**
On Monday, 6.2., the new grade separated lines at Blackburn Road were brought into use. Blackburn Road level crossing (18.932 km) was replaced by an over line bridge. The pedestrian crossings at Cottage St (19.310 km – automatic gates) and Oliver Ave/King St (19.896 km – crib crossing) were replaced by foot bridges.
A dual control point machine was provided on Points 206. Down Automatics BBN208 and L597 & Dwarf BBN307 were abolished. The 5P keyswitch controlling Home BBN310 was abolished.
Automatics BBN206 and L599 were provided. Up Automatics L578 & L598 were replaced by new masts. The new signals are worked from the Blackburn CBI.
Diagram 33/16 (Blackburn – Ringwood) replaced 27/16.
- 06.02.2017 Mitcham – Ringwood (SW 5/17, WN 2)**
On Monday, 6.2., the new grade separate lines at Heatherdale Road were brought into use. An over line road bridge was provided at 24.314km. The new Heatherdale station (25.421 km) was opened on the Down side of Heatherdale Rd with two 164m long platforms.
Down Automatics L727, L474, & L767, and Up Automatics L728, L740, L756, & L772 were abolished.
Down Automatics L729 & L755, and Up Automatics L732, L748, and L764 were provided. All new signals are LED. The new signals are worked from the Mitcham CBI.
- 10.02.2017 Camberwell (SW 31/17, WN 5)**
On Friday, 10.2., the SigMap and SigView software was updated to display the automatically signalled area between Hawthorn and Auburn. This will not become operational, however, until the final commissioning on 13.2.
- 11.02.2017 Clayton (SW 38/17, WN 7)**
On Saturday, 11.2., a temporary passive pedestrian crossing replaced the Down side pedestrian crossing at Clayton Rd. Automated pedestrian gates 7 & 10 were secured closed. The normal pedestrian crossing will be reopened by Monday, 13.2.2017.
- 11.02.2017 Warragul (SW 25/17, WN 7)**
On Saturday, 11.2., the Loop siding adjacent to the North line (Back Platform Track) was abolished. Points B, the point lever, HLM electric point lock, V5PSW key switch, rodded connections, and catch points were abolished. Amend Diagram 128/14 (Warragul – Yarragon).
- 13.02.2017 Burnley (SW 30/17 & 32/17, WN 5)**
On Monday, 13.2., Points 219U were provided with an M23A dual control point machine. The selector lever is secured by a SMT padlock. A new JZA field station was commissioned.
- 13.02.2017 Glenferrie (SW 32/17, WN 5)**
On Monday, 13.2., a disaster recovery site for Camberwell signal box was commissioned at Glenferrie. An emergency signal control panel, Sigview screens and servers, a kingfisher unit, and telephone communications were installed. A 5P key switch was provided for switching over control.
- 13.02.2017 Hawthorn - Auburn (SW 32/17, WN 5)**
On Monday, 13.2., the existing 25Hz 2.2KV signalling power supply between Hawthorn and Auburn was upgraded to 50Hz. Kingfisher units were provided at locations 179ZB, 197ZB, 230ZB, and 260ZB to provide indications for the tracks between Hawthorn and Auburn. The existing PLC system was decommissioned.
- 13.02.2017 Huntingdale – Clayton (SW 433/16, WN 1)**
On Friday, 6.1., the pedestrian crossing on the Up side of Clayton Road was reopened.

End£

BALLARAT EAST

The signalling history of Ballarat East is frustrating to write. The history can be divided into two eras. Before 1900, the story was one of continual evolution of facilities. After 1900, however, the station remained largely unchanged until the late 1980s. Unfortunately, 1900 is when we first get specific details about the signalling layout. So this history can be divided into two: before 1900 it is possible to outline the development of the signalling, but not give precise details; and after 1900 when it is possible to be precise, but not much is happening.

Apparently, there was quite a rivalry between the Borough of Ballarat East, on the east side of the Yarrowee river that runs through the centre of Ballarat, and the Borough of Ballarat, on the west. This may explain the unusual provision of two stations in Ballarat; Ballarat East and Ballarat. A reasonable provision would have been a single station at Ballarat East, particularly as the provision of the western station required the construction of a massive embankment across the valley of the Yarrowee River. On opening in 1862, the local press referred to the 'Eastern station' and the 'Western terminus'. Later in the year, the cartage agents were referring to 'Ballarat East' and 'Ballarat West' stations. The two stations were officially named 'Ballarat East' and 'Ballarat' from opening, but it is notable that both the Traffic and Existing Lines Branches continued to refer to 'Ballarat West' informally after this. Sadly, for Borough of Ballarat East, it was always eclipsed by Ballarat, and it was amalgamated with the then City of Ballarat as early as 1921. From an operational perspective, Ballarat East was really an outpost of the large station at Ballarat and, for most of its life, key function of the signal box was to operate the eastern entrance to the Ballarat goods yard.

It is worth noting that David Harvey wrote an excellent article on working Ballarat East signal box in 1984, and this was published in Somersault Vol 28 No 1.

Early days

The formal opening of the railway line to Ballarat was on 10 April 1862, with public passenger and parcels traffic commencing the following day.

For a short time after opening only a single line was available, and only a passenger service was run. Goods traffic commenced when the duplication was provided on 20 August 1862. The double track was, of course, worked by time interval. Given the limited brake power on the trains, the 1 in 52 descent down the Caledonian bank to Ballarat East was a clear risk, and this was an early location in Victoria to be worked by block. Telegraph Block working was introduced on the Down line between Yendon and Ballarat between the Service Time Table issues of 1 November and 1 December 1876. As Ballarat East was not open as a telegraph station at that time, the block must have been worked through to Ballarat (West). Exactly how shunting was performed at Ballarat East under these arrangements is not clear. The telegraph block section was shortened to be Warrenheip – Ballarat (West) by the issue of the WTT on 1 March 1879 (Ballarat East was still not a telegraph station). Ballarat East was opened as a postal telegraph office between March 1882 and

December 1882. This allowed members of the public to send and receive postal telegrams. It assumed that these were transmitted over the railway circuits and marks the opening of Ballarat East as a block post.

Expansion

Shortly after opening, Ballarat East had two platforms with the main station building on the Up platform. All goods facilities and sidings appeared to be on the Down side, with the goods shed situated behind the Down platform. At this time, there were only two tracks – the main lines – across the embankment to Ballarat West.

A sustained and steady expansion of facilities in the Ballarat East/Ballarat yard area started in 1883 and continued until around 1890.

In March 1883 it was noted that the points and crossings ordered for the sidings at Ballarat East had not arrived. These new sidings were probably for the coal gears, as in June 1883 the Locomotive Branch needed to ask if the coal gears were strong enough for an engine to run over them. The coal gears at Ballarat East were situated in the embankment west of Humffray St on the Down side of the line. Coal gears are essentially wooden storage areas situated below the rail level with a siding running over the top. Wagons were shunted over the gears and the coal dropped into the storage area. It was then loaded into horse drawn wagons as required for delivery to users (in Ballarat, mainly the gas works and gold mines).

The Traffic Branch complained in April 1883 that trains could not be made up and dispatched on time due to the lack of room in the Ballarat yard. It would appear that one result of this was the widening of the Peel St embankment and provision of at least one through siding between Ballarat East and Ballarat. An additional line "north of Humffray St" was reported as complete in mid 1883. In August 1883 a new "firewood siding between Ballarat East and West" had been completed, and the wood merchants at Ballarat West were protesting about being relocated to Ballarat East. (The result of this complaint was the construction of new wood and coal sidings at Doveton St between Ballarat and North Ballarat Junction.) Subsequently, in May 1884, a signal was erected between Ballarat East and West "to guard the intersection of roads". It is possible that this signal was guarding the connection to these new sidings. In November 1884 the Traffic Branch asked that a second arm be placed on the semaphore near Humffray St; the Signal Engineer's response was that separate signals would be provided when interlocking was provided. In August 1885, the Locomotive Branch complained about the use of a semaphore at Ballarat East on the Long Siding from Ballarat West. The Engineer for Existing Lines responded that the semaphore could be used for the main line or siding or for both as the traffic required. At the beginning of September 1885 the Traffic Branch reported that a driver refused to leave the siding at Ballarat East leading to the Up main line without the distant being taken off, and (again) recommended a second arm be fixed on the semaphore. The signal engineer responded that a new

signal will be fixed on the spot in a week or two. In response, a new semaphore was erected at Ballarat East "in place of present Up signal" and brought into use on 8 February 1886.

At Ballarat East itself, a footbridge was investigated at Humffray St in mid 1883, and was provided in the first half of 1884. The timber footbridge was erected by Quayle and Williams for £443-3-3. Around the beginning of February 1885, the semaphore levers at Ballarat East were moved to the parcels office door. The home signal on the Up side of the station was temporarily taken out of use (which usually indicates that the signal was relocated) on 4 March 1885. Instructions were issued to alter the lines at Ballarat East in April 1885, and further sidings were brought into use in May 1885, but what these were is not known. Crossover roads (note plural) were removed from Ballarat East in February 1886.

Block working

The Service Time Table records that the telegraph block down Caledonian bank had been replaced by conventional double line block with Winters instruments by 3 December 1885, and block working had been extended to Ballarat (the station, as Ballarat A signal box had not yet been provided). Both Up and Down trains were signalled on the instruments. It is not known when Winters instruments were introduced, but it was probably in late 1885. In May 1884, block working had not been introduced between Ballarat East and West as the Traffic branch had claimed that its introduction was impracticable unless the yard and signals were altered. At the end of March 1885, it was reported that the wire for block working between Warrenheip and Yendon would be fixed in a few days. On 5 December 1885, the Telegraph Engineer requested that shelves and battery boxes for block instruments be erected at Ballarat East, Ballarat Yard, Lydiard St, and McArthur St, however these instructions were cancelled just seven days later.

Interlocking

The signal boxes at Ballarat East and Ballarat A were provided together and reflected the fact that by the mid 1880s Ballarat East was one end of the larger Ballarat goods yard. Planning for the signal box at Ballarat East had well commenced by March 1885 when the Signal Engineer asked for the exact angle of the gates at Humffray St.

The main line connections to the goods yard at Ballarat were interlocked on 5 April 1886. This involved the provision of new signal boxes at Ballarat West goods yard (Ballarat A) and Ballarat East. Ballarat East was provided with a 25 lever No 6 pattern frame with 19 working levers. Provision was made to interlock the gates at Humffray St, but this did not occur until around 15 May 1886. The wickets, however, were apparently not connected to the frame until 2 June 1887. After this occurred there were 23 working levers.

Unfortunately, the layout at this time is not known. It is reasonable to suppose that the Goods Arrival and Goods Departure lines were provided by this time, possibly with other shunting necks on the north side of the embankment. It is likely that no through sidings were

provided on the south side of the embankment, and the connections to the goods yard at Ballarat East trailed directly into the Down line. The locomotive depot at Ballarat East did not exist at that time, so there was definitely no Engine Road through to Ballarat. Only one set of interlocked gates was provided, and the sidings to the goods shed would have been protected by the shunter when used.

Ground bells were provided in the Down line opposite the Down Distant in June 1887. Ground bells were the precursor to approach track circuits; a rail length was insulated and included in a bell circuit. When a train passed over the insulated section, the wheels and axles completed the circuit and caused a bell to ring in the signal box. Ground bells were not, of course failsafe, but were widely used in Victoria.

The coal gears and the engine shed

In mid May 1886 the Traffic Branch stated that additional accommodation was urgently required for the coal traffic at Ballarat East. Construction of an extension to the Coal gears commenced towards the end of June 1886 – this apparently involved increasing the width of the gears and laying a second (or third?) siding across them. Rails were laid on the coal gears in September 1886 and the extensions were completed at the end of October 1886. However, no one apparently told the Traffic Branch that the new road over the Coal Gears was ready for traffic until the beginning of December 1886.

The period between 1886 and 1890 also saw the erection of the new Ballarat East engine sheds. These were erected to the east of the Ballarat East station on the Down side of the line. The full story of these sheds is not appropriate for a signalling history, however a brief precis of the construction should be noted. It appears that after the opening of Newport Workshops, considerable fears were held in regional areas that their repair workshops would be closed with the work (and employees) being moved to Newport. Considerable political pressure was placed on the government with the result that in early 1886 plans were being prepared for new "Locomotive Repairing Shops" at Sandhurst, Ballarat East, and Maryborough. Construction at Ballarat East required the resumption of considerable land, including a gold mine, and closure of several streets. Earthworks were commenced in mid 1887, but the contractor became financially embarrassed in November 1887 and contract had to be relet in January 1888. In March 1888 tenders were gazetted for the erection of engine sheds and repairing shops at Ballarat East, Lewis & Roberts £23255.12.3 (these contractors, incidentally were simultaneously building the Buninyong line). The engine shed was opened in mid 1890.

No signalling alterations were recorded for the provision of the new engine shed. Nor does it appear that the independent engine road between Ballarat East and Ballarat A box was provided at this time. Instead, it is likely that the connections lead from the existing goods yard connections at Ballarat East.

The Buninyong branch

One of the many line authorised in the 1884 Railway Construction Act (also known as the Octopus Act) was a line from Ballarat East to Buninyong.

The short branch line was opened for traffic on 12 September 1889. The new line physically diverged from the main line roughly one kilometre east of Ballarat East station. The actual junction of the new line, however, was at the King St footbridge only 300 metres from Ballarat East station, and adjacent to the Ballarat East locomotive depot which was then under construction. At roughly 425 metres from the existing Ballarat East signal box, the junction was too far to work from the box, and a new signal box, Ballarat East Junction, was provided. Like most Victorian signal boxes, the two boxes at Ballarat East had two names which can be confusing. Officially, they were Ballarat East A box (the junction) and Ballarat East B Box (the original box). The junction box was also known, semi officially and logically, as 'Buninyong Junction', and I would bet money that the staff continued to refer to the original box as plain 'Ballarat East'. For the purposes of this article, I will refer to the two boxes as 'Buninyong Junction' and 'Ballarat East'.

A contract was gazetted on 12 April 1889 to W Bennett for construction of the box at a cost of £237/3/9, and it was opened with the line. Buninyong Junction signal box appears to have been situated on the Up side of the line immediately on the Down side of the King St footbridge.

When opened, the interlocking register states that Buninyong Junction signal box contained a 25 lever No 6 pattern frame with 21 working levers, but at some date this had decreased to 19 working levers, and by 1 July 1899 it contained just 16 working levers (8 signal levers, 4 point levers, 3 lockbar levers, and 1 crosslock lever).

It was recorded that alterations were made to Ballarat East signal box with the opening of the new junction, but the end result was still 23 working levers.

The list of block sections in the August 1890 Working Time Table states that the block section remained Warrenheip – Ballarat East. It appears that Buninyong Junction was effectively worked as a subsidiary frame, crosslocked with Ballarat East signal box and slotting the relevant signals. The new branch line was a single Staff and Ticket section Ballarat East – Buninyong. It is quite probable that the staff was normally kept at Ballarat East signal box, not the junction. Around 1890 the Staff was recorded as being a No 1 pattern staff with blue ticket boxes. When time interval working was abolished on Victorian single lines around 1896, the Buninyong line was one of those on which all trains were required to carry the Staff and the ticket boxes were withdrawn. To take the story up to 1900, a lock staff replaced the original Buninyong staff in March 1898, and this was noted to be a No 1 Pattern early in the new century.

Incidentally, the August 1890 WTT shows that the block working between Ballarat East and Ballarat had been withdrawn (this had occurred since the previous release of the WTT on 11 March 1890). Exactly how trains were worked between Ballarat East and Ballarat at this time is not known, presumably it was by some form of station yard working using electric bells. The 1898 General

Appendix gives a code of bell signals used between all the boxes between Ballarat East and Linton Junction. A Geelong Passenger train was two short rings, a Bacchus Marsh Passenger was three short and one long, and a Buninyong train was one short and three longs. A Geelong Goods was two longs, and a Bacchus Marsh Goods was one long and three shorts. Movements to and from the loco sheds were two longs and one short.

On 2 April 1891 signals were provided at Ballarat East for moves to the coal stage. All 25 levers were now working, so presumably two signals were provided.

Frame extensions

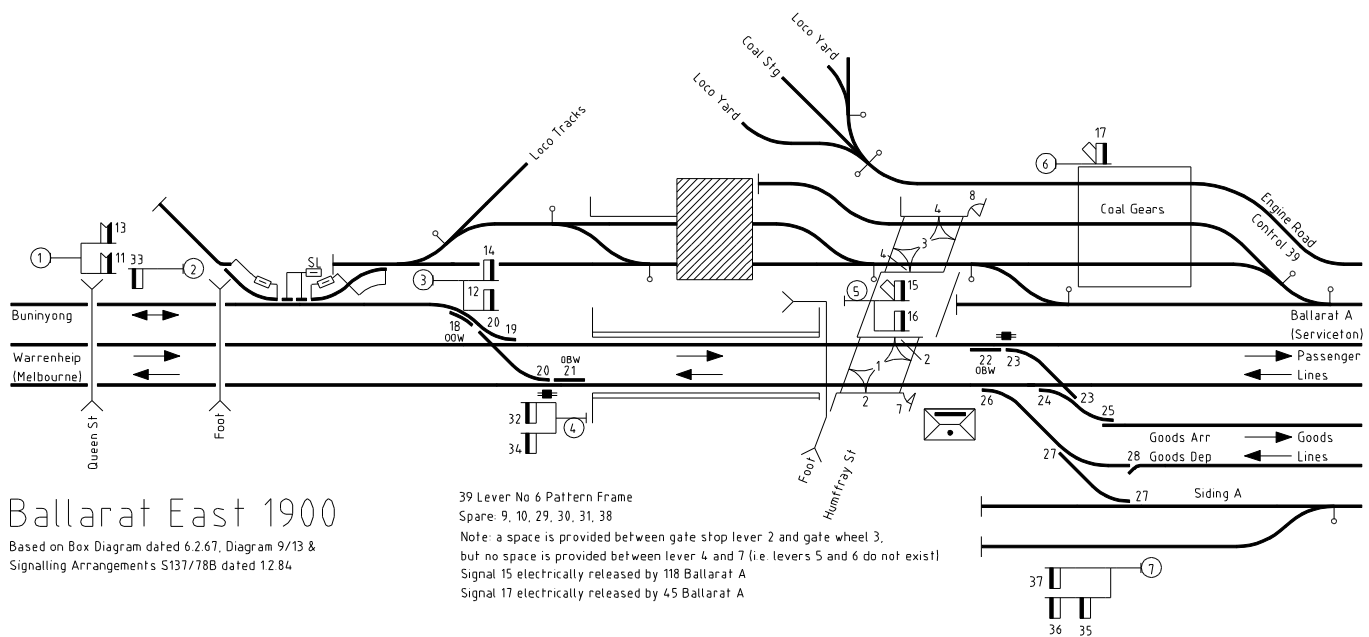
On 19 April 1891, a new 39 lever Rocker frame was provided at Ballarat East. The interlocking register notes that the frame had a "temporary locking arrangement" and that 15 levers were spare. Since this is exactly the same number of working levers as was in the original frame, this suggests that this was simply a reframing, and that no actual track and signal alterations were involved. The signal box was extended at the Down end to house the new frame, and this extension can still be seen today.

The "permanent arrangement of signals" was brought into use on 17 May 1891, but this could hardly have been a significant alteration as only one additional lever was brought into use. On 10 June 1891 the gate wheel and stop lever were relocated to the end of the frame.

It is not clear why it was necessary to provide a new, significantly larger, frame in 1891, especially as it is probably that few alterations were made to the layout at this time. The most likely explanation is that more significant alterations were intended, but postponed. It is notable that the 1900 alterations used almost all of these spaces.

The 1898 General Appendix includes a list of signal whistles, and this provides some hints about the contemporary layout at Ballarat East. At Buninyong Junction there was, naturally enough, connections between the Buninyong line and the main lines. In addition, there was a connection from the Buninyong line to the Goods Siding, and a dead end siding leading from the Goods Siding. At Ballarat East signal box itself, there were connections to the Up and Down Goods Lines. There were also connections between the Main Down line and Siding F (probably the connection to the Ballarat East goods sidings), between the Up Main line and Siding E (the Through siding adjacent to the Up Goods line on the north side of the embankment), and to the Engine Shed. There was also a main line crossover at the Down end of the yard.

When the new interlocking register was commenced on 1 July 1899, it was recorded that the 39 lever frame at Ballarat East contained 8 signal levers, 5 control levers, 8 point levers, 1 lockbar lever, 1 crosslock lever, 1 gatestop lever, 1 gate wheel, and 12 spaces. Buninyong Junction contained 8 signal levers, 4 point levers, 3 lockbar levers, 1 crosslock lever, and 9 spaces.



Ballarat East 1900

Based on Box Diagram dated 6.2.67, Diagram 9/13 &
Signalling Arrangements S137/78B dated 12.84

Abolition of Buninyong Junction signal box

After 15 years of hints about the layout, it is a relief to get to a time when the layout is comparatively clear. On 5 February 1900 Buninyong Junction signal box (Ballarat East 'A') was abolished. The Buninyong branch was extended in the Down direction using the existing Goods Siding to a new junction just off the platforms at Ballarat East. Access to the goods yard and engine shed was retained via a staff locked set of points. A second set of staff locked points led to a dead end siding, almost certainly the dead end siding described in the 1898 General Appendix.

The opportunity was taken to make considerable adjustments at the Down end of the yard as well. A second set of interlocked gates were provided over the two goods shed roads. It would appear likely that the Peel Street embankment was widened on the south side at this time and independent connections were provided from Ballarat A to the Ballarat East goods sidings and the engine shed. Certainly, all the connections to the Down line at Ballarat East mentioned in the 1898 General Appendix were removed.

The 1902 General Appendix required that the shunter was to remain on the Humphrey-street (sic) crossing while any local shunting was being done, and he was to walk over the crossing in front of leading vehicle of a through pilot. In the case of a light engines to or from the engine shed or coal stage, the fireman was to act for the shunter.

These alterations used up nearly all of the spaces provided in 1891. The frame now contained 13 signal levers, 1 control lever, 8 point levers, 3 lockbar levers, 2 wicket levers, 2 gatestop levers, and 2 gatewheels. It is tempting to think that these alterations were intended in 1891 but not implemented.

The layout provided in 1900 was almost unchanged until the late 1980s and was recognisable when the mechanical signalling was abolished in 1992.

Slow evolution

As is usual, a sequence of minor alterations took place over the subsequent years.

Post 4, the junction signals, was relocated 33 yards further out in mid October 1908. This may have reflected an extension of the platform.

In mid October 1910 the Up Starting signal (Post 2) was moved to the top of the cutting on the opposite side (left hand side) of the line. By this date it was noted that Ballarat A no longer controlled Home 16 (for moves to the Goods Arrival Road). It did, however, control Home 15 (for moves to the passenger arrival).

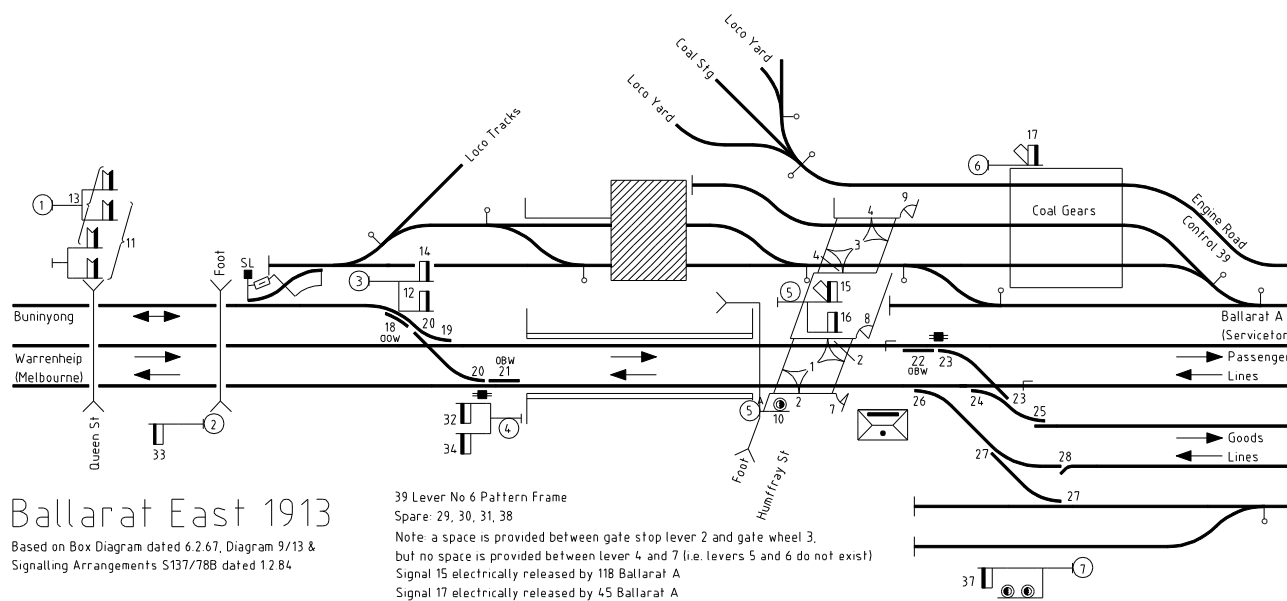
Fog (co-acting) signals were provided for both distant signals on Post 1 at the beginning of June 1911. These were provided on a dwarf (short) bracket post. Curiously, these only lasted until August 1917 when the co-acting arms were removed. Perhaps the main post was renewed as a shorter post making the co-acting signals redundant.

On 7 March 1913, a new disc signal (Disc 10, Post 5A) was provided on the wooden column of the Humffray St footbridge. The set back disc applied from the Up line to Goods Arrival or sidings.

The opportunity was taken at the same time to alter the locking on the two Down Distant signals so that they were released by all the home signals in advance, rather than just the first home signals. Interestingly, the Distant signals could be cleared for moves to either the Passenger or Goods arrivals. By this date, the interlocking register stated that the frame contained three wicket levers, but Diagram 9/13 only shows two.

In late April 1913 the main (passenger) lines between Ballarat East and North Ballarat were tracklocked. At Ballarat East this merely involved the provision of a reverser on Home 15 – it does not appear that the distant signals were provided with reversers at this time.

By this date, and sometime since the 1908 Book of Signals had been issued, a number of small alterations had been made. The Down Home on Post 6 (controlling movements towards Ballarat A box on the single track engine road) was now shown to be controlled by Ballarat



A box. The two arms on the left hand doll on Post 7 had been replaced by discs, and the dead end staff locked siding off the Buninyong line at the rear of the Engine Shed had been removed.

In late February 1919, a derail was provided on the high level road leading from the Coal stage. The Derail was secured by an Annett lock.

On 19 May 1927, an additional disc (31) was provided on the left hand doll of Post 7. This applied from Y (the through siding) to the dead end. The discs on the left hand doll were rearranged. Probably around this time, Disc 10 was relocated from the footbridge support to a lop bracket lattice mast, also numbered Post 5A.

In late June 1928 the Track Block system was introduced between Ballarat East and Ballarat A boxes on both passenger lines. Since the lines had been track locked since 1913, it is likely that this represents the imposition of a new method of working the traffic rather than a change in technology. The 1936 General Appendix includes instructions for the Track Block system, which are notable for their brevity and lack of details. Essentially, the lines between the two signal boxes were track circuited and the starting signal could not be cleared unless the track circuit was clear. An indicator was provided to show the state of the track circuit. Perhaps the most important part of the instructions was Clause 5 which detailed the procedure to be followed if the starting signal failed to clear. No bell codes were listed, however it is known that trains were described by bell code. In 1936, Ballarat – Ballarat East was the only section in Victoria on which this system was in use.

The subjugation of Ballarat East to Ballarat (West) was completed on 21 November 1929 when the station master was withdrawn from Ballarat East. Ballarat East was now supervised by the SM Ballarat, but was worked under 'normal conditions' which indicates that male staff were still employed there to sell tickets and accept payment for freight.

Closure of Buninyong line to passenger traffic

On 24 November 1930 the passenger service on the Buninyong line ceased. (A number of other lines also lost

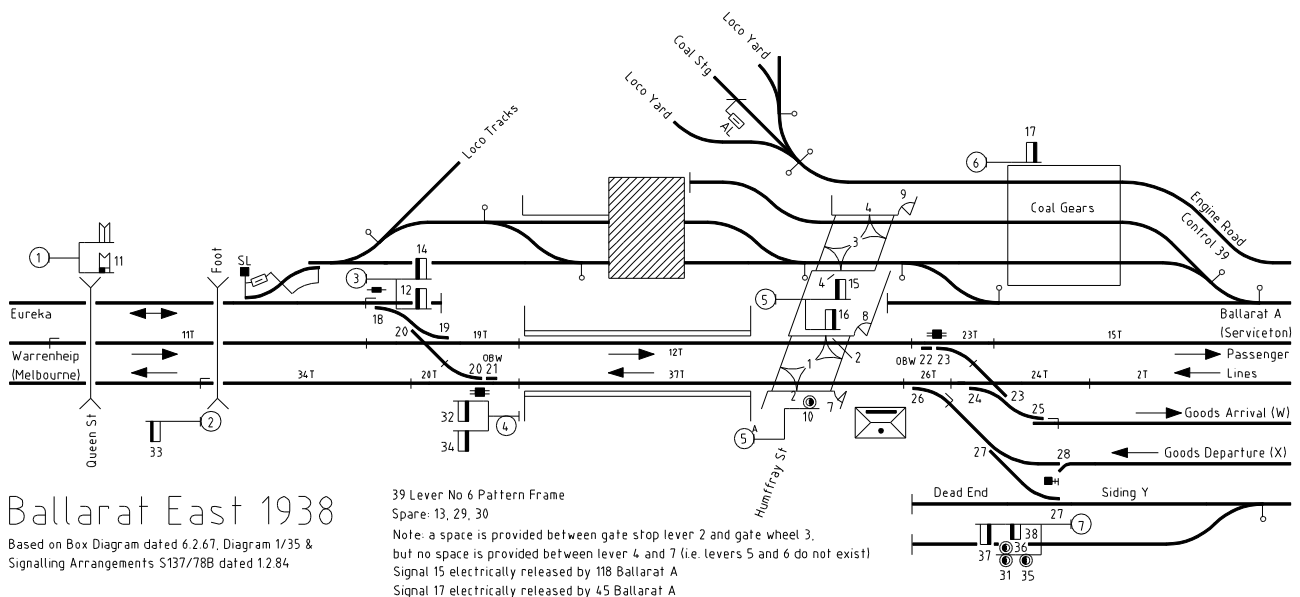
their passenger service around this time, including the Linton - Skipton, Whitfield, Briagolong, Alvie, and Marnoo - Bolangum lines.)

The decision had been announced in October, but following a deputation, the Commissioners announced a nominal service would be provided of two passenger trains a day as from Monday, 3 November 1930 – essentially a morning train from Buninyong at 0803, and an evening train from Ballarat at 1730 together with their positioning movements. Buninyong Shire subsequently noted that people were not using the restricted train service and were looking forward to the institution of a bus. A bus service was licensed by the respective councils, "sooner than anticipated," and it was announced the skeleton train service would cease as from Monday, 24 November. Presumably, the last passenger train ran on the Saturday, 22 November – the 1.15 pm Down and the 2 pm Up. Unfortunately, the new bus service did not get off to a great start. In the first week, a 'mail car' drove out of Lal Lal street and collided with the evening bus, overturning it. Five people were taken to hospital with injuries.

The Buninyong line continued to be served by goods trains as required, together with the Eureka pilots. In mid April 1934 instructions were issued permitting vehicles to stand on the Buninyong line.

Track locking

On 17 March 1937 track locking was provided through Ballarat East station, connecting up with the existing track locking between Ballarat East and Ballarat A boxes. The track locking was provided on the Down line between the Down Distant (Post 1) and Post 5, and on the Up line between Post 7 and the Up Starting signal on Post 2. Reversers were provided for Homes 12, 15, 16, and 37, while the Down Main line distant (11) was equipped with signal motor. The Buninyong distant was fixed and lever 13 became spare. The distant locking was altered again, and the Down main line distant was now only released by the main line signals along the passenger line. A call on arm, Lever 38, was provided on Post 7 to assist in shunting on the Up line – possibly placing the bank



Ballarat East 1938

Based on Box Diagram dated 6.2.67, Diagram 1/35 & Signalling Arrangements S137/78B dated 1.2.84

engine on Up goods trains. Lockbars 21 & 22 were replaced by lever locks worked by the new track circuits. Point indicators were provided on Points 27D and 28.

The last traffic branch employee was withdrawn from Buninyong on 19 August 1937, and as from late September 1937 instructions were issued that all trains on the Buninyong line had to carry the Staff. The Staff Ticket Boxes were withdrawn.

In mid October 1937, the Goods Shed at Ballarat East was 'destroyed' by fire. Trove does not mention the fire, but it does show that there were a large number of suspicious fires in Ballarat East at this time. The Goods Shed did not reopen until the beginning of February 1938.

On 4 May 1938, safety points were provided in the Buninyong line ahead of Post 3. Lockbar and plunger 18 were abolished and lever 18 now worked the safety points.

The Buninyong line was closed beyond Eureka on 1 March 1947. Pilots continued to use the stub of the Buninyong line to service the sidings at Eureka.

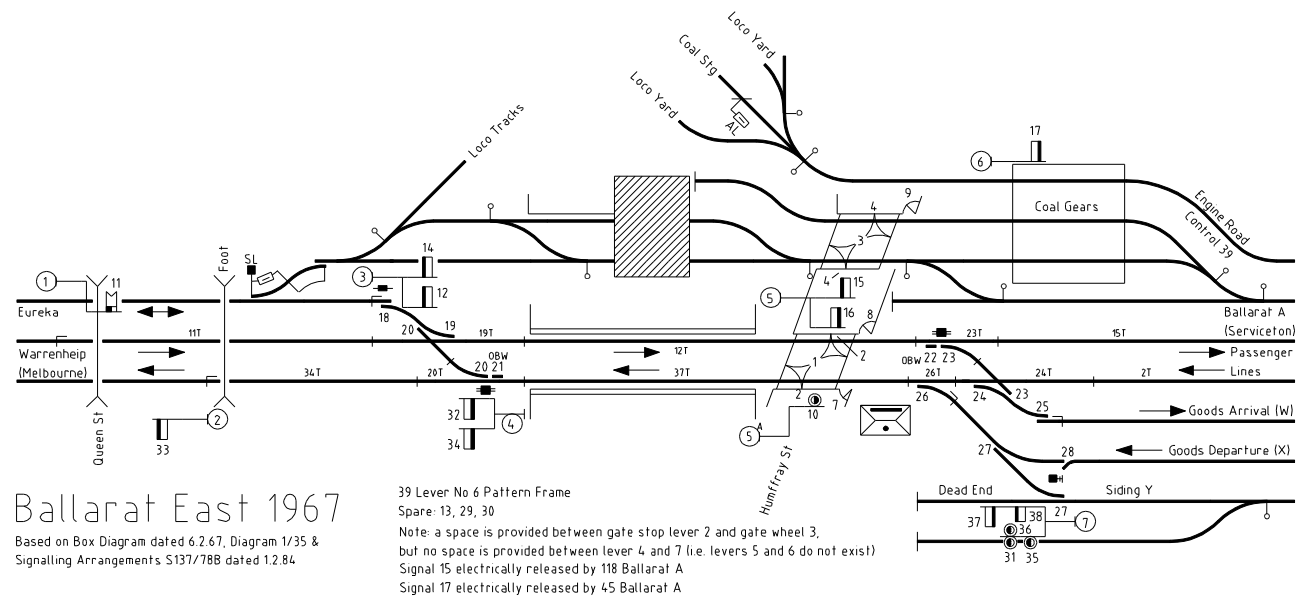
Renewals

Change almost ceased at Ballarat East after the Second

World War. Most events were simply renewals of equipment.

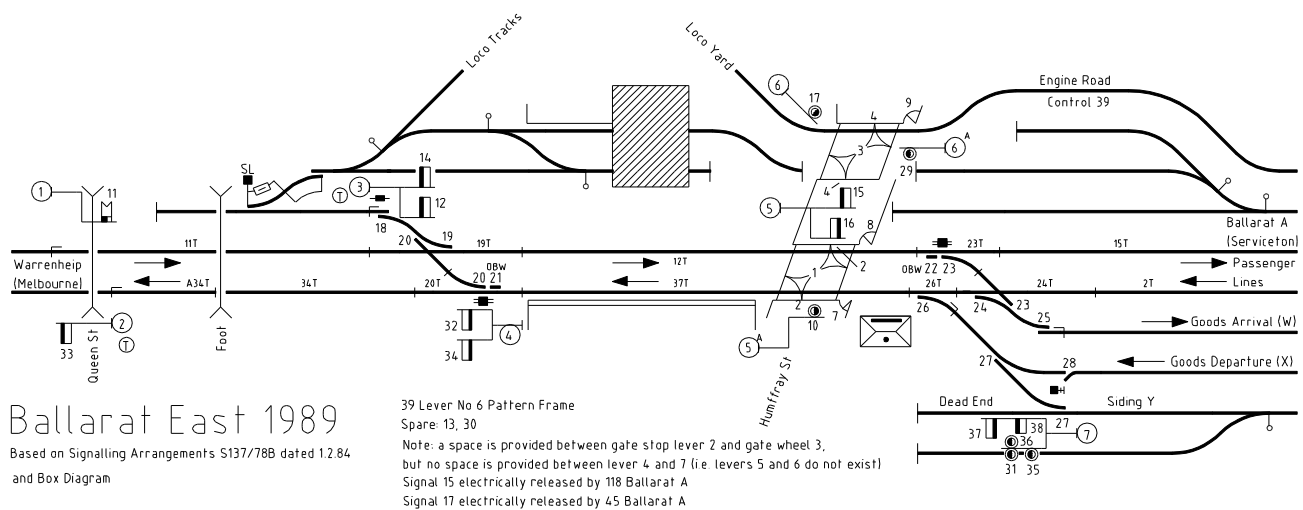
Post 7 was renewed on 6 November 1955. Post 4 was renewed at the clearance from Up line on 10 February 1957. Points 23 and the single compound 23/24 were renewed on 19 December 1957. Post 2 was renewed on 17 December 1959. The connection to the Eureka line (points 18, 19, & 20) were renewed on 13 September 1964 and the safety points (Points 18) were replaced by a catch point. On 2 February 1967 Post 1 was renewed as a lop bracket post and the distant from the Eureka line was abolished. Post 2 was relocated 1142 feet further out on 20 April 1971. A two faced quadrant replaced the gate lock in the interlocking frame – presumably on both gate wheels – on 24 April 1974.

A station master had been reappointed to Ballarat East on 13 November 1961. Perhaps, more accurately, it might be said that the SM at Warrenheip was relocated to Ballarat East where he supervised both Ballarat East and Warrenheip. Curiously, Eureka was supervised by the SM Ballarat, not Ballarat East. The SM at Ballarat East was withdrawn again on 12 June 1978. At this time it was a Class 6 position.



Ballarat East 1967

Based on Box Diagram dated 6.2.67, Diagram 1/35 & Signalling Arrangements S137/78B dated 1.2.84



Ballarat East was closed to passenger traffic as from 5 May 1980 as part of general elimination of minor stations involved in the 'new deal'. The footbridge (the only legal access to the Down platform) and the Down platform itself were quickly removed – Mark Bau has a photo of Ballarat East taken in 1981 and both had gone by this time. The main bluestone station building on the Up platform had also gone by 1981, but as a small passenger shelter had been provided on the Up platform this suggests that the building had been demolished sometime previously.

Home 17 on Post 6 was converted to a disc on 1 February 1984. On 16 March 1984, a telephone to the signal box was provided at Post 3.

The Eureka line was notified as being closed on 1 December 1986. The last traffic had been oil tankers to the Caltex siding at Eureka, and David Harvey notes that this traffic had still run in March 1984. Most of the branch was quickly lifted, but the stub of the Eureka line continued to be used to provide a shunting neck for access to the former goods shed (by now used as a repair depot for rolling stock). For this reason, the Eureka Train Staff was retained in the signal box, and the connections at the Up end of the platforms continued to be available for use.

Engine movements over Humffray St were still only protected by the fireman, although the adjacent goods yard gates were swung, and this must have been getting dangerous with road traffic by the late 1980s. The connections to the goods shed were consequently

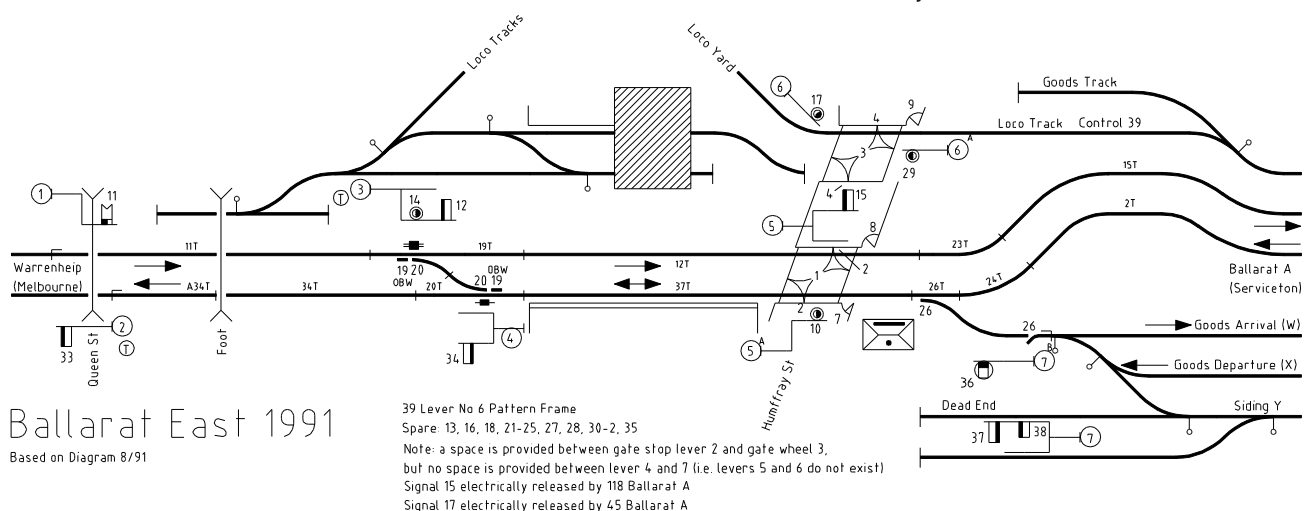
removed and the Engine Road slewed to run through the second set of interlocked gates on 13 January 1989. Post 6 was relocated to the Up side of the level crossing, and a new Post 6A (Disc 29) was provided on the Down side. This was the high water mark of the frame at Ballarat East with all but two levers in service.

End of mechanical signalling

The time was running out for the large country mechanical signalling installations in Victoria, however. Built to facilitate the shunting of goods trains, by the 1990s, little shunting was required for the few goods trains still running. Plans were made to abolish most of the remaining mechanical signalling installations. At Ballarat, all of the mechanical signal boxes between Warrenheip and Linton Junction were replaced by a single relay interlocking in 1991/2 controlling a significantly simplified layout. Ballarat East and Ballarat A boxes were the first to be abolished in this resignalling scheme.

The first alteration took place on 16 May 1991 when the junctions at the Up end of the platform were rearranged. The old Buninyong junction was removed and replaced by a single facing crossover to allow Down freight trains access to the Up line. The new crossover was worked by lever 20, with both ends being secured by Plunger 19. Disc 14 was provided on the right hand doll of Post 3 to control moves from the Down line towards the disc on Post 5A.

The next Weekly Notice, issued on 4 June 1991,



reported the abolition of the lead from the Down line to the Goods Arrival Track. Points 23, 24, and 25 were removed, as was Home 16 on Post 5.

On 23 June 1991 the connections to the Goods Yard were rearranged. Points 27 and Catch 28 were abolished. A new lead was provided from the Up line leading into the Goods Yard with hand points connecting the Goods Arrival Track, Goods Departure Track and Siding A. New Catch points (26) were provided in the lead. A two position light Dwarf 36 controlled movements from the Goods Yard and Discs 31, 35, and 36 on Post 7 were abolished. This completed the alterations on the Up side.

The Goods and Loco Tracks on the Down side of the line were then rearranged on 4 July 1991. The Goods Track was abolished. The Loco Track was straightened to run though a portion of the former Goods Track. A portion of the Loco Track at Ballarat East was renamed the Goods Track and connected to the Loco Track via a set of WSA points.

Diagram 8/91 was issued at the end of August 1991 and this showed that the main lines had been slewed between Ballarat East and Ballarat.

Stage 1 of the Ballarat rationalisation took place at the end of June 1992 – unfortunately the date is not known precisely. Ballarat East signal box was abolished together with all mechanical signals. Boom barriers replaced the interlocked gates at Humffray St. Three position signalling was provided to control movements, however, the double line to Warrenheip continued to be worked by Winters block and Up Starting signal was a two position home signal. The new signalling was worked from a control panel located in the Ballarat station building and the Winters Block instrument was relocated to the panel.

As was the fashion at the time, some of the gates were retained and relocated. The signal box was also retained with its interlocking frame.

CAROLINE SPRINGS



As mentioned in this issue, the new station at Caroline Springs on the Ballarat line was opened for public traffic on 29 January 2017. This photo was taken on that day. The photo is looking in the Up direction from the island platform; the Vlocity set is waiting on the Up line for a conflicting movement from Geelong to clear. The crossover marks the former end of the double line from Melbourne, and the set of points on the right is the lead to the Boral Siding.