

SOMERSAULT

SEPTEMBER 2005

Vol 28, No 5

SIGNALLING RECORD SOCIETY OF VICTORIA INC



This issue is almost completely taken up with significant signalling alterations, primarily as the Regional Fast Rail work starts to come into service. On 21 June 2005 the line between Watergardens (Sydenham) and Sunbury was returned to use. Sunbury station was completely resignalled with three position light signals. The Up end of the new layout is shown in this photograph, and it includes the first 80 km/h set of points in Victoria. To show that medium speed is 80 km/h, the Home signal is provided with an LED '80' indicator. That this is a diverging movement is reinforced by the provision of a feather point indicator. The line between Watergardens and Sunbury is equipped with three position automatic signalling, however this is worked from axle counters instead of track circuits. This is another first in Victoria.

On 28 June 2005 the new Geelong Signalling Centre was commissioned. This works the main Geelong line between North Shore and Geelong station. North Geelong B and Geelong A signalboxes were abolished, and North Geelong A was reduced to, effectively, a ground frame. This was followed by the commissioning of the signalling at Marshall on 20 July 2005.

The final alteration reported in this issue are the expanded Port of Melbourne Authority sidings south of Footscray Road which was brought into service on.

Photo by Chris Gordon

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Published by the Signalling Record Society Victoria Inc (A0024029F)

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MINUTES OF MEETING HELD FRIDAY JULY 15, 2005, AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS

Present: - N.Bamford, W.Brook, B.Cleak, G.Cleak, G.Cumming, G.Dunn, C.Gordon, J.Gordon, K.Lambert, D.Langley, S.Malpass, B.McCurry, J.McLean, T.Murray, T.Penn, L.Savage, F.Strik, A.Wheatland & R.Williams.

Apologies: - W.Johnston, G.O'Flynn, R.Smith, S.Turnbull & R.Whitehead.

Visitor: - V.Findlay.

The President, Mr. David Langley, took the chair & opened the meeting @ 20:12 hours.

Minutes of the May 2005 Meeting: - Accepted as published. R.Williams / F.Strik. Carried.

Business Arising: - Nil.

Correspondence: - The Annual Return has been sent to Corporate Affairs Victoria.

The public liability insurance invoice was received and the payment has been sent.

Payment for the rent of the rooms at Seymour has been sent.

Payment for the "Signalling Record" for 2004 has been sent to the S.R.S.U.K.

A.Wheatland / L.Savage. Carried.

Reports: - Tours. Glenn Cumming outlined his proposal for the regional tour in September 2005 and the arrangements so far. Names of people attending the tour are sought urgently.

Archives. A recent ant invasion had been detected, attacked and fixed.

General Business: - David Langley reported on a recent accident in Pakistan and noted the similarities to the Harrow & Wealdstone accident in the UK.

David Langley tabled a copy of the accident report for Quintinshill in 1915, obtained from the Internet.

Tom Murray spoke about the platform closures at Flinders Street Station for the concourse rehabilitation project and gave a detailed critique of the arrangements.

Chris Gordon reported that the signalling arrangements at Appleton Dock are to be commissioned soon and the work at Victoria Dock will follow next.

Brett Cleak reported on the recent works in the Geelong district. The signalling at Marshall still had not been commissioned and it was hoped that this would be done next week.

Brett Cleak noted that the line to Sunbury was now open for traffic.

Laurie Savage described arrangements in the Geelong and North Shore areas following the recent re-signalling. Supplementary works are still continuing. The signal bridge from Geelong "Box" has been placed in the loco depot area.

Keith Lambert provided further information regarding the Geelong area re-signalling. North Geelong "Box" and Geelong "Box" have both been abolished. North Geelong "Box" is still in use with crosslocks from the Geelong Control Centre.

Keith Lambert advised that Sunbury is now operated by remote control from Bendigo.

Keith Lambert reported that automatic signal No.273 on the Up Burnley Through Line will be abolished due to signal sighting difficulties.

Frank Strik asked about arrangements at Craigieburn. Keith Lambert answered that the work will feature one (1) crossover and one (1) siding with room for two (2) electric trains.

Vance Findlay gave a report on a recent inspection of works on the Bendigo Line.

Laurie Savage asked about works on the NE SG line. Chris Gordon described ARTC proposals for the use of the BG Line north of Seymour to be converted to SG.

Vance Findlay gave a description of the new equipment at Camberwell Signal Box.

Brett Cleak described the provision of an LED banner signal next weekend as a trial. The banner will be provided at Footscray for automatic signal No.M244 and will be known as M244 BI.

Andrew Wheatland was pleased to advise that the recent flood at Metrol did not affect the operation of narrow gauge trains, more commonly known as Puffing Billy.

Andrew Wheatland reported that work on the re-signalling at Menzies Creek continues.

Glenn Cumming asked about the replacement of Metrol. Chris Gordon advised that this project is back on the agenda with expressions of interest having been called.

Syllabus Item: - The President introduced himself to present the Syllabus Item.

David presented a selection of slides from his collection featuring slides taken on a trip to New Zealand in October 2000.

At the completion of the Syllabus Item, The Vice-President thanked David for the entertainment & this was followed by acclamation from those present.

Meeting closed at 22:31 hours.

The next meeting will be on Friday 16 September, 2005 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 25/05 to WN 31/05 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 alteration.

10.06.2005 **Werribee** (SW 181/05, WN 26/05)

On Sunday, 10.6., Up Homes 24 and 28 were converted to tricolour LED heads.

21.06.2005 **Watergardens - Sunbury** (SW 130/05, WN 25/05)

From 0001 hours on Tuesday, 21.6., the line between Watergardens and Sunbury was restored to use. The section will be operated by Automatic Block Signalling with three position signalling. Diagram 28/05 (Watergardens to Clarkefield) was issued.

At Sunbury the existing two position signalling was replaced by three position signalling. The control panel was abolished and all points and signals at Sunbury will be worked from WestCAD (VDU based) control systems located at Bendigo and Control, although initially control will be only from Bendigo. Operation will be by entrance-exit commands. The main lines through Sunbury are signalled for bi-directional running, as will be the main lines on the Down side of Sunbury when those lines are brought back into service. A run-off road is provided at the Up end of No 3 Road to allow movements from Sidings A or B to No 3 Road while a parallel move is signalled through No 2 Road. Points 27 and Derail 35 will automatically normalise 45 seconds after train movements clear the track circuit. If it is necessary to hold these Points or Derail reverse, a Blocking Command must be applied.

Boom barriers are provided at Calder Park Drive (25.777 km), Holden Rd (28.198 km), Old Calder Highway (32.813 km), Watsons Rd (34.098 km) and Gap Road (39.011 km). Pedestrian Gates were provided at Diggers Rest (32.774 km) and Gap Road. The boom barriers at Holden Road, Old Calder Highway, and Watsons Rd are worked by a level crossing predictor and a train approaching the level crossing may accelerate after passing the predictor indicator board provided it is already travelling at 50 km/h or greater when passing the board.

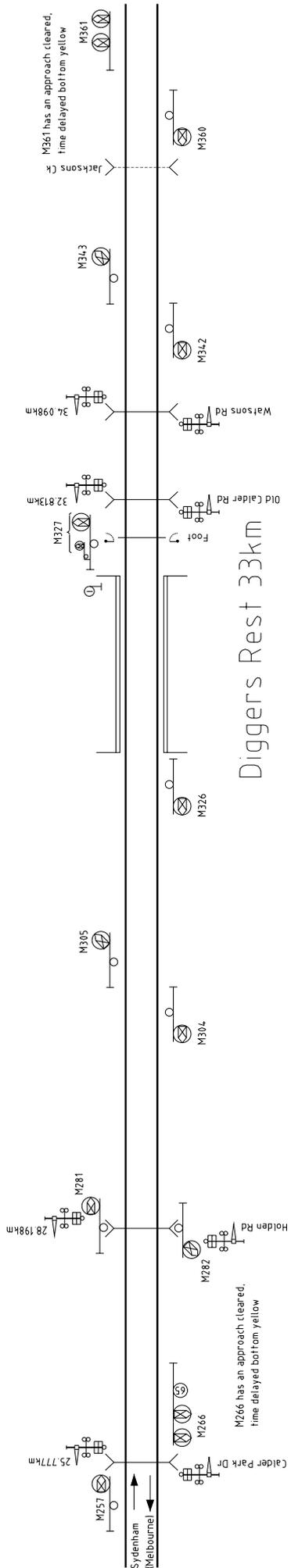
RFR Territory Boards are provided at Sydenham and Limit of Shunt and Name Boards at Rupertswood (39.135 km).

Post phones will not be provided. All communication will be by radio and a second dedicated channel has been provided for the issuing of Caution Orders and Safeworking Authorities.

Baulks are provided on both lines on the Down side of Sunbury short of the Deep Creek bridge to mark the start of the area of absolute occupation. Each baulk is marked by a 'Limit of Shunt' board. The Down Name Board and Location Board at Rupertswood was abolished. The Up Name Board was relocated to 39.135 km and the Up Location Board to 40.135. Prior to any rail movements on either line on the Up side of the platforms at Clarkefield, the Track Force Co-ordinator must confer with the Corridor Signaller.

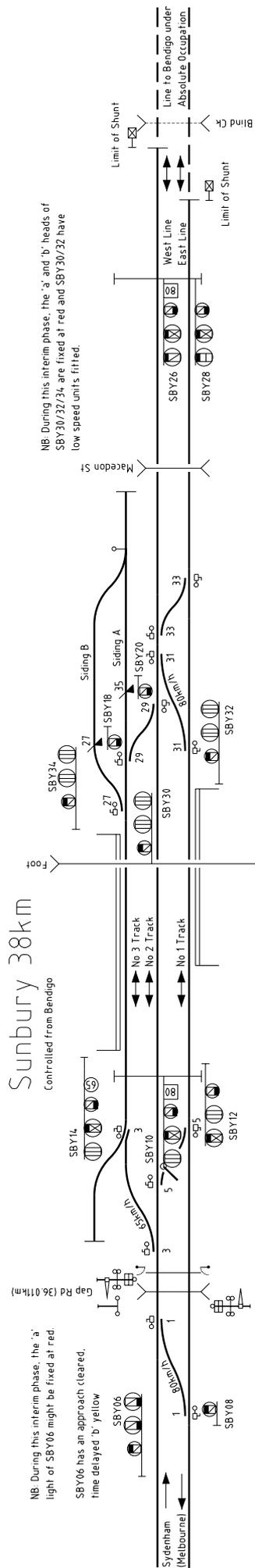
Prior to granting permission, the Corridor Signaller must apply blocking commands to prevent movements at Sunbury towards the line on which the movement is to run. If it is necessary to signal a move into the area of absolute occupation at Sunbury, this must not be done until the Signaller has been advised by the Track Force Co-ordinator that the baulks have been removed. If it is necessary to signal a move from the area of absolute occupation at Sunbury, the Track Force Co-ordinator must advise the signaller before removing the baulks and obtain permission for the movement to proceed towards the fixed signal. Once the movement has passed the baulks they are to be immediately re-instated and the Signaller advised.

Operating Procedure 115C (Book of Rules, Section 36) was issued to cover the failure of signals at Sunbury.



Sunbury 38km

Controlled from Bendigo



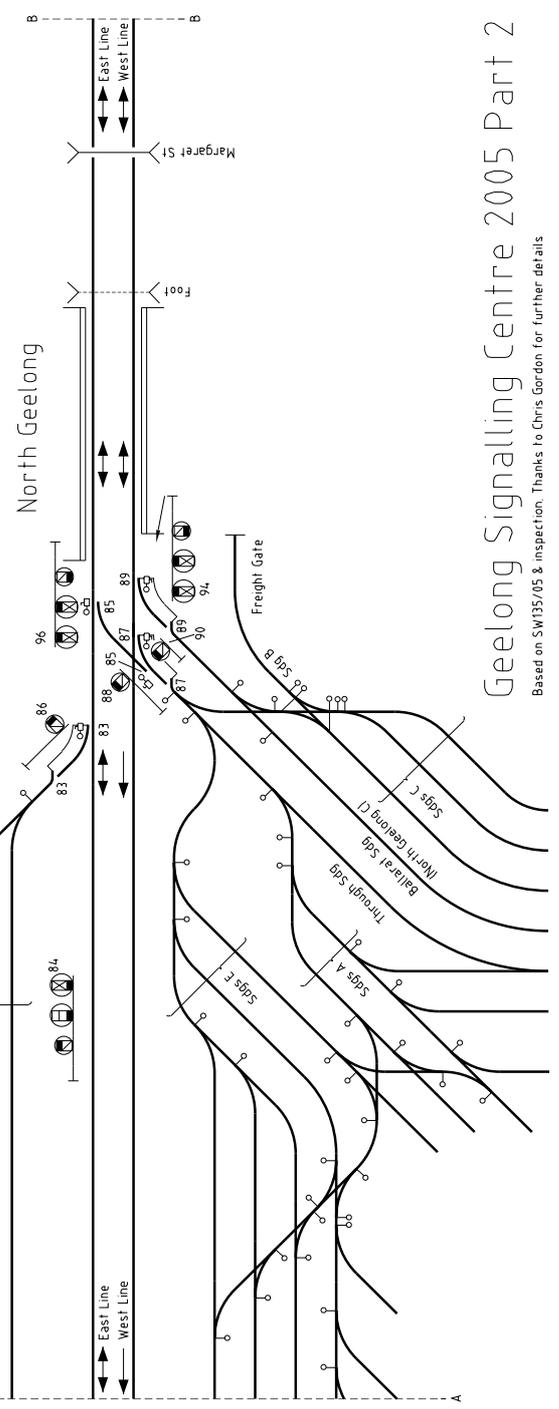
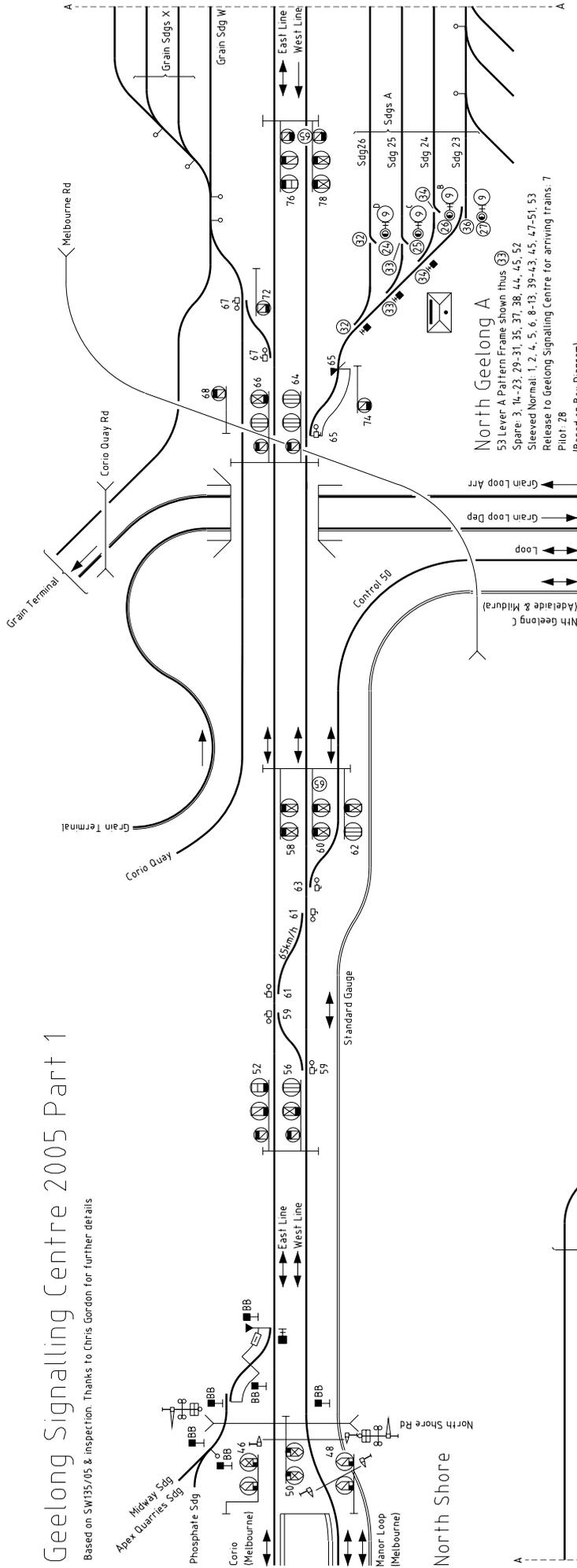
Wintergardens - Sunbury 2005

Based on Chris Gordon's diagram & WN 25/05

- 23.06.2005 **Franklin St** (SW 164/05, WN 25/05)
On Thursday, 23.6., the trial LED 'V' and 'S' route indicator on Up Home 516 was removed and the previous indicator returned to service.
- 23.06.2005 **Werribee - Corio** (SW 134/05)
On Thursday, 23.6., at 1700, Absolute Block Working on the East and West Lines between Werribee and Corio (see SW 131/05) was cancelled.
- 23.06.2005 **Morwell** (SW 133/05)
Permission is granted to obtain a Staff at Morwell after the arrival of Train 8437 at Traralgon. The Staff may be used for the passage of Trains 9467, 9462, and 9420. The Signaller is responsible for transferring the Staff as required between Morwell, Maryvale, and Traralgon. The Signaller may cease duty when Train 9420 is 400 metres beyond Morwell and proceeding on its journey, and Train 9462 has passed Up Automatic D4142.
- 25.06.2005 **Flinders St - Richmond Junction** (SW 171/05, WN 27/05)
On Saturday, 25.6., Up Automatic 271 (Up Burnley Through) was converted to a LED signal and relocated 6 metres from the centre of the track.
- 26.06.2005 **Newport South** (SW 168/05, WN 25/05)
On Sunday, 26.6., additional track circuits (Tracks 165, 169 & 177) were provided as part of the turnout fouling project.
- 26.06.2005 **Jordanvale - Mount Waverley - Syndal** (SW 165/05 & 169/05, WN 25/05)
On Sunday, 26.6., Down Automatics DG565, DG583 and DG 607 were converted to Alstom tri-colour LEDs.
- 28.06.2005 **Corio - North Geelong - Geelong** (SW 135/05 & 136/05, WN 25/05)
From 0001 hours, Tuesday, 28.6., the new SSI at the Geelong Signalling Centre was commissioned. This controls the area formerly controlled by North Geelong A, North Geelong B, and Geelong A signalboxes, except that North Geelong A signalbox was retained to work the points, catch points and disc signals in Sidings A. The control equipment for Corio located at North Geelong A signalbox was relocated to the Geelong Signalling Centre.
The Absolute Occupation of the East and Down Lines between Corio and Geelong was returned and the Train Staff working on the West and Up Lines was cancelled. The former Down line between North Geelong A and Geelong was resignalled for bi-directional operation and renamed the 'East Line'. The former Up line between North Geelong A and Geelong was resignalled for bi-directional running between North Geelong A and the Up end connection to the Maitland Street Sidings and renamed the 'West Line'. The main lines between Corio and North Geelong will be worked by ATC and the lines between North Geelong and Geelong by Automatic Block Signalling.
All signals are three position LED signals (except for Homes 150, 152, 154, 156, and 160 which remain incandescent lamps). Post phones are not provided and all communication will be via radio. All points are fitted with dual control point machines. A 'Sigmap' (VDU) control system is provided at the Geelong Signalling Centre. This is operated by Entry-Exit commands. Post phones are not provided and all communication will be by radio.
At North Geelong A, posts 9, 9B, 9C, and 9D were returned to use. Levers 7 and 28 became pilot levers. Diagrams 24/05 (North Shore - North Geelong - Fyansford) and 26/05 (Geelong) replaced 02/03 and 26/04 (respectively).
Operating Procedures 54 (Failure of signals at Werribee, Lara, Corio or North Geelong), 56 (Elder's Siding), 56A (North Shore - Midway Siding; Co-ordination of Train Movements), 57 (North Geelong A), 59 (North Geelong Grain Loop), 61 (Geelong - South Geelong), 62 (South Geelong) and 63 (Geelong) have been altered to refer to the new Geelong Signalling Centre.
New operating procedures 57A, 61A (Failure of Signals) and 63 have been issued.
57A Trains arriving and departing Sidings A
The Signaller at the Geelong Signalling Control Centre works the signals on the main line. North Geelong A works the Up end catch points and signals in Sidings A. When a train is to depart from Sidings A the Signaller at North Geelong A will first close the required catch points and then press the push button on the block shelf. This will display an indication on the VDU at Geelong. The Signaller at Geelong will reverse Points 65 and clear Dwarf 74. After seeing the proceed indication on Dwarf 74, the Signaller at North Geelong A will clear the appropriate Disc signal.
When a train is to arrive in Sidings A, the Signaller at North Geelong A will set the road as directed by the North Geelong Area Co-ordinator. Reversing lever 7 will then illuminate an indicator on the VDU at Geelong. The Signaller there will then set the route towards Siding A.
63 Geelong
If Dwarf 156 fails, a Signaller's Caution Order must be issued to the driver.
When Homes 152 or 154 display a Medium Speed indication or Dwarf 156 a Clear Low Speed indication, the speed restriction only applies until the train clears the points.
When a shunter is on duty at the Geelong passenger yard, the Signaller must obtain permission before signalling a train into the passenger yard. Before going off duty, the shunter must set and secure the hand points towards No 9 Road. The shunter will then advise the Signaller who will note this in the TRB. The

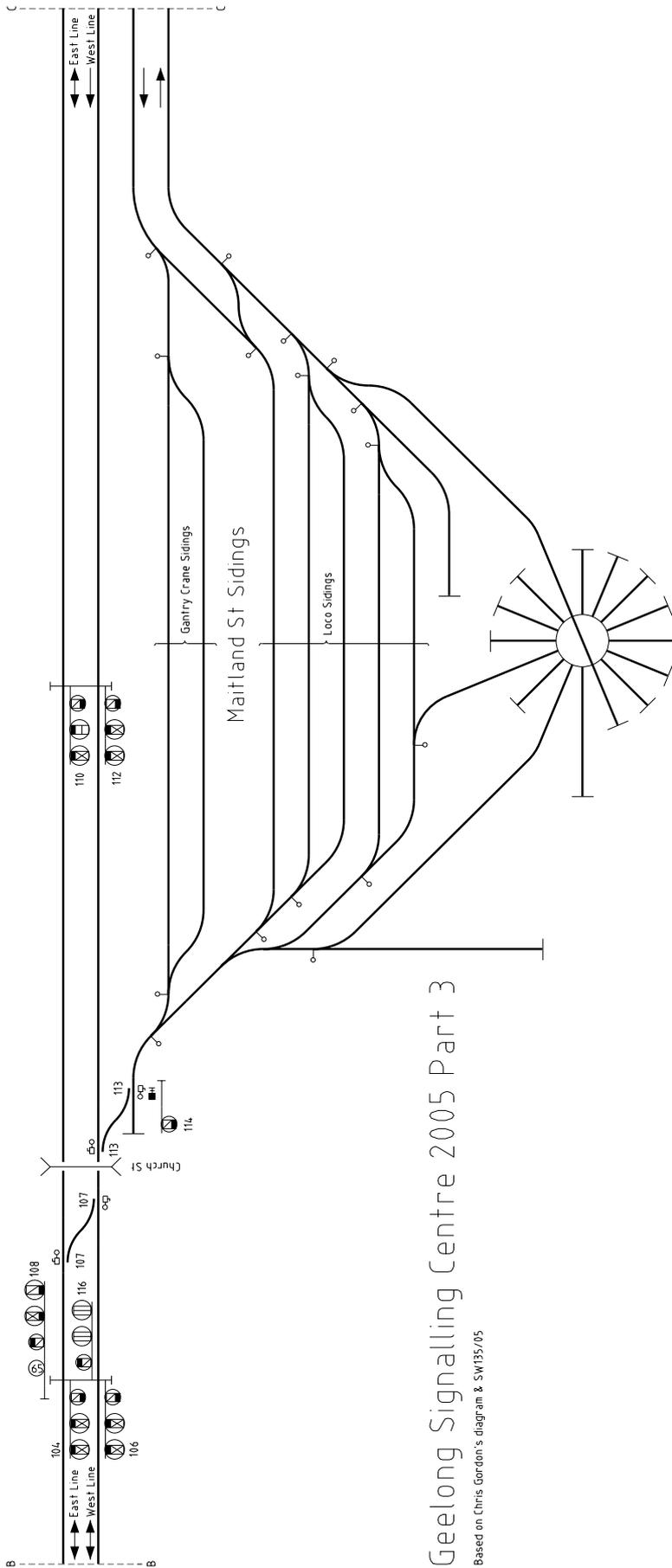
Geelong Signalling Centre 2005 Part 1

Based on SW135/05 & inspection. Thanks to Chris Gordon for further details



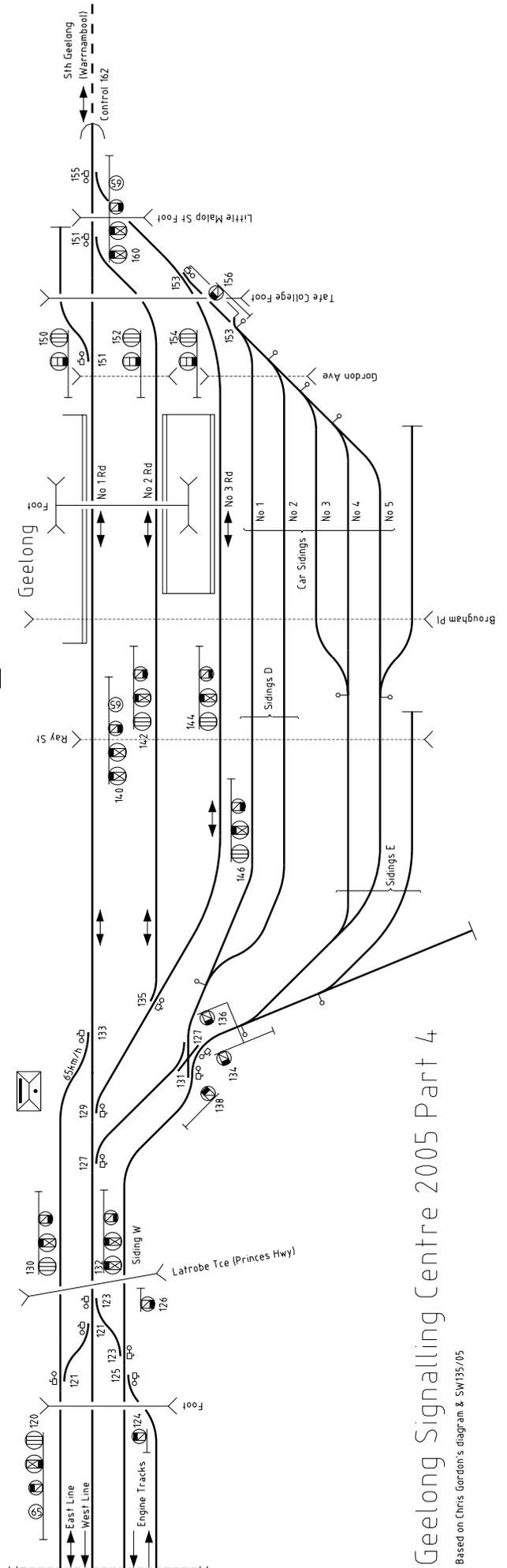
Geelong Signalling Centre 2005 Part 2

Based on SW135/05 & inspection. Thanks to Chris Gordon for further details



Geelong Signalling Centre 2005 Part 3

Based on Chris Gordon's diagram & SW135/05

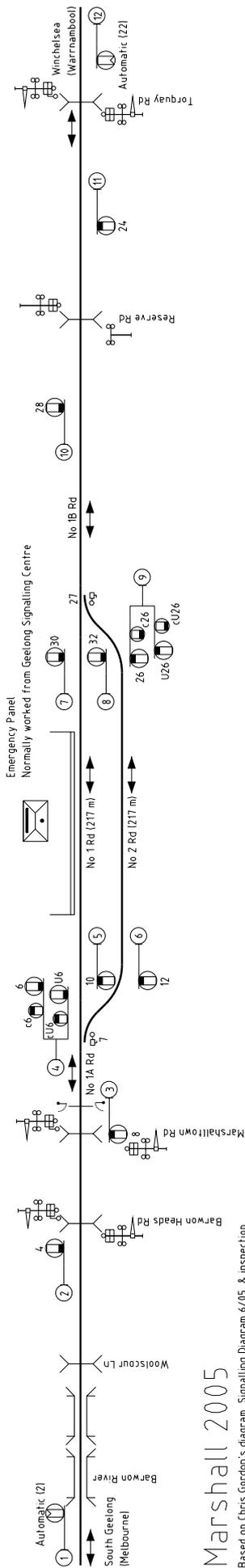


Geelong Signalling Centre 2005 Part 4

Based on Chris Gordon's diagram & SW135/05

Signaller may route a train via No 9 Road. The Signaller must be notified when a shunter commences duty and an entry made in the TRB.

- 29.06.2005 **Maryborough - Ballarat - Ballan - Melbourne** (SW 138/05, WN 26/05)
Commencing forthwith, trains running between Maryborough and Melbourne via Ballan will not be issued with a Master Key. This avoids the unnecessary transfer of Keys between Ballarat and Maryborough.
- 29.06.2005 **Hattah** (SW 139/05)
From Thursday, 29.6., the siding was booked out of service.
- 03.07.2005 **Altona Junction** (SW 176/05, WN 26/05)
On Sunday, 3.7., additional track circuits were provided as part of the turnout fouling project.
- (05.07.2005) **Werribee** (SW 175/05, WN 26/05)
Homes 6 or 18 must be cleared before a train is signalled from Homes 22, 26, or 30. This is due to the position of the signals in relation to the pedestrian crossing on the Up side of Werribee St.
- 05.07.2005 **Sulky Loop** (SW 143/05)
The Down track (No 2 Track) has been booked out of service and the points spiked to lie for No 1 Track. The section will become Ballarat - Tourello Loop. The point banner at the Up end was removed from service.
- (05.07.2005) **Watergardens - Sunbury** (SW 144/05)
Regional Train Control currently does not have an overview of these sections and so the axle counter reset procedures in Clauses 7h & 7l, Section 36, Book of Rules, are modified.
When an axle counter section reset is required, the on-call Operational Safeworking Supervisor must confirm the signal track section details with the Signaller Bendigo. The Safeworking Supervisor must then give the details to the Train Controller who will complete the process. The Safeworking Supervisor must then confirm with the Signaller Bendigo and the Train Controller that the section has been reset.
- (05.07.2005) **North Geelong Yard** (SW 145/05)
New Instruction 60 is to be added to Section 34 of the Book of Rules.
60. North Geelong Yard, Arriving and Departing Trains - Down end
Train movements from the Down end of the yard are controlled by Dwarfs 88 and 90. Clearance boards are provided at the exit of Sidings A, B, C, D, & E, the Through Siding, and the Ballarat Siding. These boards indicate the clearance points and the names of the sidings. The hand points between the Dwarf signals and the clearance boards must only be operated when authorised by the Area Co-ordinator North Geelong Yard.
Departing Trains
Permission must be obtained from the Area Co-ordinator North Geelong Yard before a movement can pass a clearance board towards the Dwarf signal. The Co-ordinator must ensure that no conflicting movements are taking place. For departure movements the Area Co-ordinator must advise the Signaller at Geelong and come to a clear understanding as to which Dwarf the movement will be accepted onto the running lines.
Arriving Trains
Before signalling a movement into the North Geelong Yard, the Signaller Geelong must obtain permission of the Area Co-ordinator North Geelong Yard. The Co-ordinator must ensure that no conflicting movements are being made and advise the Signaller as to the line the movement is to arrive into. The Train Crew is to be advised as to the road the movement will arrive into, and the train crew or other competent person is to ensure the hand points are correctly set.
Ballarat Siding
Vehicles are permitted to stand on the Ballarat Siding, but only on instruction from the Area Co-ordinator.
- 06.07.2005 **Sulky Loop** (SW 146/05, WN 30/05)
The Down track has been restored to service. Sulky Loop is again available to cross trains.
- 08.07.2005 **North Geelong Yard** (SW 148/05, WN 30/05)
The insulated joint at Dwarf 88 is 3 metres in advance of the post. When a shunt movement is made past Dwarf 88, an opposing movement must not be made until the Signaller is advised by the Yard Supervisor, Shunter, or Driver that the first movement is clear of Dwarf 88.
- 08.07.2005 **Broadmeadows** (SW 183/05, WN 27/05)
On Friday, 8.7., the flashing light at the pedestrian crossing at Almurta Ave (19.650 km) was replaced by pedestrian gates.
- 12.07.2005 **Deer Park - Deer Park West** (SW 149/05)
On Tuesday, 12.7., the North line between Deer Park West and Deer Park was returned to service. Points 11 at Deer Park West were booked back into service.
- 13.07.2005 **Prairie** (SW 152/05, WN 30/05)
On Wednesday, 13.7., the Up and Down end points were booked into service.
- 19.07.2005 **Bunyip - Longwarry** (SW 159/05, WN 30/05)
Down trains are not permitted to terminate at Bunyip to form Up trains. The instructions in Procedure 125g, Section 34, Book of Rules are cancelled.



20.07.2005

Marshall

(SW 150/05)

On Wednesday, 20.7., the signalling at Marshall was commissioned. Diagram 30/05 was provided.

Marshall was opened as an Intermediate Terminal Station. The Train Order sections became South Geelong - Marshall - Winchelsea. A run around loop was provided on the Up side of the line opposite the platform. Two position light signals were provided to control movements. The points at each end of the loop are worked by TD84m dual control point machines. The computer based interlocking is controlled from either a VDU panel located at the Geelong Regional Control Centre or the Marshall station building. The panel operates using Entrance-Exit principles. A level crossing predictor was commissioned at Barwon Heads Road. Insert a new Operating Procedure 64A in Section 34, Book of Rules. 64A Marshall

The signals at Marshall will normally be operated from the Geelong Regional Control Centre, but may be operated locally. When Marshall is being operated locally, the Driver of each train must be advised by the Train Controller before the train arrives at Marshall.

Prior to switching between local and remote control (or vice versa), the Signaller in control must place all signals to Stop, ensure that the line is clear between the Up and Down distant signals, and that no train is approaching Marshall. After control is transferred the Signaller must confirm with the Signaller who gained control that the transfer was successful.

Instructions for passing signals at danger are given.

23.07.2005

Ferntree Gully

(SW 187/05, WN 29/05)

On Saturday, 23.7., additional track circuits were provided on the main line turnout.

24.07.2005

Footscray

(SW 192/05, WN 29/05)

From 0800 hours on Sunday, 24.7., until 0100 hours on Sunday, 28.8., a Banner Indicator will be trialled. The Indicator will repeat the aspect shown on Up Automatic M244 and is located on the western side of the Albert Street bridge. The Indicator consists of a square unit which will show a horizontal bar of white LED lights when M244 is showing stop, a diagonal bar of white LEDs when M244 is showing caution, and a vertical white bar when M244 is showing clear. A fixed white light is fixed below the indicator.

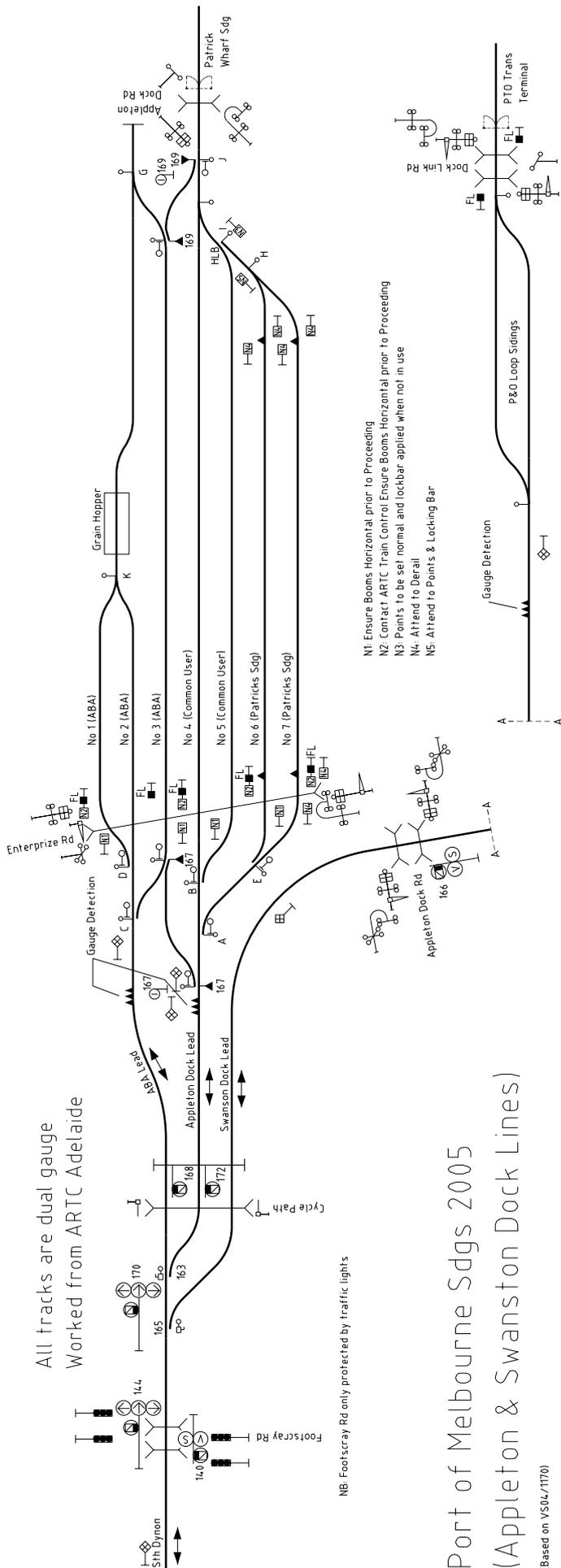


The 'panel' controlling Marshall is a standard computer terminal. At least the standard TRB and radio are present! Photo: Brett Cleak.

The Banner Indicator provided at Albert Street, Footscray. The Indicator, which repeats the indication of Automat M244 (seen in the background) is showing caution. Photo: Chris Gordon.



- 29.07.2005 **Geelong - Maitland Street Sidings** (SW 140/05, WN 30/05)
On Thursday, 29.6., No 4 and 5 Roads were booked out of service.
- 30.07.2005 **Richmond Junction** (SW 195 & 196/05, WN 30/05)
On Saturday, 30.7., Down Home 394 (exit of Burnley Loop) was relocated 3 metres in the Down Direction. Up Automatic 273 (Burnley Through line) was abolished.
- 31.07.2005 **Camberwell** (SW 198/05, WN 30/05)
On Sunday, 31.7., two Theatre indicators were provided at the Down end of the sidings. These indicators work in conjunction with Dwarf CAM336 and display the road for which the route has been set for a train to leave the sidings. The indicators will show 'B', 'C', 'D' or 'E' depending on the route selected. Drivers must not proceed past the fouling point of a siding until CAM336 is showing proceed and the theatre indicators show the letter corresponding to the siding they are departing from.
Dwarf CAM336 was converted to a LED head and can now display a 'Clear Low Speed' aspect.
- (02.08.2005) **Maryborough - Ballarat - Geelong** (SW 163/05, WN 30/05)
Commencing forthwith, trains running between Maryborough and Geelong will not be issued with a Master Key unless it is known that the train will shunt at Lal Lal or Gheringhap. A Master Key will be held at Ballarat and North Geelong C for trains shunting at those locations.
- 02.08.2005 **Port of Melbourne Sidings (Appleton Dock)** (SN 1274/05)
On Tuesday, 2.8., the signalling at Appleton Dock was altered.
The points and signals that control the junction of the lead towards the West Swanson Dock line (PTO Trans Terminal), the Appleton Dock common user sidings, and the ABA sidings are controlled by the Melbourne Metro Train Controller located in Adelaide. The Appleton Dock sidings are track circuited to a point on the south (Up) side of Enterprize Rd, and the position of the hand operated points at the Down end of the sidings are indicated on the panel. Dwarf 144 (applying across Footscray Rd) will not clear unless Dwarf 170 is already clear.
The points at the Up and Down ends of the Appleton Dock sidings are worked by WSA levers. Each lever is fitted with a label identifying the set of points. Points A, B, C, D, E, I and G are fitted with point indicators (switchstands) that show a yellow circle when the points are normal, and a white square when they are reverse (see Rule 18k, Section 27, of TA20). Crossovers 167 and 169 are secured normal by a switchlock released by the ARTC Train Controller. The Derails at each end of Patricks Sidings (Nos 6 & 7 Rds) are fitted with red discs. These discs are up when the derail is 'on'. Points I is fitted with a Hand Locking Bar to secure the points normal. The keys to the derails and hand locking bar are held by Patricks.
The Enterprize Rd level crossing will operate automatically for all Up moves and can be called by push buttons for Down moves. Train crews must ensure that crossing operation is kept to a minimum. Shunting movements at the Down end are restricted to locomotives running around locomotives. All movements associated with train make-up operations must be carried out at the Wharf end of the yard. Wagons must not be left standing between Footscray Rd and Enterprize Rd. Down shunting moves must draw clear of the level crossing track circuit and not return towards the level crossing until all waiting road traffic has cleared, or 5 minutes has elapsed.
All movements into the ABA sidings will be signalled via the ABA Lead, and those into Patrick Sidings or the common user sidings via the Appleton Dock Lead. The Train Controller will advise any other movements operating in the sidings of the arriving movement, and the train crew of the arriving train of the other movements. When the arriving train enters the lead, the Driver will notify the other Drivers of the imminent arrival and advise the road it will arrive into. The other Drivers will acknowledge the notification and ensure the line is clear for the train to arrive. For movements to Patricks Sidings (No 6 & 7 Tracks), a qualified safeworker will set the road and remove the derails prior to the train's arrival. For movements direct to Patricks Wharf, the locomotives will run-around and push the movement into



All tracks are dual gauge
Worked from ARTC Adetaide

NB: Footscray Rd only protected by traffic lights

Port of Melbourne Sdgs 2005 (Appleton & Swanston Dock Lines)

(Based on VS04/1170)

07.08.2005

(09.08.2005)

the Wharf siding. Similar instructions apply to movements to the P&O Siding.

When a movement is ready to depart the sidings, the Driver will contact the ARTC Train Controller and advise that the train is ready to depart and request permission to proceed over Enterprize Road. If there are no conflicting movements, the Train Controller will grant permission to proceed and set the route. The Driver must inform all other movements in the siding and advise of their departure. The Driver or Signaller will then operate the Enterprize Rd boom barriers by means of the push buttons. Similar instructions apply for departure from the P&O Sidings (West Swanson Dock Sidings).

If Dwarf 140 or 144 fail to clear and the Driver observes that the traffic signals are still clear for road traffic, the Driver will contact the ARTC Train Controller who will, in turn, contact the VicRoads control room and request a manual override on the traffic lights. Should the signal still fail to clear once the road traffic has come to a stand, the Train Controller will issue a verbal authority for the train to pass the signal at Stop. Should the manual override fail, or the power has failed, the Train Controller must contact the police and seek their assistance to allow the movement to proceed.

Werribee

(SW 202/05, WN 26/05)

On Sunday, 7.8., Up Homes 24 and 28 were converted to tricolour LED signals.

Richmond Junction - Richmond

(SW 205/05, WN 31/05)

Diagram 33/05 (Richmond Junction - Richmond) replaced diagram 39/99 as in service.

ALBISTORE

I have a fascination with obscure signalboxes. The signalbox at Albistore, 11 miles 43 chains 36 links from Melbourne on the Albion - Broadmeadows Goods Lines is a particularly good example. Indeed, the signalbox and the siding it served was only mentioned four times in the Weekly Notice. The private siding files on Albistore add considerable flesh to these bones.

The eight mile double track goods line between Albion and Broadmeadows was opened for traffic on 1 July 1929. The line was conceived as a way of diverting the goods traffic to and from the north-east through the new Tottenham Goods yard and thence via the goods lines to Melbourne Yard. The new line between Albion and Broadmeadows was engineered to then highest standards. The double track line was laid with 90 lb rails and was equipped with three position automatic signalling using light signals. The line passed through empty farmland and there were no stations or sidings between Albion and Broadmeadows.

The first siding provided on the line was provided in 1943 to serve an Ammunition Receiving Depot just north of the Maribryong River viaduct. The siding was known by the railways as 'Albistore'.

The first note in the file dealing with Albistore was a letter from the Department of the Army to the Victorian Railways on 20 May 1942. In conjunction with a Mr Remfry of the Victorian Railways, the Army had selected a site for the establishment of the new depot. The site selected was on the east (Up) side of the goods lines roughly a quarter of a mile north of the Maribryong River viaduct. The Army stated that the Depot would consist of four 61' by 40' stores, each with a 10' wide rail platform on one side and an 8' wide road platform on the other (road access would be from Milleara Rd). The stores were to be separated by 300' and no store was to be closer than 1200' from the main line. Provision was to be made for future expansion. The Army made no comment on the planned use of the site, but probably it involved receiving ammunition by rail, storing it for short periods, and then distributing it by road to the various camps and training facilities in Melbourne.

The Victorian Railways responded by preparing a plan, dated 3 June 1942, that showed the main line connections just north of an occupation crossing at 11 miles 52 chains. Immediately inside the boundary fence there was to be a loop siding 766 feet in the clear. There was then a long single line located on a gentle curve to the left on which the four stores were situated. Provision was made for the siding to be extended to serve a further two stores, and an additional three stores could be erected on a possible back shunt off the main siding.

In response to this proposal, the Army initially requested that the loop be shortened to be 700 feet in clear. They followed this up with a request that the siding to be terminated between Nos 2 and 3 Stores and the remaining two stores to be placed on the dead back shunt. This allowed the Depot to be constructed on one block of land.

To avoid the back shunt, the Victorian Railways proposed a second option on a plan dated 17 August 1942. This required the purchase of a small triangular block of land at the southern boundary adjacent to the railway. This allowed the main line connections to be moved southwards around 10 chains. The layout of the sidings and stores was similar to the original proposal, except that all four stores could now be fitted on the one block. The VR estimated the cost of this proposal at £8330, made up of trackwork £4580 and signalling £3750 (the earthworks for the siding were to be carried out by the Victorian Country Roads Board). The Army

agreed to pay the actual cost of the siding, and paid £8000 up front on 29 August 1942. A late design change was received from the Army on 7 January 1943 when it was requested to extend the siding by three rail lengths as the grade otherwise prohibited hand shunting of trucks past No 4 Store. The railways agreed to this change.

Construction of the siding was carried out in late 1942 and early 1943. On 8 October 1942, instructions were issued to carry out drainage work (completed 5 February 1943) and to carry out the actual construction of the siding (completed 20 January 1943). On the signalling side, instructions were issued to the Workshops Manager Spotswood on 9 October 1942 for the manufacture of a 10 lever interlocking frame, including lever locks and circuit controllers (installation work on the frame was not completed until 31 March 1943, after the siding was opened). The frame, complete, was to cost £266. On 11 November 1942 the Workshops Manager was instructed to fabricate the new signal box (estimated cost £164) and the Engineer of Special Works was instructed to erect it to plans 662-42 and 663-42. The plans, unfortunately, are not on the file, however, from the estimate by the Chief Architect we learn that it was to be of timber with a galvanised iron roof and shutters were to be fitted to the four windows. Fabrication of the box was completed on 23 December 1942 and erection was completed on 25 January 1943. The remaining S&T work was covered by a works instruction dated 12 December 1942. The major work involved the Telegraph and Telephone Supervisor (£1405, completed on 3 February 1943), and the Signal Construction Supervisor, Flinders Street whose £1218 worth of work was completed on 5 February 1943.

The siding and associated signalbox were brought into service on 3 February 1943. The main line points to the siding were situated at 11 miles 44 chains from Melbourne and trailed into the Up line. A few chains on the Down side of the siding points a trailing crossover was provided in the main line. The siding was 2650 feet in length between the catch points and the buffer stops with a 700 foot clear loop situated just inside the boundary fence. The four stores were situated at the stipulated 300 foot intervals, no doubt to minimise the damage should one of the stores catch fire. The gentle curve would have made it difficult for an enemy to strafe or shell the stores.

On the signalling front, the box was equipped with a 10 lever A pattern frame. Two of the automatic signals on the main line (MG662 and MG663) were relocated and redressed as Homes 2 and 9 to protect the siding and crossover. Dwarf signals were provided to control shunting moves. Albistore signalbox was equipped to switch out and instructions were issued that if the Home signals were at stop and the illuminated letter A was not displayed, the Driver had to ring the Signalman at Albion from a telephone provided on the Down end wall of the Albistore signalbox. Diagram 1/43 was issued to replace diagram 10/29.

The final statement of expenditure for the siding was for £8079/5/6. The breakdown of the S&T expenditure is shown in the table on the following page.

As to the name of the location, the original works instruction for the frame gave the location as 'Defence Sidings at 10m-44ch'. Weekly Notice 6/43, which notified the opening of the siding on 3 February, gave the name as 'Albistore' and this name was also used in the amendment to the Goods Rates Book issued on 16 February 1943. On 12 February 1943, the Assistant S&T Engineer referred to the siding as 'Albistore' in a memo. However WN 8/43, issued on 23 February, amended the name to be 'Albistore'. Inci-

Breakdown of S&T costs, Albistore

	Labour Materials		Total
	£	£	
100 Mechanical Signal Gang	78	308	386
101 Interlocking Fitters	6	272	278
106 Signal Gang (Electrical)	133	144	277
107 Electrical Mechanic	142	433	575
108 Pipe Fitter	32	28	60
109 Welders	7	5	12
112 Carpenter (Elec & Mech)	85	79	164
113 Carpenter (Telephone)	2	-	2
114 Line Gang (Telegraph)	118	106	224
115 Elec Mechanic (Telephone)	5	64	74
118 Fitter (Mechanical)	15	-	15
205 Travelling and Waiting Time	11	-	11
206 Camping out allowance	77	-	77
207 Freight	-	7	7
210 Supervision	195	-	195
Signalbox	6	143	149
Unallocated	61	35	96
Total	973	1629	2602

dentally, the military did not appear to refer to the location by this name.

Operations

Very little is known about the working of Albistore siding. The anticipated methods of working Albistore are shown in the section of the Goods Rates Book dealing with the special charges to be imposed for shunting:

- i When placing is done by a passing goods train:- from when the engine arrives at the main line points giving acces to the siding until its release therefrom;
- ii When placing is done by a Pilot engine from Melbourne, Tottenham or Broadmeadows:- from when the engine leaves its originating place, Melbourne, Tottenham or Broadmeadows, until its return thereto;
- iii) If a special train with a minimum load of 15 four-wheeled trucks (or the equivalent thereof) is run from Melbourne or Tottenham to the siding, no shunting charges shall be imposed [...]

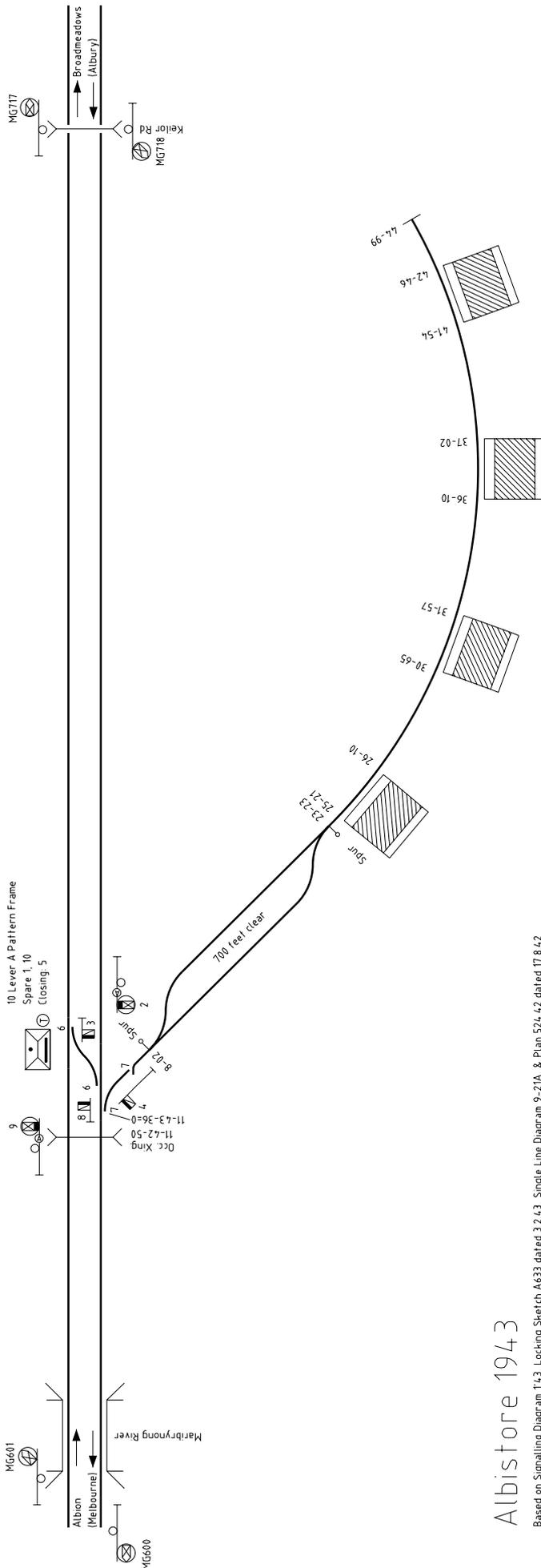
Perhaps a better description of the actual operation of the siding is contained in the memo written by the Safeworking Officer to the General Superintendent on 18 October 1944:

Albistore

The attached signalling diagram illustrates the arrangements in force at Albistore also the track layout and siding accommodation. Normally the signal box is switched out on arrival of the Pilot and assuming that the Leading Sunter is attending to the signalling and the train is being completely side-tracked, the following would be the procedure.

1) On arrival from Tottenham via Albion the train would be stopped with the rear vehicle clear of Dwarf Signal No 3. The Leading Shunter (who must be certified as competent to work the frame) would go to the Signal-box and switch in. The closing lever 5, and levers 9 and 2 would be placed normal. The route is then set for the train to be pushed to up line when it is then completely side-tracked to the sdg.

2) When the train has passed clear of Dwarf Sig-



Albistore 1943

Based on Signalling Diagram 1/43, Locking Sketch A633 dated 3.2.43, Single Line Diagram 9-21A, & Plan 524.42 dated 17.8.42

nal No 4 (signal controlling exit from sdg to up line) the box would be switched out and the Leading Shunter can then rejoin his train and attend to the shunting operations at the sdg.

3) When the train has completed the shunting operations at the sdg it would proceed to Dwarf Signal No 4. The Leading Shunter would then proceed to the Signal-box and switch in for the purpose of signalling the train to the up line. When the train has arrived on the up line it would be stopped with the rear vehilce clear of Dwarf signal No 8. The Leading Shunter would then close the Signal-box and rejoin his train.

It will be noted that any shunting movement performed on the main line is within station limits and the Asst Shunter accompanying the train is competant to take charge of such shunting and it is not necessary for him to hold any safe working or Guard's certificate.

First dismantling proposals

The war ended in 1945 and the reporting of traffic statistics was resumed in the Commissioner's Report for the year ended 30 June 1947. In that year Albistore was recorded as receiving 45 tons of inwards traffic and shipping 83 tons out.

However, by late 1946 the Department of the Army was negotiating with the Victorian Railways about the sale of surplus railway facilities. The full file has not been sighted, but an extract in the Albistore file notes that on 12 November 1946 the Victorian Railways offered the Army £328 for the 'Albistore - Ammunition Transit Depot Siding'. The railways estimated that the material that comprised the siding was worth £1058, but that it would cost £730 to remove it, giving a net value to the railways of £328.

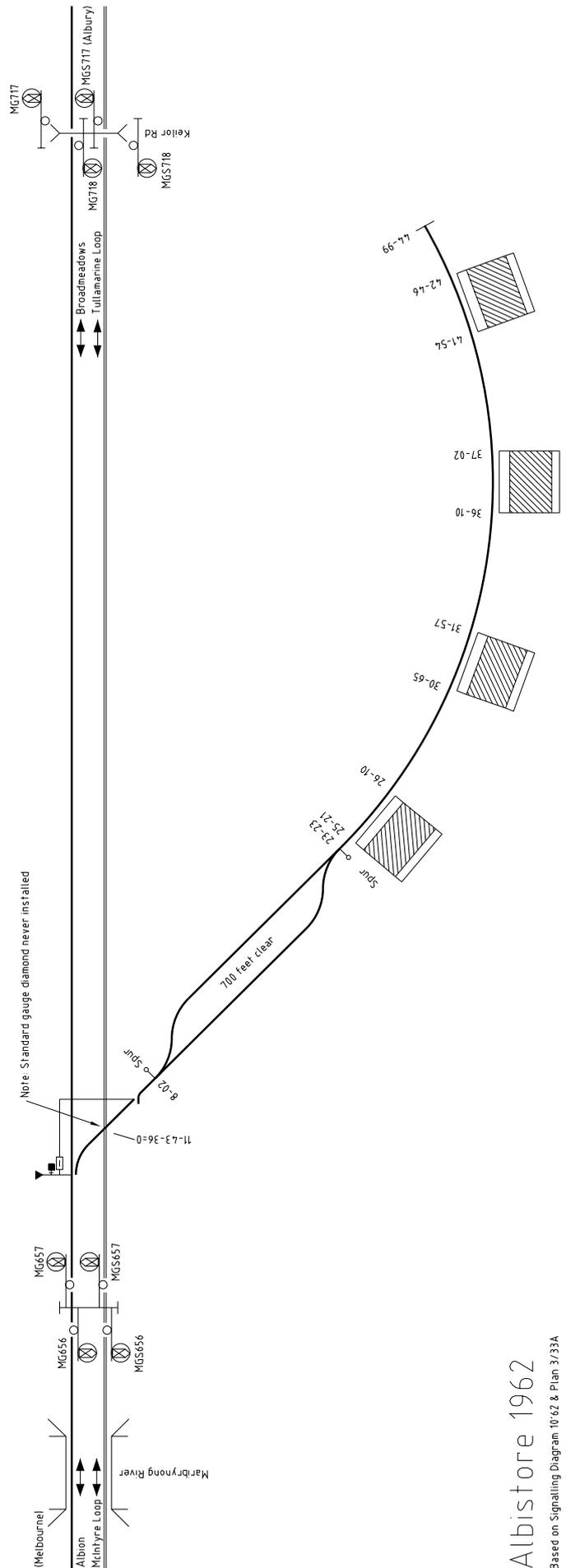
On the 9 May 1947 the Army Director of Transportation notified the railways that Treasury had approved the sale of the siding for £328. The railways issued instructions to dismantle the siding on 19 May 1947. The Chief Architect noted on 26 June that the Metropolitan District Engineer had been instructed to transfer the signal box to Crib Point for the new loop line.

Unfortunately, while one hand in the Army was selling the siding to the Railways for scrap, the other was transferring the entire installation, including the siding, to the Department of the Navy. On 4 July 1947 the Naval Armament Supply Officer formally notified the Chief Civil Engineer that the siding was still required by the Commonwealth. The instructions for dismantling the siding were cancelled on 15 July 1947. On 23 July 1947 the Army Director of Transportation noted that the Navy was currently not using the siding, but it was anticipated that it would be required for the normal traffic demands of the ammunition depot.

Department of the Navy, Department of the Navy, and Department of the Interior

The Railways belatedly issued an amendment to the Goods Rate Book on 16 September 1947 notifying that the Department of the Navy had taken over the siding. During the year ended 30 June 1948, the Commissioner's Report recorded that 55 tons was shipped to Albistore and 66 tons was shipped from the Siding. No traffic is then recorded for the years 1948/49, 49/50, or 50/1.

On 3 March 1949 the Navy wrote requesting maintenance costs for the siding serving the "Keilor Magazine Area". The Railways then received a letter on 31 May 1950



Albistore 1962
Based on Signalling Diagram 10/62 & Plan 3/33A

that the Department of the Army had once again taken over the siding.

On 9 November 1950 the Army made an informal approach to the railways asking if they were still interested in buying the siding for scrap. On the 31 May 1951 the Army notified the railways that the siding had been transferred to the Department of the Interior. The railways renewed their offer to purchase the "Keilor (Albistore) Ammunition Siding" for £328 on 23 February 1952, but the Department of the Interior rejected the offer on 23 April, who stated that the siding was required by the Department of the Army for future use in connection with an ammunition receiving depot. Despite the implication that the siding was not in use, the Commissioner's Reports for the year ended 30 June 1952 showed that 789 tons was shipped from Albistore, and the report for the following year 304 tons was shipped. After this swansong, possibly clearing stocks, the siding never again appeared in the annual report and, presumably was not used. Despite this, the Commonwealth signed a standard siding agreement on the 17 February 1956.

Abolition of the Signalbox

On 26 November 1961 the Up line between Albion and Broadmeadows was taken out of use for conversion to standard gauge to form part of the new standard gauge line between Melbourne and Albury. The former Down line became a single broad gauge track and was resignalled for bi-directional operation under the ATC system. Short sections of double track were provided at Albion and Broadmeadows to allow broad gauge goods trains to be held clear of the main lines, and the end of the double track were worked from small panels at the respective signalboxes.

The Interlocking Register notes that the signalbox was abolished on the 26 November, and the Litho issued with these alterations showed that the siding was now connected with the former Down line. The points were secured by a switchlock and rodded to the catch points in the siding. The points and catch points were worked by a small point lever. All of the signals formerly worked by the signal box were abolished.

The standard gauge line was opened for goods traffic on 3 January 1962. At this stage the CTC had not been commissioned and the line between West Footscray and Somerton Loop was worked as one section of Electric Staff. The diagram shows the Albistore siding crossing the new standard gauge line by way of a diamond, but it could not have been in service as there was no method of protecting broad gauge trains shunting the siding. In fact, it appears that that the mixed gauge diamond was never actually provided. However, the broad gauge main line points were provided, as was, probably the switch lock and small point lever.

Power Signalling of the standard gauge line was brought into use on 15 April 1962 for the introduction of the passenger service two days later. The standard gauge McIntyre Loop and Tullamarine Loop were brought into use at this time, but both were worked by local control panels as the CTC had not yet been commissioned. CTC was brought into use West Footscray - Tallarook on 4 March 1963. The final alteration was the abolition of the local control panels for the broad gauge at Albion and Broadmeadows on 25 March 1963. Operation of the broad gauge line was then transferred to the standard gauge CTC at Spencer Street. With all these alterations, Albistore siding was shown on the signalling diagrams as a switch locked siding crossing the standard gauge line by means of a diamond crossing. In practice, of course, the siding was out of use because the mixed gauge diamond was not provided.

It appears that the Victorian Railways also neglected to inform the Commonwealth that they had disconnected the siding and removed the signalbox and associated signalling (which, after all, was owned by the Commonwealth as they had paid for it). Nothing about the alterations is recorded on the private siding file (which is normally scrupulous about recording alterations as the siding holder paid an annual maintenance charge based on the cost of construction), nor could the railways find any record of the notification when they looked a decade later.

Army Supply Store proposal

On 6 May 1964 the Australian Military Forces, Southern Command, wrote to the railways stating that they were investigating the location as the location for a base containing a CMF Training Depot, Barracks, and Trade School. The existing stores would be removed and a new 1000' by 400' supply depot established alongside the standard gauge line. Both broad and standard gauge access was required to the new depot.

The railways responded with a proposal to slue the existing broad gauge siding to serve the back of the new store. The standard gauge access would have been provided by a single siding at the front of the store, facing for Up trains.

No response to this proposal was ever received from the Military and the redevelopment never eventuated.

Abolition of the Siding

In 1970 it was apparently proposed to relay the broad gauge line and in February of that year the Engineer of Track and Drainage wrote to the Chief Civil Engineer requesting permission to remove the switchlocked points to the Albistore siding. In the letter he notes that the proposed diamond was never installed and the CTC cubicle had recently been removed. The Estate Officer subsequently noted that the siding had been spiked over for a "lengthy period" and that only S&T had incurred maintenance costs in recent times. The Estate Officer further commented that if the points were removed, the railways would be liable for the cost of restoring them should the Commonwealth subsequently wish to reopen the siding. He finished by noting that it would be a courtesy to notify the Department of the Army before actually removing the points.

On 18 February 1970 the District Engineer instructed the Road Foreman at Laurens Street to remove the points during relaying work. In May 1970 the District Engineer notified the Chief Estate Officer that the V crossing of the main line points had been removed for some time. In October 1970 the Chief Civil Engineer proposed two options. In the first, the railways would remove the turnout and restore it when required. This option was estimated to cost \$11,000 for trackwork and \$25,000 for signalling. In the second option, the railways would close the siding as the Commonwealth would then be required to pay for the removal of the points. The cost of removing the siding was estimated at \$2,200, less \$1,760 which was the value of the materials released.

On 22 December 1971 the railways formally wrote to Army Southern Command. They noted that the cost of resignalling in 1964 (sic) was charged to the standard gauge project and that the diamond had not been provided "presumably because there was then no indication that rail services would be required to operate in the Albistore area at an early date." The railways then asked if the Army required the siding. If not, they proposed that the main line points be removed without cost to the Army provided that the Army paid for the cost of re-installation and re-conditioning if the siding was again required for use.

The file does not contain a response from the army. On 20 April 1972 "RM" penned a memo in which he noted that there was no record of the Commonwealth being informed when the trackwork was altered during the standard gauge works. As the standard agreement required 6 months notice to the siding holder in this circumstance, the Victorian Railways were consequently in breach of the agreement. Further as the connection had not been subsequently restored, this was possibly another breach. He concluded that it was inadvisable to do any further works without informing the Commonwealth and determining the agreement (i.e. formally closing the siding). This was supported by the Crow Solicitor who wrote on 7 July 1972 that the materials in the siding were the property of the Commonwealth and the siding agreement gave the Railways no power to remove any part of the siding without the authority of the Commonwealth.

Despite this, the Chief Civil Engineer instructed the Engineer of Track and Drainage that it was proposed to proceed with the removal of the points. The exact date of removal is not known, but the Directory of Stations was amended to remove all reference to Albistore in June 1972.

Lifting of the Siding

The tale of Albistore was not yet finished, however. On the 1 February 1974 the Department of Defence notified the Victorian Railways that they had completed an investigation into the railway requirements at Victorian Army installations. The investigation had concluded that the Keilor Siding was no longer required and it was proposed to remove the tracks and reuse the material elsewhere. (The other sidings no longer required were the RAEME Training Centre, the Ammunition Transfer Siding and Receipt Depot at Bandianna and the Seymour Base Ordnance Siding.)

As a result of this letter, the Chief Civil Engineer inquired whether any track inside the railway boundary still existed. The Road Foreman responded that there was a half set of 80 lb slips (catch points) with deflecting blade and approximately 54 yards of 80 lb rail in good condition inside

the boundary. Outside the boundary, on Army land, there were two sets of 94 lb right hand turnouts in very good condition inside the boundary. The purchase of this material was recommended.

On 20 May 1974 the Australian Army notified that it proposed to take immediate action to remove all tracks at the Keilor Siding and at the Seymour Base Ordnance Depot. The railways formally responded on 11 July 1974 by stating that they considered the letter of 1 February as the notice of determination (closure). Under the agreement this triggered the requirement that the Commonwealth pay for removal of the siding inside the railway boundary. The estimated cost of dismantling the siding within the railway boundary was \$480, but that the railways would pay the Army \$370 if they sold to the railways the catch points, the 94lb points, and the 84lb rail. The Army accepted this offer on the 16 July, and a works instruction was issued on 19 August to remove the siding on railway land and to take delivery of the 94lb turnouts after the Army had dismantled the remainder of the siding.

Unfortunately, once again the railways were to miss out. The Army had not informed the Department of Manufacturing Industry of the arrangement, and DMI had tendered for the purchase and removal of the siding on Commonwealth land. This tender had been won by the Puffing Billy Preservation Society, who had tendered \$500. Under these circumstances the Victorian Railways had to permit the Society to remove the track outside the boundary, including the two 94lb turnouts. The railways then issued instructions for the track inside the boundary dismantled and the rail returned to stock. Unfortunately, the Society actually removed all of the rail, both inside and outside the boundary, and the railways got nothing. The track had been lifted and removed by 10 February 1975.

Thus ended Albistore siding. It was probably really only used for around four years. It was effectively abolished in 1962, but remained intact for a further decade before being formally abolished. Although I now know quite a lot about Albistore, I doubt I'll ever see a photo of Albistore signalbox, or the frame.

TIME INTERVAL WORKING IN VICTORIA

(Continued from Somersault Vol 28 No 4)

Extended time intervals

As already described, the basic 'Danger' period was five minutes although this had been extended to 10 minutes by 1891. There were very few examples of longer 'Danger' time intervals.

In the 1864 rulebook the 'Danger' period was extended to fifteen minutes at several stations: Lancefield Road [now Clarkefield] (Up), Gisborne (Up), Woodend (Up or Down), Carlsruhe (Down), Malmsbury (Down), Elphinstone (Down), and Buninyong (Down). Most of these stations had steep falling grades in the forward section. However, it does not appear that the Caution period was similarly extended. Many of these sections were amongst the first to be converted to block working in 1876.

By December 1877 the telegraph block was in force on the NE main line in both directions on the sections Essendon - Craigieburn - Wallan - Kilmore, and in the Down direction only on the sections Kilmore - Broadford - Tallarook - Seymour. Between March and April 1880, however, block working was removed from a number of these sections. The sections were now: Essendon - Broadmeadows (both directions), Broadmeadows - Craigieburn (Up direction only), Wallan - Kilmore (both directions), and Kilmore - Broadford

- Tallarook - Seymour (Down direction only). The Working Timetable of 1 April 1880 stated that "Between stations [on the NE line] where there is no Block one Train is not to follow another till Fifteen minutes has elapsed." This instruction apparently lasted until the block system was extended to cover all of these sections.

The only other example of an extended time interval I am aware of was similarly imposed after the removal of block working. This was between Franston and Mornington Junction where the WTT of 21 May 1894 noted that "an interval of 30 minutes must be maintained between trains running between Frankston and Langwarrin on Down and Up journeys". This followed the removal of Winters Block between Frankston and Langwarrin.

Junction working

By the issue of the 1864 rulebook the working of junctions was slightly different to stations on plain line:

100. The mode of working Junction Signals is as follows:-

101. The Junction Danger Signal is always to be made immediately after a Train, or Engine, or Car-

riage of any description has passed along the Line, and is to be continued at Danger in order to stop any Train, Engine, or Carriage that may be following, and is not to be again altered til challenged by the following Train, and a period of Five Minutes has elapsed since the former Train left the Junction. The Signal is to be kept at Danger when there is any obstruction on the Line.

102. The Caution Signal is never to be used unless to allow an approaching Train to pass, and the Engineman of such Train shall have sounded his whistle, and the man in charge of such Signal shall be satisfied that no other Train than the one is due to cross over the Junction of the two Lines.

In other words, the signals at the junction were normally kept at Danger until an approaching train had slowed and challenged the signal. Provided the preceding train had passed over five minutes previously, the Signaller could then lower the signal to Caution. After the train had passed, the signal had to be restored to Danger.

In 1885 the rule was (where the block system was not in operation):

129. Should a Passenger Train approach a Junction within ten minutes after a Goods, Cattle, Mineral, or Ballast Train, which it has to follow on the same Line, the Signaller must stop it, and inform the Engine-driver of the time that has elapsed since the previous train passed, and the Passenger Train must proceed cautiously until the Engine-driver receives an "All Right" Signal indicating that the Goods, Cattle, Mineral, or Ballast Train is shunted, or that there is an interval of at least ten minutes between such train and the Passenger Train.

Should two trains, which have to run forward on the same line, approach a Junction within five minutes of each other, the second train must be stopped and the Engine-driver informed of the train in advance. If the first train has passed more than five minutes, but less than ten minutes, the Signaller must exhibit the Caution Signal by hand, hand lamp, or flag, as occasion may require, to the Engine-driver of the second train.

This rule is slightly confusing, but appears to require the standard block working with two variations. The first is an additional safeguard: if train arrived within 10 minutes of the departure of a preceding train at a junction, the second train was stopped and the driver informed of the time that had elapsed since the previous train passed. The second was that the caution signal was given by a hand signal as junction signals only worked in two positions by this date.

By 1891 only the first part of this rule had been retained:

Should a Passenger Train approach a Junction within ten minutes after a Goods, Cattle, Mineral, or Ballast Train, which it has to follow on the same line, the Signaller must stop it, and inform the Engine-driver of the time that has elapsed since the previous train passed, and the Passenger Train must proceed cautiously until the Engine-driver receives an "All Right" Signal indicating that the Goods train is shunted, or that there is an interval of at least ten minutes between such train and the Passenger Train.

By the issue of the July 1898 Rulebook the rule was further simplified:

122. Should a Passenger train approach a Junction within ten minutes after a Goods train which it has to follow on the same Line, the Signaller must stop it, and after ten minutes have elapsed since the previous train left inform the Engine-driver of the time the previous train passed, and the Passenger train

must proceed cautiously until the Engine-driver receives an All Right Signal indicating that the Goods train is shunted. [Exception.- This Regulation does not apply where the Electric Train Staff, Train Tablet, or Block System is in operation...]

Time interval working at gates

The time interval was not just applied at stations. Gatemen at level crossings also had a responsibility for enforcing the time interval. In 1858 they were instructed:

3. If an Engine follow another within five minutes, the Danger Signal is to be shewn [by the Gate-man], after which time the Caution Signal must be exhibited for five minutes [Regulations for Gatemen at Level Crossings, p38]

In 1864 and 1885 gatekeepers were still required to display the Danger and Caution signals if required, but with a curious twist: "The Danger Signal to be exhibited for a longer time when the first Train passes slowly and makes the Gatekeeper fear that it might be overtaken by a faster Train following" (Rule 461). This was not required of Signaller, though it would seem to be a sensible rule. By 1891 the instructions were:

245 [...] When the line is not worked on the block system, if an engine follow another within ten minutes, the Danger Signal must be shown. The Danger Signal to be exhibited for a longer time when the first train passes slowly, and might be overtaken by a faster train following [...]

250. At places where the Block System is not in operation, and where there are Fixed Signals, the Danger Signal must be exhibited at these Signals for ten minutes after the passing of any train or engine, at the expiration of which time the All Right Signal must be exhibited. Where there are no Fixed Signals, the same process must be gone through, the Signals being given in each case by Hand Lamp or Flag.

In 1891 this was extended to track workers:

416. Where the Line is not worked under the Block Telegraph Regulations, if a Passenger train approach within ten minutes of a Goods, Cattle, Mineral, or Ballast train or light engine, the men repairing the Line must give the Engine-driver of such Passenger train a Signal to go slowly.

Identical rules were in force in 1898 (232/237/389), however the scope had been broadened from passenger trains to any trains.

Precedence of trains

In 1858 a simple precedence rule reduced the chance of a passenger train catching up with a goods train:

21. A Goods, Mineral, or Ballast Train, when likely to be overtaken by a Passenger Train, shall shunt at least fifteen minutes before the Passenger Train is due, and wait there till five minutes after the Passenger Train has passed; and before shunting care must be taken that Signals are made in one or both directions, as the case may require.

A similar rule applied in the 1864 rulebook. In the 1884 rulebook the instructions as to precedence were more complex:

131. Passenger Trains must, as a rule, take precedence of all other trains; and, [...] no Goods, Mineral or Ballast Trains must be started from any Station, Siding, or Junction within ten minutes of a Passen-

ger Train being due to leave. If, however, the Station-master or Signalman has ascertained, by telegraph or otherwise, that the Passenger Train which is due to leave is late, he may dispatch the Goods, Mineral, or Ballast Train, with a sufficient margin to admit of its reaching the next Shunting Station or Siding in time to avoid delay to the Passenger Train, taking care specially to warn the Engine-driver and Guard of the Passenger Train when it arrives, and to inform them of the precise time when

the Goods or Mineral Train was dispatched.

132 [Goods, Mineral, Cattle, and Ballast Trains] which have to be passed by any other train must be shunted as Stations or Sidings where there are fixed signals by at least ten minutes before such Passenger Train or Fast Goods is due, and kept there till five minutes after it has passed.

These were repeated in the March 1891 rules and the first paragraph (with slight rewording) in the July 1898 rule-book.

To be continued

LETTERS TO THE EDITOR

Chris Wurr writes:

During 2004 I was perusing a re-publication of Nicholas Caire photographs, which had originally been published and sold in Bendigo at the rate of one per week for every week in 1875. Nicholas Caire was a well-known early Australian photographer and lived in Bendigo during the years 1874 and 1875. One of this series of photos produced would be well-known to Victorian rail historians, that being the photo of the Down end of the Big Hill tunnel. This photo was reproduced on Page 171 of "Victorian Railways To '62" and incorrectly captioned as the Elphinstone tunnel. But the photo in the 1875 "one a week" series which caught my eye was a view showing the view from above the Big Hill tunnel on the south side, looking in the Up direction.

Given that Caire lived in the Bendigo area in 1874/75, and that the photo series was produced in 1875, it is therefore not unreasonable to conclude that both these photos were taken during that era and almost certainly on the same day. The rugged nature of the terrain at Big Hill, would suggest that it was unlikely he would have carted all his gear out there twice.

What caught my eye in the photo was a white-coloured, upright structure, up on the lower slopes of the cutting on the Down side of the line.

After a detailed examination through a magnifying glass, I am at least 99% sure that it is a 3-position, disappearing arm, "station" semaphore of the type in use in that era. There is no arm visible (probably in the slot), but the base of the post shows that it has been shored up (or "godfathered" to use a quaint English term described on Page 41 of "A Pictorial Record of LNWR Signalling" by Richard D. Foster, Oxford Publishing 1982) in typical railway signal post fashion. I would dearly love to put a magnifying glass over an original print of this shot - as against the half-tone print where the screen used to produce the half-tone obliterates much fine detail.

I concluded that a "Tunnel Policeman" had been employed here, to protect Down trains which may have stalled on the upgrades of 1 in 50 approaching, or the 1 in 106 inside the tunnel. I then queried renowned rail history researcher Des Jowett.

His reply was that by the time of the introduction of block working on the "Mainline" in 1886, the "Policeman" had been classed as a Signalman. Des's research could turn up no record of a "Signalman" position at Big Hill tunnel. However, his counterpart at Elphinstone tunnel made it into the PRO Files. By 1886, he was switching in seven days per week and also assisting in putting down handbrakes on goods trains. On 10th September 1886 it was decided that he was no longer required as the line was now worked by the Block System and the position was abolished on 30th September 1886. The only reference I have, to the dates of the installation of Winter's Block, are those in the May 1982 issue of Somersault, and unfortunately these are incomplete. Nev-

ertheless, the list shows a "pre 1st April 1886" date, which would give from then until 30th September 1886, plenty of time for the new system of block working to settle in, before dispensing with the tunnel Signalman's job. Record of the date of installation of block on the Harcourt - Kangaroo Flat section appears not to have survived, so we can't hazard a guess as to when the Big Hill bloke got his redundancy notice.

In March of this year, while the "Mainline" is closed for Regional Fast Rail "improvements," I took the opportunity to walk through the Big Hill tunnel and I noticed oblong holes cut into the brickwork along the full length of the Down side wall and evenly spaced about every 40 feet. By the way the original courses of brickwork had been laid and the way the apertures had been chiselled out, it was clear that these apertures had been done after the tunnel had been constructed. It suddenly dawned upon me - holes for blocks of wood for signal wire pulleys! Sure enough, there was still one tapered wooden wedge in the bottom of a hole which had been used to hold the block in place. Commonsense would indicate that the Signalman had been stationed by a lever at the uphill (Down end) of the tunnel to ensure the train departed the tunnel complete, although there is no indication of a lever or Signalman's hut in the other Caire photo of the Down end.

Since then, I have walked the length of the Elphinstone tunnel - but, alas, no holes in the brickwork. Most likely, the signal wire was run from the Up (uphill) end lever, through the tunnel to the semaphore at the Down end, facing Up trains. Elphinstone tunnel has "stand off" bays built into the brickwork on alternating sides and this is due to the tunnel being on a 60 chain radius curve and one end of the tunnel cannot be seen from the other end. (Big Hill tunnel is a straight bore and has no "stand-offs.") If a signal wire were run along the wall, it would have constituted a tripping hazard for anyone accessing the "stand-off" bay, so perhaps the wire was run on pulleys on wooden stakes at ballast level.

Incidentally, I wonder if these are the first wire-operated signals in Victoria, as it appears that all the others of this type at stations and junctions, were operated by a lever mounted on the base of the post. I have since quizzed Des again on the introduction of block on the "Mainline", but all he came up with at the time was a very curious " ...and 17-12-1890 Block section not (sic) now established between Ravenswood and Kangaroo Flat and the portable house is not now required at the tunnel". I don't know if the "not" is a typo on Des's part or in the original records. As for the "portable house", there is no evidence of its location at the top of the cutting on either side of the line, but there IS the faint remains of "stairways" roughly hewn into the bare rock, adjacent to the brick portal walls, from track level to the tops of the cutting on both sides.