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SIGNALLING RECORD SOCIETY OF VICTORIA INC

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Minutes of Meeting held Friday 15 November, 2013, at the Surrey Hills Neighbourhood Centre, 1 Bedford Avenue, Surrey Hills

Present: – Wilfrid Brook, Glenn Cumming, Brett Cleak, Graeme Cleak, John Dennis, Graeme Dunn, Michael Formaini, Ray Gomerski, Chris Gordon, Judy Gordon, Bill Johnston, David Jones, Tony Kociuba, Keith Lambert, David Langley, Andrew McLean, Colin Rutledge, Brian Sherry, Rod Smith, David Stosser and Andrew Wheatland.

Apologies: – Steven Dunne, Chris King, Steve Malpass, Tom Murray, Greg O'Flynn, Laurie Savage, Peter Silva and Andrew Waugh.

The President, Mr. David Langley, took the chair & opened the meeting at 20:05 hours.

Minutes of the September 2013 Meeting: – Accepted as read. Tony Kociuba / David Stosser. Carried.

Business Arising: – Nil.

Correspondence: – Letter to Trevor Wyatt at Metro Trains Melbourne thanking him for granting permission for the signal box tour.

Letter to Keith Lambert thanking him for his assistance with the suburban signal box tour.

Letter to Ken Ashman thanking him for presenting the Syllabus Item at the September 2013 meeting.

Letter to Surrey Hills Neighbourhood Centre with dates for meetings in 2014.

Bill Johnston / Tony Kociuba. Carried.

Reports: – Nil.

General Business: – David Langley noted the provision of boom barriers at the level crossing on the Goulburn Valley Line at Mangalore.

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

* Pedestrian gates are to be provided at New Street, Brighton, this weekend with boom barriers to be provided in December 2013.
* The grade separation at Springvale is planned for commissioning Easter 2014.
* Package "C" of works for the Regional Rail Link project includes a major track slew at Footscray scheduled for 27 December 2013.
* Planning has commenced for grade separation at Main Road, St Albans.

Colin Rutledge provided details about various works in the Country Districts. A summary of the discussion follows: –

* The level crossing at Kennys Lane, Broadford, will be abolished.
* Bairnsdale Line trains have returned to service.

(Front Cover) There is lots of signalling interest in this photo taken at Flemington Racecourse on 29 March 1979, but let's focus on the lockbars. At this time, Flemington Racecourse yard was largely innocent of track circuits and many lockbars were provided. Four lockbars and one clearance bar can be seen in this photograph, and it illustrates the problems of providing lockbars in complex track layouts. Lockbar 48, on the left hand rail at the bottom of the picture is a good case in point. Situated between Points 49 (near end) and 52 (far end), its position is so constrained that it runs behind the guard rail. A special humped ramp and roller was necessary to operate the lockbar in this situation. Note also that the lockbar is quite short - probably shorter than the gap between the bogies on many coaches and hence was not completely safe. It also could not be placed on the right hand rail as the V crossing intervenes. The toe of the points at the other end of the double compound (also Points 52) are hard up against the V crossing of the points to A Road. The lockbar for these points is consquently beyond the V crossing on the closure rail of the points. In theory, the lockbar could extend onto the point blades, but it is too far to see if this is the case here. Flemington Racecourse was probably the last location in Victoria that had a clearance bar - very closely related to a lockbar. This can just be seen in the Up line just above and to the right of the point indicator. (Photo David Langley)

* The rail milling machine is now working on the Echuca Line.
* Axle counters have not yet been installed for the level crossings on the Bairnsdale Line with works now proposed for the next 12 months.
* It was noted that the performance of level crossings had improved after the rail milling machine had completed its work.
* Portion of the new arrangements for the Arrivals Yard in the former Melbourne Yard will be commissioned on Monday morning.
* Bridge replacement works will be carried out on the Bendigo Line during the line closure over the Christmas – New Year period.
* Bridge replacement works will be carried out on the Seymour Line during a line closure scheduled for March 2014.
* The crossover at Broadford will be removed to allow the platforms to be extended.

A discussion took on rail grinding and rail milling and the results that have been achieved.

Rod Smith noted that Platforms 15 and 16 at Spencer Street Railway Station had not yet been commissioned.

Chris Gordon provided details about various projects around the state. A summary of the discussion follows: –

* The interlocking at South Kensington will be split next weekend. The suburban lines will be controlled by an SSI while the new country lines will be controlled by a "Smartlock" interlocking. New crossovers will be commissioned.
* A new timetable for Geelong Line trains will be introduced on 23 December 2013.
* The works scheduled to take place between 28 December 2013 – 2 January 2014 will include major alterations at Franklin Street and renewal of the connections leading to Spencer Street No.1 Box.
* The Gauntlet Track at Franklin Street will be abolished on 27 December 2013.
* The new crossing loop at Warncoort is now expected to be commissioned in March 2014.

David Stosser reported on a recent proposal for grade separation at Burke Road, Gardiner.

Syllabus Item: - The President introduced member Roderick B. Smith to present the Syllabus Item.

Rod presented the 24th annual screening of slides from the collection of the late Stephen McLean.

This year's presentation featured views of New South Wales, Queensland and Victoria from throughout 1980. Coverage of Indonesia and India from December 1980 concluded the presentation.

The presentation was thoroughly enjoyed by those present.

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

Meeting closed at 22:27 hours.

The next meeting will be on Friday 21 February, 2014 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 40/13 to WN 50/13 (the last for 2013), WN 1/14 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.

08.10.2013 Southern Cross - South Kensington (SW 205/13, 207/13, & 293/13, WN 40 & 41)

Between Thursday, 3.10., and Tuesday 8.10., Driver training will take place on the Up and Down Regional Rail Link lines and Arrival Yard Sidings between Southern Cross and South Kensington.

On Tuesday, 8.10., the signalling on the Up and Down RRL lines between Southern Cross and South Kensington was taken out use. Absolute Occupation of Platforms 15 & 16, the Up and Down RRL lines, and the Arrival Sidings was instituted. The signalling for the Through Siding (as shown in SW 130/13) will remain in service to permit train movements between the Bypass Tracks and North Dynon Yard. SW 205/13, & SW 293/13 were cancelled.

08.10.2013 South Kensington (SW 299/13, WN 40)

On Tuesday, 8.10., the V/Line headshunt on the RRL lines was removed, including the CCW points and the 'Limit of Shunt' board. The Up and Down RRL lines were baulked at 2.800 km. Amend Diagram 67/13 (South Kensington).

11.10.2013 Deer Park - Deer Park West (SW 202/13 & 203/13, WN 39)

Between Friday, 4.10., and Friday, 11.10., Crossovers 3 and 9 at Deer Park were abolished. The ATC single line sections Sunshine - Deer Park - Deer Park West were replaced by the section Sunshine - Deer Park West (on both the North and South Lines). Homes 1/2, 1/4, 1/8, 1/12, 1/14, 1/16, 1/18/ & 1/20 are now classed as intermediate Home signals.

The junction to the new RRL lines was installed on the Down side of Robinsons Rd in the same period. Points DPK819 & DPK821 and Crossover DPK820 were provided. The points will be equipped with dual control point machines and secured in the normal position. Down Automatics SA681 and NA681 will be redressed as Home signals and renumbered 2/4 and 2/14 respectively.

Slot releases were provided for both the North and South Lines on the Ballarat VDU. These releases will grant control to the Sunshine signaller to operate Home SUN753 for moves to either the North or South Lines.

Operating Procedure 67 (Sunshine - Bungaree) was reissued and SW 65/09 was cancelled. Diagram 68/13 (Ardeer - Rockbank) replaced 14/13.

15.10.2013 Ouyen (TON 206/13, WN 42)

On Tuesday, 15.10., No 6 Road was booked out of service due to siding condition.

20.10.2013 Brighton Beach - Hampton (SW 302/41)

On Sunday, 20.10., the gatekeepers controls over Automatics B497 and B498 was abolished. The levers locking the pedestrian wickets and the associated rodding was abolished.

21.10.2013 Southern Cross (SW 292/13, WN 40)

Between Saturday, 19.10., and Monday, 21.10., Crossover 607 between the Caulfield Loop Viaduct Line and the Through Suburban Line was commissioned. Points 608/609 forming a single compound between the Through Suburban Line and Platform 15 was commissioned. Note that a signalled route is not provided between the Caulfield Loop Viaduct Line and Platform 15. Points 649 (field) 650 (Metrol) was renumbered 724. The geographic CBI interface issued affecting Points 604 and 607 was fixed and SW 143/13 was cancelled. Diagram 71/13 (Southern Cross MTM Passenger Lines) replaced 9/13.

21.10.2013 Traralgon (SW 209/13, WN 42)

Commencing Monday, 21.10. (in conjunction with the restoration of train services between Traralgon and Sale), the permission to stable trains or locomotives in No 2 Road was withdrawn. SW 41/13 is cancelled.

21.10.2013 Sale (SW 209/13, WN 42)

Commencing Monday, 21.10. (in conjunction with the restoration of train services between Traralgon and Sale), permission is granted for the locomotives of Trains 8403 and 8413 to be left running while unattended and stabled in No 3 Road. The locomotives are to be secured, the derail blocks applied, hand locking bars applied to secure the points in No 2 Road, and the Signaller is to be on duty. Train 8427 is to be stabled in No 1 Road to form the first Up train the following day. The locomotive is to be shut down and the locomotive and train is to be secured. TON 45/13 is cancelled.

27.10.2013 Flinders St (SW 316/13, WN 43)

On Sunday, 27.10., a friction buffer was provided at the west end of No 13 Track. The buffer is provided with a red light.

28.10.2013 Riversdale (SW 311/13, SWP 13/13, WN 42 & 43)

Between Saturday, 26.10., and Monday 28.10., the tramway crossing was altered. The Riversdale Rd level crossing was provided with road traffic lights, and a co-ordinated road traffic light control unit was provided in the signal box. The existing tramway "T" signals were replaced by new "T" signals that operate in conjunction with the traffic lights. Tramway Catch Points 5 & 6 were disconnected and secured closed. Detection of these catch points was removed from the signal circuits.

Commencing Monday, 28.10., Metro Trains Burnley Group Operating Procedure 13 (Riversdale - Operation of Tramway Square) was reissued. The principle changes concerned the removal of the tramway catch points and the provision of road traffic lights at the level crossing.

Upon the approach of a train, the Signaller must push the 'Push to Call' button on the co-ordinated traffic light control unit. The red 'call acknowledged' light will illuminate. The traffic lights (including the tram traffic light) will then cycle to a red phase. The signaller must then restore Tramway signal levers 5 & 6 to normal to hold the tram traffic light at red. (The signaller is permitted to leave the tramway signal levers at reverse when a train movement is not required. Book of Rules, Section 9, Rule 6c & 6d will not apply.)

When the traffic lights have cycled to stop, the green 'Boom lever free' light will illuminate. The signaller must push the release for the boom lever (No 4) on the block shelf and restore the boom lever (No 4) to the special notch. This will start the boom barrier cycle. When the booms are detected horizontal the lever lock on the boom lever will again be energised to allow the lever to be placed fully normal.

The white light for the overhead switching lever (No 2) will then illuminate. The lever lock on No 2 lever can be released by pressing the foot switch, and the lever placed normal. This switches the overhead power in the tramway square to 1500V and the 'Rail' indicator will illuminate. The signaller must check that this indicator is illuminated before clearing the relevant home signal.

When the train has cleared the section insulator, the lever lock on the overhead switching lever (No 2) will operate and the lever can be reversed. This switches the overhead power to 600V. The boom barrier lever (No 4) can then be reversed to raise the boom barriers. Tramway signal levers 5 & 6 can then be reversed to allow tram traffic to resume.

31.10.2013 Sale (SW 212/13, WN 44)

Commencing Thursday, 31.10., the instructions for stabling trains at Sale (SW 209/13) are cancelled due to the restoration of train services between Sale and Bairnsdale,

(12.11.2013) Galah (SW 221/13, WN 45)

The siding has been abolished. Up and Down end points, siding track, point levers, hand locking bars, derail blocks, and intermediate siding board have been removed.

(12.11.2013) Tutye (SW 221/13, WN 45)

The siding has been abolished. Up and Down end points, siding track, point levers, hand locking bars, derail blocks, and intermediate siding board have been removed.

(12.11.2013) Torrita (SW 221/13, WN 45)

The siding has been abolished. Up and Down end points, siding track, point levers, hand locking bars, derail blocks, and intermediate siding board have been removed.

(12.11.2013) Linga (SW 221/13, WN 45)

The siding has been abolished. Up and Down end points, siding track, point levers, hand locking bars, derail blocks, and intermediate siding board have been removed.

(12.11.2013) Wychitella (SW 220/13, WN 45)

The siding has been abolished. Up and Down end points, siding track, point levers, Master key locks, derail blocks, and intermediate siding board have been abolished. TON 190/12 is cancelled.

(12.11.2013) Buckrabanyule (SW 220/13, WN 45)

The Up end points were abolished and the siding was baulked at the Up end. The siding remains booked out. The Up end point lever, Master key lock, and derail block have been removed.

(12.11.2013) Barrakee (SW 220/13, WN 45)

The siding has been abolished. Up and Down end points, siding track, point levers, Master key locks, derail blocks, and intermediate siding board have been abolished.

(12.11.2013) Glenloth (SW 220/13, WN 45)

The siding has been abolished. Up and Down end points, siding track, point levers, Master key locks, derail blocks, and intermediate siding board have been abolished.

(12.11.2013) Rochester - Echuca (SW 219/13, WN 45)

Diagram 86/13 (Rochester - Echuca) replaced 30/12 as in service.

14.11.2013 Toolamba (TON 229/13, WN 46)

On Thursday, 14.11., No 2 Road was booked out of use due to poor track condition. The main line points have been secured normal. The road remains available for use for stabling track machines.

17.11.2013 Flinders St (SW 333/13, WN 46)

On Sunday, 17.11., Down Home 941 was replaced by a new mast with LED heads. Down Homes 731, 753, 761, & 931 were fitted with LEDs.

18.11.2013 North Melbourne (SW 225/13 & 336/13, WN 46)

On Monday, 18.11., Arrival Yard Nos 1, 2, 3, & 4 Roads were brought into service. Access to these roads is only available at the Up end and the Down end connections remain out of use.

Dwarfs MYD712, MYD714, MYD716, and MYD718 were brought into use. Points 612, 614, 616 & 618 were brought into use. Motorised security gates 601 & 603 were not brought into use and are secured reverse (clear of the lines).

(19.11.2013) Book of Rules - Operation of road/rail vehicles (SW 228/13, WN 46)

Operating Procedure 134 (Road Rail Operations) has been issued. The new procedure incorporates SW 189/12 (Weed Spray Operations), SW 217/12 (Road Rail Operations through Absolute Occupations), & SW 3/13 (Road Rail Vehicles Track Inspections) and these circulars are cancelled.

(19.11.2013) Llanelly (TON 222/13, WN 26)

The Up end points have been unspiked to allow access for track machines during tie renewal work. The Down end points remain secured normal. TON 97/13 is cancelled.

24.11.2013 Spencer St - North Melbourne (SW 339/13, WN 47)

Between Friday, 22.11., and Sunday, 24.11., the following signals were upgraded. Down Automatic 561 was replaced by a new LED mast. Down Home 559 and Up Home 714 were provided with LED heads and the illuminated letter 'A' was removed. Down Home 551 was replaced by a LED tilt mast.

25.11.2013 South Kensington (SW 227/13 & 334/13, WN 46)

Between Saturday, 23.11., and Monday, 25.11., the signalling for the junctions between the Through Suburban line and the RRL line was commissioned and the connection to the Through Goods Lines (to North Dynon) was restored to use. Both the RRL Lines and West Tower Lines remain under Absolute Occupation.

A new SSI CBI was commissioned to control the Through Suburban Lines and the Main Suburban Lines (worked from Metrol) and a Smartlock CBI was commissioned to control the RRL lines, West Tower Line, and Through Goods Lines (worked by the RRL control, Centrol).

RRL Lines

Down Automatic SKN695 was renumbered MW027. Down Home SKN793 was renumbered SKN961 and provided with a route indicator showing 'R' for moves towards the RRL Line, and 'M' for moves to the Main Suburban Line. Homes SKN781, SKN782 & SKN784, SKN967, & SKN968 were commissioned. Points 693 were renumbered 861. Points 678U were renumbered 862. Points 684 & 868 and Crossovers 867 & 872 were commissioned. The Up and Down RRL Lines were baulked on the Down side of Points 867 & 872 at the end of the track circuited area. Down Home SKN967 cannot be cleared for moves towards the RRL Lines.

Through Suburban Lines

Down Home SKN767, Up Home SKN768, & Dwarf SKN772 were provided with route indicators showing 'R' for moves towards the RRL Line, and 'M' for moves to the Main Suburban Line. Down Home SKN769 was provided with a Low Speed aspect and an illuminated letter 'A'. Down Automatic SKN667 was converted to a Home signal and renumbered SKN765. It was provided with a Low Speed aspect and an illuminated letter 'A'. Down Home SKN765 was renumbered SKN763. Points 674U were renumbered 670. Crossover 672 was provided. Points 667, 670, & 678 were brought into service.

Main Suburban Lines

Down Home SKN759 was converted to an Automatic and renumbered SKN143. Up Automatic SKN658 was renumbered SKN150. Up Home SKN758 was converted to an Automatic and renumbered SKN658.

Diagrams 74/13 (South Kensington) & 76/13 (North Melbourne & Macaulay) replaced 67/13 & 100/12 respectively.

24.11.2013 Spencer St - North Melbourne (SW 339/13, WN 47)

Between Friday, 22.11., and Sunday, 24.11., a number of signals were altered. Down Automatic 561 was replaced by a new mast with LED units. Down Home 551 was replaced by a new tilt mast with LED units and the illuminated letter A was removed. Down Home 559 and Up Home 714 were equipped with LED units and the illuminated letter A's were removed.

25.11.2013 Werribee - Little River (SW 232/13, WN 47)

Between Friday, 22.11., and Monday, 25.11., the signal gantries at 34.427 km (Automatics G1178/GG1178/G1179/GG1179), 37.586 km (Automatics G1281/GG1281/G1282/GG1282), and 41.765 km (Automatics G1417/GG1417/G1418/GG1418) were replaced by new gantries at 34.412 km, 37.580 km, and 41.757 km respectively. A signal gantry will be installed at 39.698 km for the future MNJ8 signal. TPWS and insulated rail joints were relocated. Amend Diagram 41/13 (Werribee - Little River).

(26.11.2013) Gheringhap (SW 231/13, WN 47)

Operation Procedure 83 (Gheringhap) was reissued, and SW 179/12 was cancelled. The changes are: inclusion of the DICE codes in the Train Orders; DICE codes to be transmitted when passing Signal 83/6; an update of the Location Specific Caution Order; and it is now required for a Caution Order to be issued to a departing train during a point failure.

(26.11.2013) Dandenong - Lyndbrook Loop - Cranbourne (SW 345/13, WN 47)

Commencing forthwith all train movements between Dandenong and Cranbourne must have a minimum length of 100 metres (i.e. 3 car EMUs are not permitted). Special permission for reduced length services can be obtained from the Operational Safety Manager.

27.11.2013 North Bendigo - Echuca (SW /13, WN 47)

On Wednesday, 27.11., frangible gates were provided at Holmes Road (194.827 km) on the Up side of Elmore. The hand gates are normally secured across the road by chain and padlock. Keys to the gates are supplied to the land owner, service providers, and track force. Amend Diagram 58/13 (Goornong - Elmore).

29.11.2013 Inner Group Operating Procedures (SWP 15/13, WN 48)

On Friday, 29.11., the Metro Trains Inner Group Operating Procedure 1 was reissued. The principle changes are:

* A procedure for handling the failure of the cross boundary interface between Metrol and Centrol at South Kensington was added.
* The procedure for handling the failure of signals at South Kensington was revised. The interim instructions for handling failures (SW 278/13) were cancelled.
* Failures of signals at Clifton Hill will now be dealt with by the Metrol Controlled Area, Failure of Signals Procedure. Operating Procedure 22 (Clifton Hill) is cancelled.

01.12.2013 Deer Park West (SW 238/13, WN 48)

Between Saturday, 30.11., and Sunday, 1.12., the following alterations took place at Robinsons Rd (19.306 km). The level crossing boom mechanisms, road signage, and road markings were upgraded to be compliant with AS1742.7. A new boom barrier, flashing light, bell, and pedestrian gates, were provided. Amend Diagram 68/13 (Ardeer to Rockbank).

01.12.2013 Brighton Beach - Hampton (SW 348/13, WN 48)

On Sunday, 01.12., automatic pedestrian gates were provided on the Up side of New St (16.676 km). The crossing remains closed to road traffic. Amend Diagram 63/09 (Prahan - Sandringham).

02.12.2013 Epping (SW 380/13, WN 50)

On Monday, 2.12., Siding No 25 was reduced in length by 30 metres to be 128 metres clear in length. It will accommodate one 3 car EMU set. Sidings No 24 and 25 will be used by the Digital Train Radio System project until further notice. Amend Diagram 113/12 (Ruthven to Epping).

02.12.2013 Caulfield - Moorabbin (SWP 16/13, WN 48)

On Monday, 2.12., Metro Trains Caulfield Group Operating Procedure 1 (Caulfield - Moorabbin) was reissued. The principle change is that the Signaller is responsible for ensuring that the correct route at Moorabbin has been set when a signal has failed. Drivers will no longer be required to inspect the route or operate the electro-hydraulic point machines.

(03.12.2013) Metro WTT Addenda (WTT 2010/13, WN 48)

A number of amendments have been made to the WTT Addenda:

* The Rising Sun footbridge at West Footscray has been deleted.
* West Footscray is now located at 7.325 km and both platforms are 160m long. Hours of staffing are M-F 0730-0930.

03.12.2013 MTM 'Work on Track' Safeworking Procedures (SW 344/13, SWP 14/13, WN 47 & 48)

Commencing 0001 hours on Tuesday, 3.12., the following MTM 'Work on Track' Safeworking Procedures came into force:

* Protection of Absolute Occupation Limits (L1-OPS-PRO-015)
* Managing Multiple Worksites in the Danger Zone (L1-OPS-PRO-017)
* Planning Worksite Protection in the Rail Corridor (L1-OPS-PRO-018)
* Absolute Occupation Implementation (L1-OPS-PRO-020)

In accordance with the requirements of Managing Multiple Worksites in the Danger Zone, protection must be applied at the limits of each 'Obstructive Permit to Foul the Line' issued. This protection may either be an MTM approved Permit Limit Marker, or a hand signaller displaying a red hand signal. An example of a Permit Limit Marker is a yellow unit with two LED lights arranged vertically. Two red lights are displayed to rail movements entering into the protected area, and two yellow lights are displayed to rail movements leaving the protected area. The bottom LED is 220 mm above the head of the rail, and the upper LED is 670 mm above the head of the rail. The unit is clamped and padlocked to a rail. The key to the padlock are retained by the holder of the permit to foul the line.

When considered appropriate by the Operational Rail Safety Department, the limits of an Absolute Occupation may be marked by Stop Limit Markers. A Stop Limit Marker is a red Stop sign with a red flashing LED mounted above the sign. Both the sign and the LED are visible from both sides. The LED is 670 mm above the head of the rail. The maker is clamped and padlocked to a rail, with the key to the padlock being retained by the Level 3 TFPC responsible for the area of absolute occupation.

Absolute Occupations can be issued over the recorded telephone lines at the following locations: Craigieburn (including Sunbury panel); Caulfield; Dandenong* (including Westall panel*); Epping* (including Hurstbridge panel); Frankston*; Kensington; Newport; Pakenham*; Sunshine; and Werribee. At locations marked with a * the signal post telephones are not recorded and may not be used to issue Absolute Occupations.

05.12.2013 Talbot (SW 236/13, WN 48)

On Thursday, 5.12., boom barriers were added to the existing flashing lights at Scandinavian Cres (209.531 km). They will continue to be operated by a level crossing predictor. Trains travelling at more than 50 km/h at the predictor boards may accelerate before entering the crossing. RFR predictor indicator boards, healthy state indicators and yellow whistle boards are provided. Remote monitoring will continue in use. Amend Diagram 158/12 (Talbot).

09.12.2013 Tallarook (SW 242/13, WN 49)

On Monday, 9.12., a signal mast was provided on the Down line at 90.435 km (Down side of the platform). No signal heads have been installed.

(10.12.2013) Traralgon Cement Siding (SW 243/13, WN 49)

Effective forthwith the points to the Traralgon Cement Siding were abolished. The associated Annett lock, rodded connection, catch points, and Staff/Annett key exchange apparatus have been abolished. Amend Diagram 46/13 (Traralgon).

10.12.2013 Tandarra (SW 239/13, WN 49)

On Tuesday, 10.12., boom barriers were provided at Serpentine Rd (204.615 km) at the Down end of Tandarra which was previously a passive crossing. The crossing is operated by axle counters. Healthy state indicators, yellow whistle boards, and remote monitoring were provided.

The Master Key locks were altered to be electrically detected. When the Master Key lock is unlocked the boom barriers will become manually controlled. A three position V5PSW keyswitch was provided at the Down end points to manually control the boom barriers during shunting. A notice board lettered "Shunting trains must not enter crossing until boom barriers are horizontal" is provided at the Down end points, and notice boards lettered "Operation of this Master Key lock will convert the crossing to key switch operation" were provided at each Master Key lock+.

Diagram 64/13 (Tandarra - Mitiamo) replaced 22/13.

15.12.2013 Flinders St (SW 349/13, WN 49)

Between Saturday, 14.12., and Sunday, 15.12., the following signals at Flinders St were fitted with TPWS: Homes 731, 753, 761, 931, & 941. The signals have a plate lettered 'TPWS' fixed to the mast.

15.12.2013 Allansford (SW 241/13, WN 49)

On Sunday, 15.12., boom barriers were provided at Brown St (255.497 km) which was previously a passive crossing. The crossing is operated by a level crossing predictor. Trains travelling at more than 50 km/h at the predictor boards may accelerate before reaching the crossing. RFR predictor boards, healthy state indicators, yellow whistle boards, and remote monitoring were provided.

RFR predictor boards were also provided at Ziegler Pde (255.150 km) and the existing predictor boards were abolished.

Amend Diagram 36/12 (Panmure - Sherwood Park).

(17.12.2013) Panmure - Sherwood Park (SW 246/13, WN 50)

Diagram 98/13 (Panmure - Sherwood Park) replaced 36/12 as in service.

(17.12.2013) Dandenong - Lyndbrook Loop - Cranbourne (SW 382/13, WN 50)

Commencing forthwith the restriction on operating short trains on this line is withdrawn. SW 345/13 is cancelled. C2031/13 is cancelled as from the last train on 22.12.13.

18.12.2013 Southern Cross - South Kensington (SW 248/13, TON 270/13, WN 1)

At 2000 hours on Wednesday, 18.12., Platforms 15 & 16 at Southern Cross, the RRL Lines between Southern Cross and South Kensington, the West Tower Line between Melbourne Yard and South Kensington, and the Through Goods Lines between South Kensington and Dynon were all brought into service. Automatic Block Signalling is in force on the RRL Lines between Southern Cross and South Kensington, the West Tower Line, and the Through Goods Lines. The signalling on these lines is operated by the Train Controller, Centrol.

The RRL lines will be available for traffic as from Thursday, 19.12. Trains equipped with TPWS may travel at 25 km/h through Platforms 15 & 16 Southern Cross, and 40 km/h to South Kensington. Trains without TPWS are restricted to 15 km/h in these sections. Trains may travel at 40 km/h over the West Tower Line, and 15 km/h over the Through Goods Lines. The lines are available for all classes of locomotive.

Points 854 and 855 at Spion Kop Junction that will provide access to the lines over the North Melbourne Flyover to Southern Cross will remain secured reverse. Gates 603 at the Down end of the Arrival Roads, Melbourne Yard, will remain secured open.

SW 207/13 is cancelled.

18.12.2013 Brighton Beach - Hampton (SW 377/13, WN 50)

On Wednesday, 18.12., the New St level crossing (16.691 km) was reopened to road traffic. Boom barriers were provided.

Amend Diagram 63/09 (Prahan - Sandringham).

28.12.2013 Southern Cross - Moonee Ponds Creek Junction (SW 253/13, SW 254/13, WN 1)

Commencing Saturday, 28.12., the country side of Southern Cross was closed to allow reconstruction of the yard throat. This includes the standard gauge line.

At 0200 hours the standard gauge line over the North Melbourne Flyover was transferred from ARTC to VLine p/l. The boundary between ARTC and VLine is on the Down side of Home 218 at Moonee Ponds Creek. Home 218 will continue to be worked by the ARTC Train Controller under the directions of the Signaller No 1 Box.

28.12.2013 Sunshine - Albion (SWP 17/13, WN 1)

Commencing Saturday, 28.12., Metro Trains Northern Group Operating Procedure 9 (Sunshine - Albion, Failure of Signals) was reissued. The principle changes were the provision of Automatic Block Signalling between Sunshine and Deer Park West, and the resignalling of Sunshine.

31.12.2014 Llanelly (TON 3/14, WN 1)

On Tuesday, 31.12., the siding was booked out of service due to poor sleeper condition, and the foundation of the Up end point lever becoming unserviceable. The Up and Down end points have been secured normal; the Up end points with a V7P S&C padlock. TON 222/13 is cancelled.

03.01.2014 Southern Cross (SW 254/13, WN 1)

On 3.1., part of the Southern Cross yard was brought back into service to allow for limited train movements for train maintenance. A hand signaller will be provided to operate points and deliver caution orders or authorities to pass signals at stop under the direction of the Signaller, No 1 Box.

06.01.2014 Manor North Junction (SW 256/13, WN 1)

Between Monday, 6.1., and Friday, 17.1., RRL plant trains will access the new RRL lines. The junction points will be operated by hand.

(07.01.2014) South Kensington (SW 250/13, WN 1)

Operating Procedure 13 (South Kensington) was reissued. SW 176/09 and SW 35/13 were cancelled. The changes are: the opening of the RRL Lines between Southern Cross and South Kensington; the provision of axle counters on the West Tower Line; procedures for defective signals for moves across the Metrol/Centrol interface at South Kensington; and incorporation of instructions for operation of Gate 12A.

(07.01.2014) Newport Workshops (SW 384/13, WN 1)

The CCW lever on the points leading to the Steamrail area was replaced by a WSa lever and hand locking bar and padlock. The points must be normally secured towards the Garden platform area.

(07.01.2014) Echuca (SW 1/14, WN 1)

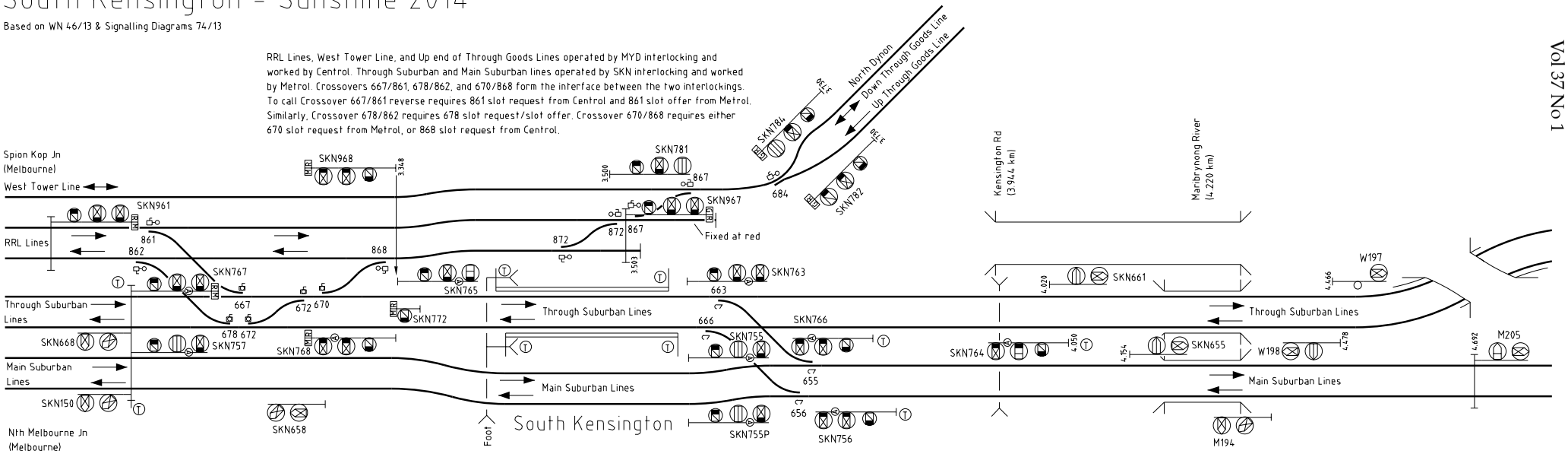
The Signaller at Echuca may cease duty at Echuca after docking a train if the Signaller is required to perform signalling duties at another location before the train departs.

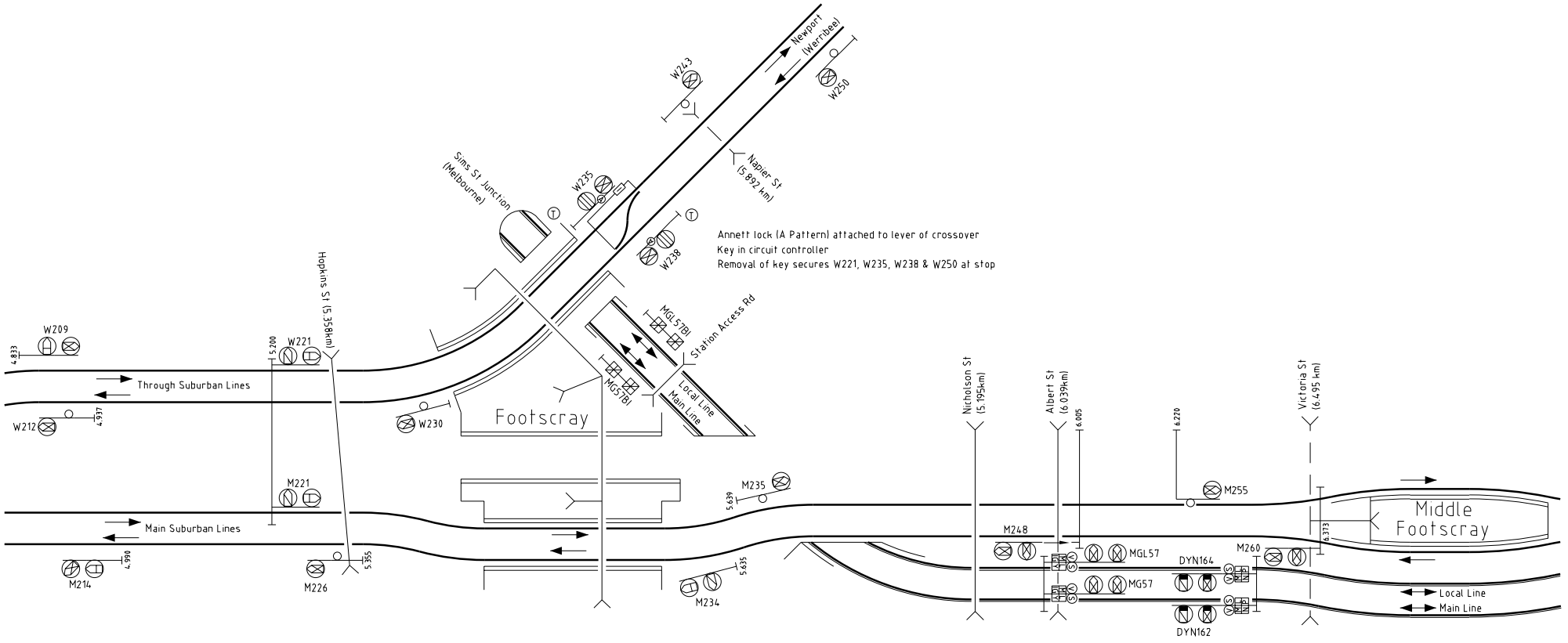
The Signaller must obtain permission from the Train Controller before ceasing duty. The Signaller set and secure the points for the Bendigo line using the hand locking bars and point clips. The Signaller must ensure all signals are at stop and the Driver of the Up train is in possession of a Train Order.

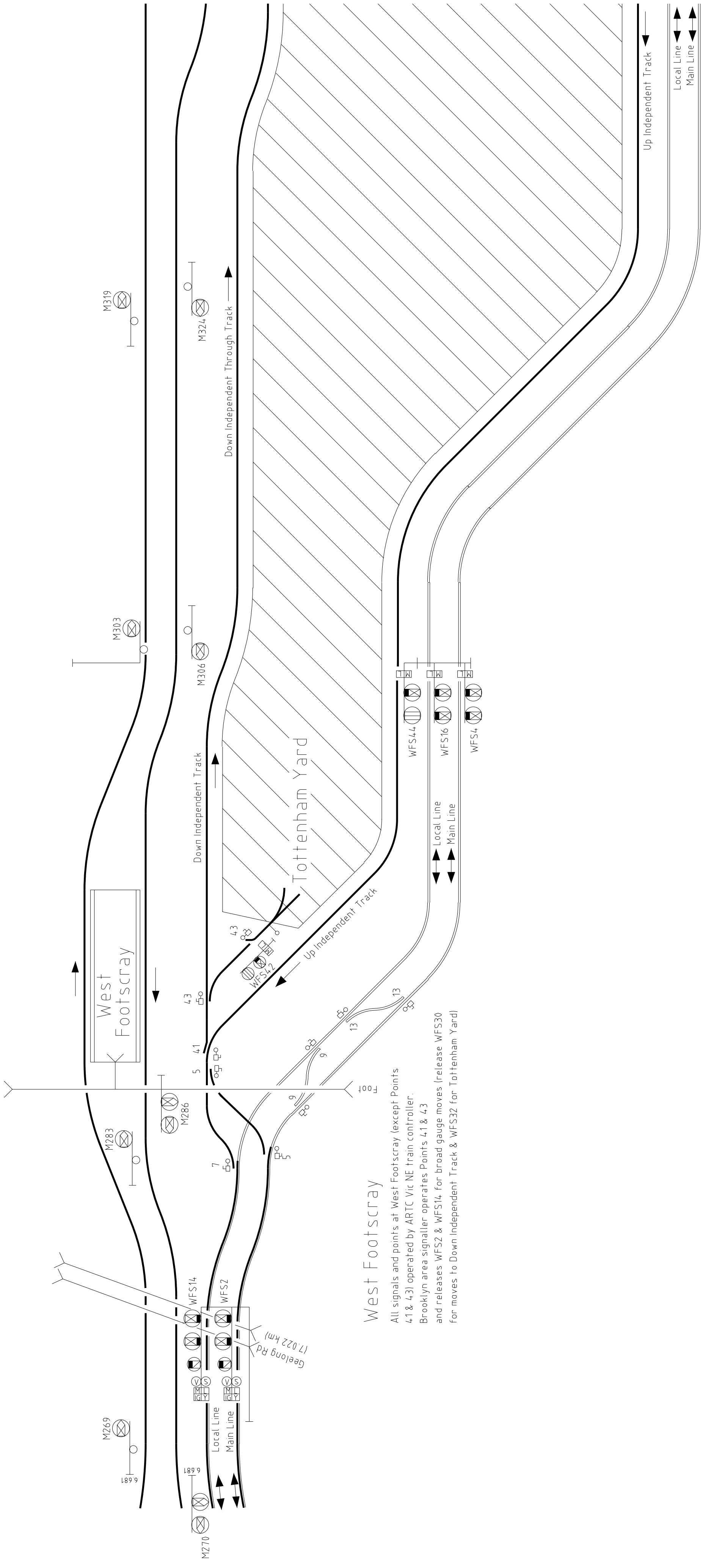
South Kensington - Sunshine 2014

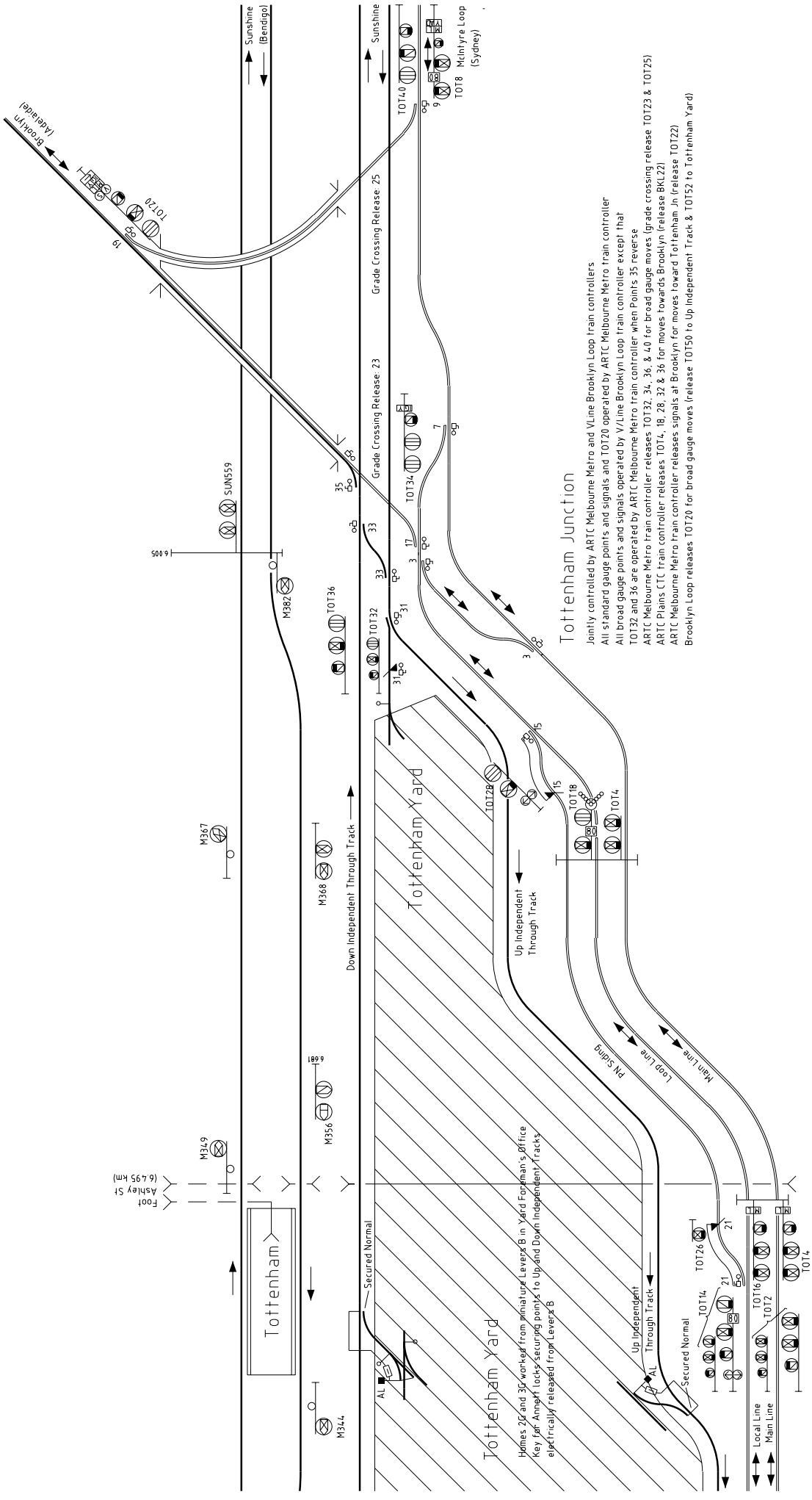
Based on WN 46/13 & Signalling Diagrams 74/13

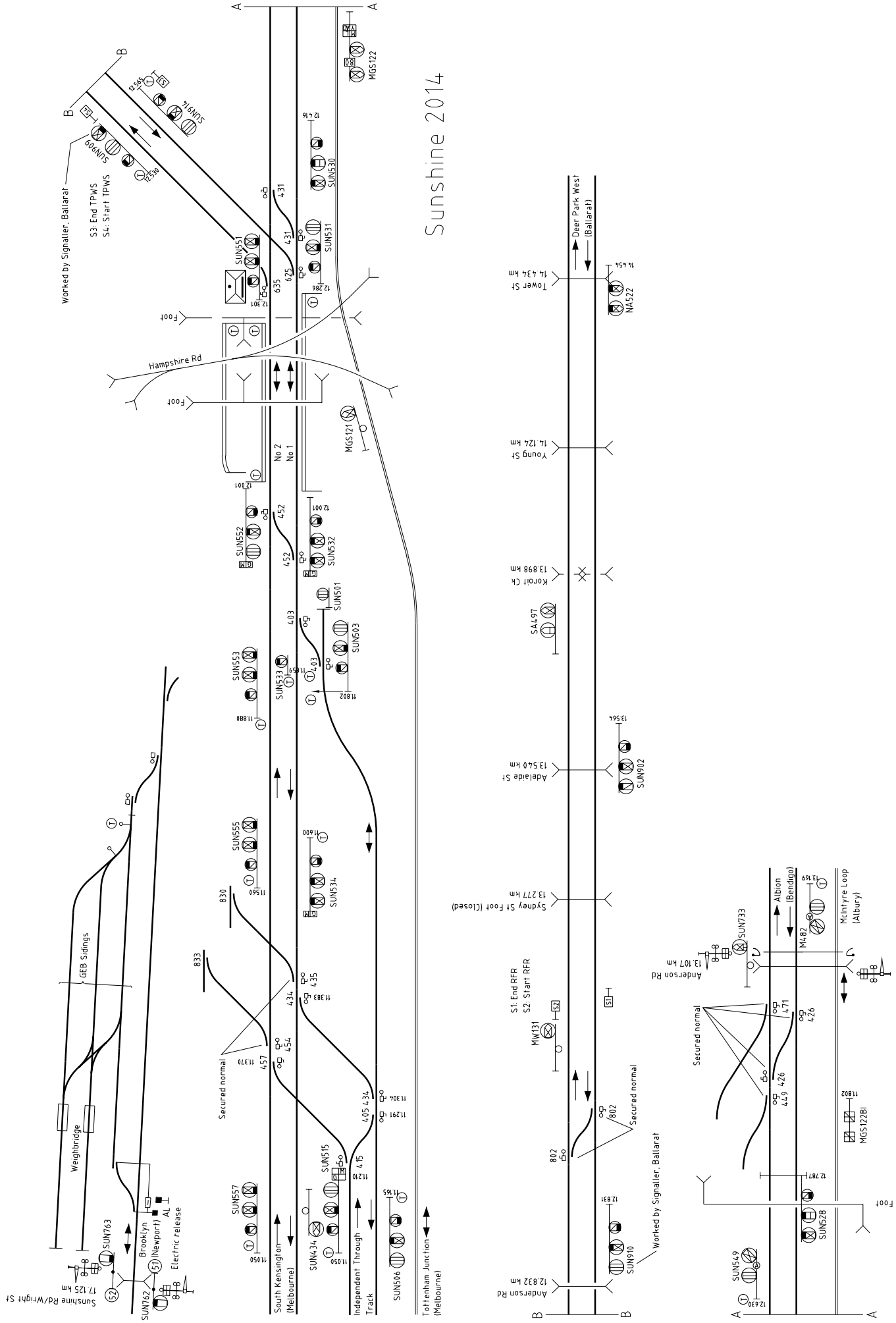
RRL Lines, West Tower Line, and Up end of Through Goods Lines operated by MYD interlocking and worked by Centrol. Through Suburban and Main Suburban lines operated by SKN interlocking and worked by Metrol. Crossovers 667/861, 678/862, and 670/868 form the interface between the two interlockings. To call Crossover 667/861 reverse requires 861 slot request from Centrol and 861 slot offer from Metrol. Similarly, Crossover 678/862 requires 678 slot request/slot offer. Crossover 670/868 requires either 670 slot request from Metrol, or 868 slot request from Centrol.






Up Independent Track
Local Line
Main Line
M319
M324
Down Independent Through Track
M303
M306
WFS44
WFS16
WFS4
Tottenham Yard
Down Independent Track
Up Independent Track
43
WFS42
41
5
13
9
7
West Footscray
M283
M286
WFS14
WFS2
Geelong Rd (7.022 km)
M269
M270
West Footscray
All signals and points at West Footscray (except Points 41 & 43) operated by ARTC Vic NE train controller.
Brooklyn area signaller operates Points 41 & 43
and releases WFS2 & WFS14 for broad gauge moves (release WFS30 for moves to Down Independent Track & WFS32 for Tottenham Yard)


Tottenham Junction
Jointly controlled by ARTC Melbourne Metro and V/Line Brooklyn Loop train controllers
All standard gauge points and signals and TOT20 operated by ARTC Melbourne Metro train controller
All broad gauge points and signals operated by V/Line Brooklyn Loop train controller except that
TOT32 and 36 are operated by ARTC Melbourne Metro train controller when Points 35 reverse
ARTC Melbourne Metro train controller releases TOT32, 34, 36, & 40 for broad gauge moves (grade crossing release TOT23 & TOT25)
ARTC Plains CTC train controller releases TOT4, 18, 28, 32 & 36 for moves towards Brooklyn (release BKL22)
ARTC Melbourne Metro train controller releases signals at Brooklyn for moves toward Tottenham Jn (release TOT22)
Brooklyn Loop releases TOT20 for broad gauge moves (release TOT50 to Up Independent Track & TOT52 to Tottenham Yard)
Tottenham Yard
Homes 20 and 30 worked from miniature Levers B in Yard Foreman's Office
Key for Annett locks securing points to Up and Down Independent Tracks
electrically released from Levers B
Tottenham
Down Independent Through Track
Up Independent Through Track
Up Independent Through Track
Secured Normal
Secured Normal
Grade Crossing Release: 25
Grade Crossing Release: 23
Sunshine
(Bendigo)
Sunshine
McIntyre Loop
(Sydney)
Brooklyn
(Adelaide)
PN Siding
Loop Line
Main Line
Local Line
Main Line
Foot
Ashley St
(6.495 km)
SUN559
M382
M367
M368
M356
M349
M344
TOT36
TOT32
TOT34
TOT40
TOT18
TOT20
TOT28
TOT18
TOT4
TOT14
TOT26
TOT16
TOT2
TOT4
AL
AL


Sunshine 2014
Worked by Signaller, Ballarat
S3 End TPWS
S4 Start TPWS
Hampshire Rd
Foot
No 2
No 1
Sunshine Rd/Wright St
17.125 km
Weighbridge
GEB Sidings
Brooklyn (Newport)
AL
Electric release
South Kensington (Melbourne)
Independent Through Track
Tottenham Junction (Melbourne)
Secured normal
Tower St
14.434 km
Young St
14.124 km
Korroit Ck
13.898 km
Adelaide St
13.540 km
Sydney St Foot (Closed)
13.277 km
Anderson Rd
12.832 km
Deer Park West (Ballarat)
S1 End RFR
S2 Start RFR
Worked by Signaller, Ballarat
Albion (Bendigo)
McIntyre Loop (Albury)
Anderson Rd
13.107 km

16.01.2014 Sunshine (SW 247/13 & 367/13, WN 50)

On Thursday, 16.1., Anderson St level crossing on the Ballarat line was abolished and the line deviated under a new overline bridge. No 3 Track (Back Platform) and associated signalling was removed. The connections to the Brooklyn Loop line were removed and access to the GEB Sidings will only be available from Brooklyn. Nearly all the points and signals at Sunshine were replaced.

The RRL Sunshine C4 Electrolog IXS was commissioned. This controls the new RRL infrastructure, including the signals, points, TPWS, and axle counters on the Ballarat line between Sunshine and Adelaide St (13.530 km). An interface was commissioned between the Electrolog IXS and the Sunshine Westloc CBI interlocking. An interface was provided between the Ballarat SigView VDU and the temporary Sunshine WestCad VDU. Sunshine controls Home SUN914, and Ballarat controls Home SUN909.

Homes SUN503, SUN528, SUN530, SUN531, SUN532, SUN549, SUN551, SUN552, SUN553, SUN555, SUN557, SUN902, SUN909, SUN910, & SUN914, Dwarfs SUN501 & SUN533 and Automatic SUN434 were provided. Home SUN515 was provided with a theatre route indicator showing 'R' for the RRL lines (not in use), 'M' for the main lines, and 'G' for the Goods Lines. Home SUN534 was provided with a theatre route indicator showing 'M' for the main lines and 'G' for the Goods Lines. M482 was converted to a non-controlled Home signal and provided with an illuminated letter A. New Home SUN549 is also a non-controlled Home signal provided with an illuminated letter 'A'. Crossovers 617 and 627 were replaced by new tangential point crossovers closer to Melbourne and renumbered 403 and 452 (respectively). Points 449 & 471 and Crossovers 426 were provided in the Bendigo line near Anderson St, but secured normal. Crossover 802 was provided in the Ballarat line, but secured normal

Homes SUN717, SUN725, SUN726, SUN728, SUN735, SUN737, SUN738, SUN741, SUN742, SUN746, SUN752, SUN753, SUN754, SUN755, SUN757, SUN758, SUN759, SUN760, & SUN767 were abolished. Dwarfs SUN727, SUN736, & SUN761 were abolished. Automatics SUN635, SUN724, SUN739, M395 & M406 were abolished. Points 628, 637, 642, 651, 652, 655, 658, & 659 were abolished.

Diagram 93/13 (Sunshine) replaced 63/13.

16.01.2014 Sunshine - Deer Park - Deer Park West (SW 247/13, SW 251/13, SW 367/13, & SW 3/14, WN 50 & WN 1)

On Thursday, 16.1., the existing bi-directionally signalled North and South Lines were converted to uni-directionally signalled lines. The former South Line became the Down line, and the North Line became the Up line. The ATC sections Sunshine - Deer Park West (North Line and South Line) were replaced by Automatic Block Signalling. The line was reopened for traffic on Saturday,18.1.

Deer Park

Home 1/16 was relocated 66 metres in the Down direction and the '65' indicator abolished. Homes 1/4, 1/8, 1/10, 1/14, & 1/18 were abolished. The low speed light on Home 1/2 was abolished. Station Road was widened and the level crossing and pedestrian crossing mechanisms were upgraded.

Deer Park West

Homes 2/14 and 2/18 were abolished. Banner Indicator 2/18BI was abolished. Dwarf 2/18 was provided to control movements from the Up line towards Rockbank or the Boral Siding. This signal may display 'Clear Low Speed' when cleared towards Rockbank. The existing approach clearing for Up trains affecting Automatic A246 and Home 2/20 was removed. Whenever a 'Clear Medium Speed' indication is displayed on Home 2/20, the speed restriction only applies until the train has cleared the points.

Automatics NA497, SA522, NA571, & SA574 were abolished. Automatic SA497 was replaced by a new mast located 43 metres in the Down direction.

The block lights, directional arrows, and control levers for the Sunshine - Deer Park West sections were abolished. The SigView screens at Ballarat and Sunshine were updated.

Diagram 78/13 (Ardeer - Rockbank) replaced 68/13. (This must be amended to show the new location of SA497 and the abolition of the low speed light on Home 1/2.)

18.01.2014 Southern Cross - Franklin St - Moonee Ponds Creek(SW 249/13, SW 252/13, SW 285/13 & SW 2/14, WN 1)

Between Saturday, 28.12., and Saturday, 18.1., track and signal alterations took place between Southern Cross and Moonee Ponds Creek. Eventually, a double track dual gauge line will approach Southern Cross over the North Melbourne flyover. At Franklin St a double track broad gauge lead will provide access to the Country Lines towards Southern Cross and the Carriage Sidings. At the Down end of the flyover, the double line junction to the future RRL tracks to Spion Kop Junction were provided together with new broad gauge leads towards the Engine Tracks. While most of these new connections were installed, only a small amount was commissioned. The double track dual gauge line over the flyover is used as two parallel lines; the northern line as the standard gauge line, and the southern as the broad gauge line. The standard gauge line has been slued to pass over the new Dudley St bridge and the gauntlet track was taken out of service. The connection from the Down East Country Line to the Suburban lines at Franklin St was abolished, but the line remains available for shunting moves from Southern Cross. Broad gauge access to Southern Cross is now only available over the bi-directional Through Country Line, the Up Main Country Line, and the bi-directional Country Line. The connections to the Down end of the Carriage Sidings were taken out of use.

Southern Cross/Franklin St

No 1 Box will always have the standard gauge control, and this will be so displayed to the signaller.

(Continued on page 18)

Bloodstock and Livestock
The Flemington Racecourse Line, Part 3

The rate of infrastructure change on the Victorian Railways tells a story about the development of traffic. The previous part of this series documented the almost continual improvements to facilities on the Flemington Racecourse line over the twenty two years from 1897 to 1919, probably reflecting increasing traffic. Two significant changes in infrastructure were provided in 1919/1921 - the provision of power signalling and the electrification of the line. Little change was then made to the line until the mid 80s. This lack of change could indicate that these two changes provided so much additional capacity that little further changes were required. It could also indicate a stagnation of traffic - certainly this is likely post WWII.

Automatic signalling

On 5 July 1919 two position automatic signalling, using light signals, was provided on the Flemington Racecourse line. This installation had many interesting features that were not replicated elsewhere in Victoria. The 1919 technology is still largely in use today - nearly 95 years later - though it will be decommissioned soon.

The track and signal layout after provision of the power signalling is shown on the opposite page. Comparison with the previous layouts reveals that no changes were made to the track layout when installing power signalling. This was typical of VR practice at this period. The provision of automatic signals resulted in the abolition of Towers F, J and K. The remaining mechanical signal boxes were retained to operate the new light signals. Alterations at Flemington Racecourse were minimal, and this remained mechanically signalled (this, too, was typical of VR practice at this period). At Show Grounds, however, the mechanical running signals were replaced by power signals worked from the existing frames.

All the running signals on the line from Newmarket to the Down Arrival Homes at Flemington Racecourse were replaced by two position light signals controlled by track circuits. Up Home 13 at Newmarket Junction and Down Automatic R201 were permanently in use. A1352/19 stated that "all other signals on the line were ordinarily switched out of use, but will be switched in for use when special passenger traffic is authorised." Notice that there is no mention of placing crosses on the signals when passenger traffic was not in use, but this certainly happened later. This ability to switch the signals off may have been a factor in selecting light signals instead of the upper quadrant semaphores that were used in other contemporary Victorian automatic signalling installations. Light signals had first been used in Victoria in 1917, but were only provided where special circumstances existed. The Flemington Racecourse line was the first example in Victoria where an entire line was signalled using light signals.

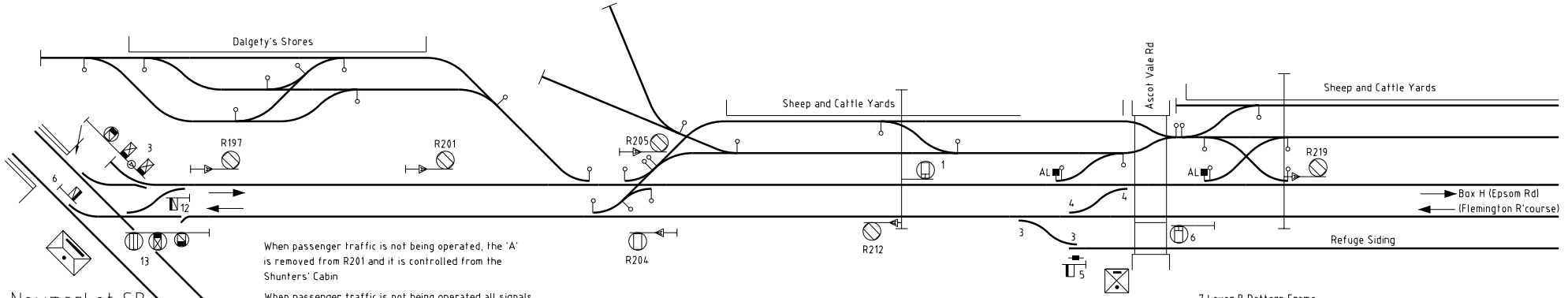
The signals displayed red when the section was occupied by a train and green otherwise. No warning was given of the aspect of the next signal. While the use of two position signalling appears strange, and unsafe, when compared with the three position signalling adopted elsewhere in Victoria, no accidents are known to have resulted from the omission of the warning aspect. The use of two position automatic signals is not uncommon - the London Underground system is signalled using two position automatic signalling with advance warning of the Home signals only provided where sighting is not sufficient. On the Racecourse line, the passenger service is almost exclusive by EMU with uniform braking characteristics and the passenger service generally only operated in daylight. The speed over the line is relatively low (in 1919, the EMUs were allowed 25 mph and any steam passenger trains 20 mph). Finally, visibility is generally extremely good and the closely spaced signals normally mean that a driver can see several signals at once. Train stops and short overlaps are provided today, however, it is not clear if these features were original or were added later.

Automatic signals were distinguished by a white triangle containing a painted letter 'A', and a marker light was not provided. In recent years the white triangle and letter 'A' were normally painted on the backgrounds of the light signals. The signalling diagrams, however, suggest that they might have originally been painted onto separate boards fixed to the masts below the light heads.

Simple Home signals appeared identical to the Automatic signals, except, of course, they lacked the letter 'A'. Junction Home signals were very interesting - conceptually they were arranged as two position mechanical signal, with the 'arms' mounted on separate dolls. In practice, however, a bracket post was not provided. Instead a straight mast was used with the light heads arranged on each side of the post. Where both routes were running routes (e.g. Down Home 2 at Epsom Road) the two heads were at the same level. However, where one route was to a siding (e.g. Up Home 14 at Epsom Rd, or Up Home 12 at Show Grounds signal box), the head leading to the siding was lower on the post. Note that home signals and subsidary signals (shunting signals or calling on signals) were not mixed on the same post at this time.

The signal masts themselves were lattice posts, identical to those used for mechanical signals, and not the tubular masts used for power signalling. The signal heads were a commercial product from Union Switch & Signal in the US, rather than the locally developed 'Style VR' head normally used. Originally it appears to have been intended to use US&S Style L heads. This head was introduced in the US in 1917, and a contract was gazetted on 25 April 1917 for the supply of two position Style L light signals by the Australian General Electric Coy. The signal heads cost £20/14/6 each, the red lenses 5/4 each, the green lenses 4/2 each, and the covering clear lenses 8/0 each. The lenses, incidentally, were 8 3/8" in diameter. However, the plans for the signal posts used on the line, drawn in March 1919 and revised in July 1919 to show the signals as installed, specify Union Switch & Signal Style M heads. The Style L was intended for long range viewing, and it is possible that the Style M was developed for medium range viewing and was substituted. The signal heads in use today are Style R heads manufactured by McKenzie and Holland Australia. The Style R was not introduced into the US until 1922 and so these heads could not be the original heads used in 1919. Presumably, the Style M heads were unsatisfactory and were replaced at some time. Light signals provided in Victoria during the '20s used "Style VR" heads - this could indicate that the "Style VR" head was better, or perhaps cheaper, than the commercial product. The 1919 drawings (one of which is reproduced in the article), incidentally, show the Style M heads fitted with large hoods similar to those provided on "Style VR" heads.

Only two shunting signals were necessary between



When passenger traffic is not being operated, the 'A' is removed from R201 and it is controlled from the Shunters' Cabin

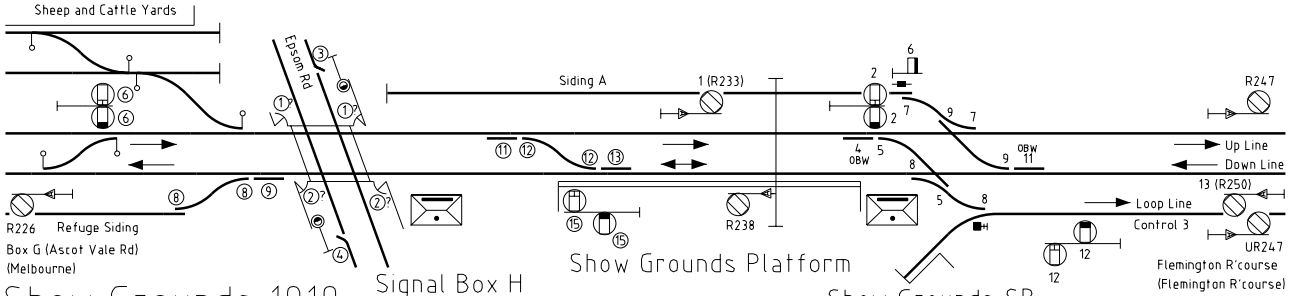
When passenger traffic is not being operated all signals on the Racecourse line are 'switched out' except for R201 and Home 13

Newmarket Area 1919

Based on Diagram 44/19

Signal Box G

7 Lever B Pattern Frame
Spare: 2, 7
Annett Lock: 1 (removal of key secures lever normal)



Show Grounds 1919

Based on Diagram 44/19

Signal Box H

16 Lever Frame - Levers shown thus (11)
Partial numbering - queries shown with a question mark
Probably either lever 1 controls R219, or lever 16 controls R238
Spare: 7, 10, 14
Closing: 5
Annett Lock on Stand released by 3 & 4

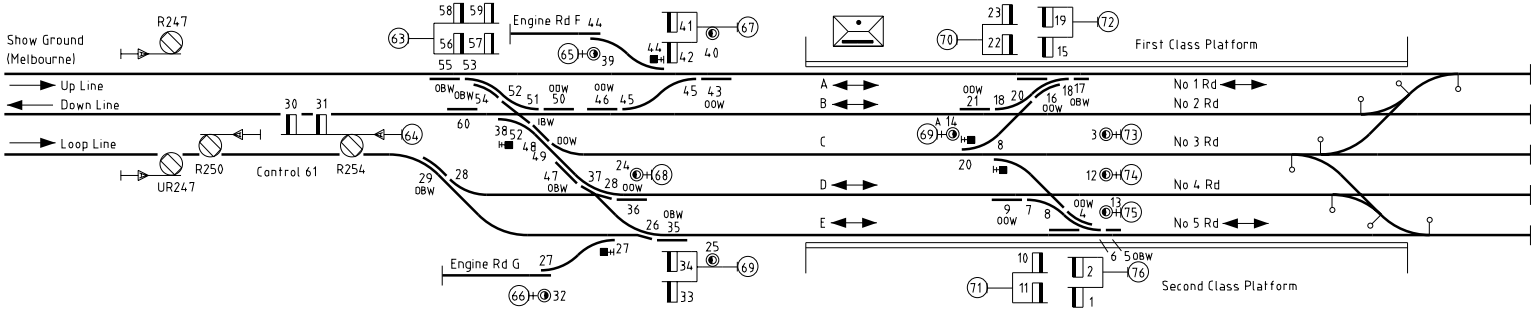
Show Grounds SB

Signalbox 13'6 1/2"x?
15 Lever A Pattern Frame
Spare: 10, 14, 15
Control: 3 (released by 61 Flemington R'course)

Flemington Racecourse 1919

Based on Diagram 44/19

61 Lever No 6 Pattern Frame
Spare: None
Control: 61 (release to Show Grounds for Loop Line)



Newmarket and Flemington Racecourse. These were both two position mechanical dwarf signals, one at Ascot Vale Road and one at Show Grounds signal box. It appears that the targets were removed from both dwarf signals when passenger traffic was not being run. The dwarf at Ascot Vale Road was connected by rodding to the interlocking frame, not by wire.

Up Home 13 at Newmarket Junction was originally a very interesting signal. Although on Diagram 44/19 this looks like an ordinary three position (light) Home signal, the official description of this post in A1352/19 was "Two-position Light Signals. Home and Calling-on Signal from Up Racecourse Line to Up North-Eastern Line." The 'a' and 'b' heads were actually co-acting two position light signals with a lower marker light acting as a calling-on arm. I would have certainly gone out to take a photo of a light signal showing green/green for moves off the Racecourse line, or red/red/green for calling-on moves to the Up main line at Newmarket. Not surprisingly, this was quickly (late December 1919) converted to a standard three position Home signal, and is shown as such on the diagram.

The connections to the Cattle Yards and Dalgety's Siding remained hand worked. The two facing points at Signal Box G continued to be secured by Annett locks with the duplicate key in the frame at Ascot Vale Rd. It is not clear how the facing points at the Up end of the Cattle Yards siding were secured. Before provision of the automatic signalling, they were hand points secured by a plunger lock and lockbar worked from Tower F. Diagram 44/19 appears to show a lockbar against these points. It is likely that the points were secured by a hand worked plunger which was locked in and detected by the light signals during passenger traffic.

The circuits for the tramway crossing at Epsom Rd have survived. The switching of power to the overhead was performed by separate '500V' and '1500V' high voltage relays. The 1500V (railway power) relay could pick up if the gates were electrically detected across the road (0-5 degrees) and both tramway levers 3 and 4 were normal. The 500V (tramway power) relay could pick up if either of tramway levers 3 or 4 were reversed. Indicators were provided to indicate when the 500V and 1500V power was connected to the overhead. In mid August 1919 special instructions were issued for the opening and closing of the signal box at Epsom Rd. I do not have a copy of this WN, but the Weekly Notice extracts notes that lever 5 operated the lights in Homes 6 and 15. The tramway signal levers were secured by an Annett lock with the key in a switch lock.

Today the Rostrum controls the arrival Home signals at both Epsom Road and Show Grounds boxes. The control is via a simple 3 position switch. When placed to the 'L' position, Epsom Road can admit a train into the Show Grounds platform, and when in the 'R' position, Show Grounds can admit a train. It is believed that this control is not original, but was provided in the '30s. The three position switch in use today was manufactured by McKenzie and Holland.

Commencement of electric service

As noted in the previous part, the Flemington Racecourse line was electrified in October 1918 and the line was used for training purposes. However, it appears that Newmarket substation did not initially have sufficient capacity to support a full electric service to the Racecourse or Show Grounds, and passenger traffic remained steam worked.

Electric services to Flemington Racecourse first ran to the race meeting held on the 1 January 1921. The Argus noted that eight trains, each of eight cars, were used, and that the new service was much faster than the previous steam service. It is likely that subsequent race and show traffic used electric services.

The 1919 GA noted that all running lines and sidings on the line were electrified except the

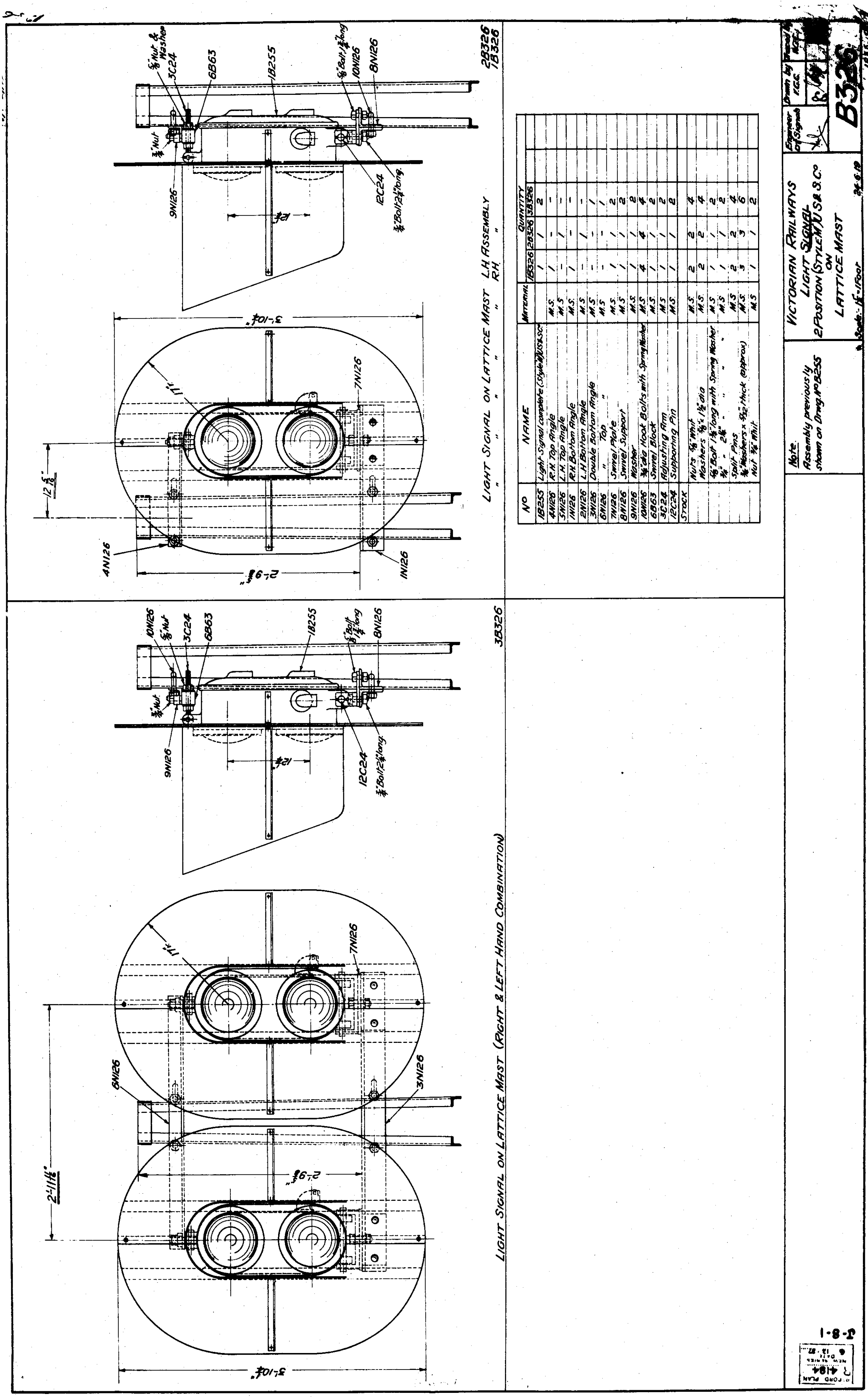
* Cattle Platform Sidings at Newmarket (i.e. the sidings immediately adjacent to the the livestock loading platforms)
* Crane Siding at the Show Grounds (i.e. the dock siding behind Show Grounds signal box)
* Crossovers at the Down end of the Flemington Racecourse platforms.

Minor alterations at Flemington Racecourse

Minor alterations took place at Flemington Racecourse on 6 October 1924. Disc 40 (under the bracket on Post 67) was relocated to Ground Disc 68. Disc 24 (formerly on Ground Disc 68) was relocated to a new Ground Disc Post 68B located between D and E Roads. The disc under the bracket of Post 69 was relocated from the right hand side of the post to the left.

In late September 1925 it was recorded that the Poultry Dock was extended by 75 feet (to be 150 feet from the catch to the buffers) and electrified. The 1928 GA is clear that this is the former Engine Road G at the Up end of No 5 Road Flemington Racecourse. Electrification was possibly to facilitate delivery of poultry by parcels coach.

(To be continued)



No	NAME	MATERIAL	QUANTITY 1B326	2B326	3B326
1B255	Light Signal complete (Style M) U.S.& S.Co		1	1	2
4N126	R.H. Top Angle	M.S.	1	–	–
5N126	L.H. Top Angle	M.S.	–	1	–
1N126	R.H. Bottom Angle	M.S.	1	–	–
2N126	L.H. Bottom Angle	M.S.	–	1	–
3N126	Double Bottom Angle	M.S.	–	–	1
6N126	" Top "	M.S.	–	–	1
7N126	Swivel Plate	M.S.	1	1	2
8N126	Swivel Support	M.S.	1	1	2
9N126	Washer	M.S.	1	1	2
10N126	3/8" dia Hook Bolts with Spring Washer	M.S.	4	4	4
6B63	Swivel Block	M.S.	1	1	2
3C24	Adjusting Arm	M.S.	1	1	2
12C24	Supporting Pin	M.S.	1	1	2
STOCK					
	Nuts 5/8" Whit	M.S.	2	2	4
	Washers 5/8" x 1½" dia	M.S.	2	2	4
	5/8" Bolt 1⅞" long with Spring Washer	M.S.	1	1	2
	3/4" " 2¼" " " "	M.S.	1	1	2
	Split Pins	M.S.	2	2	4
	3/4" Washers x 5/32" thick (approx)	M.S.	3	3	6
	Nut 3/4" Whit	M.S.	1	1	2

SIGNALLING ALTERATIONS

(Continue from page 13)

Metrol will not be required to grant a release for standard gauge services at Franklin St, and the Metrol panel will show the East Suburban line as being selected for broad gauge.

Home 204 was relocated to the right hand side of the standard gauge line. Home SST542 was abolished. New Up Home SST182 was provided; this replicates FLX516 for standard gauge moves only. The 'A' lights were removed from Homes FLX539, FLX516, FLX546, & FLX556. The gauge indicator was removed from Home FLX516. The route indicators were upgraded on Home FLX556. Automatic SST540 and Home FLX525 were fixed at stop. Homes FLX527 & FLX546 can only display stop and low speed warning. The following signals were converted to LED: SSS490, SST505, SST535, SST538, SST544, SST548, SST586, SST605, FLX482, FLX504, FLX516, FLX525, FLX527, FLX546, FLX533, FLX556, FLX558, FLX560, MYD286, 204, 206, 208, 210, 212, 214, & 218(192).

Points SST402U, SST404, SST429, SST439, SST440D, & SST471 were provided but secured reverse. Points SST432 & SST889, Crossovers SST401, and Derail 463U were provided but secured normal. Points SST434, SST435, SST436, SST463 and SST470 were provided but not commissioned. Points FLX414 & FLS447 were taken out of use and secured normal. The M70 point machine on Points FLX416 was relocated. M23A point machines replaced the M70 point machines on Points FLX433 & FLS438. Points 432U were replaced by a Derail and Wheel Crowder which will be secured 'on'. Baulks will be retained on the adjacent No 6 Carriage Siding (the future Country Bypass track).

North Melbourne Flyover/Moonee Ponds Creek

Points 213 (ARTC 215) were abolished. Up Home 218 on the standard gauge line was replaced by a new mast 72 metres further out and renumbered ADL218. Points 205 (ARTC Engine Track) were provided but secured normal. Points MYD483, MYD882, & MYD887 and Crossover MYD476 were provided but secured reverse.

Diagrams 88/13 (Southern Cross MTM Passenger Lines), 92/13 (Southern Cross VLine Passenger Lines), 90/13 (Southern Cross - North Melbourne Passenger Lines), 94/13 (West Tower Melbourne Yard), & 96/13 (Moonee Ponds Creek) replaced 71/13, 36/13, 23/08, 80/13, & 83/13 respectively. Diagrams 90/13 (Southern Cross - North Melbourne Passenger Lines), 94/13 (West Tower Melbourne Yard), & 96/13 (Moonee Ponds Creek) need to be amended with the alterations at Moonee Ponds Creek.

18.01.2014 South Kensington - Footscray - Sunshine (SW 368/13, SW 369/13, SW 383/13, WN 50)

On Saturday, 18.1., the Main Suburban lines were slewed from 4.990 km to 6.307 km to run through the new platforms at Footscray. The Main Suburban lines between Footscray and Sunshine were resignalled.

The platforms at Footscray were renumbered from 1 to 6, with 1/2 being the new Main Suburban platforms, 3/4 the old Main Suburban platforms (future RRL lines), and 5/6 the Werribee line platforms.

Automatics M226, M234, M248, M255, M260, M283, M303, M306, M319, M324, M344, M349, M367, M368, M382, & SUN559 were provided. Automatics SKN655, M205, M221, & M286 had their aspects modified. Automatic M235 was replaced by a new mast at a new location. Automatic M270 was replaced by a tilt mast with a working B head. Automatic M356 was provided with a working B head. Automatic M286 was provided with a working B head and is approach operated to Medium Speed Warning. Automatic M269 was converted to LED heads.

Automatics M230, M244, M247, M256, M257, M304, M321, M322, M338, M339, M357, M376, M377, M395, & M406 were abolished. Banner Indicator M244BI was abolished. SW 299/06 (Trial of Raiseable (Cess Pole) signal mast) is cancelled.

Diagram 97/13 (Footscray - Spotswood), 95/13 (West Footscray - Tottenham), 91/13 (Albion - St Albans) replaced 89/13, 51/13, & 32/13 (respectively).