



Manual

Train Operating Conditions (TOC) Manual – Track Diagrams

Version 23.0

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Document information

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Authoriser: Director Engineering, Asset Management Branch
Approver: Executive Director, Asset Management Branch on behalf of the AMB Configuration Control Board

Document history

Version	Summary of changes
1.0	First issue (December 2013)
2.0	Second issue (December 2014)
3.0	Third issue (April 2015)
4.0	Fourth issue (August 2015)
5.0	Fifth issue (December 2015)
6.0	Sixth issue (April 2016)
7.0	Seventh issue (August 2016)
8.0	Eighth issue (December 2016)
9.0	Ninth issue (April 2017)
10.0	Tenth issue (August 2017)
11.0	Eleventh issue (December 2017)
12.0	Twelfth issue (April 2018)
13.0	Thirteenth issue (August 2018)
14.0	Fourteenth issue (December 2018)
15.0	Fifteenth issue (April 2019)
16.0	Sixteenth issue (August 2019)
17.0	Seventeenth issue (December 2019)
18.0	Eighteenth issue (April 2020)
19.0	Nineteenth issue (August 2020)
20.0	Twentieth issue (December 2020)
21.0	Twenty first issue (April 2021)
22.0	Twenty second issue (August 2021)
23.0	Current issue (December 2021)

Preface

The Asset Management Branch (AMB), formerly known as Asset Standards Authority (ASA) is a key strategic branch of Transport for NSW (TfNSW). As the network design and standards authority for NSW Transport Assets, as specified in the *ASA Charter*, the ASA identifies, selects, develops, publishes, maintains and controls a suite of requirements documents on behalf of TfNSW, the asset owner.

The ASA deploys TfNSW requirements for asset and safety assurance by creating and managing TfNSW's governance models, documents and processes. To achieve this, the ASA focuses on four primary tasks:

- publishing and managing TfNSW's process and requirements documents including TfNSW plans, standards, manuals and guides
- deploying TfNSW's Authorised Engineering Organisation (AEO) framework
- continuously improving TfNSW's Asset Management Framework
- collaborating with the Transport cluster and industry through open engagement

The AEO framework authorises engineering organisations to supply and provide asset related products and services to TfNSW. It works to assure the safety, quality and fitness for purpose of those products and services over the asset's whole-of-life. AEOs are expected to demonstrate how they have applied the requirements of ASA documents, including TfNSW plans, standards and guides, when delivering assets and related services for TfNSW.

Compliance with ASA requirements by itself is not sufficient to ensure satisfactory outcomes for NSW Transport Assets. The ASA expects that professional judgement be used by competent personnel when using ASA requirements to produce those outcomes.

About this document

This Train Operating Conditions (TOC) Manual is published by the ASA to provide an update from the August 2021 issue of the TOC Manual.

This TOC Manual aims to provide a single reference and technical guidance for train operations on the TfNSW Metropolitan Heavy Rail network.

The content, information, and data within this TOC Manual are derived from updates since the last edition of 24 September 2021. The information is compiled from a number of sources. The ASA performs limited validation of this information as it is deemed to be sourced from competent organisations.

This December 2021 issue of the TOC Manual comprises three parts as follows:

- TS TOC.1: 2021 issue 3
- TS TOC.2: 2021 issue 3

- TS TOC.3: 2021 issue 3; this document

As the ASA continues to evolve, future iterations of the TOC Manual and the information contained within it may be made available in different formats and delivery mechanisms to facilitate ease of access and usability.

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Introduction

This document contains the track diagrams, which shall be read in conjunction with the relevant standard working timetables for the purpose of safe train operations and is applicable to all freight, passenger, and infrastructure maintenance operations on the TfNSW Metropolitan Heavy Rail network.

The December 2021 issue of the TOC Manual comprises three parts:

- TS TOC.1: 2021 issue 3 *Train Operating Conditions (TOC) Manual – General Instructions*
- TS TOC.2: 2021 issue 3 *Train Operating Conditions (TOC) Manual – Division Pages*
- TS TOC.3: 2021 issue 3 *Train Operating Conditions (TOC) Manual – Track Diagrams*; this document

This document, TS TOC.3: 2021 issue 3 *Train Operating Conditions (TOC) Manual – Track Diagrams* contains the following:

- Track Diagrams

TS TOC.1: 2021 issue 3 *Train Operating Conditions (TOC) Manual – General Instructions*, contains the following:

- General Instruction Pages

TS TOC.2: 2021 issue 3 *Train Operating Conditions (TOC) Manual – Division Pages*, contains the following information:

- Northern Division Pages
- Western Division Pages
- Illawarra Division Pages
- Sydney Metropolitan Area Division Pages
- Passenger Train Operating Condition Pages
- Coal Working Pages

Purpose

The TOC Manual specifies conditions for the operation of trains and rolling stock on the TfNSW Metropolitan Heavy Rail network.

Scope

The TOC Manual describes the network, defines operating conditions for trains and rolling stock, and lists all rolling stock authorised to operate on the TfNSW Metropolitan Heavy Rail network.

The TfNSW Metropolitan Heavy Rail network is bounded by Newcastle Interchange (165.746km), Woodville Junction (163.981 km and 164.045 km), Bomaderry (153.630 km), Unanderra (91.080 km), Macarthur (57.965 km), and Bowenfels (158.800 km) but does not include the South Sydney Freight Line and Metropolitan Freight Network (bound by Marrickville 6.370 km, Flemington South Junction 18.909 km, and Sefton Park East Junction 21.285 km).

In addition Light Rail Networks and Metro Networks are not included in the TfNSW Metropolitan Heavy Rail network.

Application

The TOC Manual is to be used by train planners, train timetablers, train control personnel, and train crews, and shall be read in conjunction with the relevant Safeworking rules and procedures.

Reference documents

The following documents are cited in the text. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document applies.

Transport for NSW standards

- TS TOC.1: 2021 issue 3 Train Operating Conditions (TOC) Manual – General Instructions
- TS TOC.2: 2021 issue 3 Train Operating Conditions (TOC) Manual – Division Pages

See TS TOC.1: 2021 issue 3 for further reference documents.

Terms and definitions

See TS TOC.1: 2021 issue 3 *Train Operating Conditions (TOC) Manual – General Instructions*.

Summary of changes

Table 1 provides a summary of changes to the content of this section of the manual since its previous publication. Changes to front matter, formatting, branding, and governance are not included.

Table 1 - Summary of changes from August 2021 ASA reprint

Area of manual	Page	Section	Change
All sections	All	All	Nil changes

Section 19

Track diagrams

19. Track diagrams

Track diagram numbers and titles are given in Table 2, Table 3, Table 4 and Table 5.

Table 2 – Track diagrams – Metro division

Number	Title
n/a	Metro index
A	Metro A North Strathfield to Hornsby (12km to 35km)
B	Metro B Central to Hornsby (0km to 25km)
C	Metro C Central - City Circle - Bondi Junction
D	Metro D Central and Airport Line
E	Metro E Redfern to Macdonaldtown / Erskineville
F	Metro F Macdonaldtown - Strathfield (2km to 9km)
G	Metro G Strathfield to Flemington Maintenance Centre
H	Metro H Lidcombe / Flemington - Olympic Park
I	Metro I Lidcombe - Auburn / Enfield West - Sefton Park Junction (15km to 19km)
J	Metro J Auburn to Clyde
K	Metro K Clyde to Blacktown (20km to 37km)
L	Metro L Doonside to Penrith (38km to 56km)
M	Metro M Blacktown - Richmond
N	Metro N Clyde
O	Metro O Sefton to Liverpool (21km to 36km)
P	Metro P Casula to Macarthur (37km to 58km)
Q	Metro Q Granville to Cabramatta (21km to 32km)
R	Metro R Erskineville - Rockdale (2km to 11km)
S	Metro S Kogarah - Jannali (11km to 23km)
T	Metro T Sutherland to Waterfall / Cronulla (23km to 40km / 35km)
U	Metro U Marrickville - Sefton Park Junction (6km to 23km)
V	Metro V Wollri Creek Junction - Glenfield (7km to 33km)
W	Metro W Glenfield - Leppington (42km to 53km)

Table 3 – Track diagrams – Northern division

Number	Title
n/a	Northern index
A	Northern A Asquith to Hawkesbury River (35km to 60km)
B	Northern B Wondabyne to Gosford (60km to 83km)
C	Northern C Narara to Wyong (83km to 108km)
D	Northern D Wyee to Eraring (108km to 133km)
E	Northern E Eraring to Cockle Creek (133km to 152km)
F	Northern F Sulphide Junction to Adamstown (152km to 161km)
G	Northern G Adamstown to Broadmeadow (161km to 163km)
H	Northern H Broadmeadow to Newcastle Interchange (163km to 165km)

Table 4 – Track diagrams – Western division

Number	Title
n/a	Western index
A	Western A Emu Plains to Warrimoo (55km to 74km)
B	Western B Valley Heights to Hazelbrook (75km to 94km)
C	Western C Lawson to Katoomba (95km to 114km)
D	Western D Medlow Bath to Mount Victoria (115km to 133km)
E	Western E Bell to Zig Zag (134km to 152km)
F	Western F Lithgow to Bowenfels (152km to 158km)

Table 5 – Track diagrams – Illawarra division

Number	Title
n/a	Illawarra index
A	Illawarra A Waterfall to Stanwell Park (40km to 58km)
B	Illawarra B Coalcliff to Bellambi (58km to 76km)
C	Illawarra C Corrimal to Unanderra (76km to 91km)
D	Illawarra D Kembla Grange to Oak Flats (91km to 110km)
E	Illawarra E Dunmore to Gerringong (110km to 134km)
F	Illawarra F Berry to Bomaderry (134km to 154km)
G	Illawarra G Inner Harbour
H	Illawarra H Coniston to Port Kembla North (84km to 88km)
I	Illawarra I Port Kembla North to Port Kembla (88km to 90km)
J	Illawarra J Port Kembla Jetty area

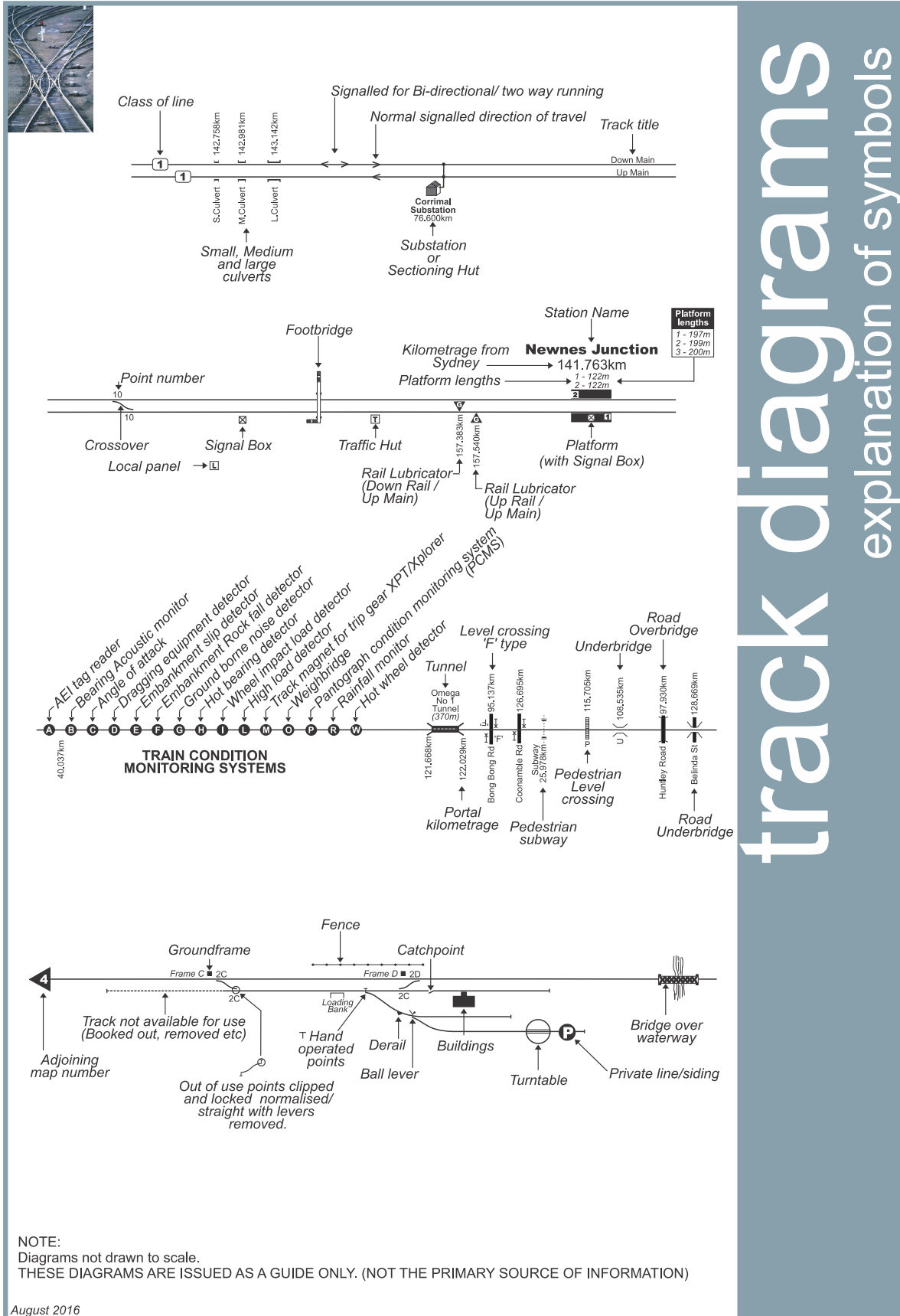


Figure 1 Symbols

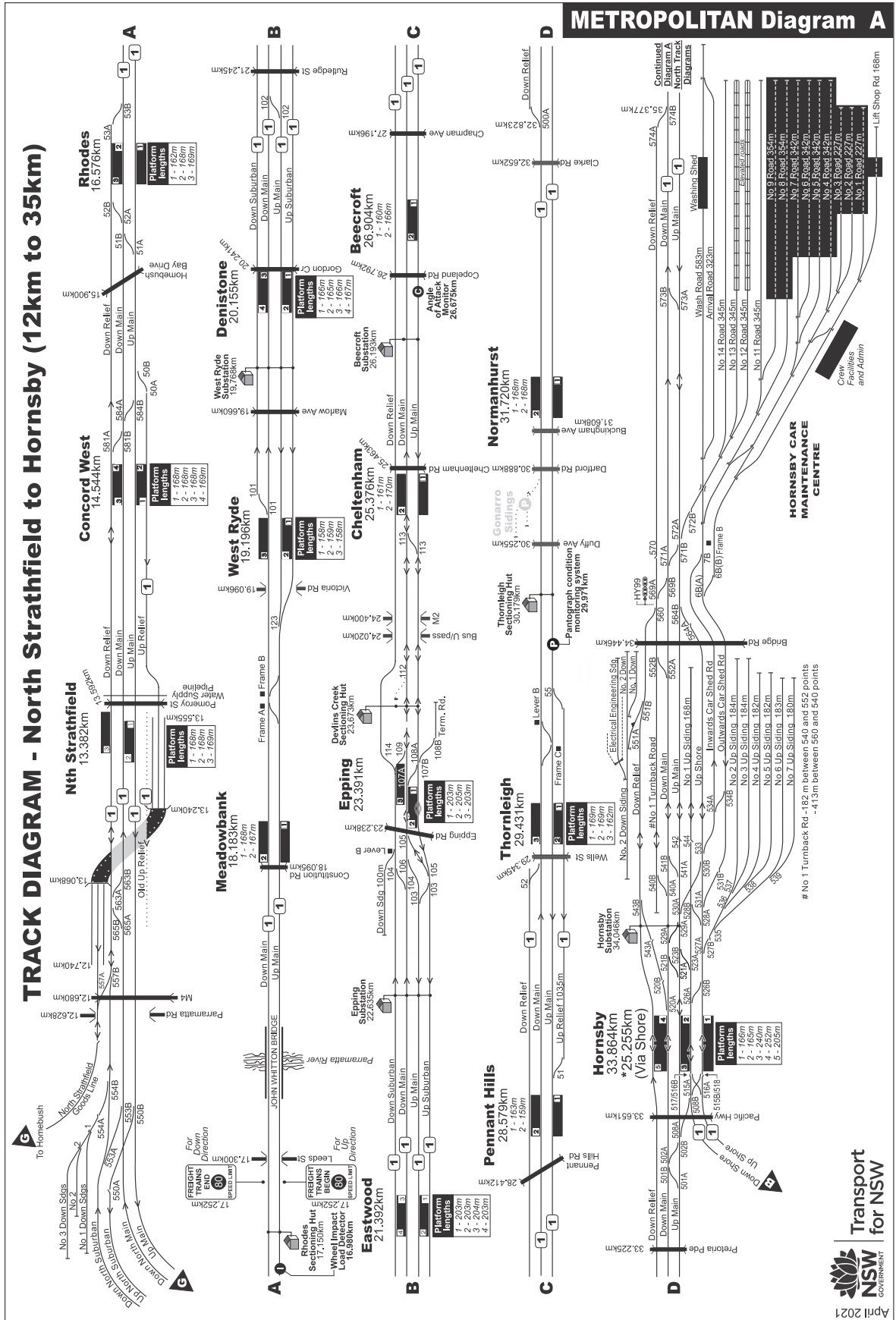


Figure 3 Metro A North Strathfield to Hornsby (12km to 35km)

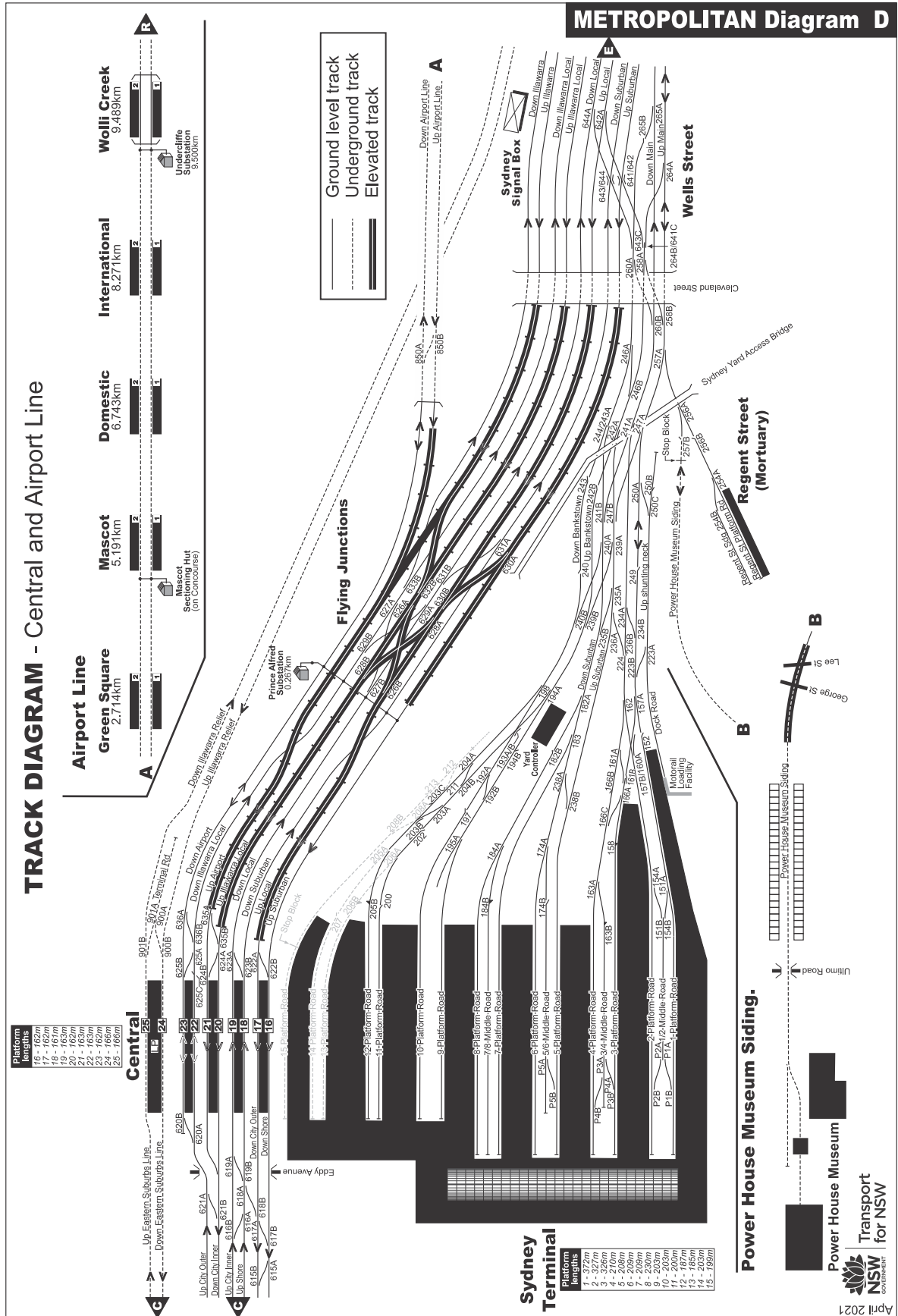


Figure 6 Metro D Central and Airport Line

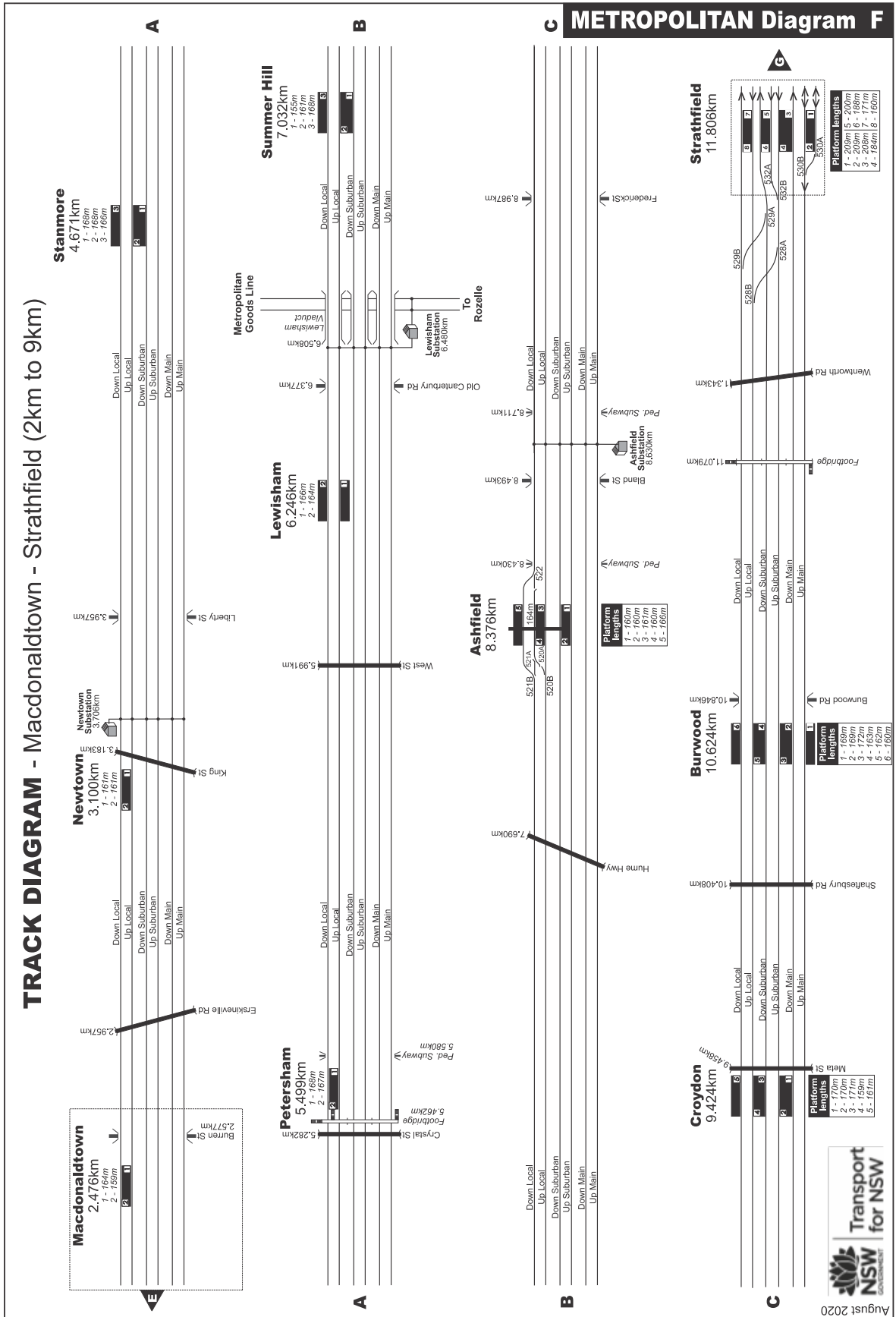


Figure 8 Metro F Macdonaldtown - Strathfield (2km to 9km)

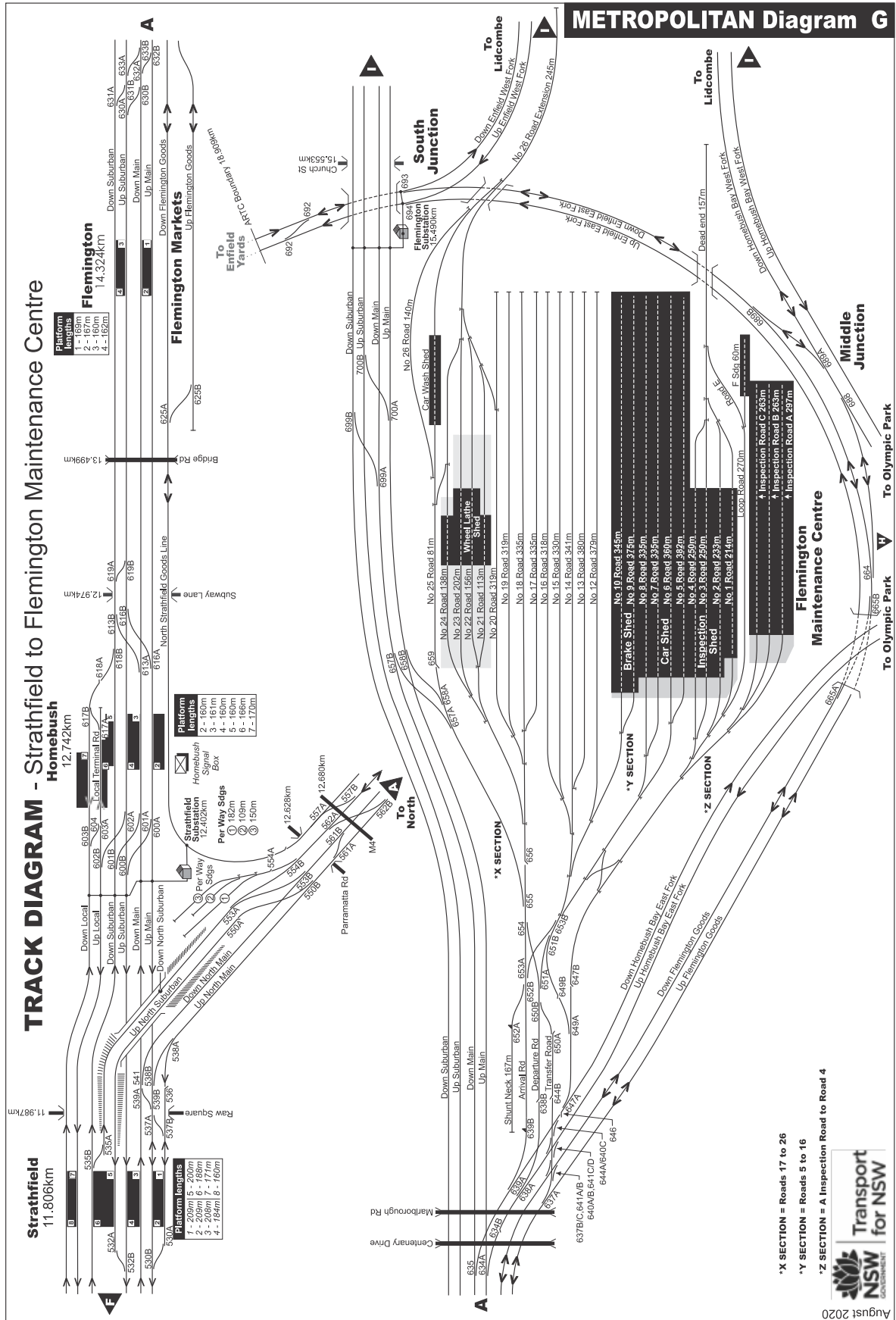


Figure 9 Metro G Strathfield to Flemington Maintenance Centre

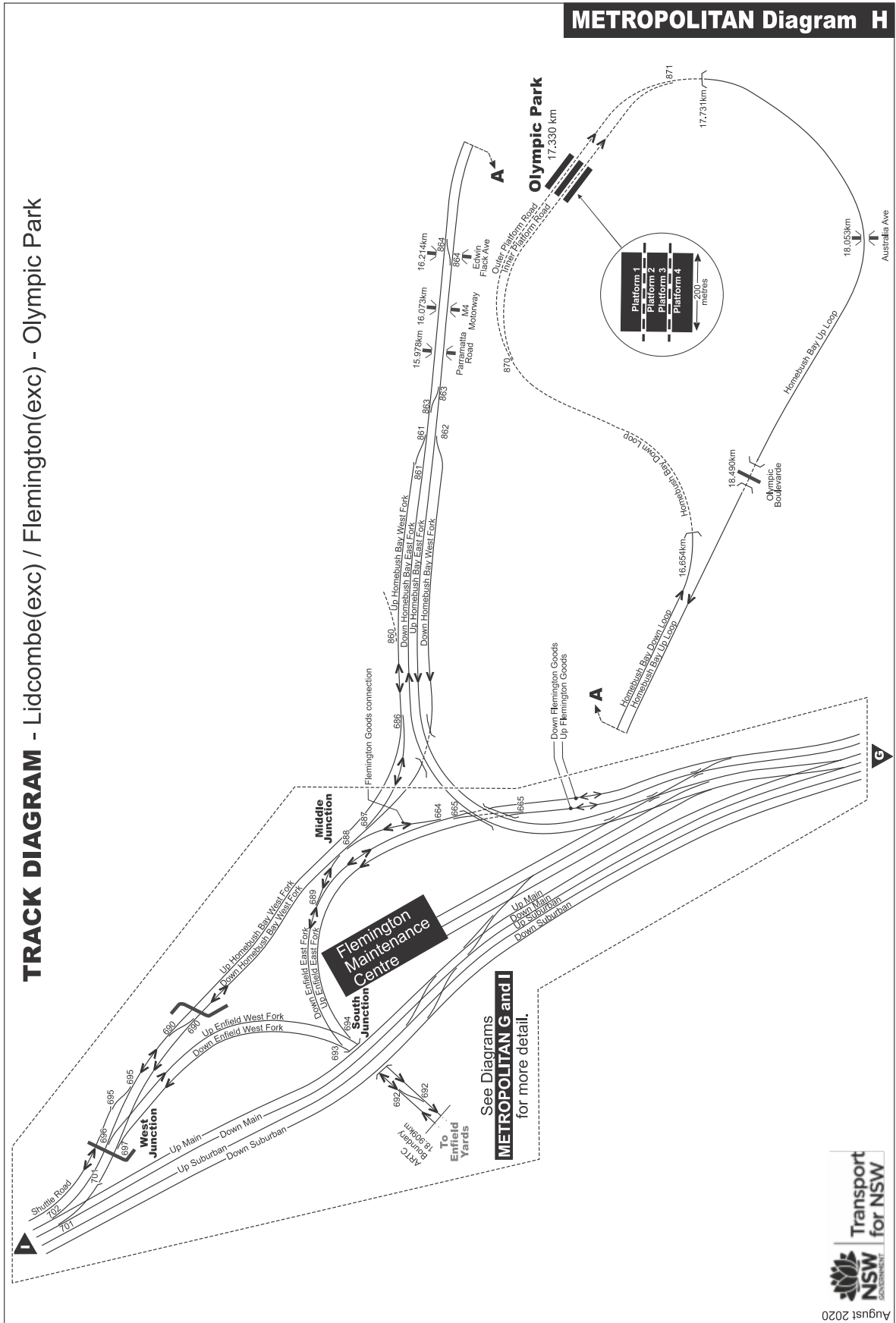


Figure 10 Metro H Lidcombe / Flemington - Olympic Park

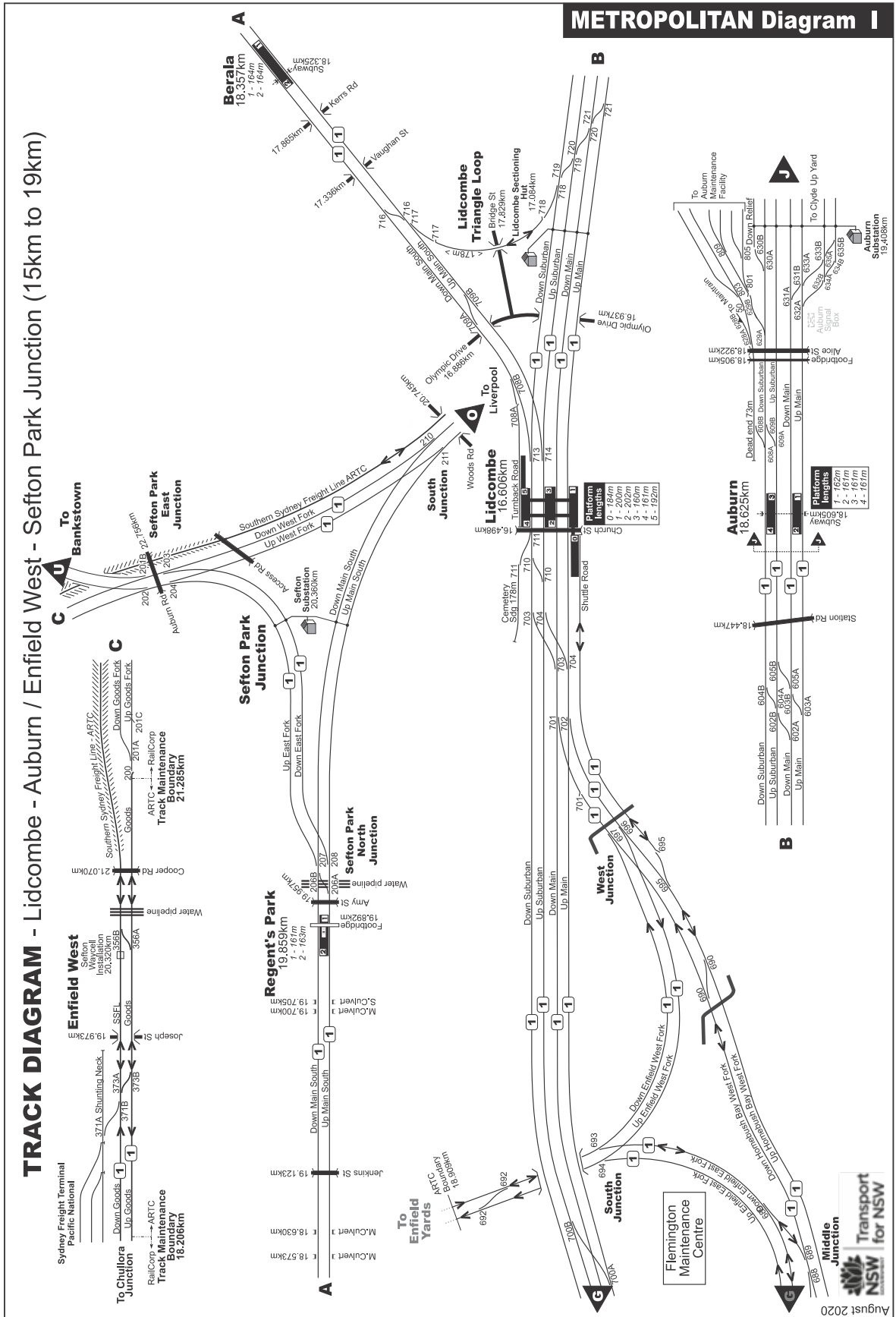


Figure 11 Metro I Lidcombe - Auburn / Enfield West - Sefton Park Junction (15km to 19km)

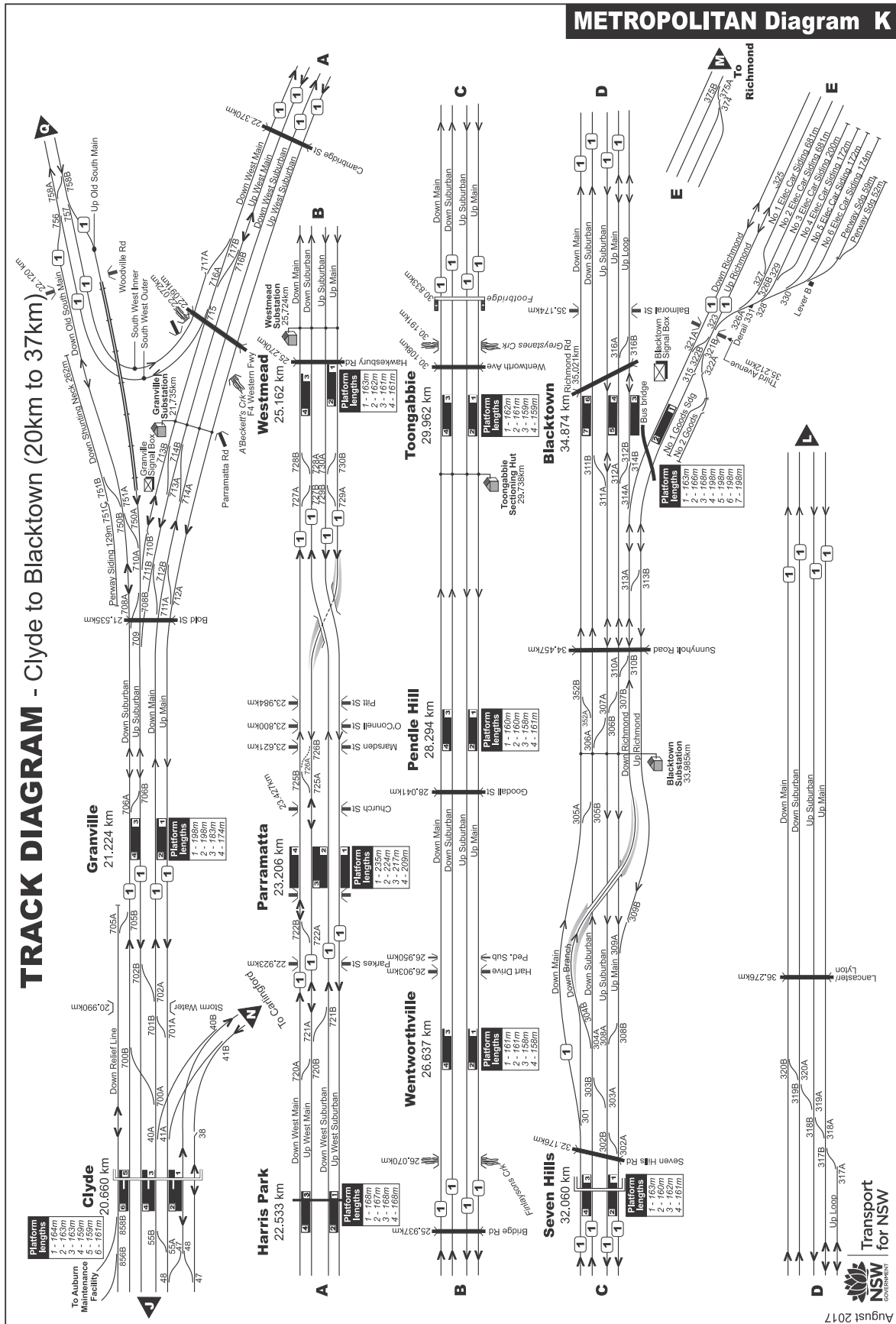


Figure 13 Metro K Clyde to Blacktown (20km to 37km)

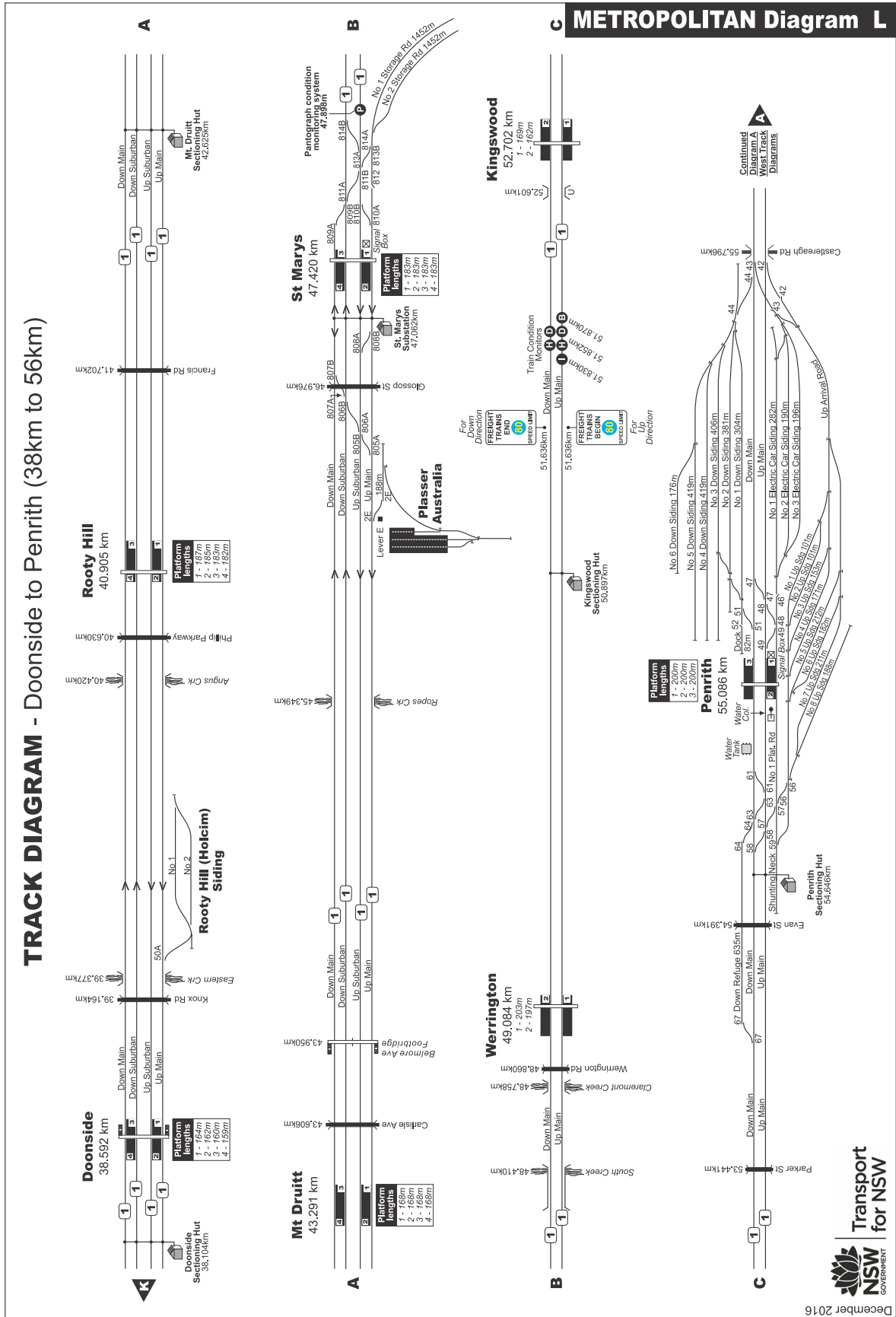


Figure 14 Metro L Doonside to Penrith (38km to 56km)

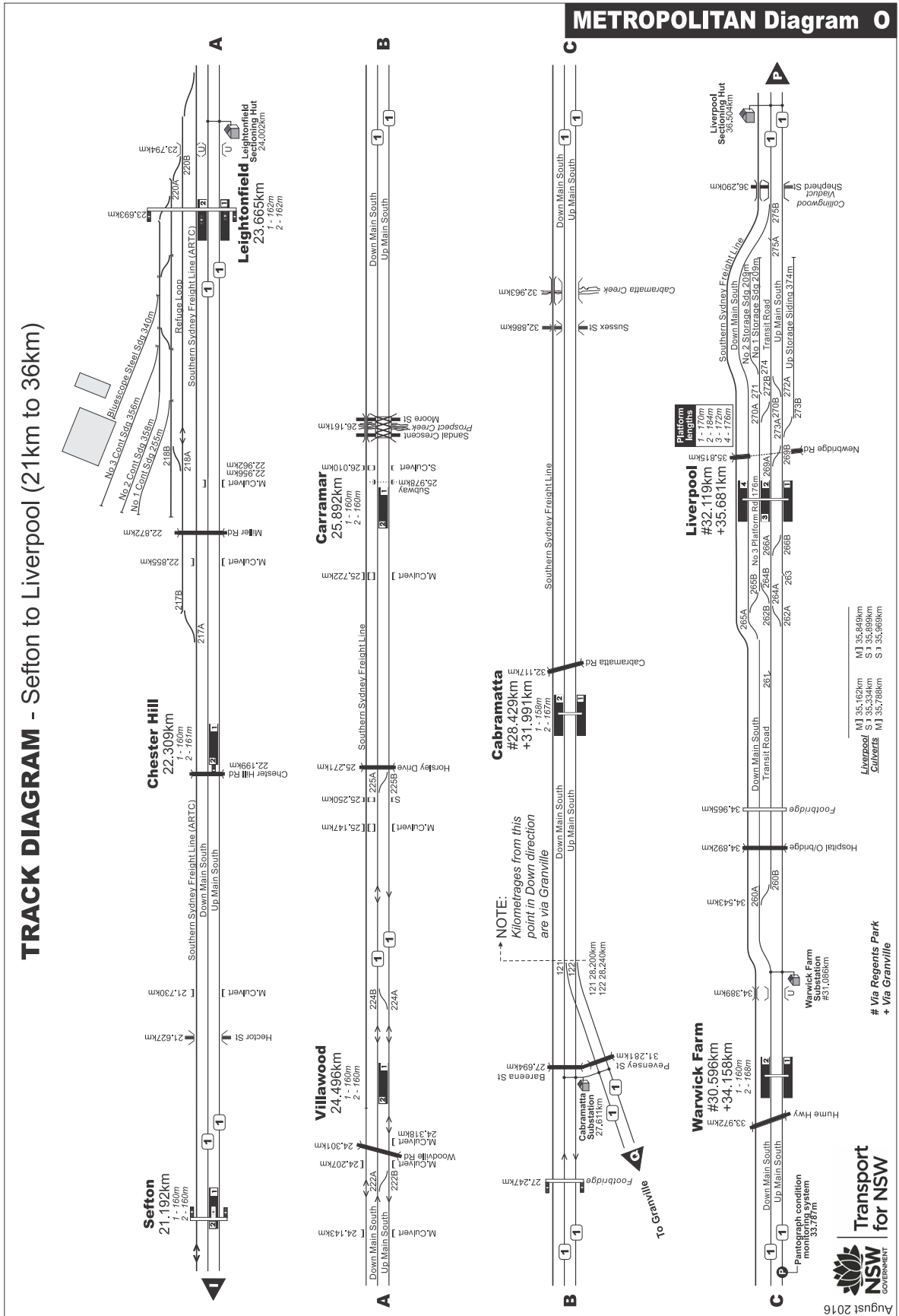


Figure 17 Metro O Sefton to Liverpool (21km to 36km)

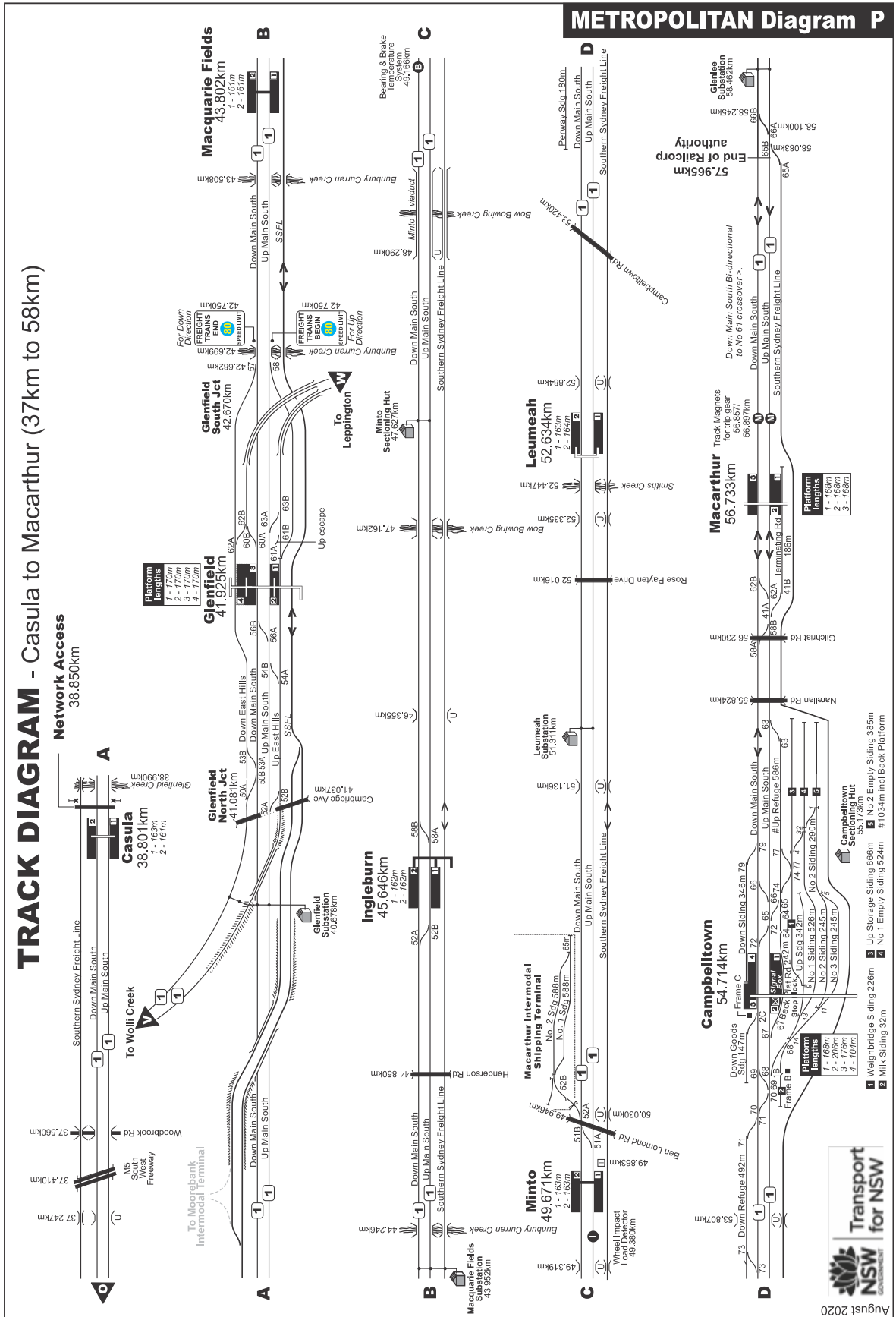


Figure 18 Metro P Casula to Macarthur (37km to 58km)

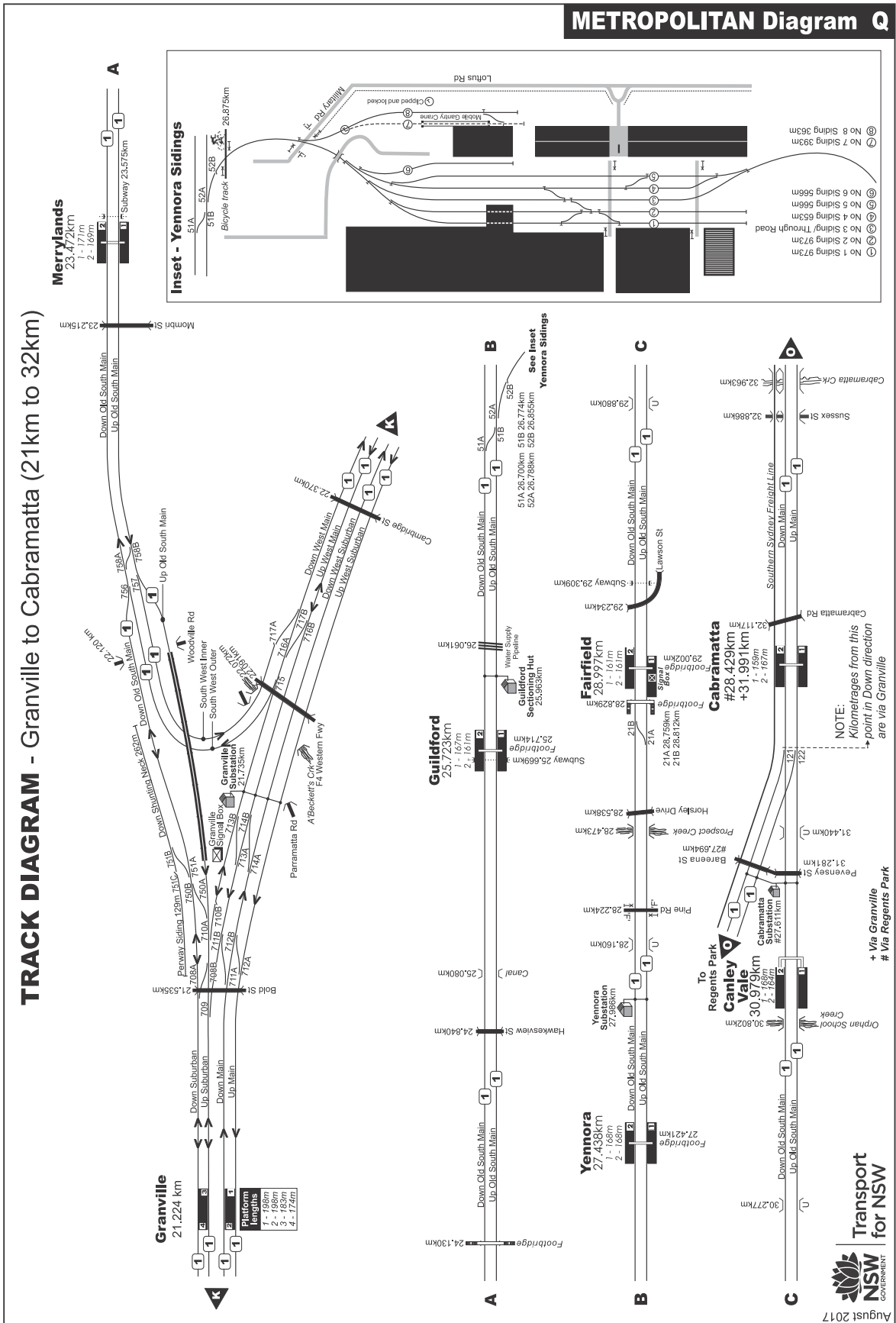


Figure 19 Metro Q Granville to Cabramatta (21km to 32km)

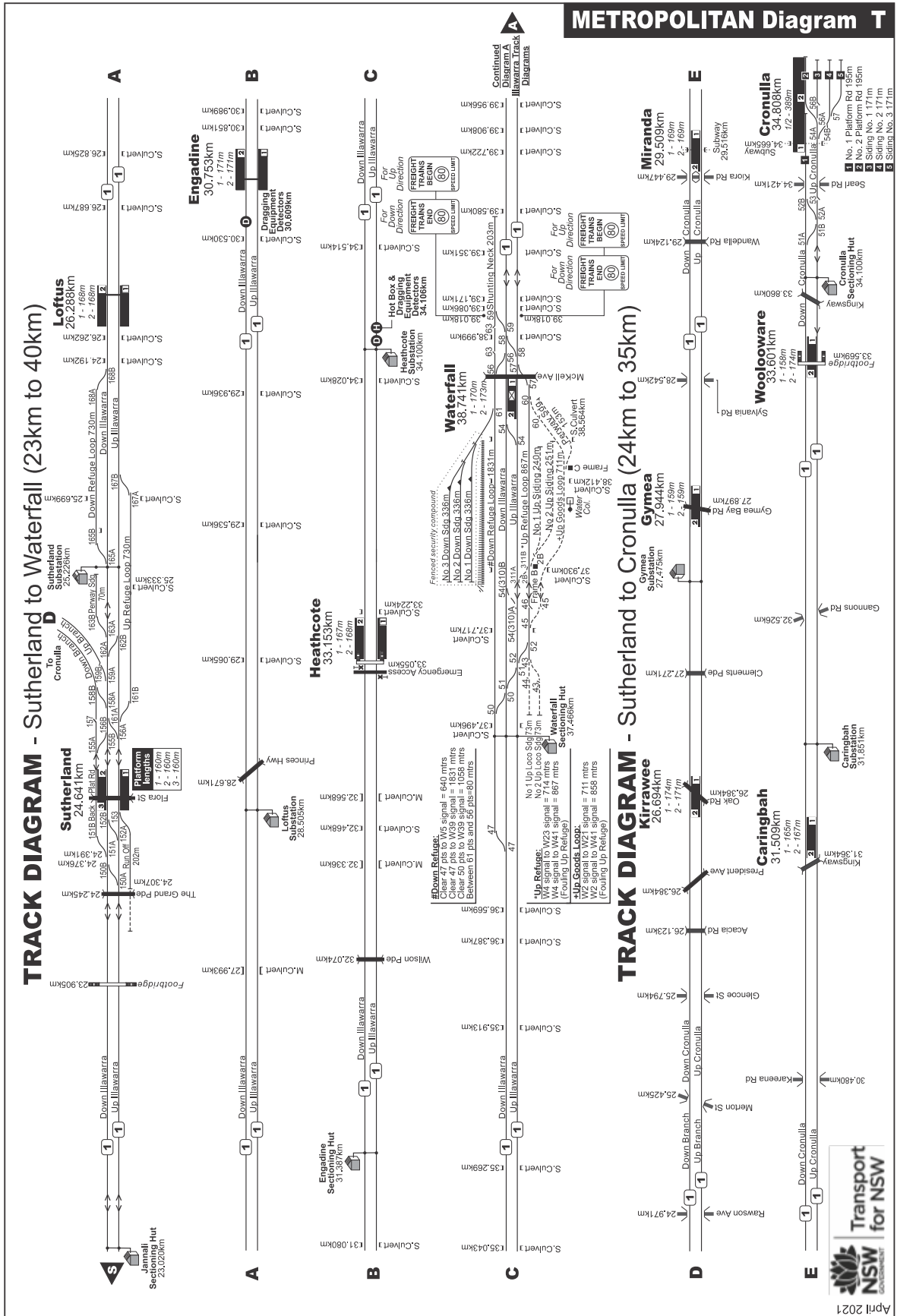


Figure 22 Metro T Sutherland to Waterfall / Cronulla (23km to 40km / 35km)

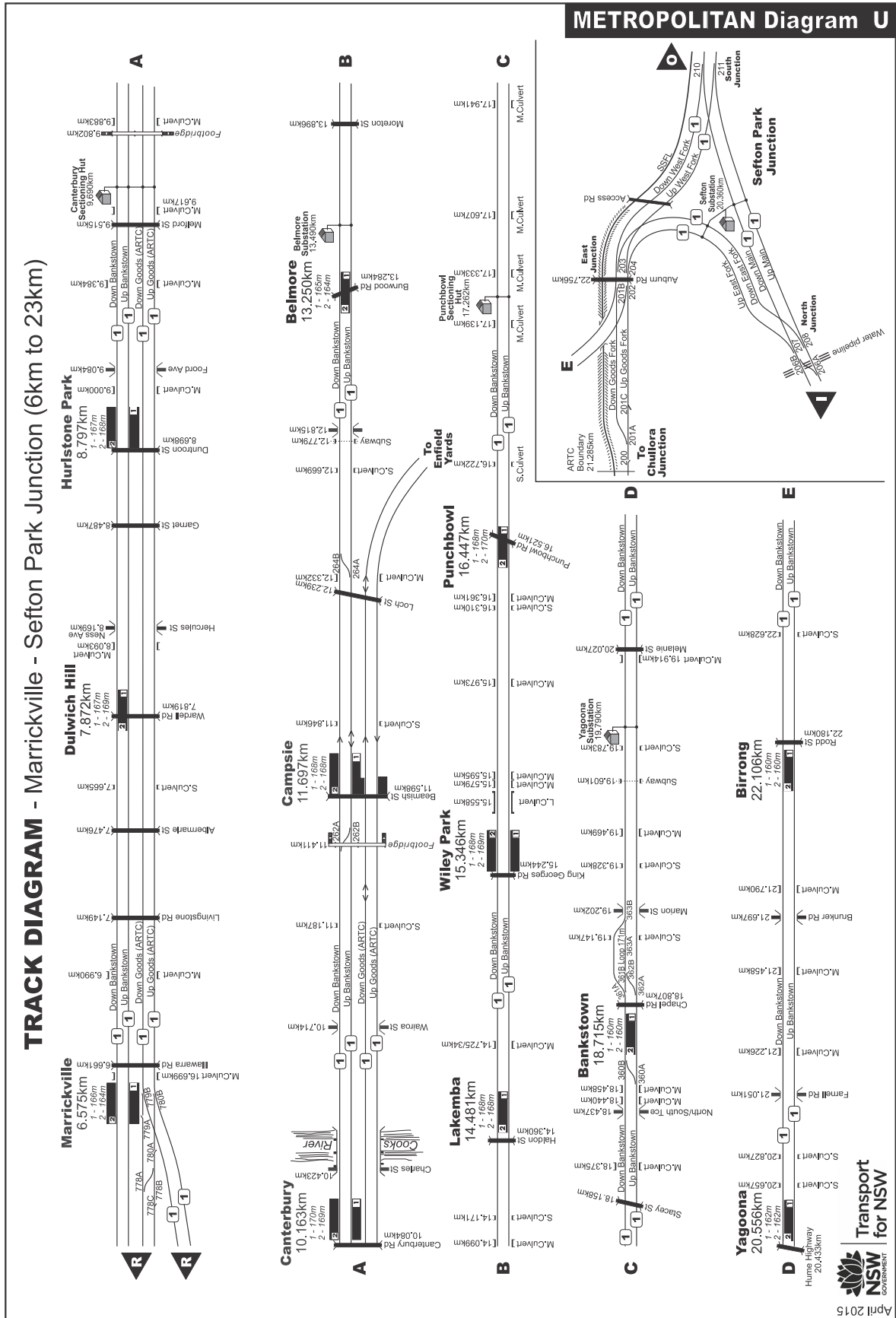


Figure 23 Metro U Marrickville - Sefton Park Junction (6km to 23km)

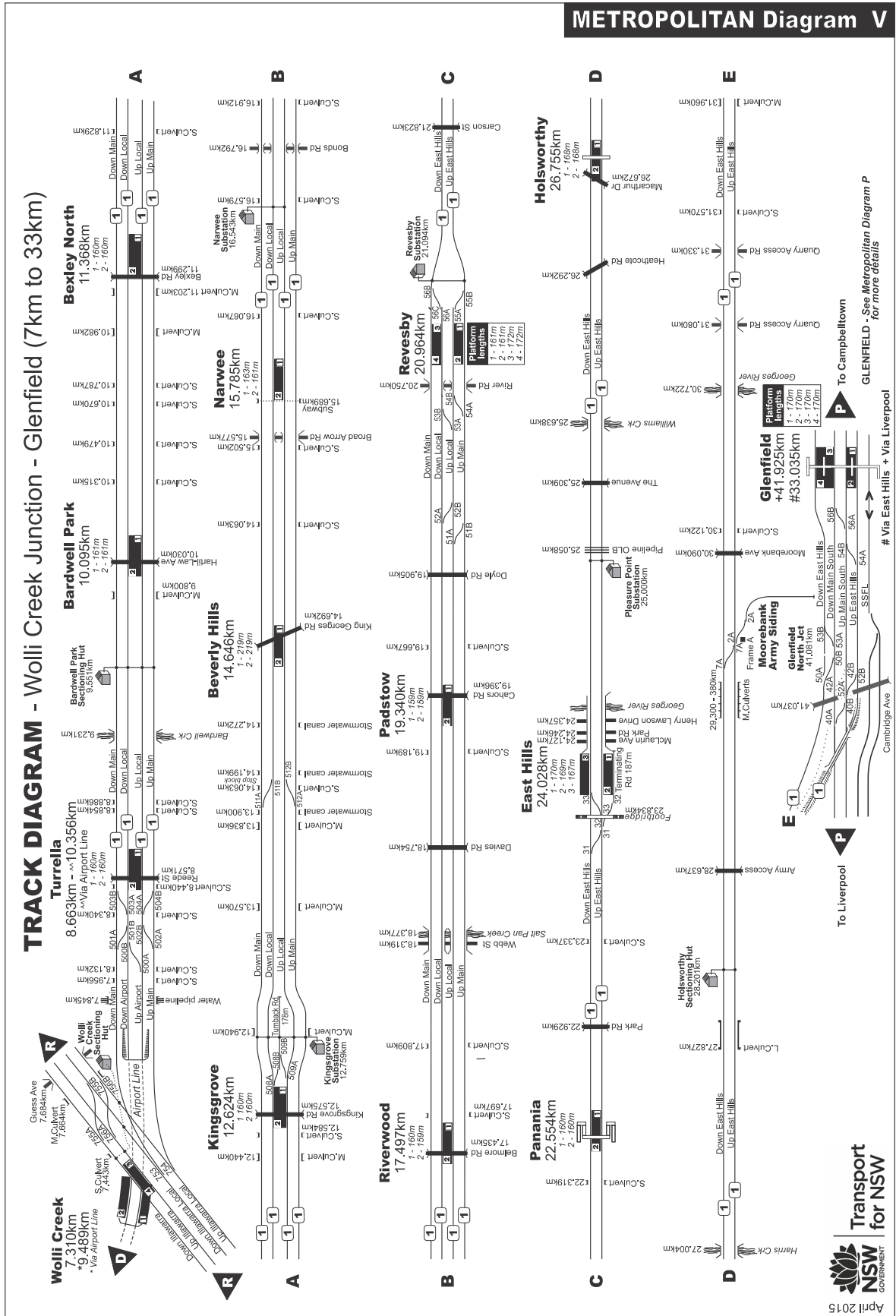
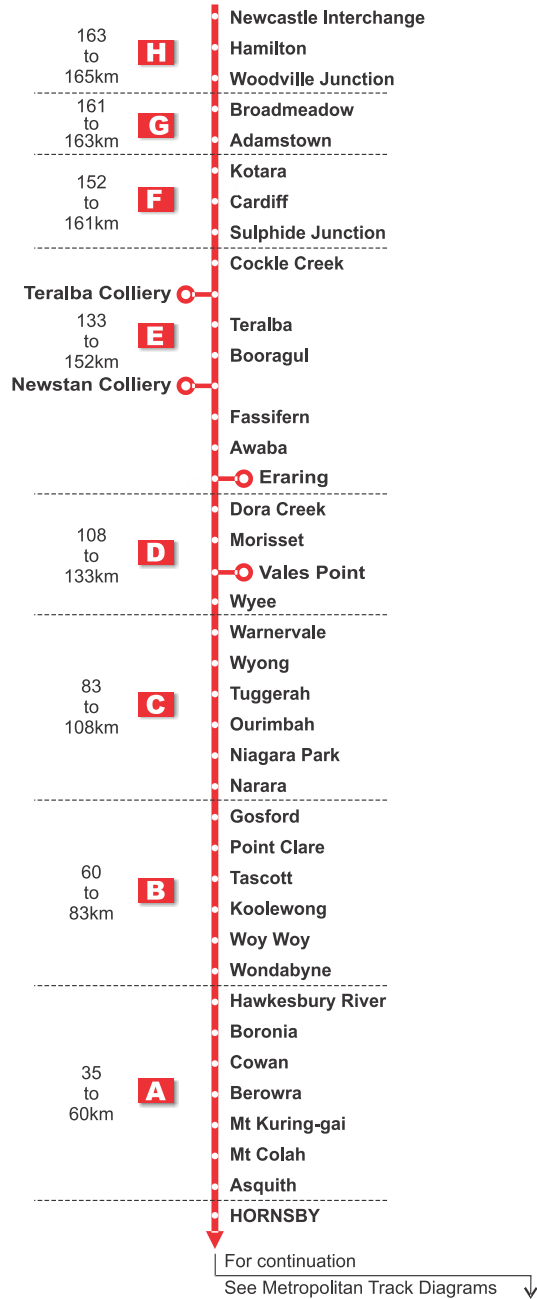


Figure 24 Metro V Wollie Creek Junction - Glenfield (7km to 33km)

Northern Division track diagrams



northern
 track diagrams

December 2017

Figure 26 Northern index

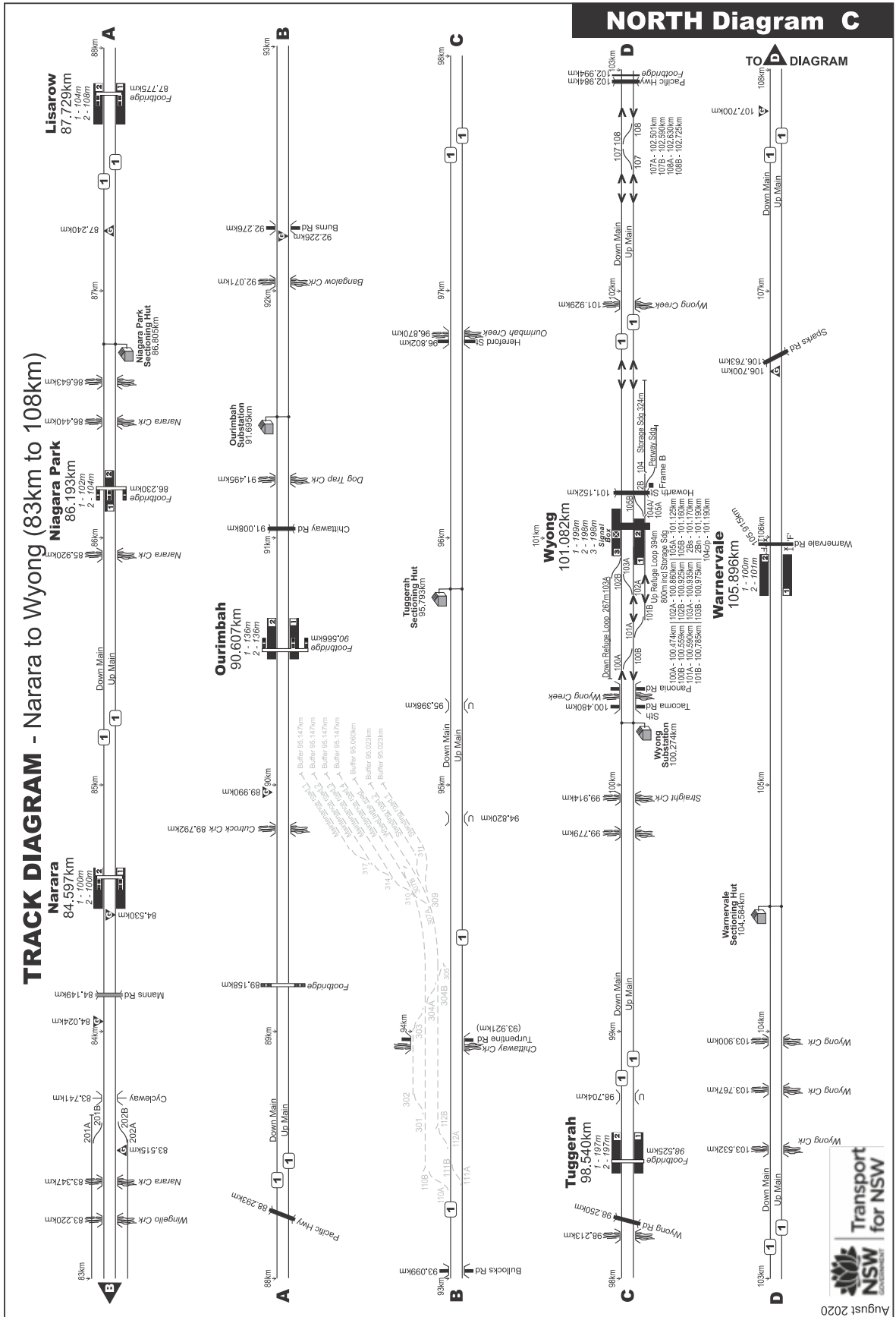


Figure 29 Northern C Narara to Wyong (83km to 108km)

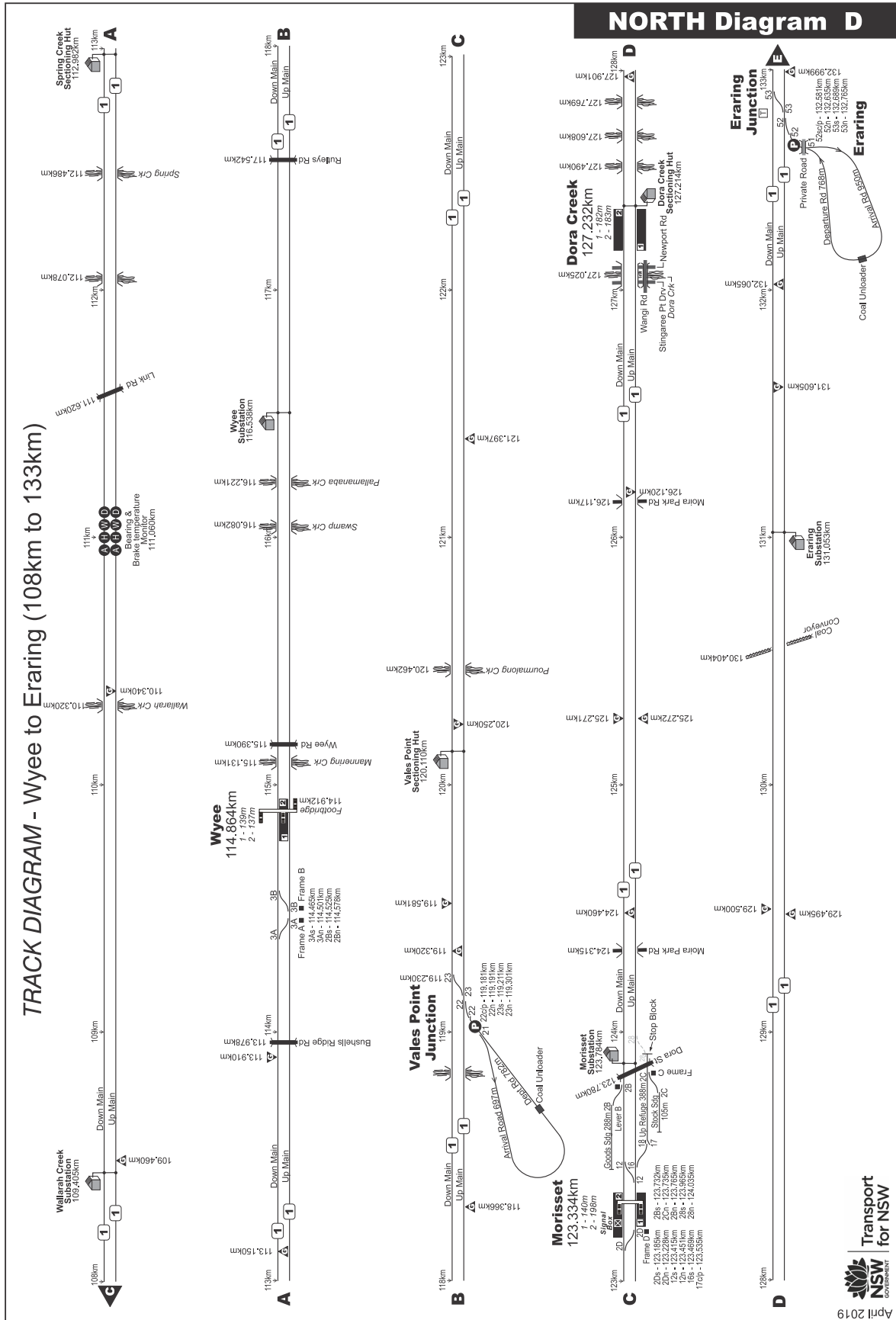


Figure 30 Northern D Wye to Eraring (108km to 133km)

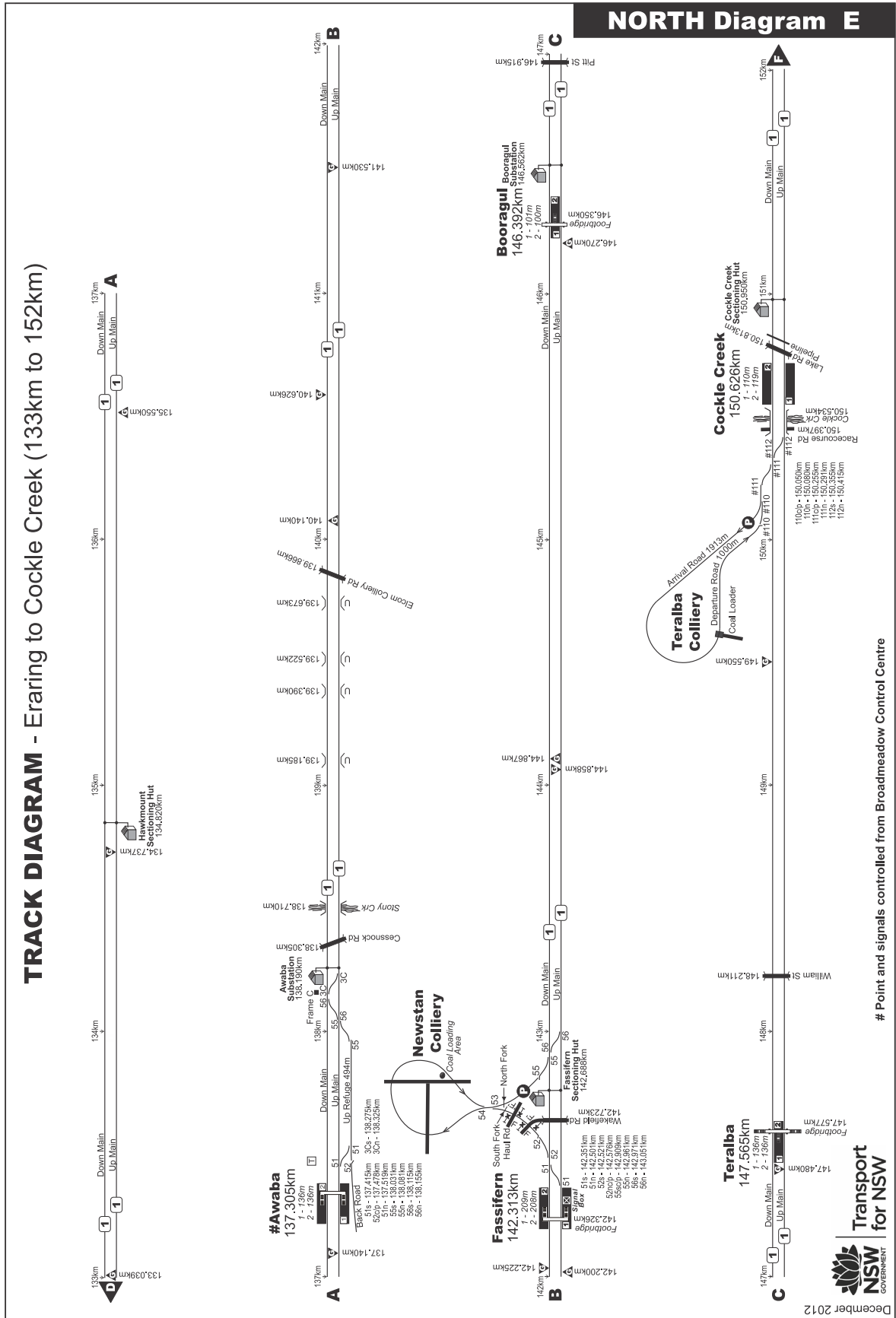


Figure 31 Northern E Eraring to Cockle Creek (133km to 152km)

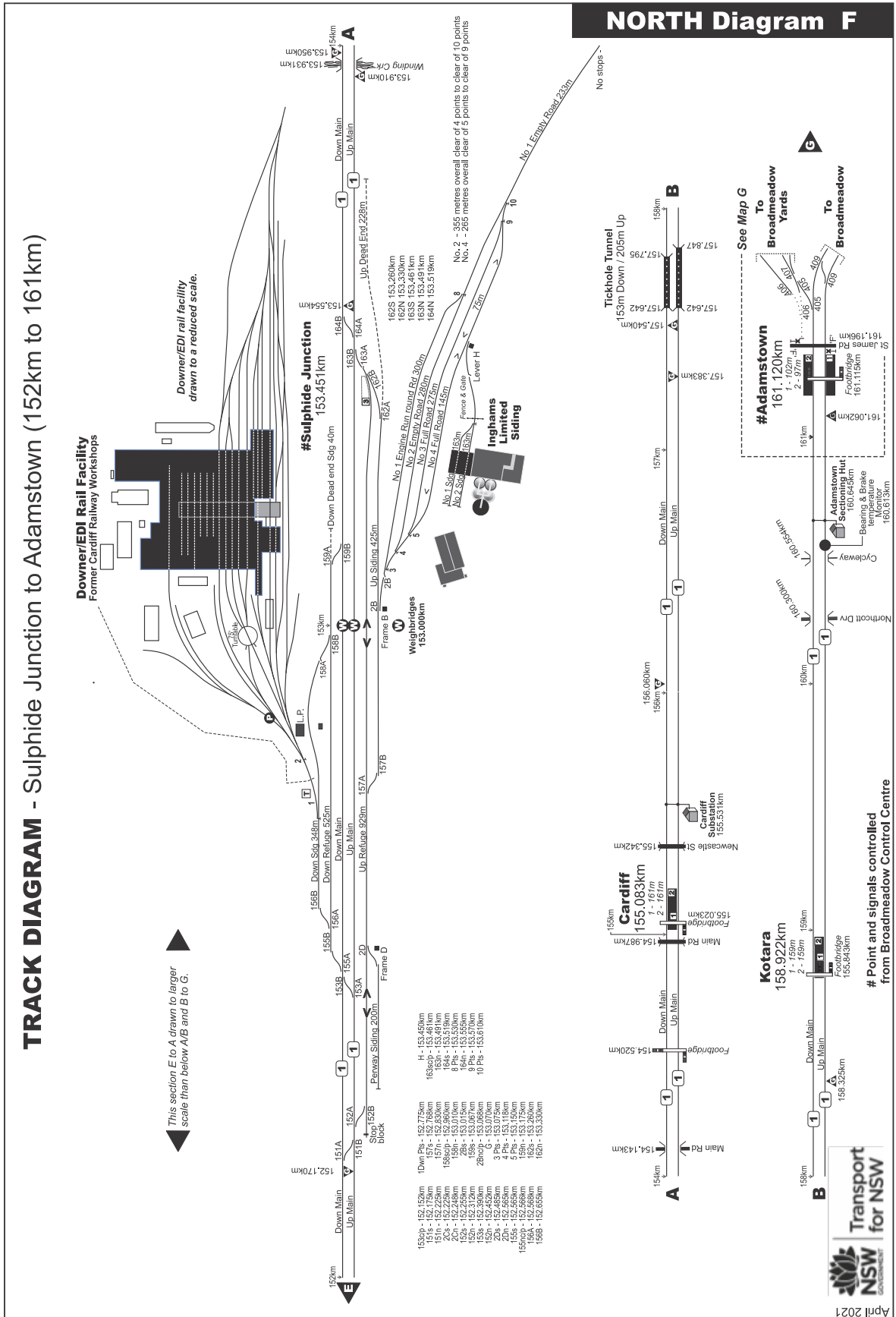


Figure 32 Northern F Sulphide Junction to Adamstown (152km to 161km)

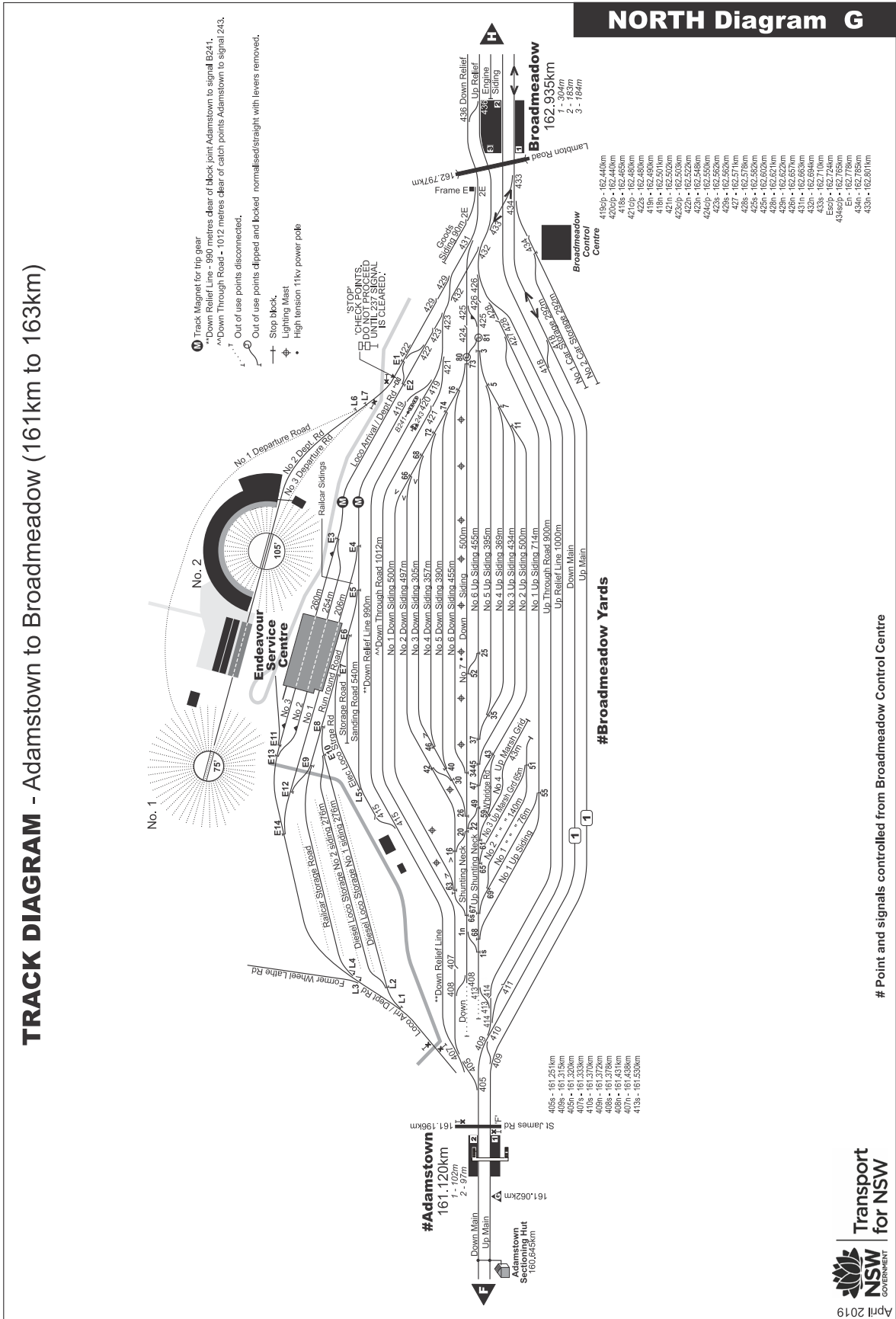


Figure 33 Northern G Adamstown to Broadmeadow (161km to 163km)

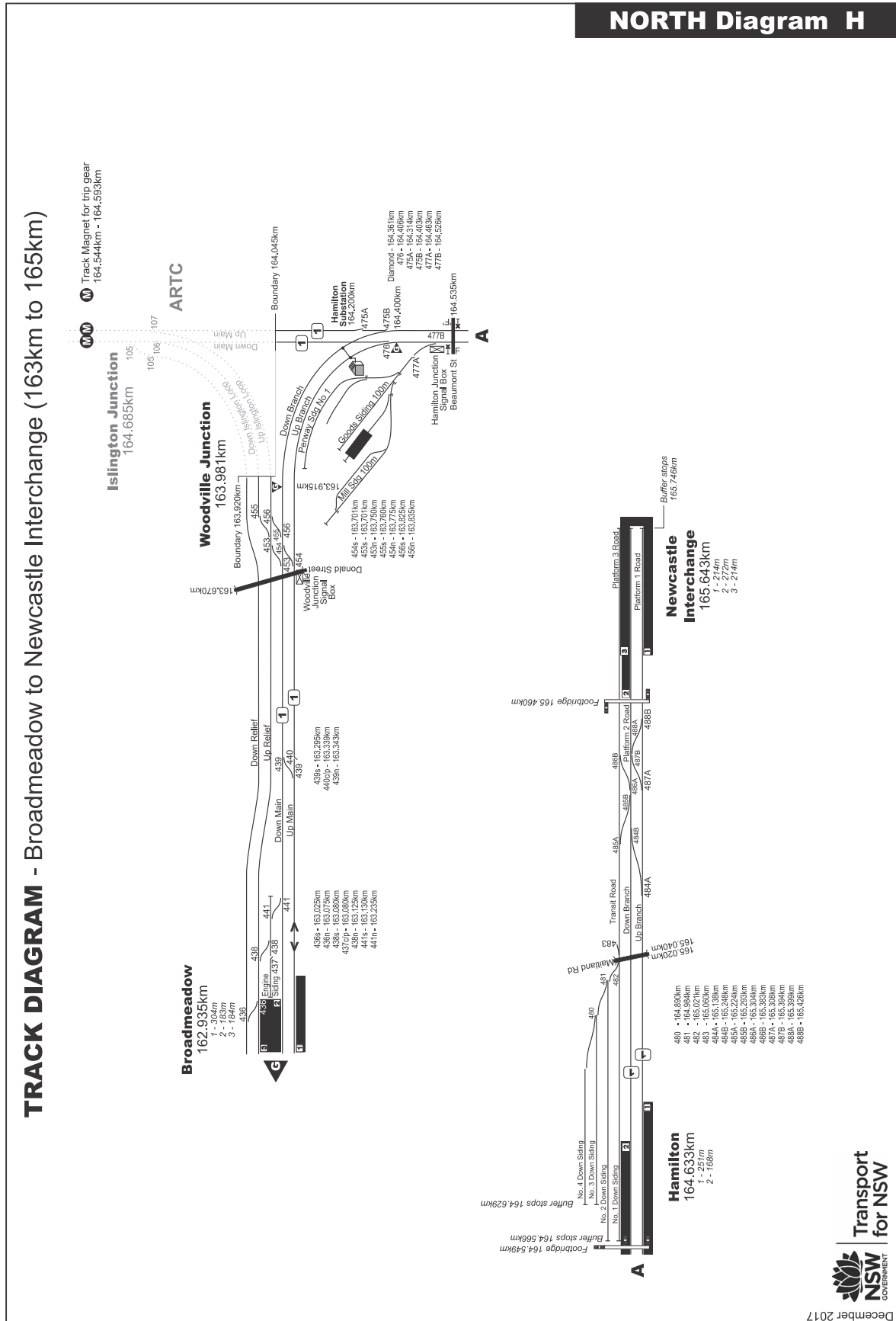
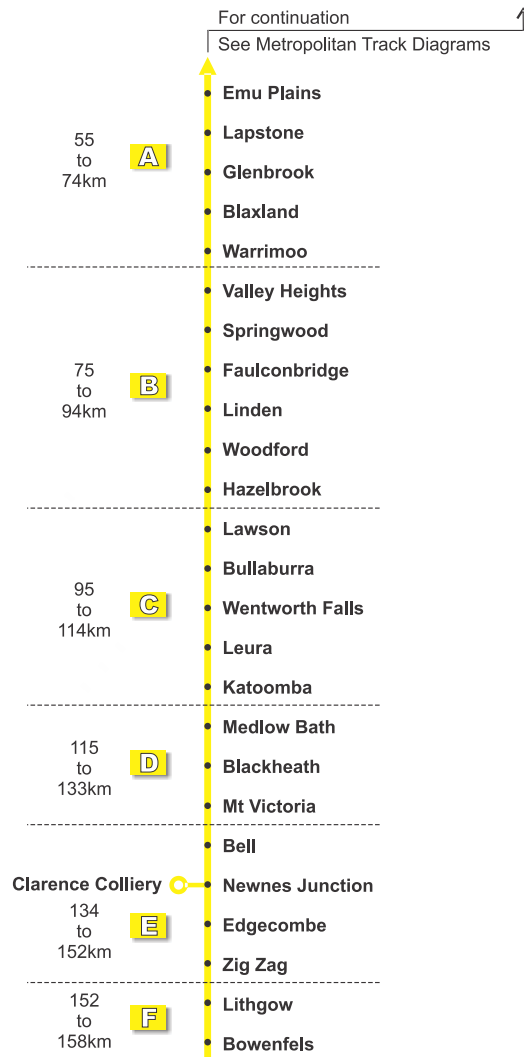


Figure 34 Northern H Broadmeadow to Newcastle Interchange (163km to 165km)

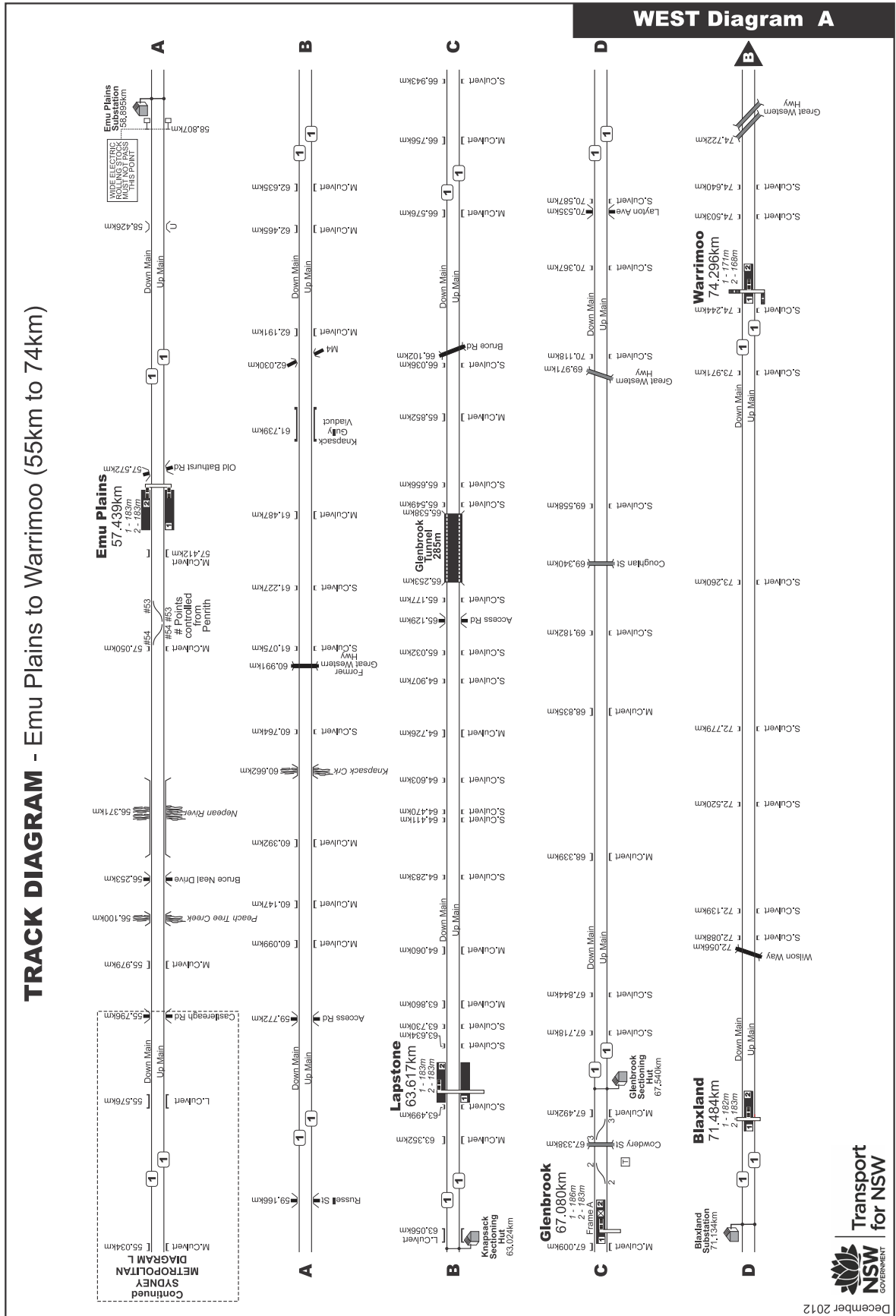
Western Division track diagrams

western
 track diagrams



2005

Figure 35 Western index



December 2012



Figure 36 Western A Emu Plains to Warrimoo (55km to 74km)

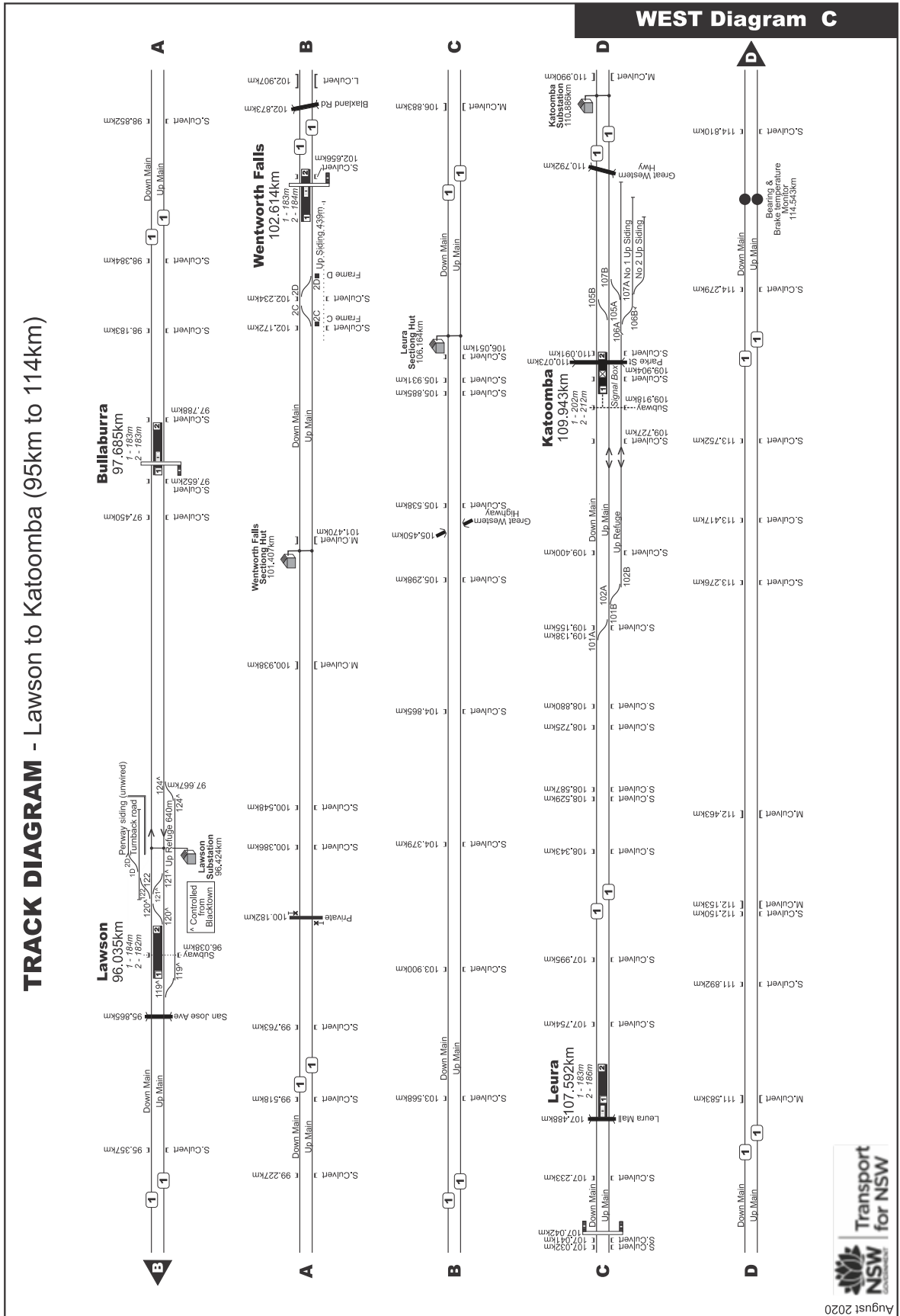


Figure 38 Western C Lawson to Katoomba (95km to 114km)

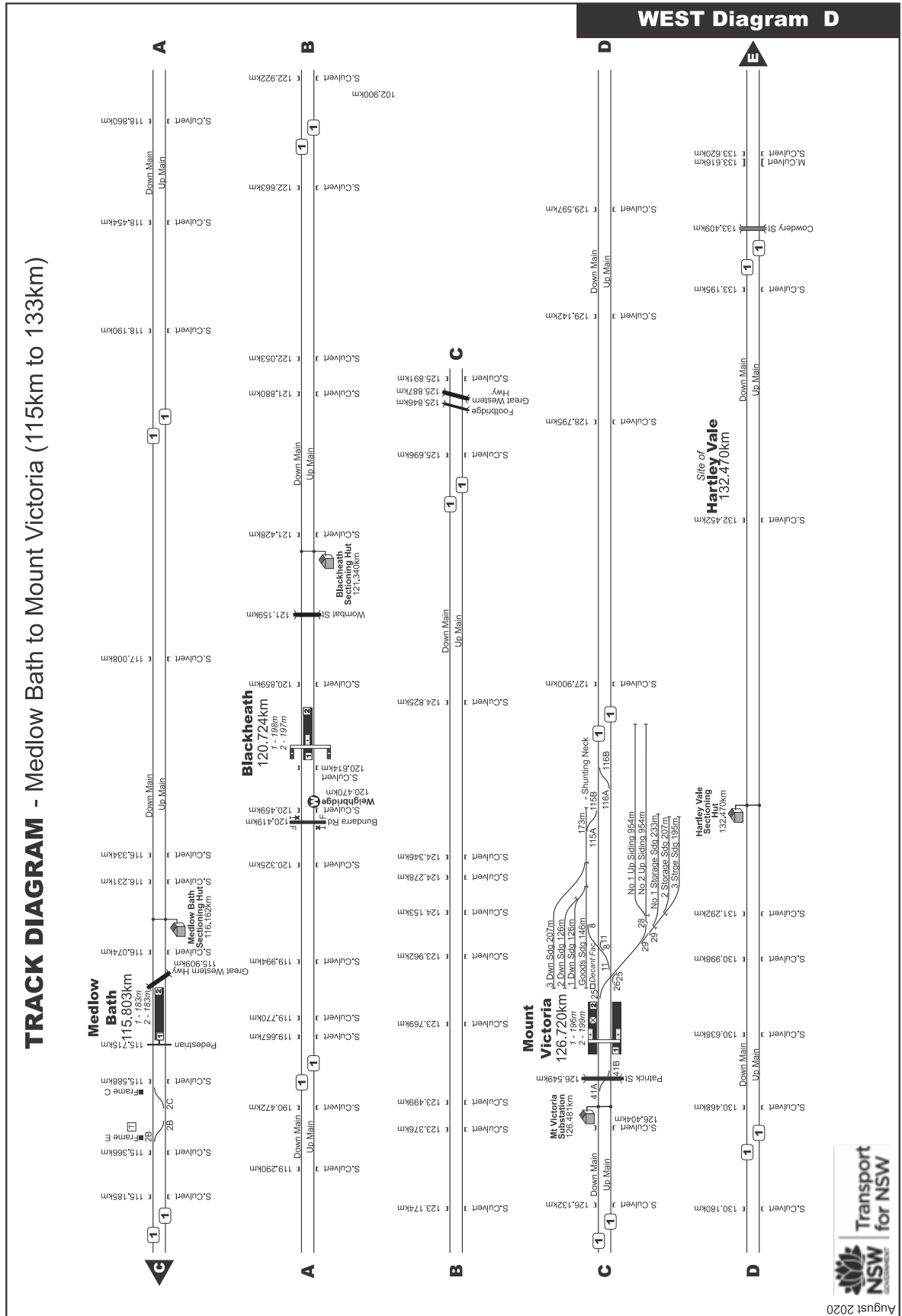


Figure 39 Western D Medlow Bath to Mount Victoria (115km to 133km)

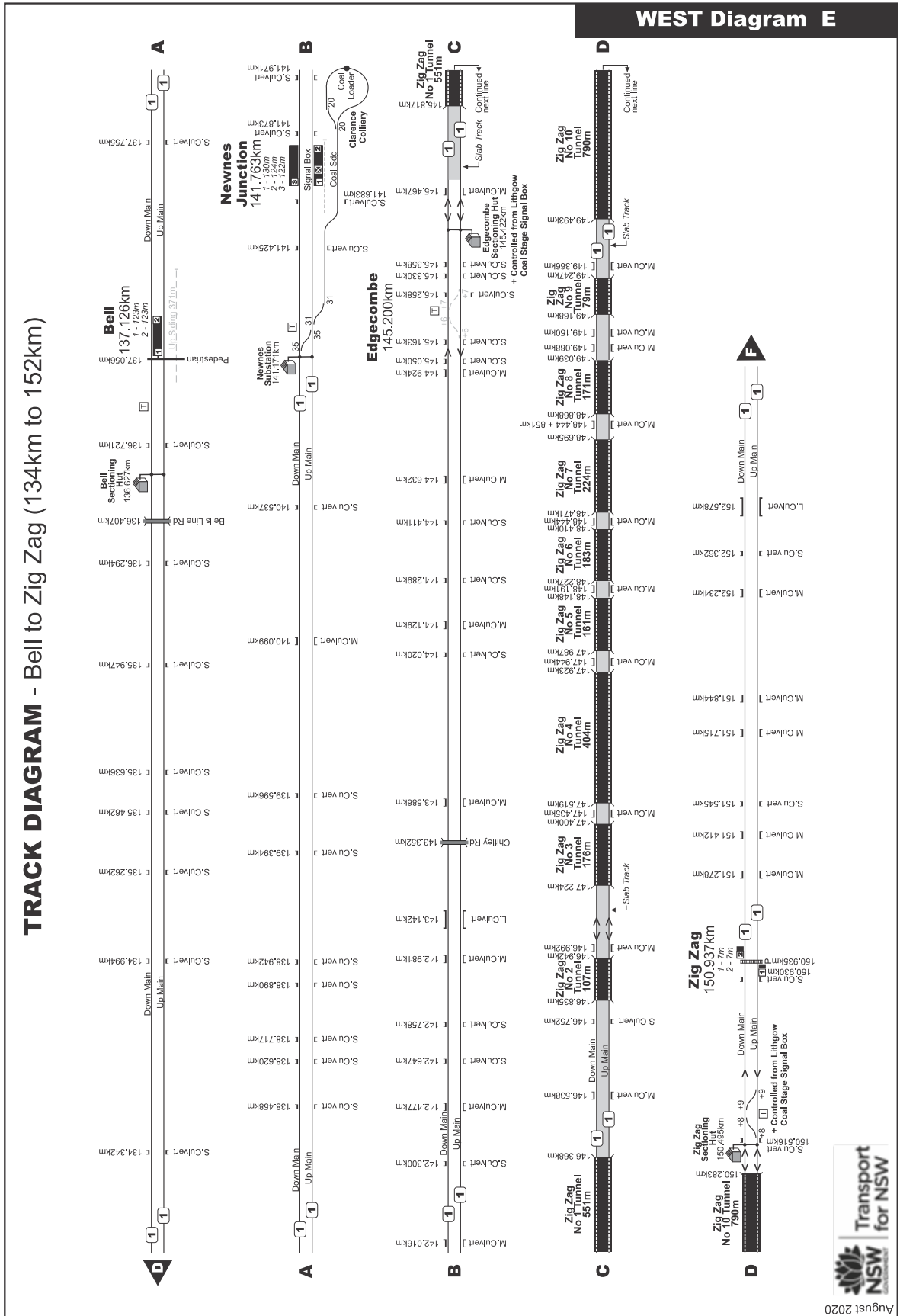


Figure 40 Western E Bell to Zig Zag (134km to 152km)

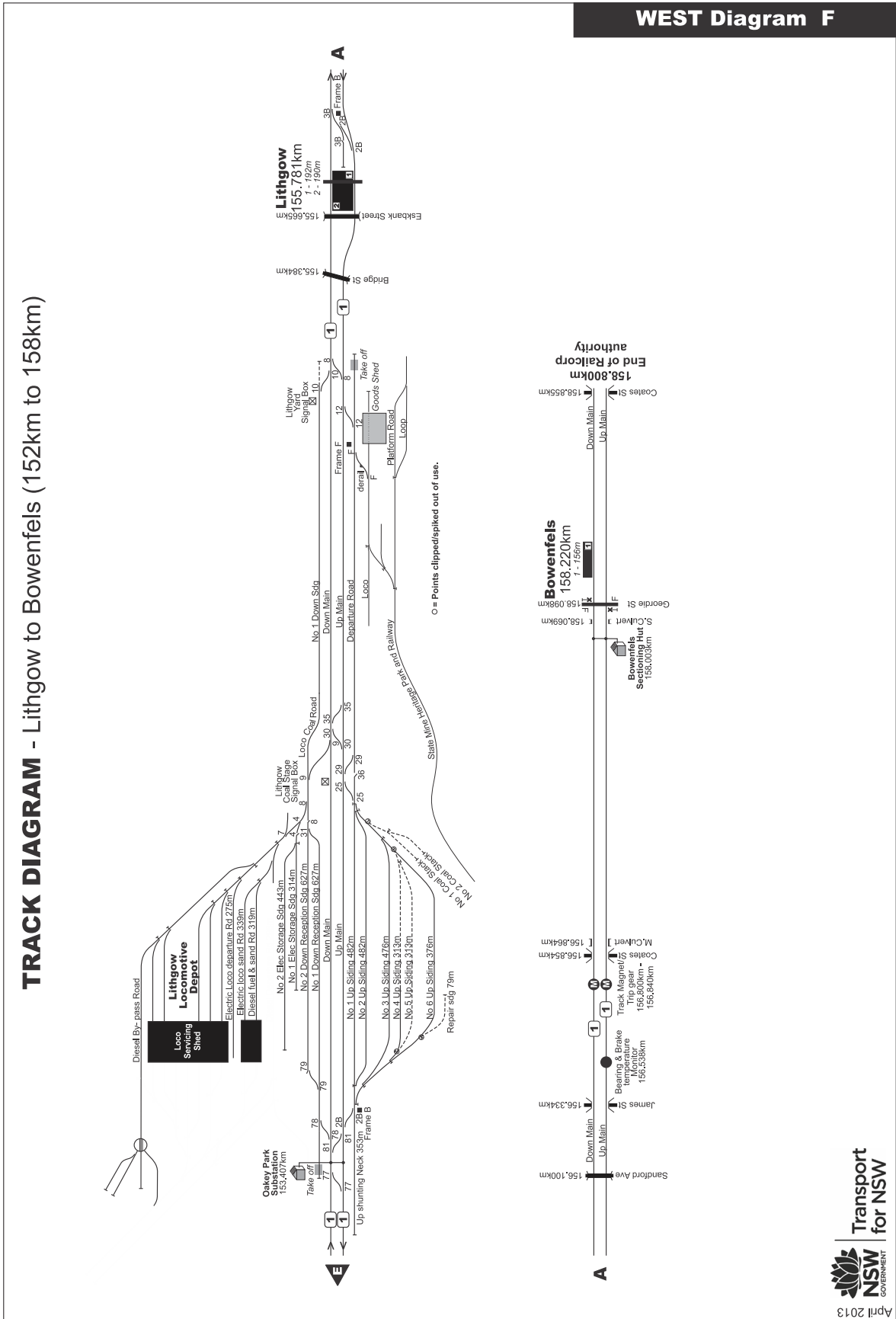


Figure 41 Western F Lithgow to Bowenfels (152km to 158km)

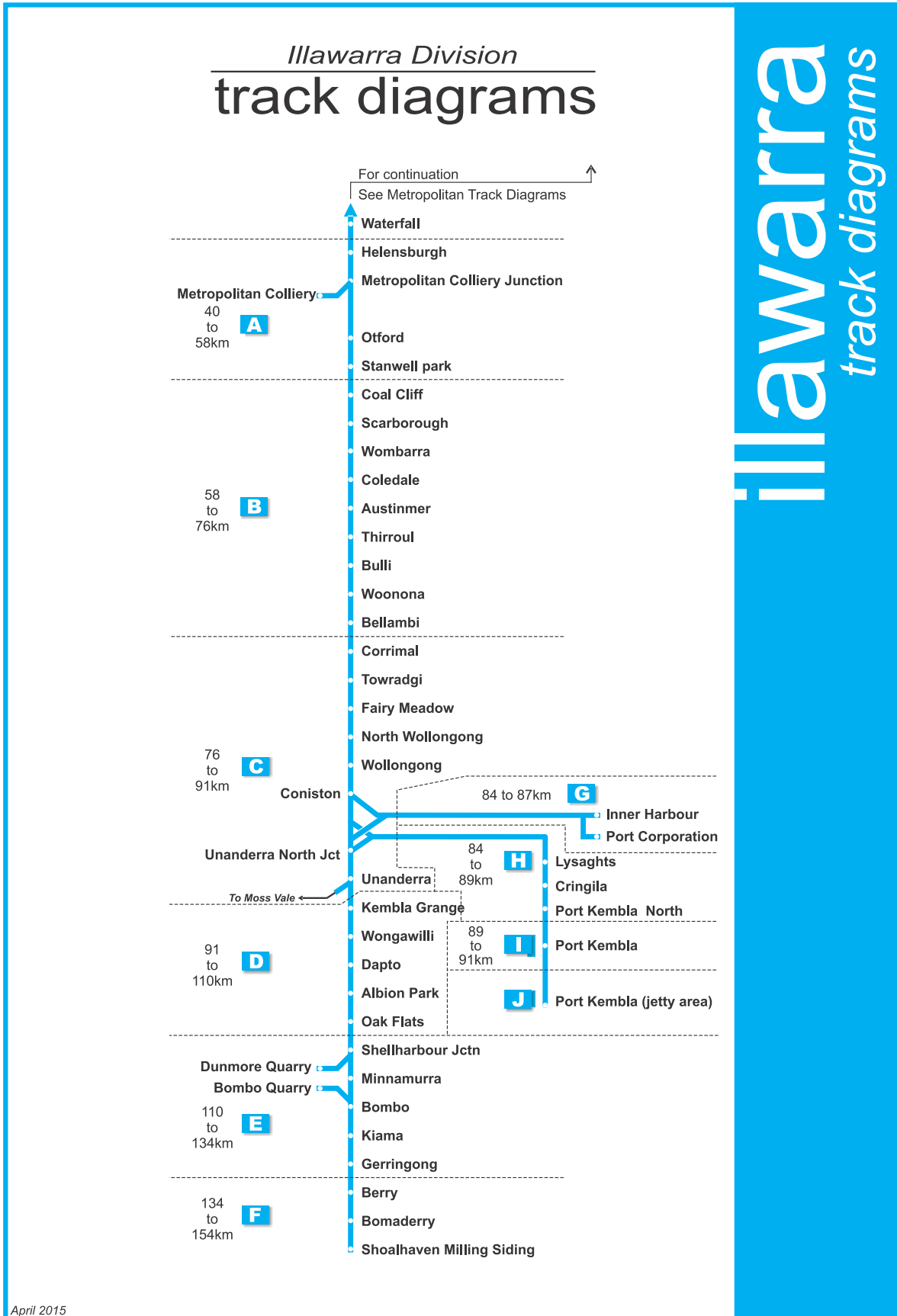


Figure 42 Illawarra index

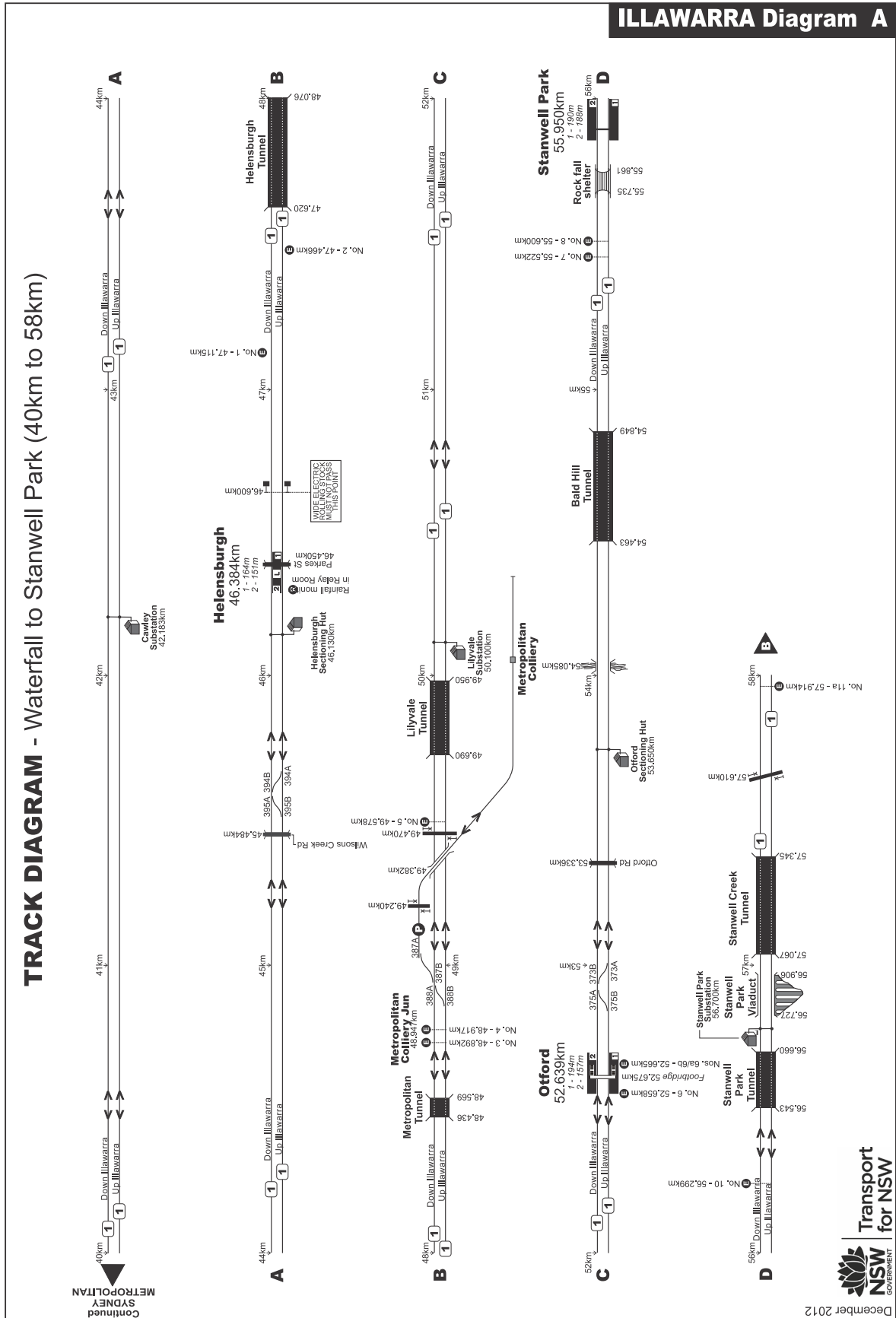


Figure 43 Illawarra A Waterfall to Stanwell Park (40km to 58km)

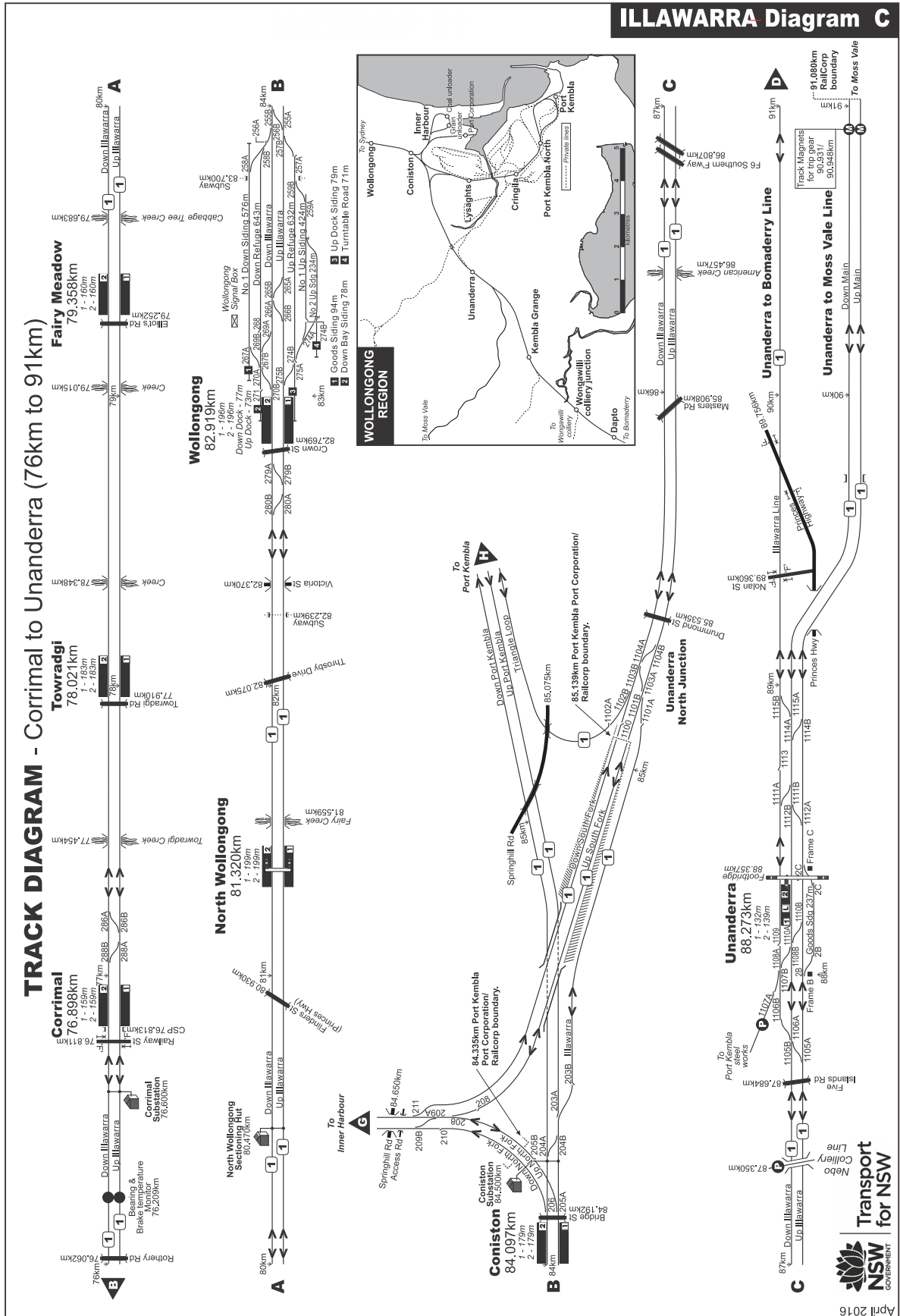


Figure 45 Illawarra C Corrimal to Unanderra (76km to 91km)

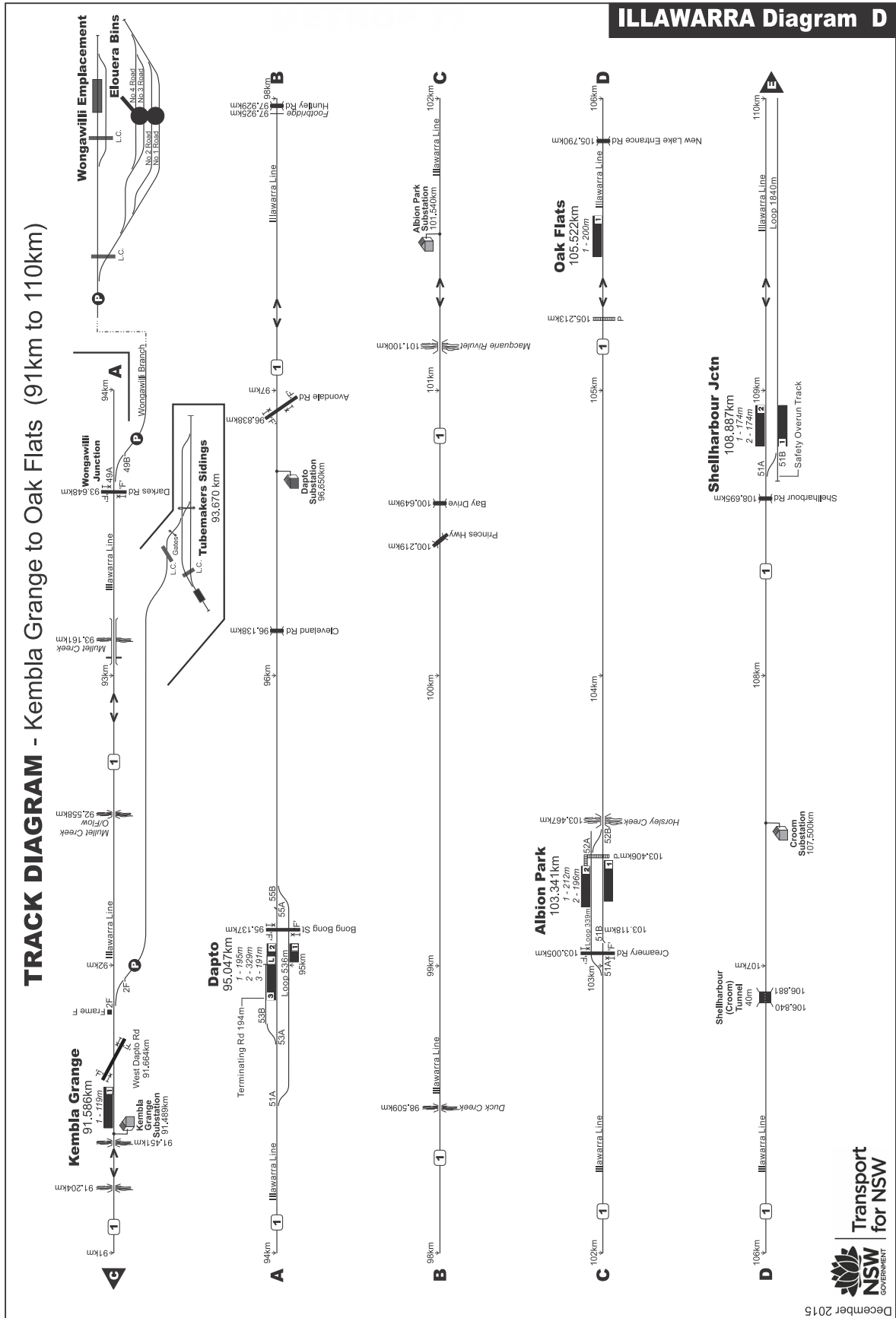


Figure 46 Illawarra D Kembla Grange to Oak Flats (91km to 110km)

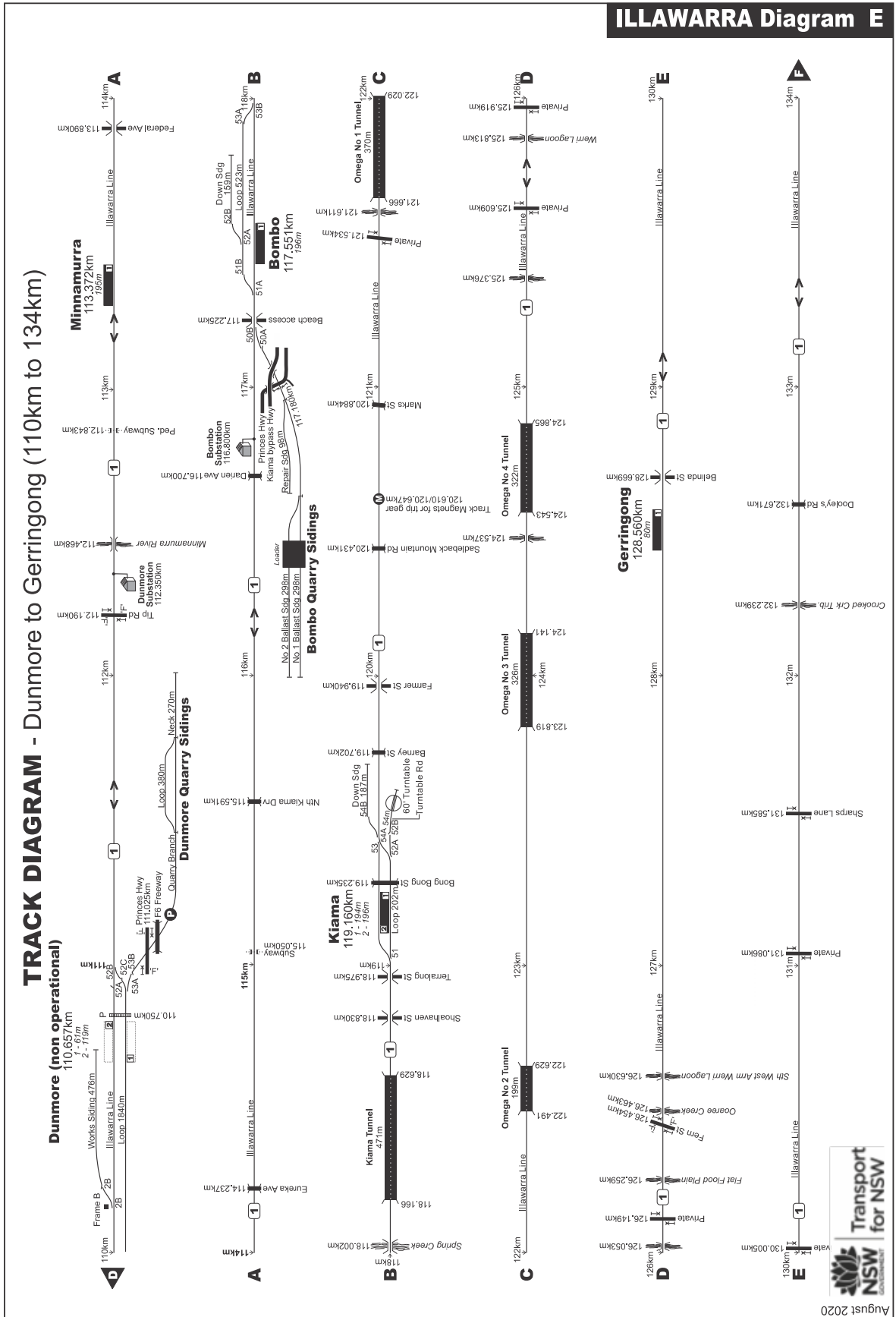


Figure 47 Illawarra E Dunmore to Gerringong (110km to 134km)

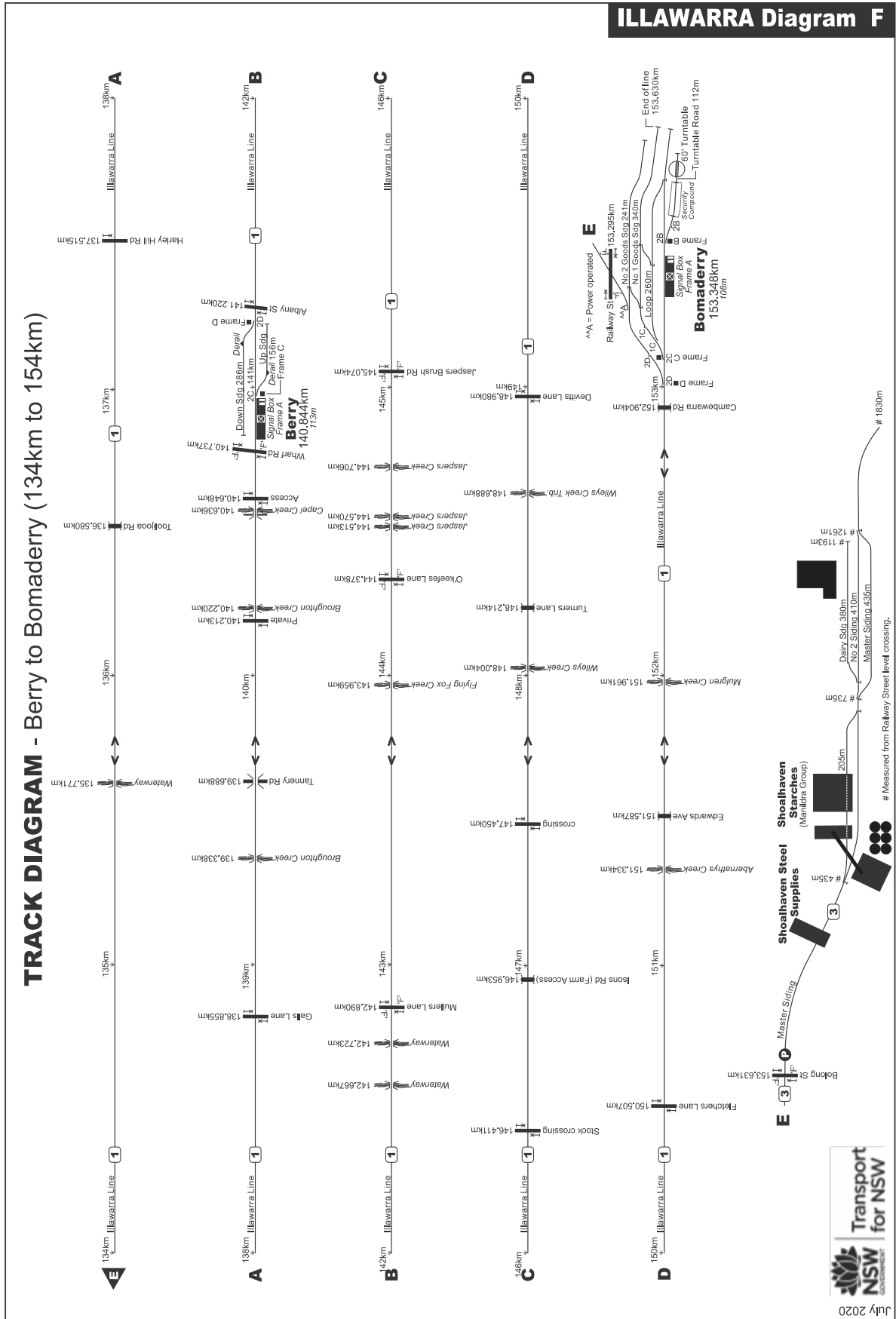


Figure 48 Illawarra F Berry to Bomaderry (134km to 154km)

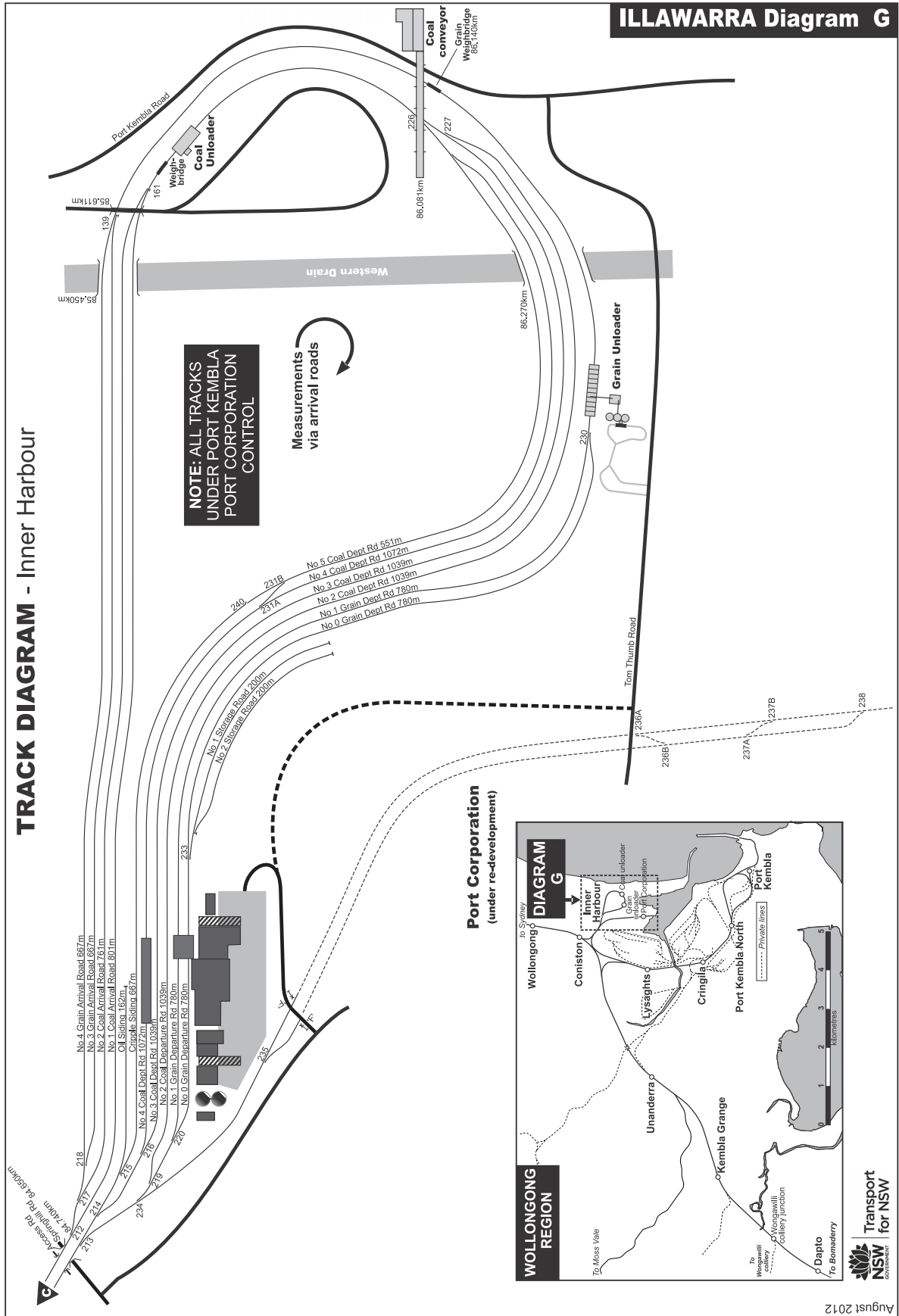


Figure 49 Illawarra G Inner Harbour

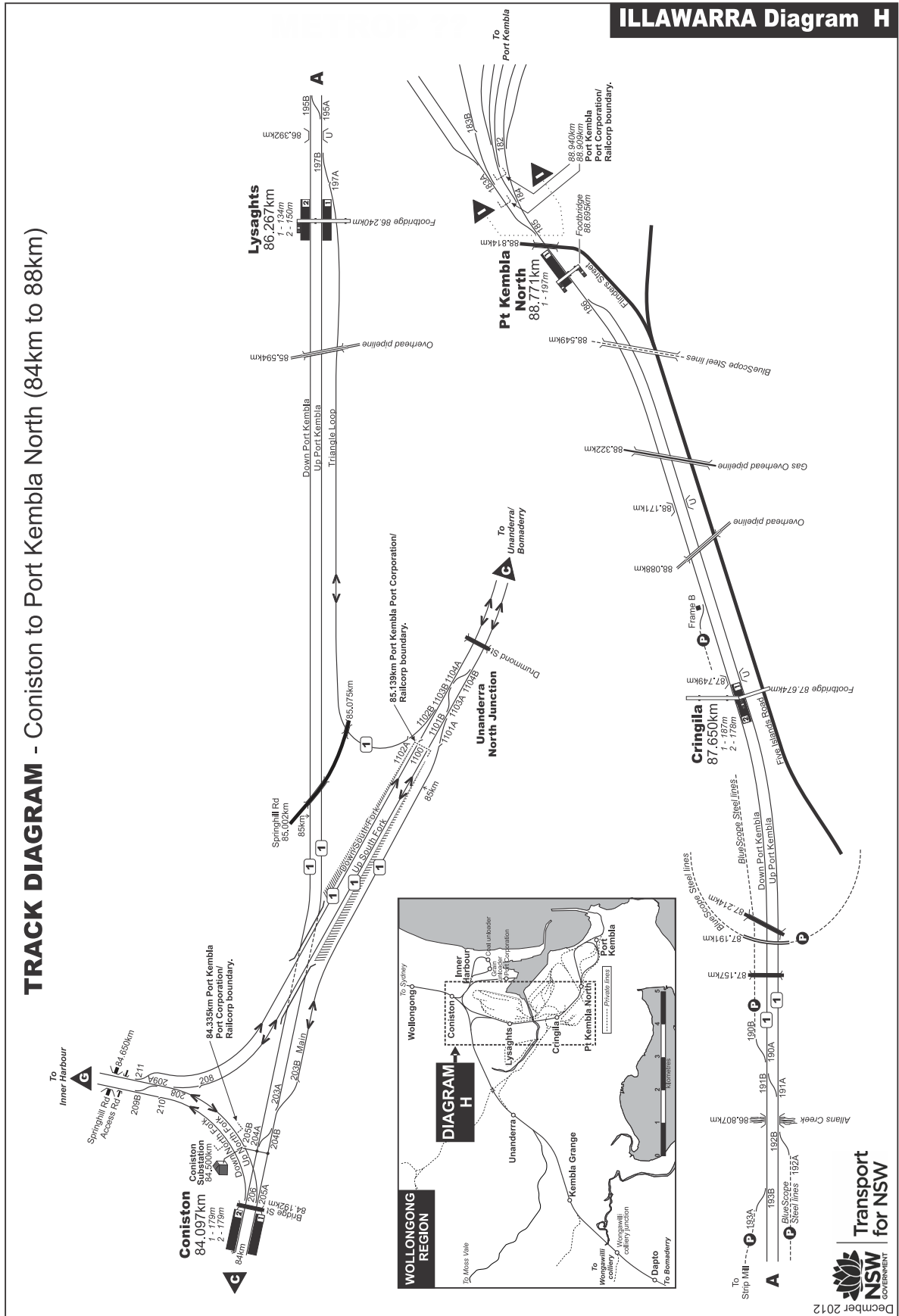


Figure 50 Illawarra H Coniston to Port Kembla North (84km to 88km)

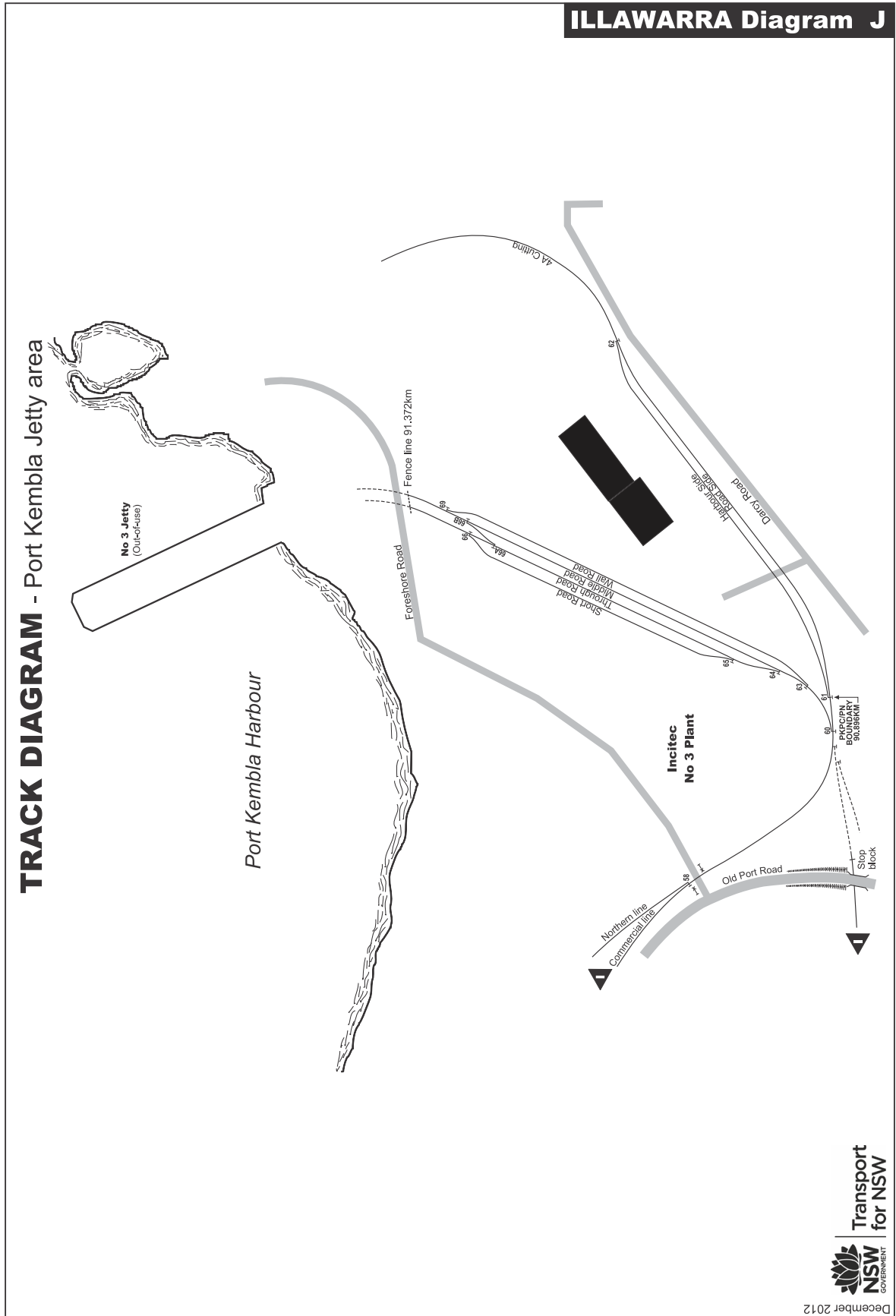


Figure 52 Illawarra J Port Kembla Jetty area