



Public Transport Authority

Manual Rail Access

Current	8800-400-001	Rev 22.00	UNCONTROLLED IF PRINTED
Date Approved: 30/08/2021	© PUBLIC TRANSPORT AUTHORITY OF WESTERN AUSTRALIA 2021		

Document History and Governance

Document Governance

	Role
Document Owner	Asset Management & Infrastructure Operations Manager

Document Authorisation and History

Rev	Date Approved	Prepared by	Reviewed by	Authorised by	Comments
8.5	01/09/2015	B Buckless	B Buckless	-	Addition of train Speeds. Changes to Joondalup Line hatch areas.
8.6	19/02/2016	B Buckless	C Hugo – A/Track Infrastructure Maintenance Manager	B Buckless – A/Manager Track & Structures	Include City to Claisebrook. Amended terminology to Controlled Absolute Signal. Esplanade Station changed to Elizabeth Quay where possible.
9.0	13/06/2017	M Keller	T Morse - Asset Information Manager	B McKenry - Planning & Infrastructure Performance Manager	Update document format, review asset locations.
9.01	14/06/2017	M Keller	T Morse - Asset Information Manager	B McKenry - Planning & Infrastructure Performance Manager	Update Perth Precinct and precaution warnings.
10.0	24/11/2017	M Keller	T Morse - Asset Information Manager	B McKenry - Planning & Infrastructure Performance Manager	Major amendments to contents.
10.01	14/12/2017	M Keller	T Morse - Asset Information Manager	B McKenry - Planning & Infrastructure Performance Manager	Minor change to Joondalup Line page no's 9, 12, 13, 18 and 21.

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10.02	03/07/2018	W Hampton, Spatial Data Manager	T Morse - Asset Information Manager	B McKenry - Planning & Infrastructure Performance Manager	Minor & minor changes to page's 8, 9, 14, 15, 23, 45, 47-51, 53-56, 70-75, 80, 81, 87, 89, 96
11.00	01/11/2018	W Hampton, Spatial Data Manager	T Morse - Asset Information Manager	B McKenry - Planning & Infrastructure Performance Manager	Major Changes to all pages for Bi- Directional to Station Limits. Minor edits for most pages.
12.00	10/01/2019	W Hampton, Spatial Data Manager	T Morse - Asset Information Manager	K Irvine - Planning & Infrastructure Performance Manager	Minor changes to page no's 8,13,14, 21,23,34,45,47,54-59,61,63,68,74,75,80,73,91,92
13.00	27/06/2019	W Hampton, Spatial Data Manager	T Morse - Asset Information Manager	N.Gravett - Asset Management & Infrastructure Operations Manager	Changes to page no's 6, 8-21, 23, 24, 26-28, 30, 33-42, 44, 45, 47-51, 53, 55, 58-61, 63, 64, 68, 70, 72-76, 78-81, 87-92, 96-102, 105-113, 116
14.00	09/08/2019	Joseph Poh, Ellipse Configuration Coordinator	Troy Morse, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	Updates to 19 pages, ie: 30 45 49 51 55 59 70 71 74 76 80 81 82 83 84 85 87 90 97
14.01	13/08/2019	Joseph Poh, Ellipse Configuration Coordinator	Troy Morse, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	Updates to pages 83-86
15.00	08/11/2019	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Graphical Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	Updated Traction Power Supply System: P105 Updated Bridge: P74 Updated PYE 834 Points: P51,73 Added 8110-100-015 to Table 1: Related Documents: P5 Added Access Gates: P36,109 Added Track Trolley Locations: P9,24,48,74,75 Added Track Trolley Symbol: P98
16.00	12/12/2019	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Infrastructure Performance & Reliability Engineer	Nigel Gravett, Asset Management & Infrastructure Operations Manager	Realign 03KM Peg: P55 Added/Updated Mint Street Isolators: P57,58 Added Ped Subway to Stirling Underpass: P78

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16.01	23/03/2020	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Graphical Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	100 Speedboard KM updated: P38 Mint Street Isolators KM updated: P56, 57, 58
17.00	27/08/2020	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	Minor Correction (Up/Down Main): P40 Removed Moore Street Boom Gates: P52, 53, 74 Updated Symbols Legends: P98 Updated Crash Barriers: P118-120 Updated network boundary: P70, P87 Added Track Trolleys: P45, 47, 60, 76
18.00	9/11/2020	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	Added Theatre Route Indicator to Signal 268: P51,52,74 Added new Signal 294: P11,50,51,75 Updated Signal 291 KM: P11,50,51,75
19.00	29/03/2021	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	Edit Sutherland St Rd Bridge: P75, Signal 225 KM Typo: P53, Catch Point 1063: P20 Removed Speed Signal 20: P94
20.00	05/05/2021	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	<u>FAL Stage 6A Shutdown Project</u> Added PED Gates 5.140KM & 5.886KM, Vehicle Gate 4.910KM, Future FAL Main Lines, Dive, Overbridge (Up Main 5.664KM), Temporary On-Tracking Facility 4.835KM, 2 Clipped Points (Down Main 5.122KM & Up Main 5.127KM, Not Operational): P93, 109 Updated No Place Of Safety KM, PED & Vehicle Gate Locations: P93, 118-119 Removed Vehicle Gates 5.250KM & 5.255KM: P93 <u>Claremont Project</u> Added Siding 11.801KM (Claremont) & Siding 12.255KM (Swanbourne): P10, 73, 81

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					<p>Added Signals 308, 312 (Fixed At Red), 336, 337 (Dwarf), 339 (Dwarf) & 341, Speed Boards 55, 65, 75, 85 & 90, Points 868A, 868AF, 868B, 869A, 869AF, 869B, 869BF, 870, 870F, 871A, 871AF, 871B, 871BF & 872, LOS Board 12.026KM, PED Underpass 11.752KM: P80-81</p> <p>Updated Signals 300, 309 & 311 KM, Points 863B & 863BF, Station Limits (Up/Down Main): P80-81</p> <p>Removed Signals U115 & D122, Speed Boards 50, 80, 85 & 90, PED Mazeway (Claremont Stn 11.587KM): P80-81, 109</p> <p><u>Denny Ave Project</u></p> <p>Added Signals U242, U248 & D253, On-Tracing Facility 23.525KM, Davis Road 24.970KM including Rail Over Road Underpass & No Place Of Safety: P65-66, 109</p> <p>Updated Speed Board 90 (24.732KM) to 100: P65</p> <p>Removed Signals U244 & U249, Denny Ave including both Level Crossings & PED Mazeways: P66, 109</p> <p><u>Other Amendments</u></p> <p>Updated typo error: P102</p> <p>Updated Line footers where required (Display full wordings)</p>
21.00	5/08/2021	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	<p>Updated Unwired Track (Wheel Lathe Building, Nowergup): P23</p> <p>Updated Sig 220 KM: P55</p> <p>Updated Bayswater Station No Place Of Safety & Project Site Indicated: P92, 93</p> <p>Updated Hamilton St and Queens Park KM: P109</p>

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					Updated document title from Guideline to Manual and revised terminology in Section 2 accordingly: P9
22.00	30/08/2021	Joseph Poh, Ellipse Configuration Coordinator	Paul Morris, Asset Information Manager	Nigel Gravett, Asset Management & Infrastructure Operations Manager	<p><u>Abernethy Road Project</u> Updated Level and PED Crossings: P70 Updated PED Crossings: P109</p> <p><u>Nowergup Upgrade Project Stage 1</u> Added Refurbishment Maintenance Shed (Track 19) and Unwired Road : P23</p> <p><u>TCL Bi-Directional Project</u> Updated Rail and Signals Bi-Directional: P35 to P42 Added Signal Symbol: P101 Updated Vehicle Gate Location: P112</p>

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Related Documents

Table 1: Related Documents

Document Number	Name
8110-400-029	Applying for Access to the PTA Operating Railway Reserve
8110-100-015	Procedure Logging On and Off the Rail Reserve
9100-000-007	Public Transport Authority Safeworking Rules and Procedures
8103-400-004	Working in and Around the Railway Reserve

For more information on safeworking within the PTA railway reserve, please visit:

<http://www.pta.wa.gov.au/about-us/working-with-the-pta/safety-resources>

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1. DISCLAIMER

While the information provided is believed to be accurate, it may include errors, omissions or inaccuracies. This document is only a guide and a site specific safety assessment is still required to determine if a safe place exists and whether access and egress to these locations can be performed safely. The site specific safety assessment will determine what safeworking is required in accordance with **9100-000-007 – Public Transport Authority Safe Working Rules and Procedures**.

2. DOCUMENT PURPOSE

The purpose of this document is to provide internal and external personnel general and indicative information relating to the location and layout of assets required for accessing and working safely in the PTA railway reserve.

It is **mandatory** that any person wishing to enter the PTA railway reserve must have the appropriate level of rail safeworking accreditation for the work they are wishing to perform.

The procedure for applying to access the PTA railway reserve is covered by **8110-400-029 – Applying for Access to the PTA Operating Railway Reserve**.

3. AUDIENCE

This document is intended for use by internal and external personnel who plan, manage and coordinate work within the PTA railway reserve.

Table 2: Audience

Audience
Individual Access Accredited Personnel
Infrastructure Control Officers
Maintenance Planners
Possession Protection Officers
Project Managers
Project Planners
Protection Officers
Rail Infrastructure Access Planners
Supervised Workers
Train Control
Work Supervisors

Current

8800-400-001

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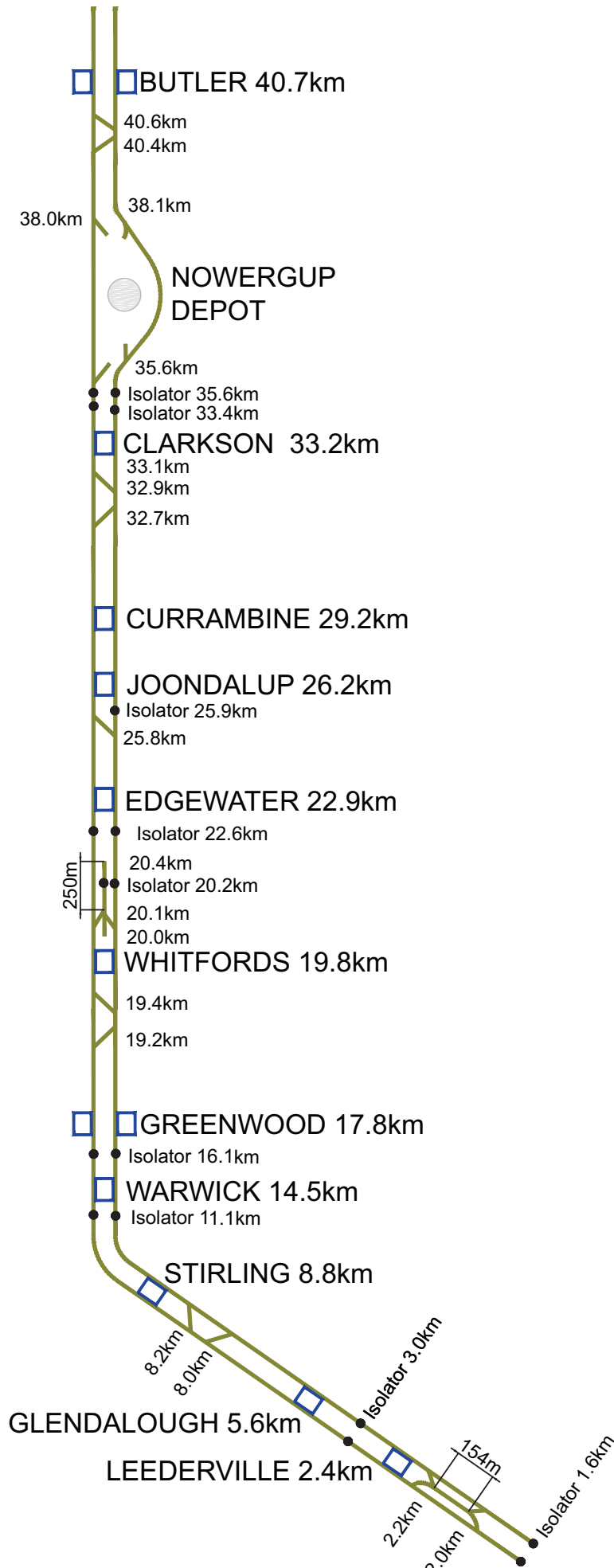
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PTA NETWORK MAP



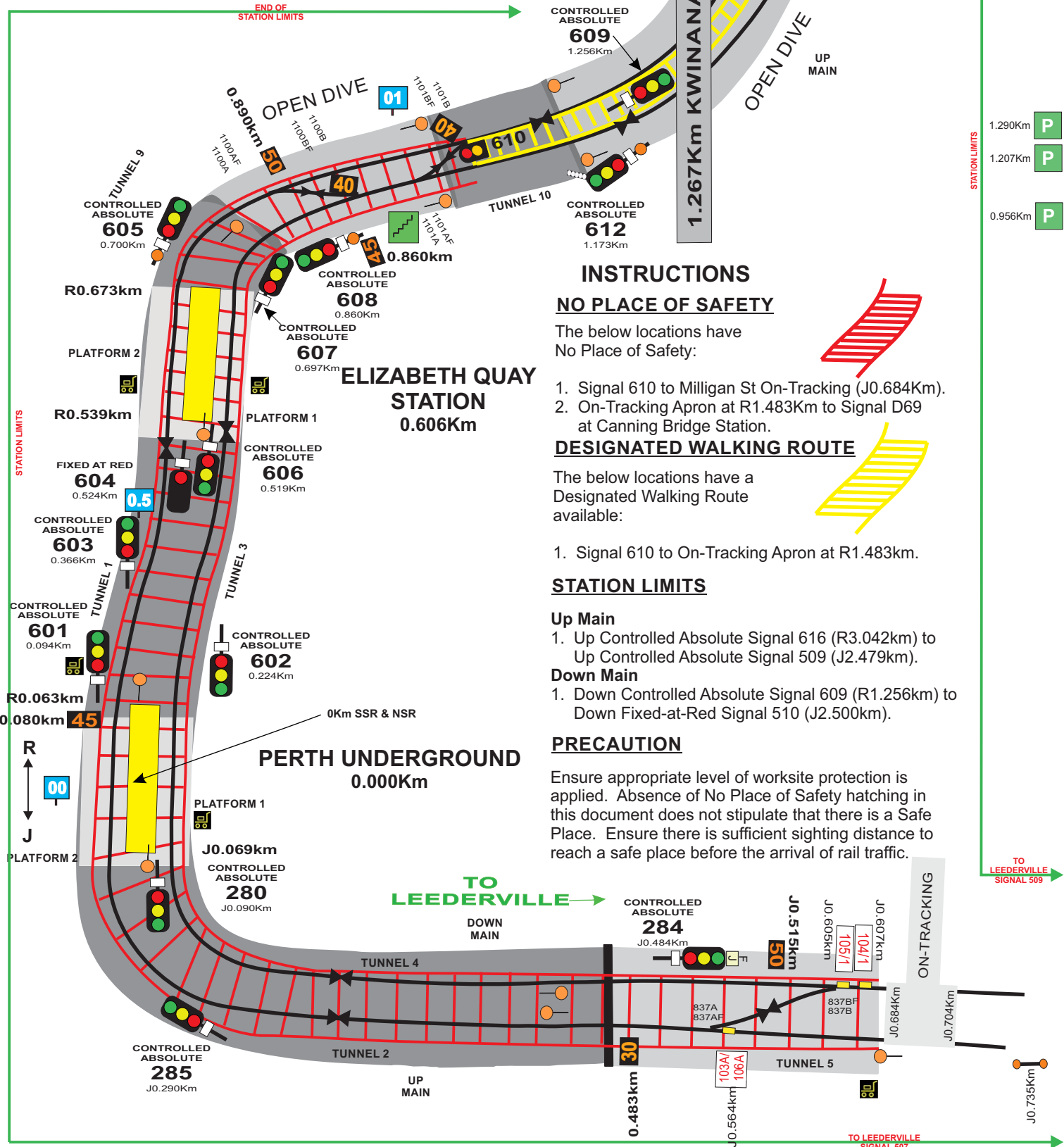
JOONDALUP LINE



NOTES

- Contact ICO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 1, 2, 3, 4, 5, 9 and 10.
- Track Trolley Locations:
 - Tunnel 1 - Down Main at R0.545Km and R0.075Km
 - Tunnel 3 - Up Main at R0.545Km
 - Tunnel 4 - Down Main at J0.075Km
 - Tunnel 5 - Up Main at J0.669Km

Note:
A -48m adjustment exists at 1.376Km
i.e 1.376 = 1.328



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

- Signal 610 to Milligan St On-Tracking (J0.684Km).
- On-Tracking Apron at R1.483Km to Signal D69 at Canning Bridge Station.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

- Signal 610 to On-Tracking Apron at R1.483km.

STATION LIMITS

Up Main

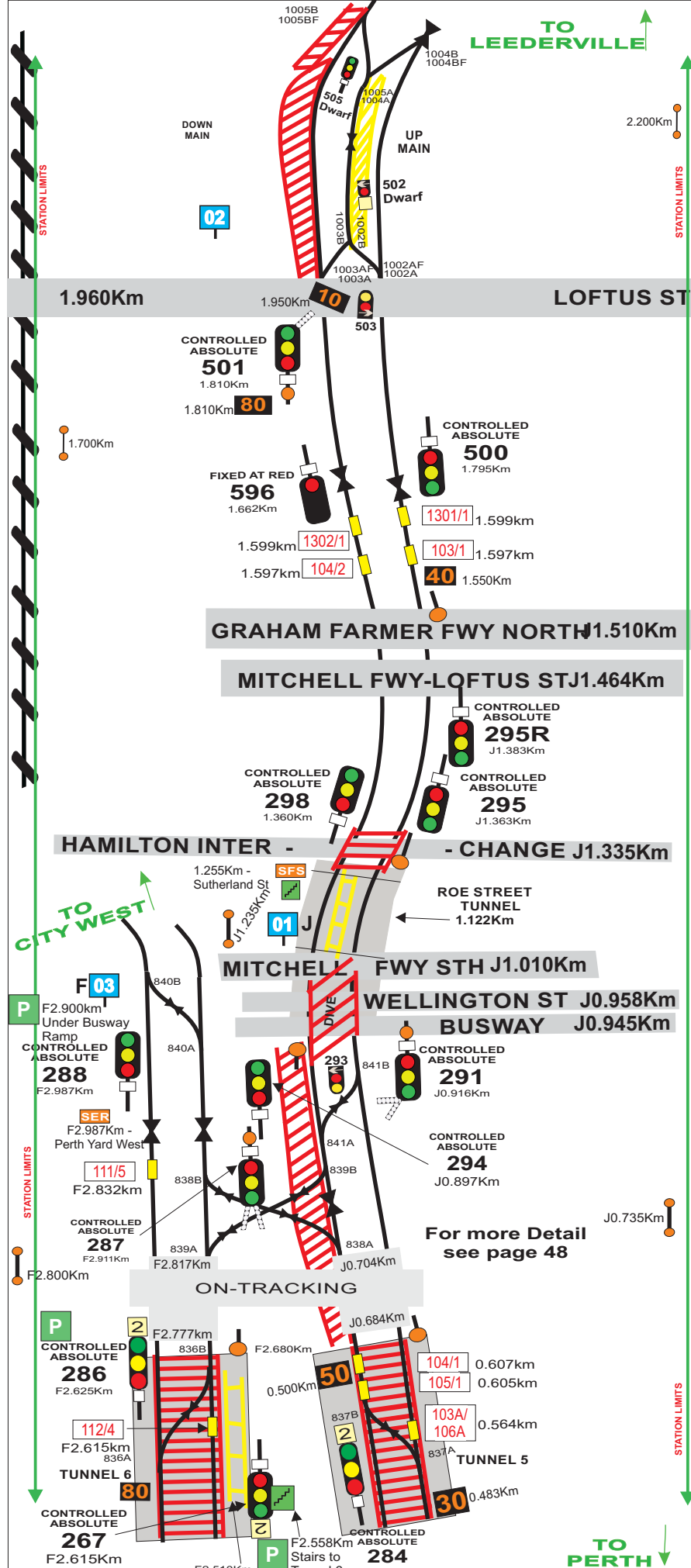
- Up Controlled Absolute Signal 616 (R3.042km) to Up Controlled Absolute Signal 509 (J2.479km).

Down Main

- Down Controlled Absolute Signal 609 (R1.256km) to Down Fixed-at-Red Signal 510 (J2.500km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Down Main Loftus Street to Signal 506.
2. Hamilton Interchange Bridge Tunnel.
3. Leederville End of Tunnel 5 Down Main to Perth End of Roe Street Tunnel, including dives.
4. Tunnel 5.
5. Tunnel 6.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Leederville Siding, Up Main.
2. Refer to page 48 for DWR in Tunnel 6

STATION LIMITS

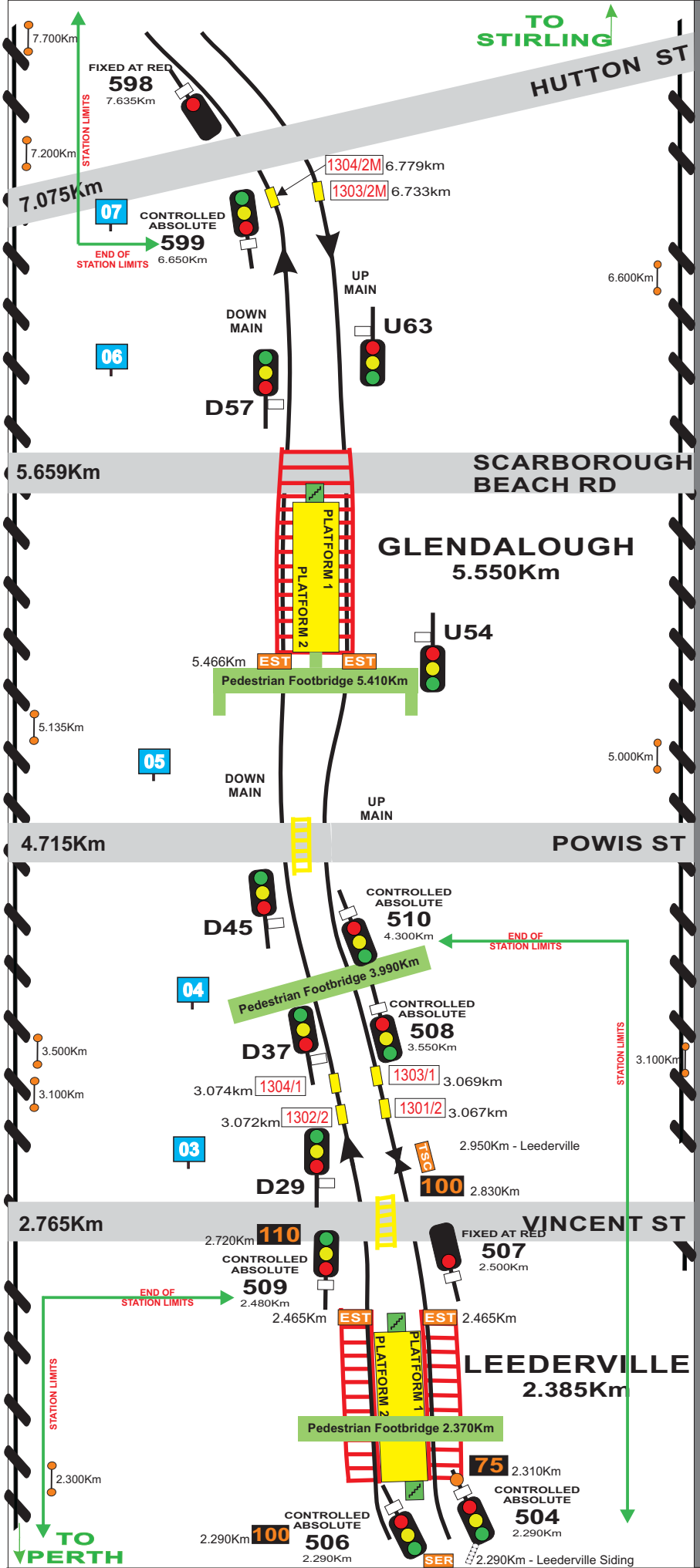
1. All areas.

NOTES

1. Contact ICO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 5 and Tunnel 6.
2. Roe St Tunnel Flashing Man and Tunnel Lighting is Manually Operated ONLY.
3. Rule 3011 must be used for accessing and egressing Roe St Tunnel while trains are running.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Scarborough Beach Road Bridge to Glendalough Station, Up and Down Main.
2. Leederville Station, Up and Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Powis Street Bridge.
2. Vincent Street Bridge.

STATION LIMITS

Leederville:

Down Main

1. Perth to Down Controlled Absolute Signal 509 (J2.480km).

Up Main

1. Up Fixed-at-Red Signal 510 (J4.300km) to Perth.

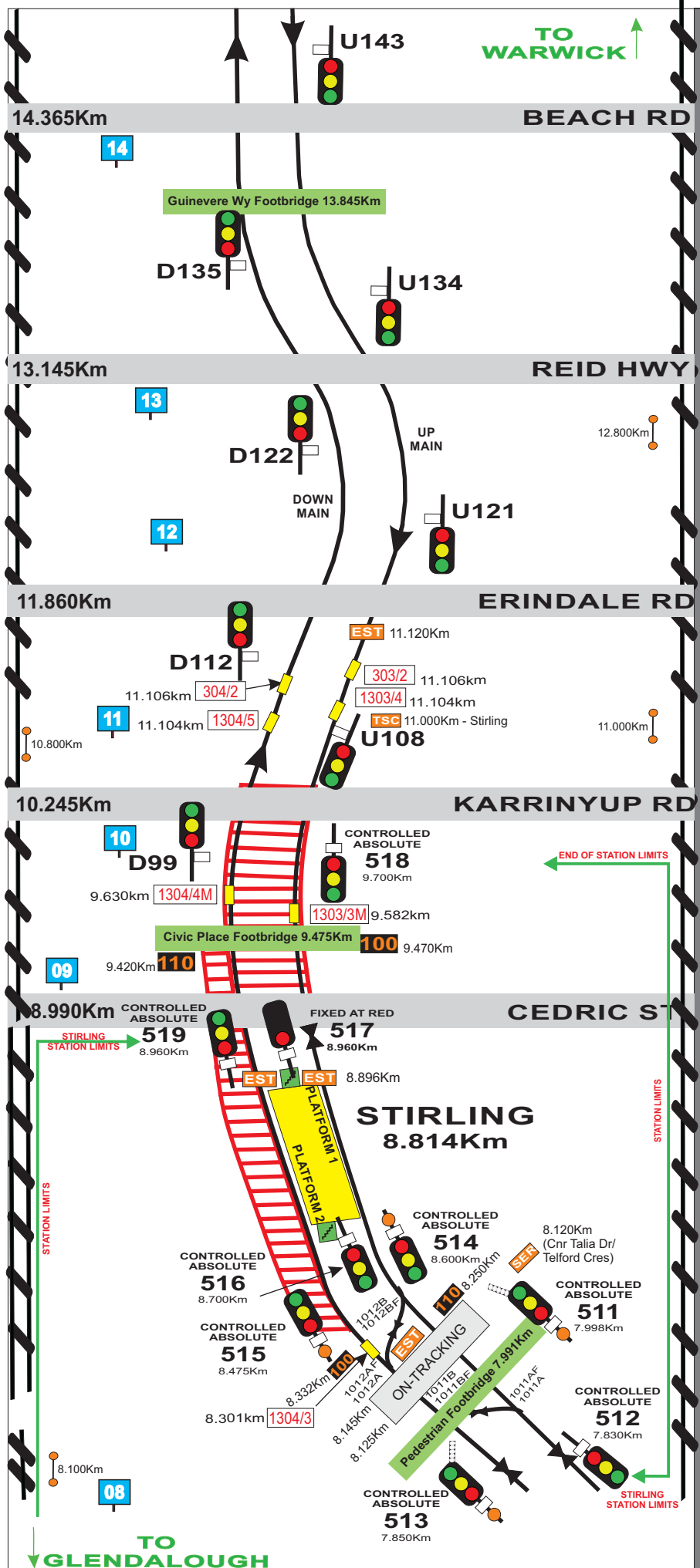
Stirling:

Down Main

1. Down Controlled Absolute Signal 599 (J6.650km) to Down Controlled Absolute Signal 519 (J8.960km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Karrinyup Road to Cedric Street, Up and Down Main.
2. 515 Signal to Civic Place Bridge, Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Nil.

STATION LIMITS

Down Main

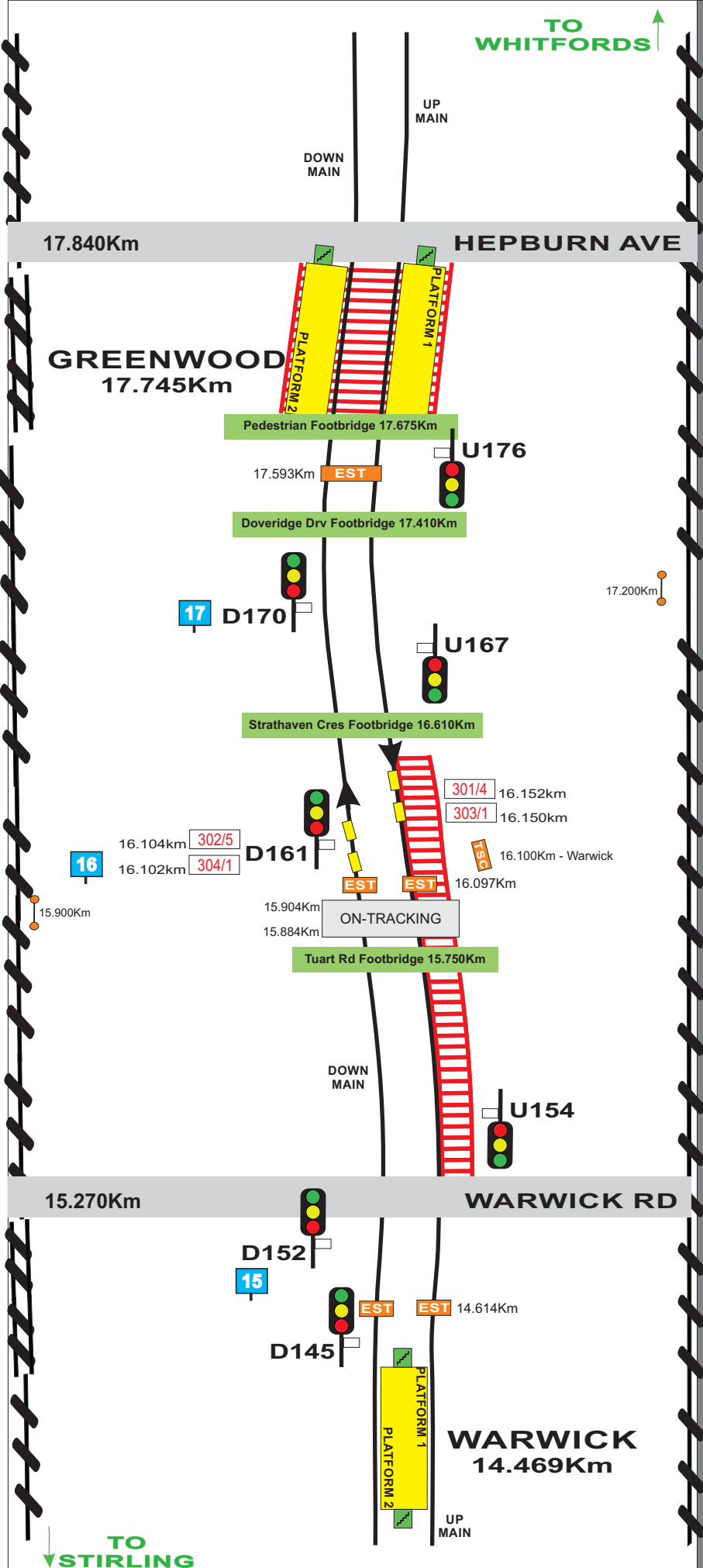
1. Down Controlled Absolute Signal 599 (6.650km) to Down Controlled Absolute Signal 519 (8.960km).

Up Main

1. Up Controlled absolute Signal 518 (9.700km) to Up Controlled Absolute Signal 512 (7.930km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Greenwood Station, Up & Down Main.
2. Signal U167 to U154.

DESIGNATED WALKING ROUTE

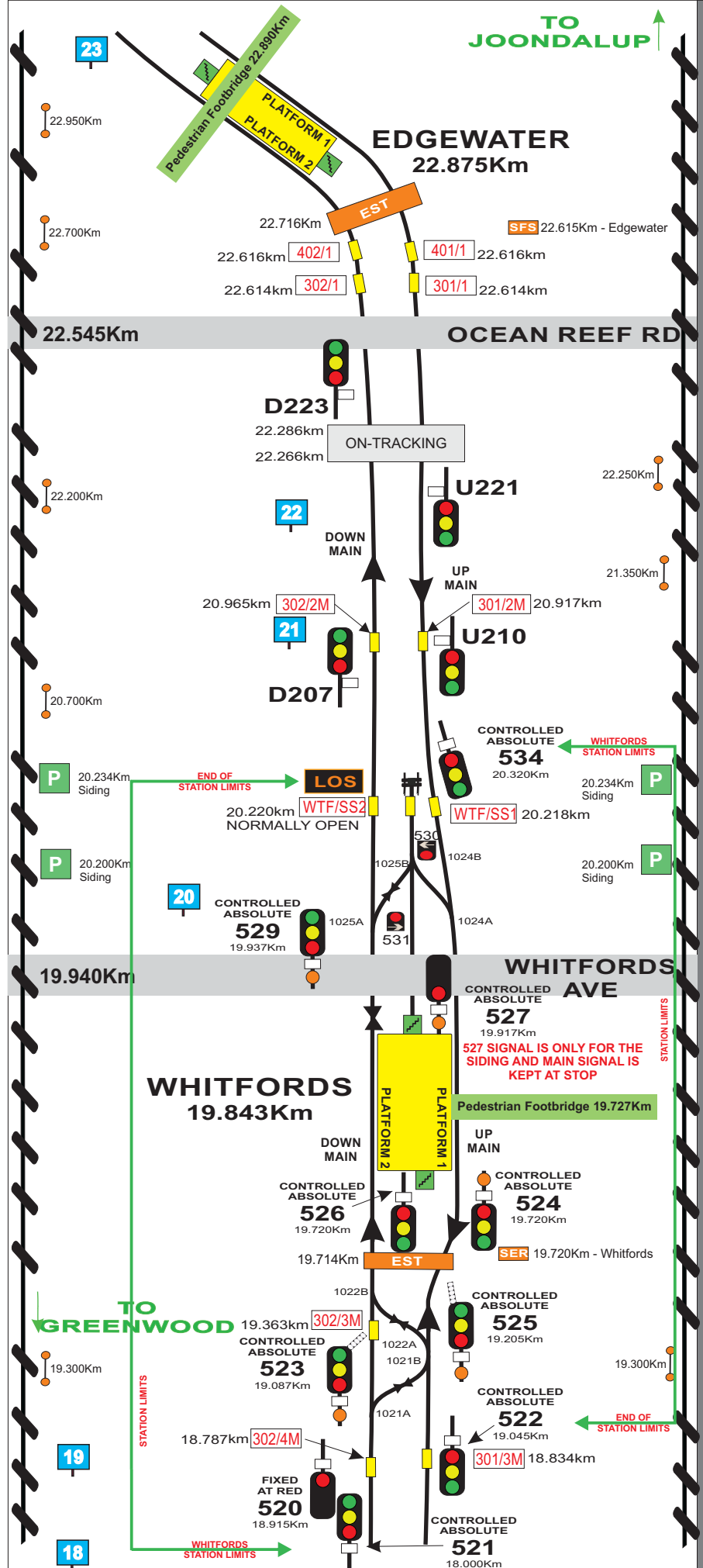
The below locations have a Designated Walking Route available.



1. Nil.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Nil.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Nil.

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 521 (18.000km) and LOS Board (20.263km) approx. 160m Clarkson side of 1025A Points Track Circuit.

Up Main

1. Up Controlled Absolute Signal 534 (20.320km) and Up Controlled Absolute Signal 522 (19.045km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO JOONDALUP ↑

P

25.398Km

25.380Km

HODGES DRV



STATION LIMITS ↑

25



CONTROLLED ABSOLUTE 542 24.830Km

END OF STATION LIMITS ←

25.308Km

P

25.300Km

INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Hodges Drive Tunnel.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Mitchell Freeway Tunnel.



STATION LIMITS

Up Main

1. Up Controlled Absolute Signal 542 (24.830km) and Up Controlled Absolute Signal 544 (26.110km).

24.600Km

MITCHELL FWY TUNNEL SOUTH



D243

24.174Km

EDDYSTONE O/PASS

24.021Km

402/2M

401/2M

24.069Km

24.100Km

24

23.610km

23.590km

ON-TRACKING

23.450Km



U233



D231

DOWN MAIN

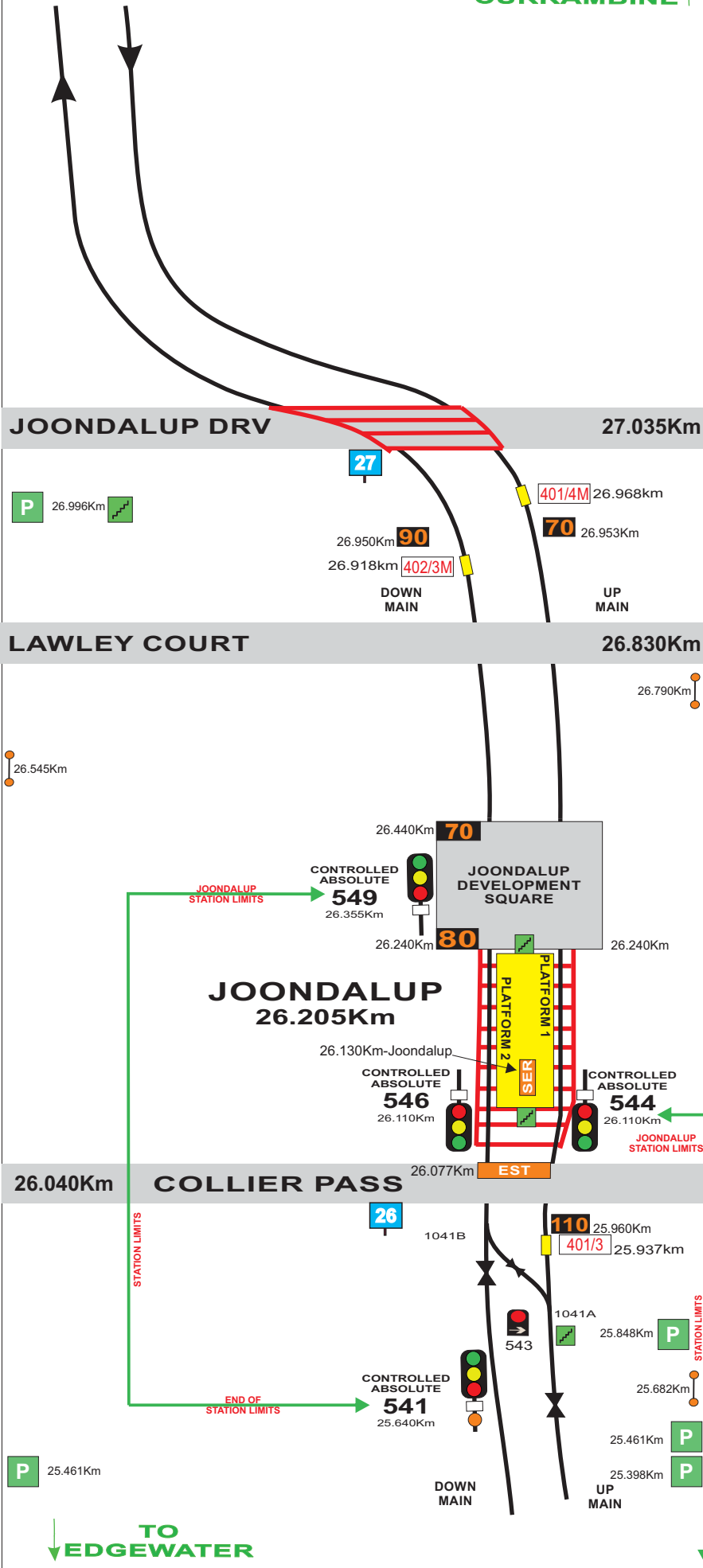
UP MAIN

TO EDGEWATER ↓

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO CURRAMBINE ↑



NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Joondalup Drive Tunnel.
2. Joondalup Station Up and Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Nil.

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 541 (25.640km) and Down Controlled Absolute Signal 549 (26.355km).

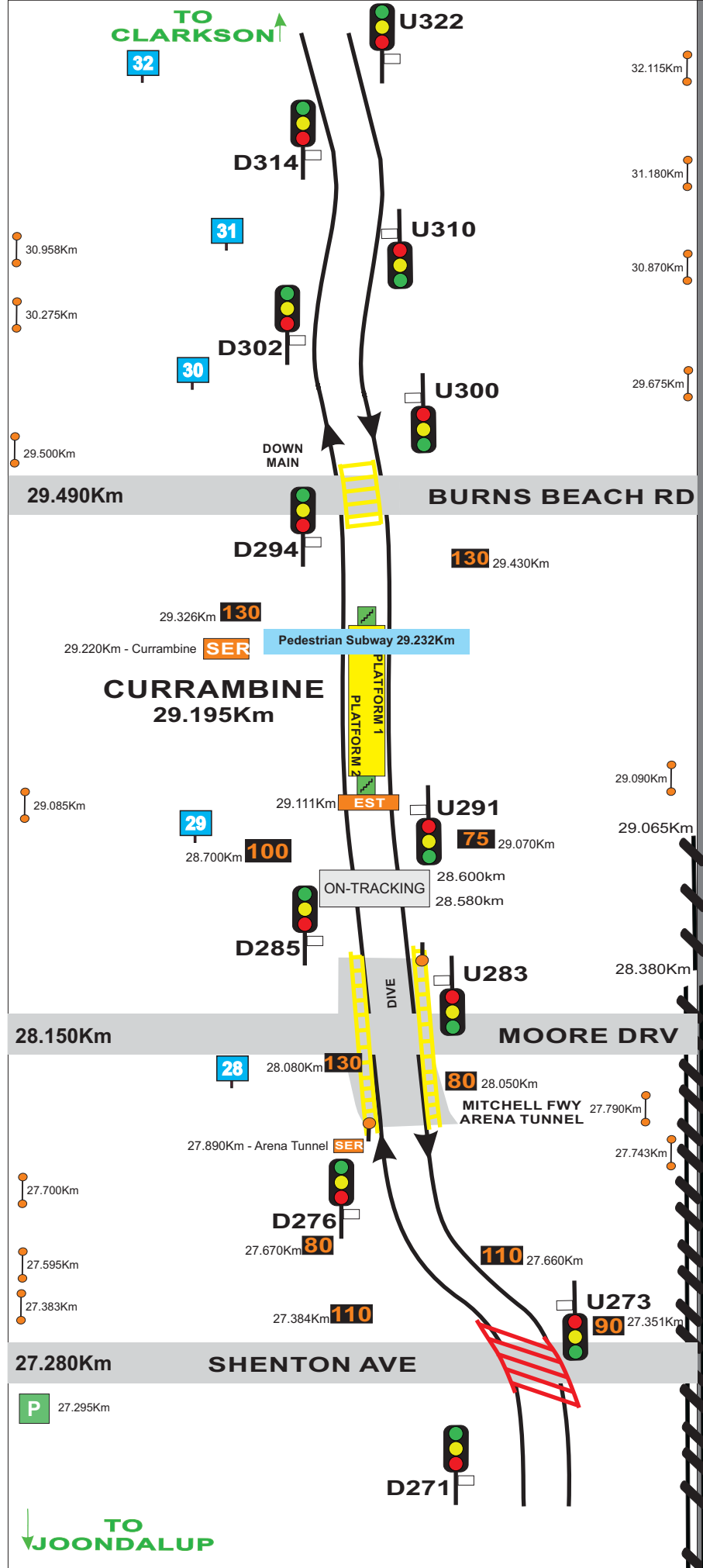
Up Main

1. Up Controlled Absolute Signal 542 (24.830km) and Up Controlled Absolute Signal 544 (26.110km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO CLARKSON ↑



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Shenton Avenue Tunnel.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Burns Beach Road Tunnel.
2. Mitchell Freeway Arena Tunnel Joondalup to Signal U283.

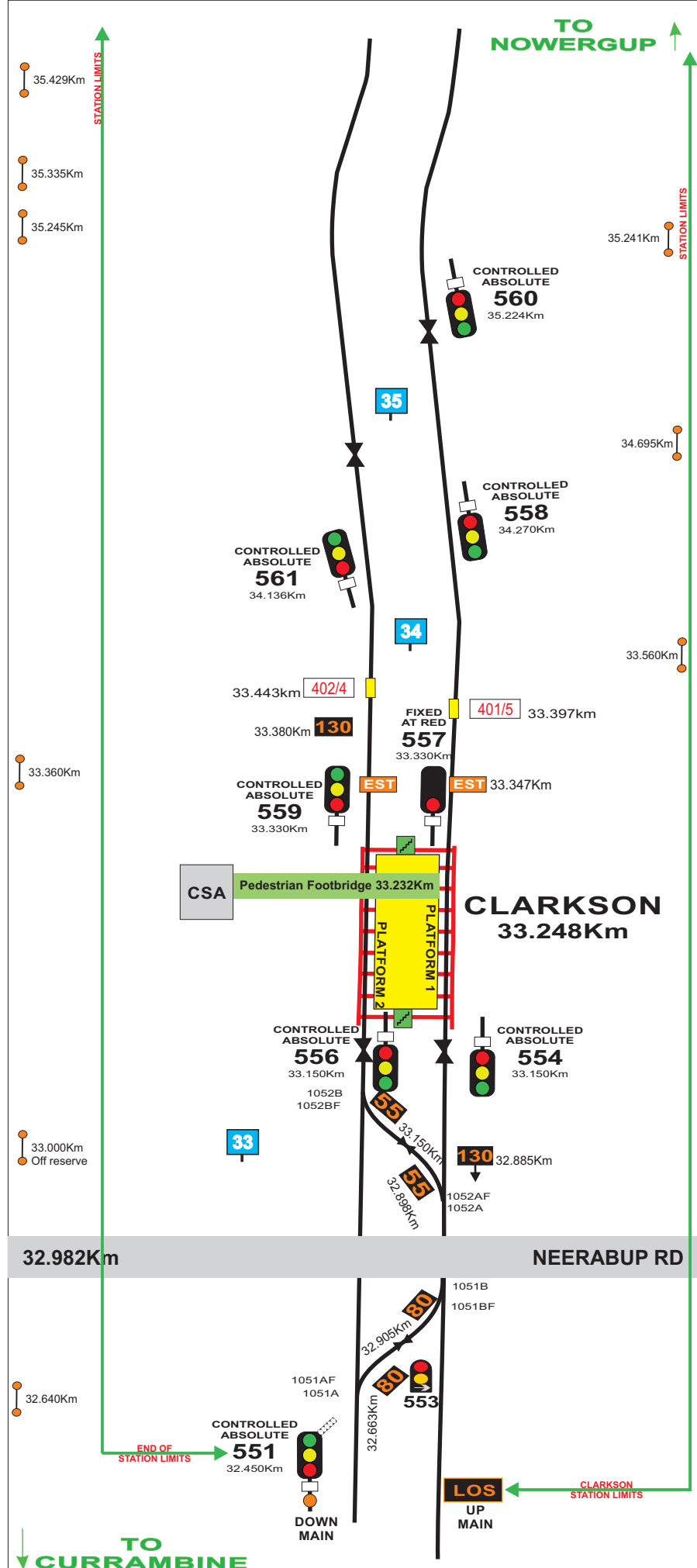


NOTES

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Arena Tunnel.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Clarkson Station.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Nil.



STATION LIMITS

Down Main

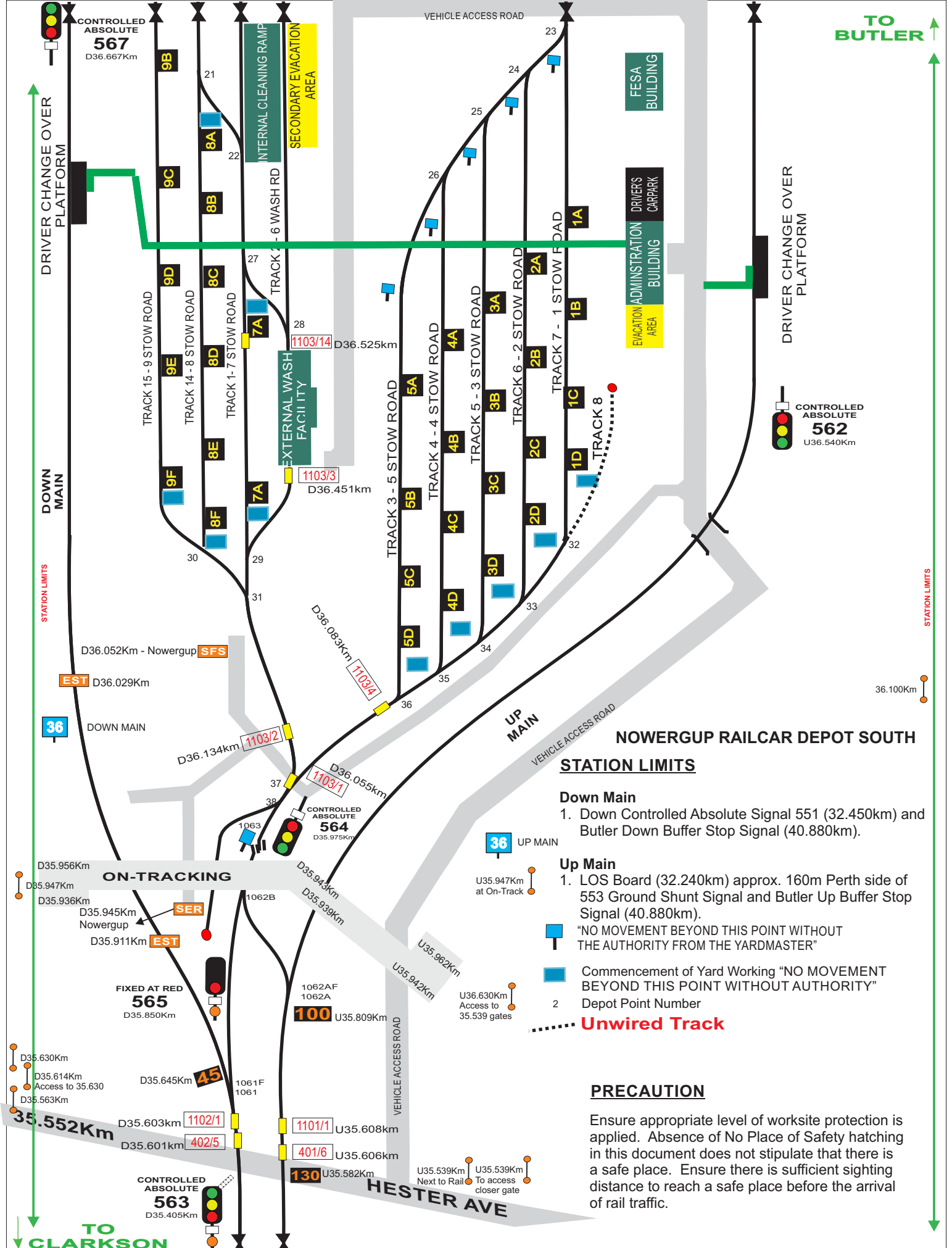
1. Down Controlled Absolute Signal 551 (32.450km) and Butler Down Buffer Stop Signal (40.880km).

Up Main

1. LOS Board (32.240km) approx. 160m Perth side of 553 Ground Shunt Signal and Butler Up Buffer Stop Signal (40.880km).

PRECAUTION




Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



**NOWERGUP RAILCAR DEPOT SOUTH
STATION LIMITS**

Down Main
1. Down Controlled Absolute Signal 551 (32.450km) and Butler Down Buffer Stop Signal (40.880km).

Up Main
1. LOS Board (32.240km) approx. 160m Perth side of 553 Ground Shunt Signal and Butler Up Buffer Stop Signal (40.880km).

-  "NO MOVEMENT BEYOND THIS POINT WITHOUT THE AUTHORITY FROM THE YARDMASTER"
-  Commencement of Yard Working "NO MOVEMENT BEYOND THIS POINT WITHOUT AUTHORITY"
- 2 Depot Point Number
-  **Unwired Track**

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO BUTLER ↑

NOWERGUP RAILCAR DEPOT NORTH

STATION LIMITS

Down Main

- 1. Down Controlled Absolute Signal 551 (32.450km) and Butler Down Buffer Stop Signal (40.880km).

Up Main

- 1. LOS Board (32.240km) approx. 160m Perth side of 553 Ground Shunt Signal and Butler Up Buffer Stop Signal (40.880km).

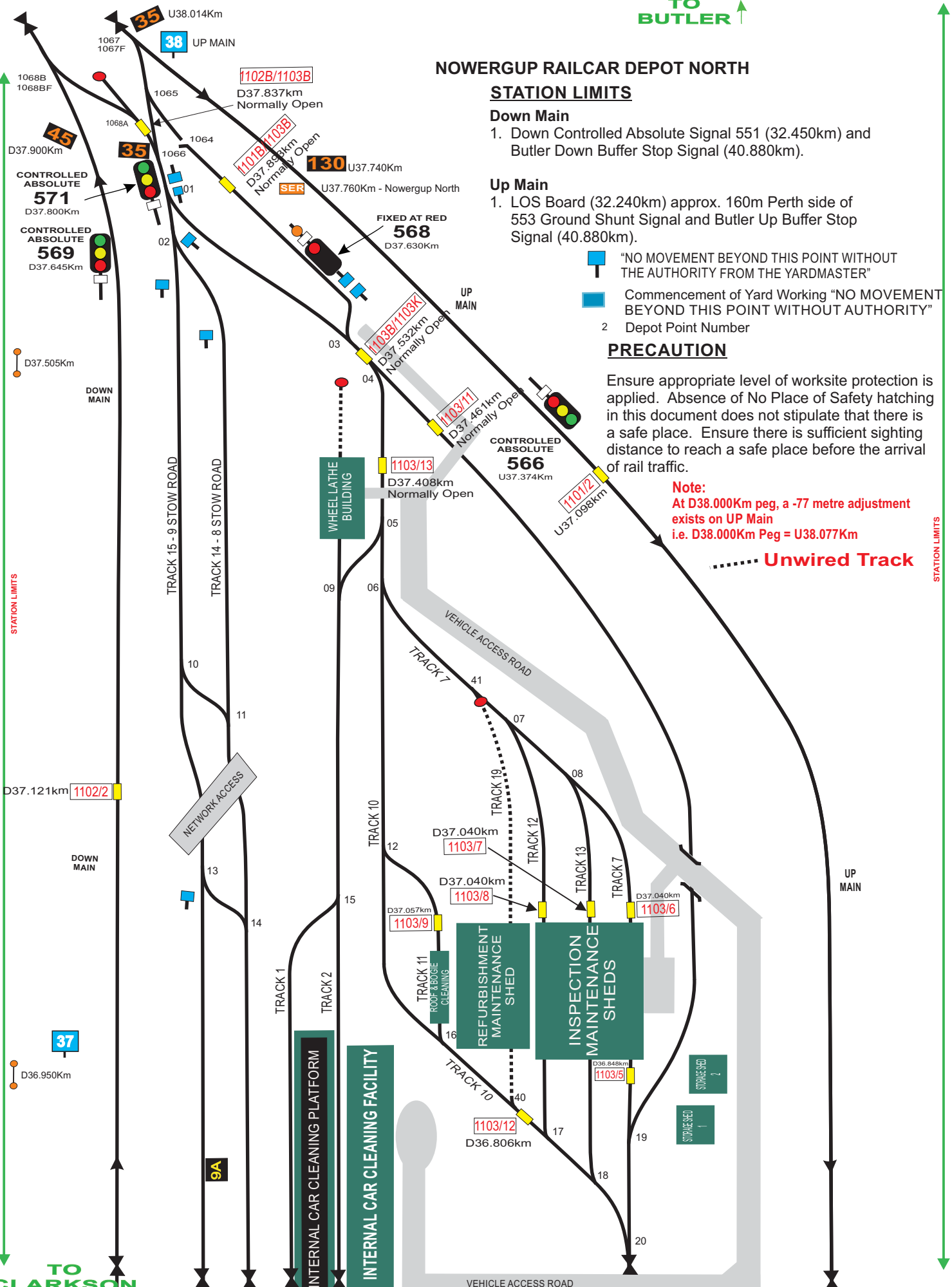
- 1 "NO MOVEMENT BEYOND THIS POINT WITHOUT THE AUTHORITY FROM THE YARDMASTER"
- 2 Commencement of Yard Working "NO MOVEMENT BEYOND THIS POINT WITHOUT AUTHORITY"
- 2 Depot Point Number

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

Note:
At D38.000Km peg, a -77 metre adjustment exists on UP Main
i.e. D38.000Km Peg = U38.077Km

Unwired Track



DOWN MAIN

UP MAIN

INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



- 39.200Km to 39.600Km, Up & Down Main.

STATION LIMITS

Down Main

- Down Controlled Absolute Signal 551 (32.450km) and Butler Down Buffer Stop Signal (40.880km).

Up Main

- LOS Board (32.240km) approx. 160m Perth side of 553 Ground Shunt Signal and Butler Up Buffer Stop Signal (40.880km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

Note:

At D38.000Km peg, a -77 metre adjustment exists on UP Main
i.e. D38.000Km Peg = U38.077Km

STATION LIMITS

39.800Km

39.700Km

39.700Km

38.945Km

CONTROLLED ABSOLUTE
579
39.715Km

39.5

39.450Km

39.600Km

LANDBEACH BLVD

CONTROLLED ABSOLUTE
574
39.075Km

39

DOWN MAIN

CONTROLLED ABSOLUTE
577
38.600Km

38.530Km **100**

UP MAIN

115 38.530Km

CONTROLLED ABSOLUTE
570
D38.150Km
(U38.227Km)

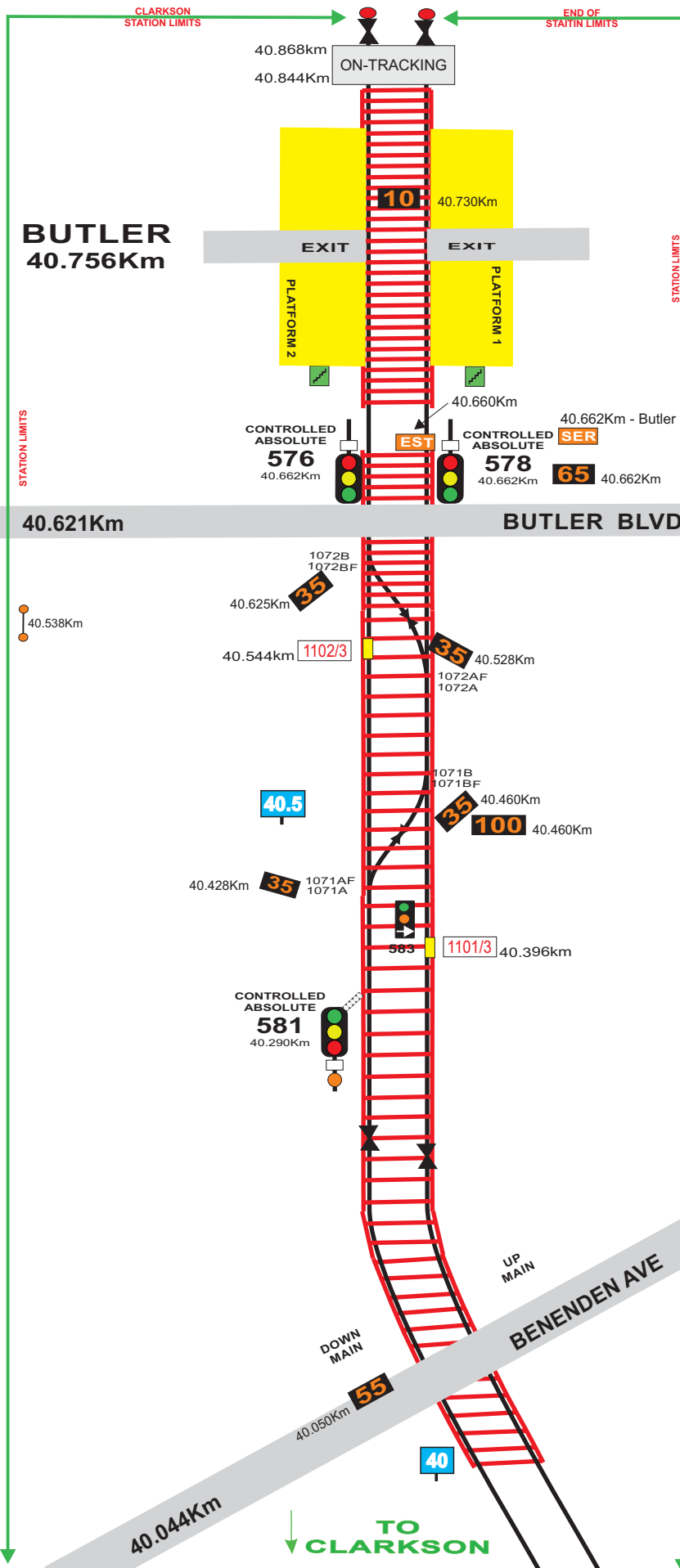
DOWN MAIN **38**

39.200Km

38.945Km

STATION LIMITS

TO CLARKSON ↓



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Butler Station, Up & Down Main.
2. Turnout near Points 1072B/1072BF to Signals 576/578.
3. 40Km Peg to just after Benenden Avenue.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Nil.

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 551 (32.450km) and Butler Down Buffer Stop Signal (40.880km).

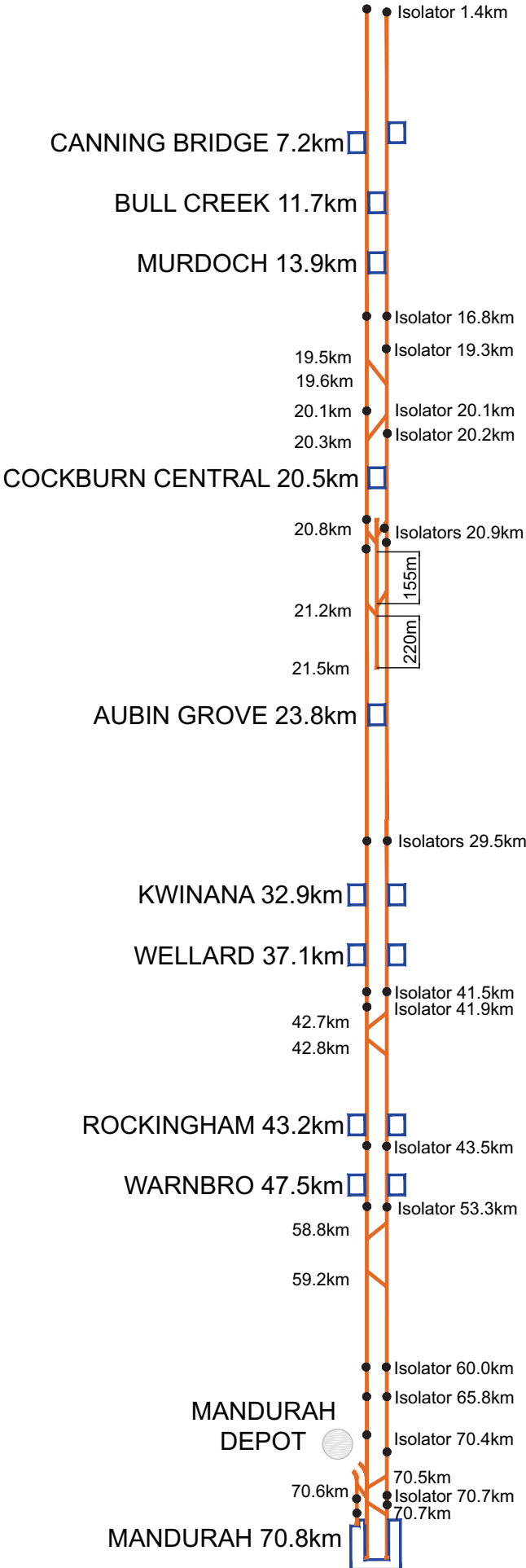
Up Main

1. LOS Board (32.240km) approx. 160m Perth side of 553 Ground Shunt Signal and Butler Up Buffer Stop Signal (40.880km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

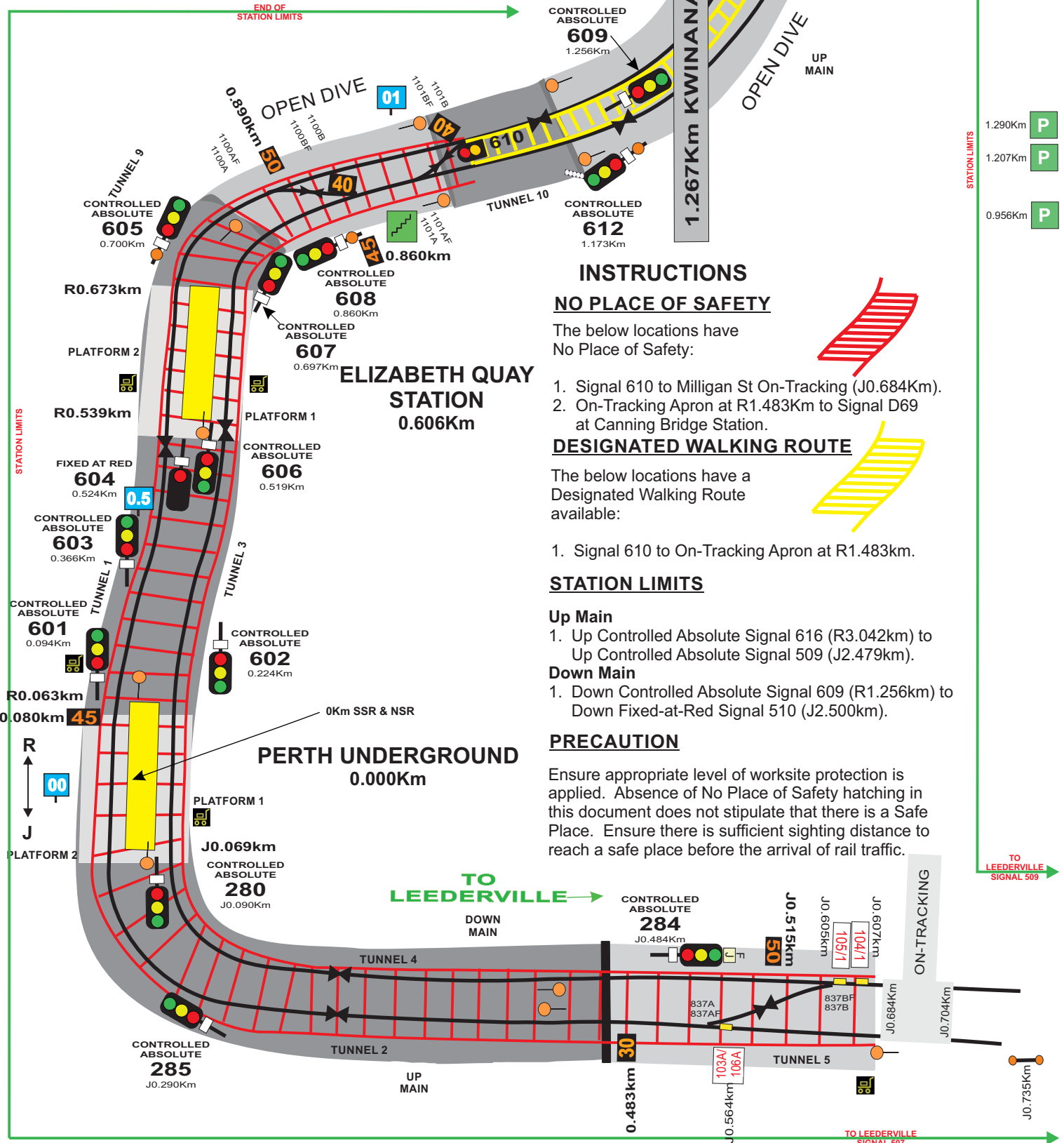
MANDURAH LINE



NOTES

- Contact ICO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 1, 2, 3, 4, 5, 9 and 10.
- Track Trolley Locations:
 - Tunnel 1 - Down Main at R0.545Km and R0.075Km
 - Tunnel 3 - Up Main at R0.545Km
 - Tunnel 4 - Down Main at J0.075Km
 - Tunnel 5 - Up Main at J0.669Km

Note:
A -48m adjustment exists at 1.376Km
i.e 1.376 = 1.328



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

- Signal 610 to Milligan St On-Tracking (J0.684Km).
- On-Tracking Apron at R1.483Km to Signal D69 at Canning Bridge Station.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

- Signal 610 to On-Tracking Apron at R1.483km.

STATION LIMITS

Up Main

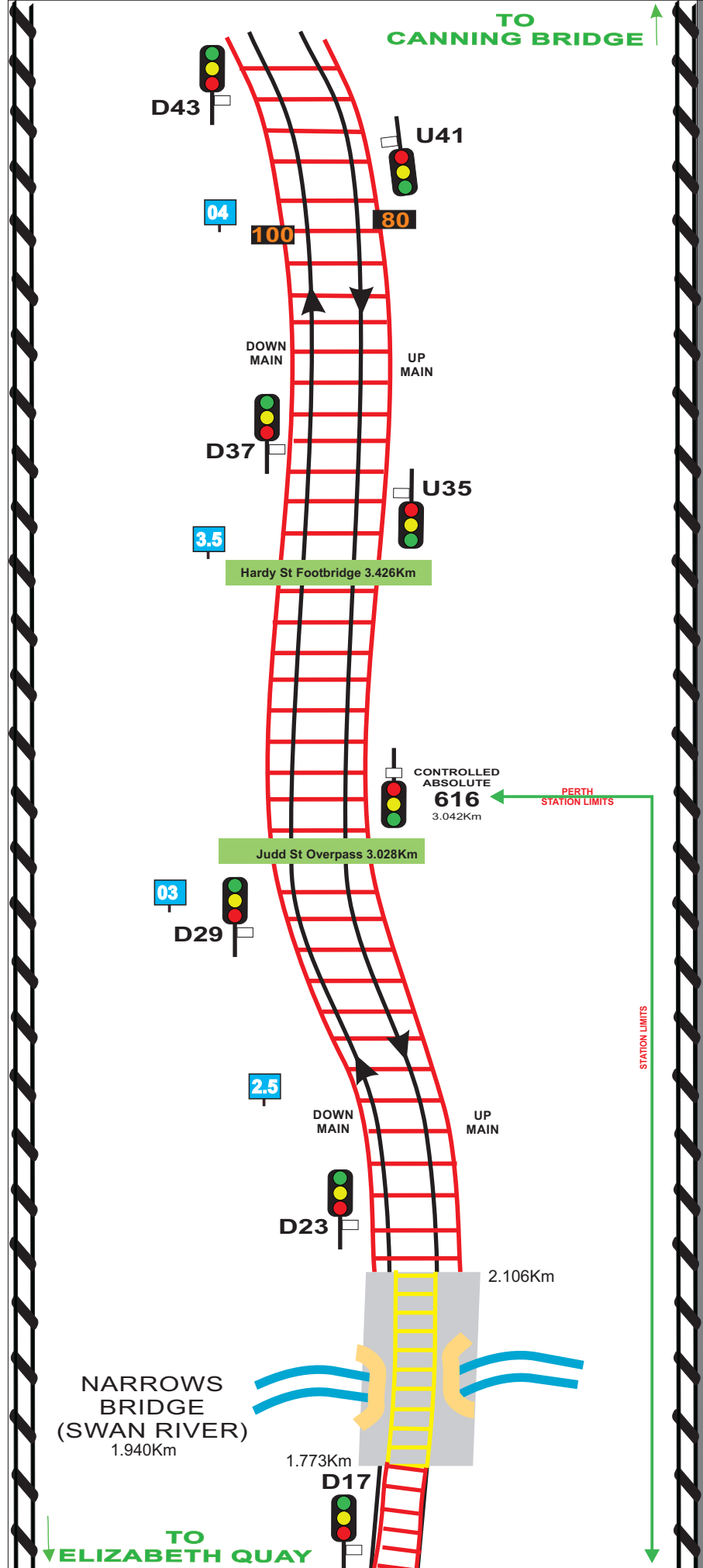
- Up Controlled Absolute Signal 616 (R3.042km) to Up Controlled Absolute Signal 509 (J2.479km).

Down Main

- Down Controlled Absolute Signal 609 (R1.256km) to Down Fixed-at-Red Signal 510 (J2.500km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Narrows Bridge Esplanade End through to Signal D69 at Canning Bridge.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Narrows Bridge. Designated Walking Route on Narrows Bridge, but no access to/from them at either end.

STATION LIMITS

Up Main

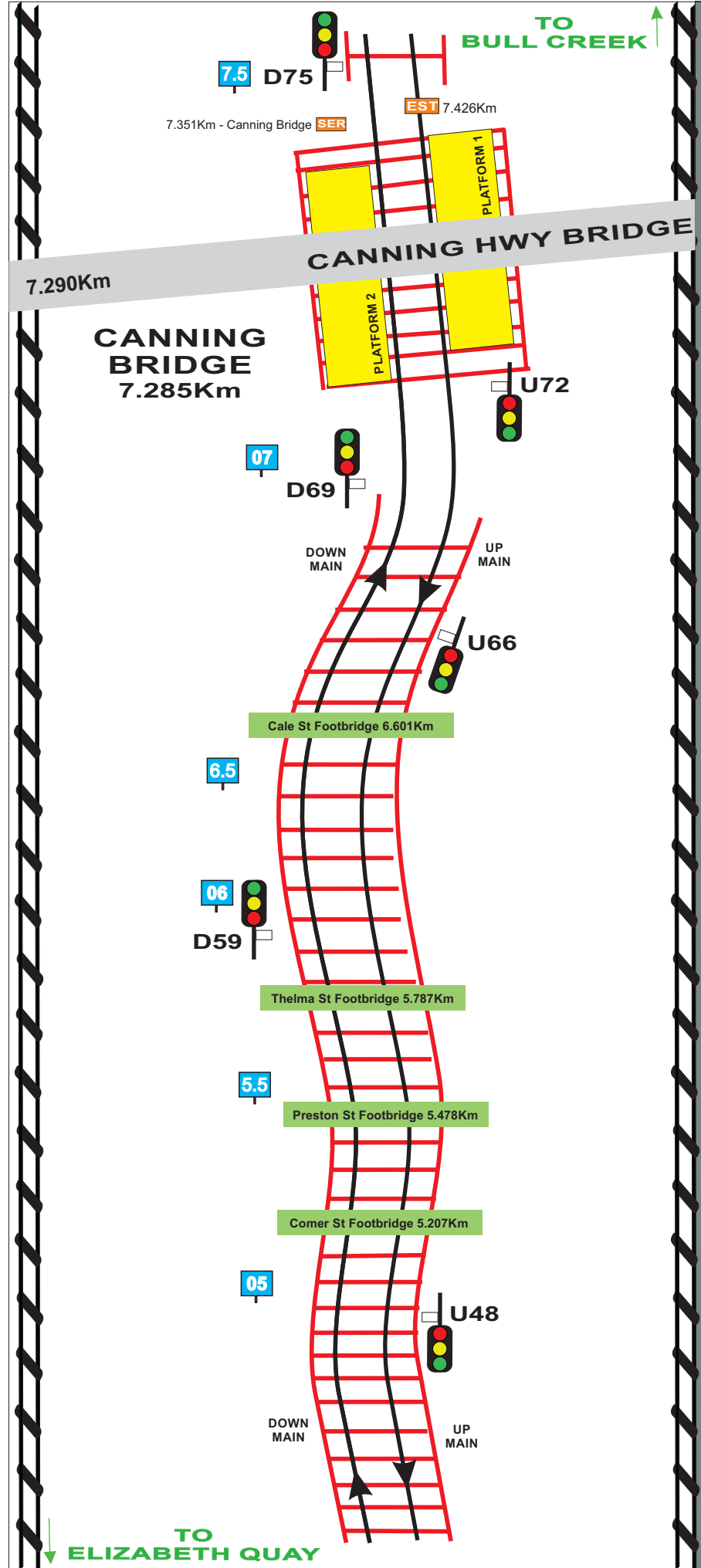
1. Up Controlled Absolute Signal 616 (3.042km) to Up Controlled Absolute Signal 510 (4.300km).

NOTES

1. Role 3011 must be used for accessing and egressing Narrows Bridge while trains are running.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

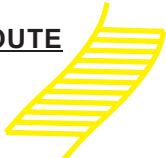
The below locations have No Place of Safety:



1. Signal D75 to Manning Road Bridge, Up & Down Main.
2. Canning Bridge Station, Up & Down Main.
3. Narrows Bridge to Signal D69, Up & Down Main.

DESIGNATED WALKING ROUTE

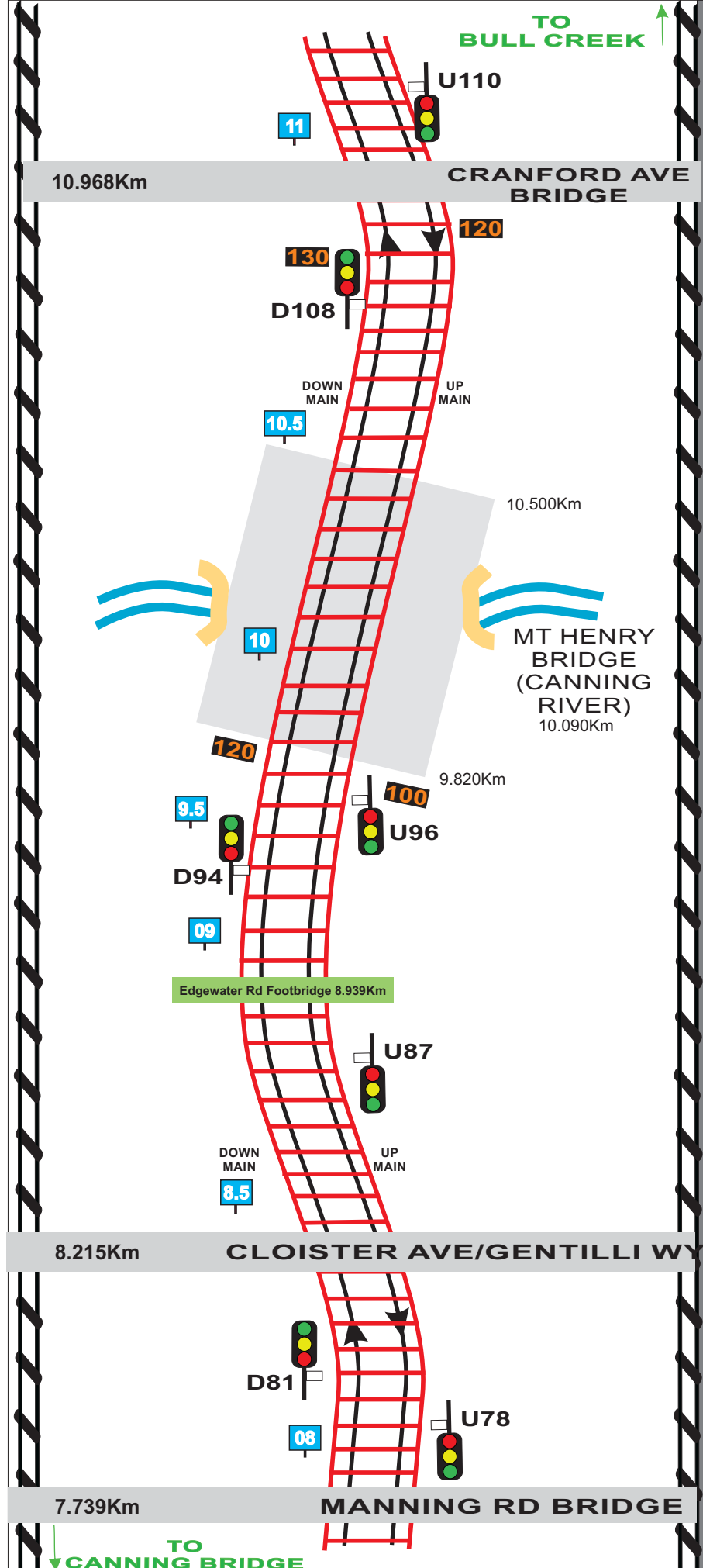
The below locations have a Designated Walking Route available:



1. Nil.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

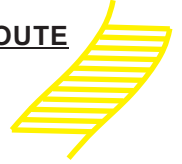
The below locations have No Place of Safety:



1. From Signal D75 at Canning Hwy Bridge to 11.5km at Leach Hwy Bridge, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Nil.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO
MURDOCH ↑

13

DOWN
MAIN



UP
MAIN

12.707Km

PARRY AVE BRIDGE



D126

12.5

12

11.800Km Mast



U119

D117

BULLCREEK
11.669Km



PLATFORM 1
PLATFORM 2

11.614Km BUSWAY - LEACH HWY BRIDGE

11.576Km LEACH HWY BRIDGE

11.5

EST 11.527Km

DOWN
MAIN

UP
MAIN

TO
CANNING BRIDGE ↓

INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have
No Place of Safety:



1. Mast 11.800Km to Signal D135, Up & Down Main.
2. Bullcreek Station, Up & Down Main.
3. Cranford Ave Bridge to 11.5km Peg, Up & Down Main.

DESIGNATED WALKING ROUTE

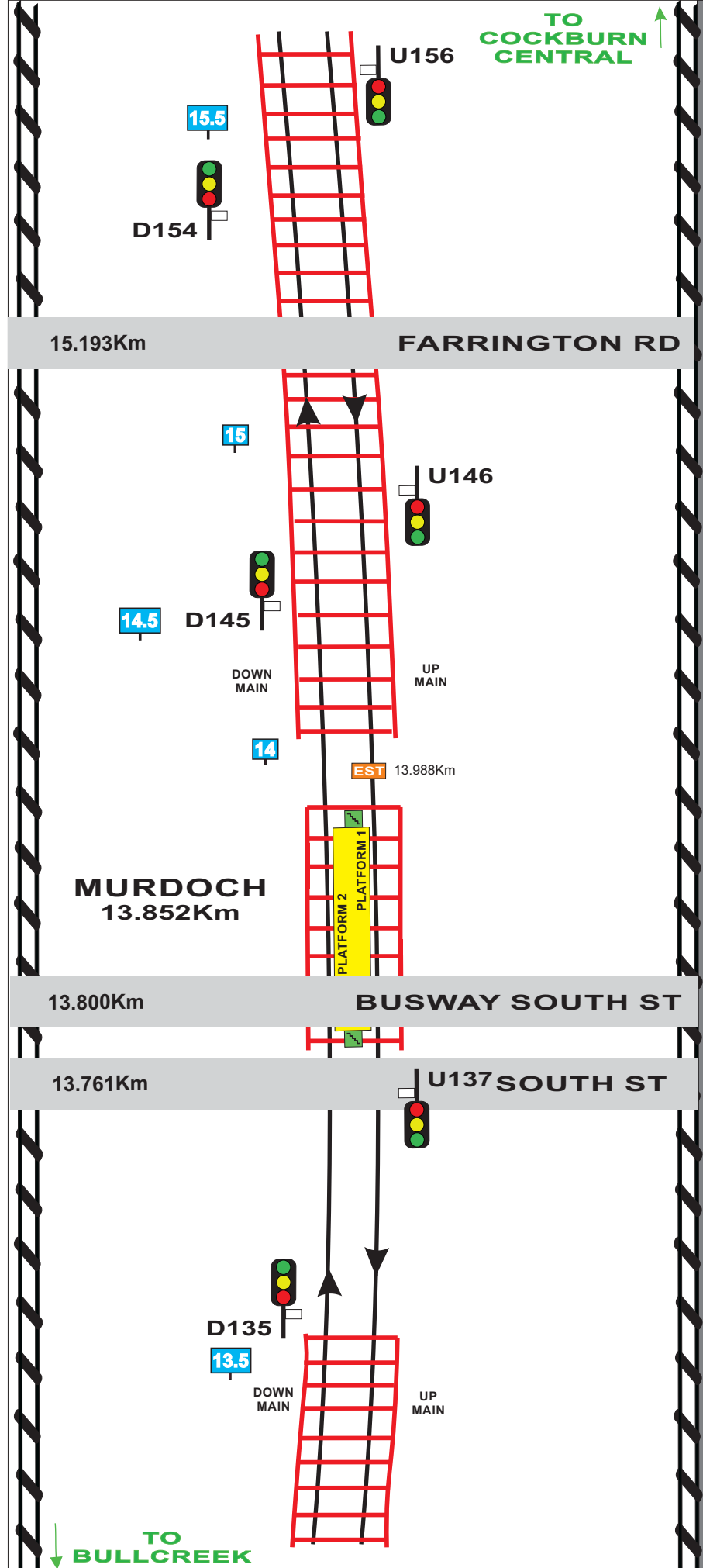
The below locations have a
Designated Walking Route
available:



1. Nil.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Roe Highway to 14KM Peg, Up & Down Main.
2. Murdoch Station, Up & Down Main.
3. Signal D135 to Parry Avenue Bridge, and 11.8km mast, Up & Down Main.

DESIGNATED WALKING ROUTE

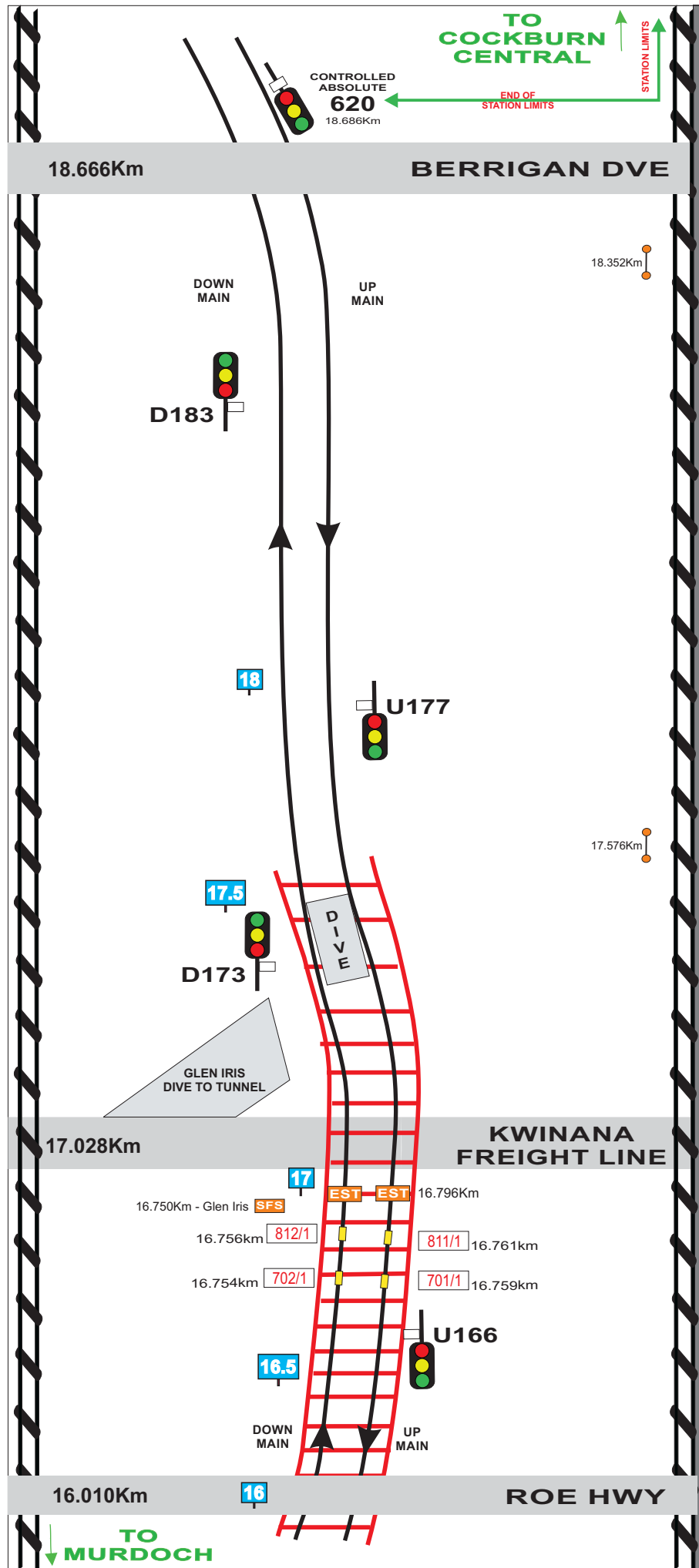
The below locations have a Designated Walking Route available:



1. Nil.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

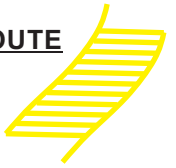
The below locations have No Place of Safety:



1. Roe Highway through to 17.5KM Peg, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Nil.

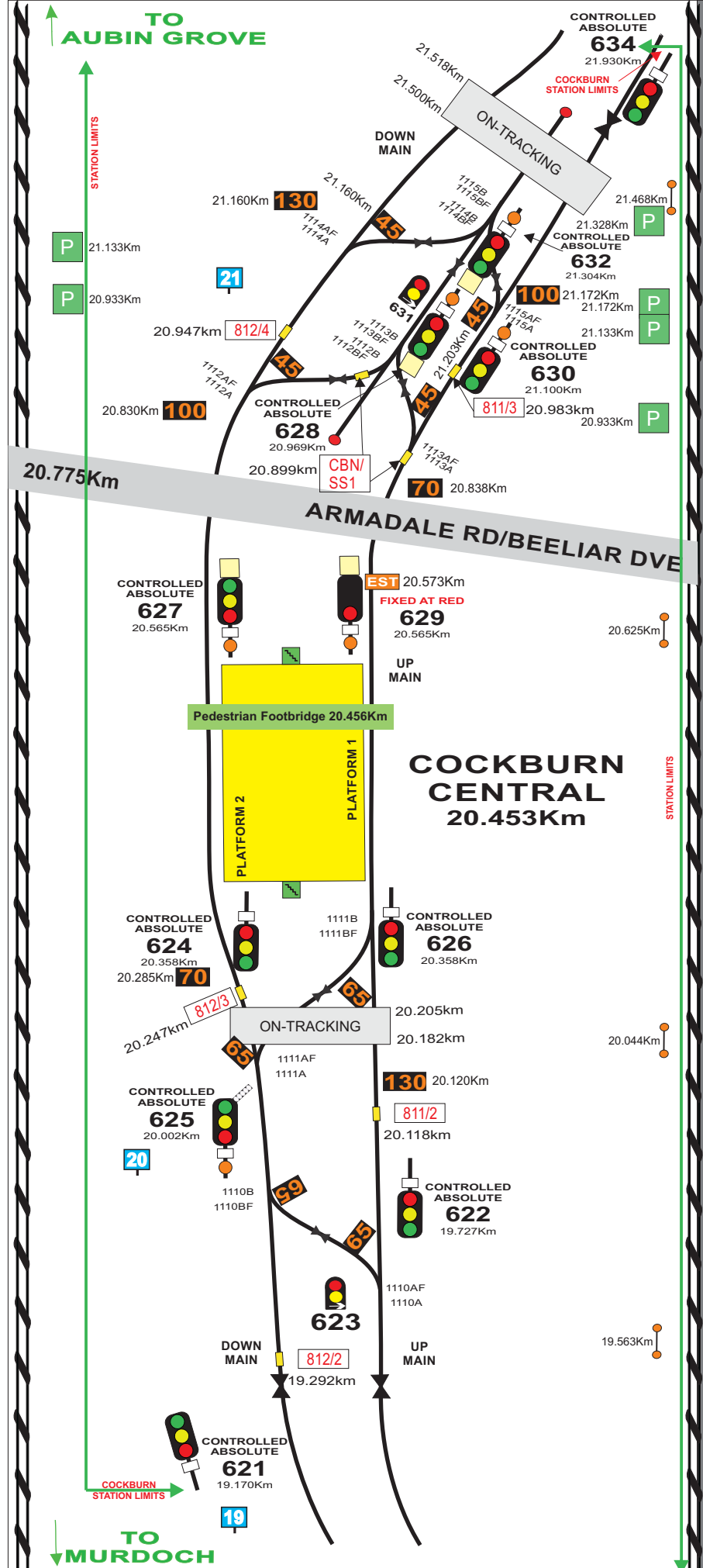
STATION LIMITS

Up Main

1. Up Controlled Absolute Signal 634 (21.930km) and Up Controlled Absolute Signal 620 (18.686km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Nil.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.



STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 621 (19.170km) and Down Controlled Absolute Signal 633 (22.066km).

Up Main

1. Up Controlled Absolute Signal 634 (21.930km) and Up Controlled Absolute Signal 620 (18.686km).

Note:



Controlled Absolute Signal 627, 628, 629 and 632 with Low Speed Shunt and Route Indicator

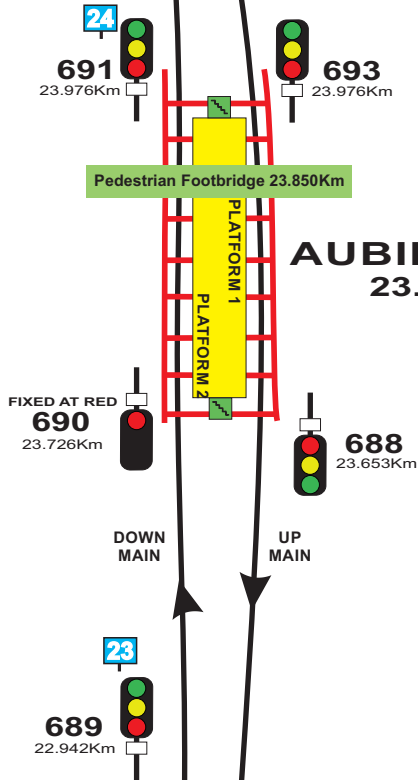
PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO KWINANA ↑

24.092Km

RUSSELL / GIBBS RD



AUBIN GROVE
23.821Km

INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

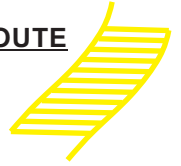
1. Aubin Grove Station, Up & Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.



STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 621 (19.170km) and Down Controlled Absolute Signal 633 (22.066km).

NOTES

1. Bi-Directional Working Limits:
 - Up Direction 23.653Km
 - Down Direction 23.726Km
2. Bi-Directional working available only when enabled from train control.
3. Up Main, Down Direction - Bi-Directional Controlled Absolute Signal 693
4. Down Main, Up Direction - Fixed Red Signal 690

23.401Km

22.373Km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO
KWINANA ↑

26.685Km

ROWLEY RD

26.580Km - Mandogalup **SER**
(on Kwinana Freeway
immediately after
Rowley Rd off-ramp)

EST 26.652Km

26.5



26 **D260**



26.024Km



692
25.195Km

25

D249



↓ TO
AUBIN GROVE

INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have
No Place of Safety:

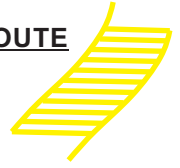
1. Nil.



DESIGNATED WALKING ROUTE

The below locations have a
Designated Walking Route
available:

1. Nil.

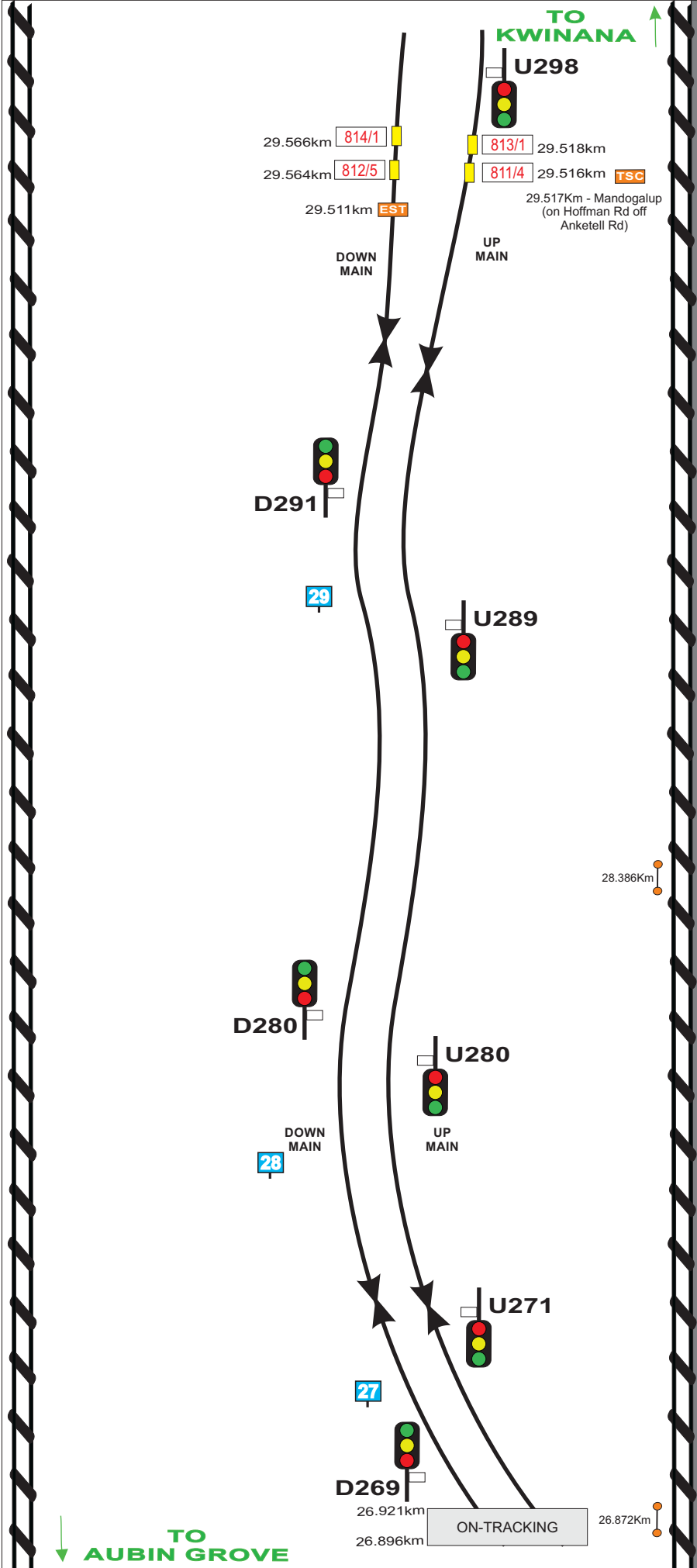


NOTES

1. Bi-Directional working available only when enabled from train control.
2. Down Main, Up Direction - Bi-Directional Controlled Absolute Signal 692

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

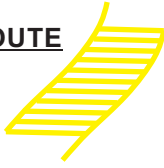
The below locations have No Place of Safety:



- 1. Nil.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



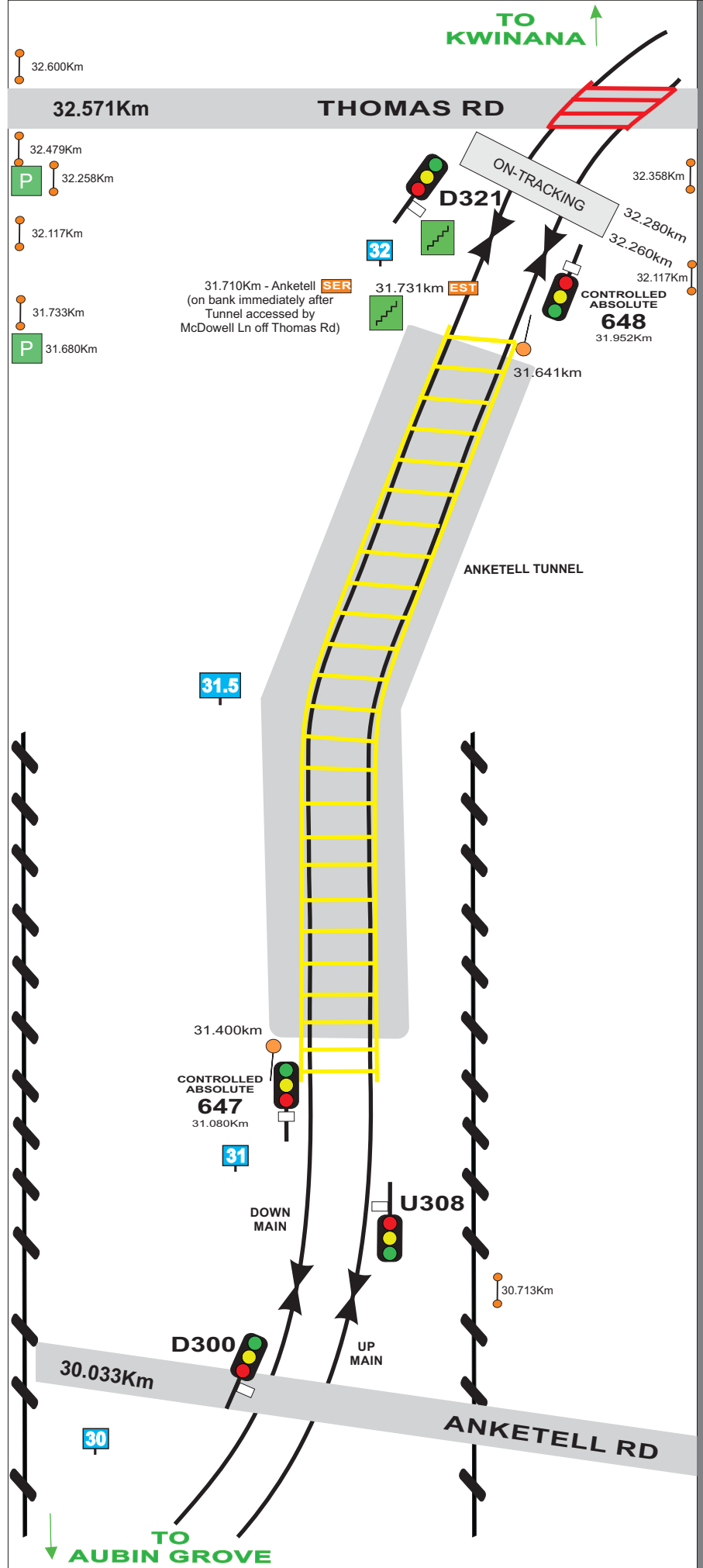
- 1. Nil.

NOTE

- 1. Bi-Directional working available only when enabled from train control.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Thomas Road Tunnel.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Anketell Tunnel.

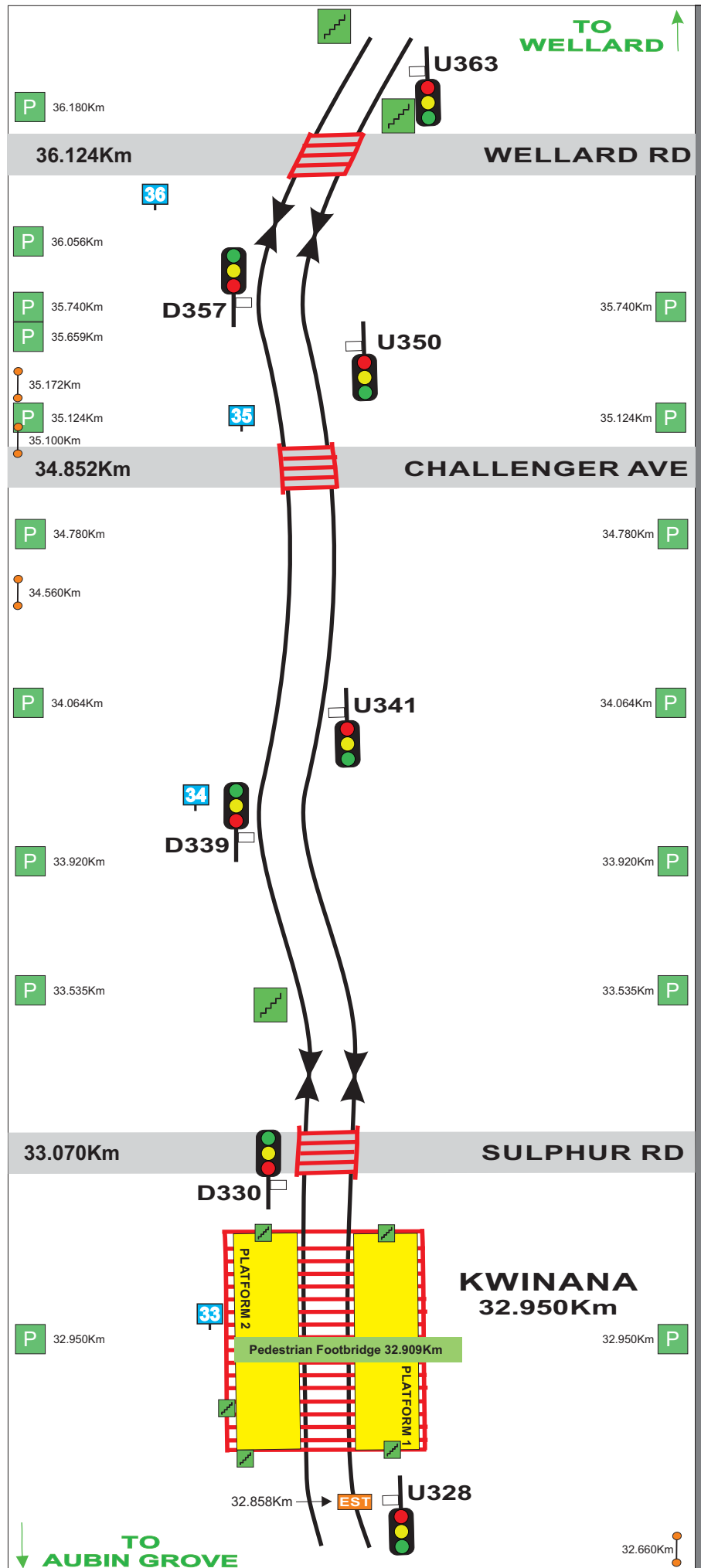


NOTES

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Anketell Tunnel.
2. Rule 3011 must be used for accessing and egressing Anketell Tunnel while trains are running.
3. Bi-Directional working available only when enabled from train control.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Wellard Road Tunnel, Up & Down Main.
2. Challenger Avenue Tunnel, Up & Down Main.
3. Sulphur Road Tunnel, Up & Down Main.
4. Kwinana Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Nil.

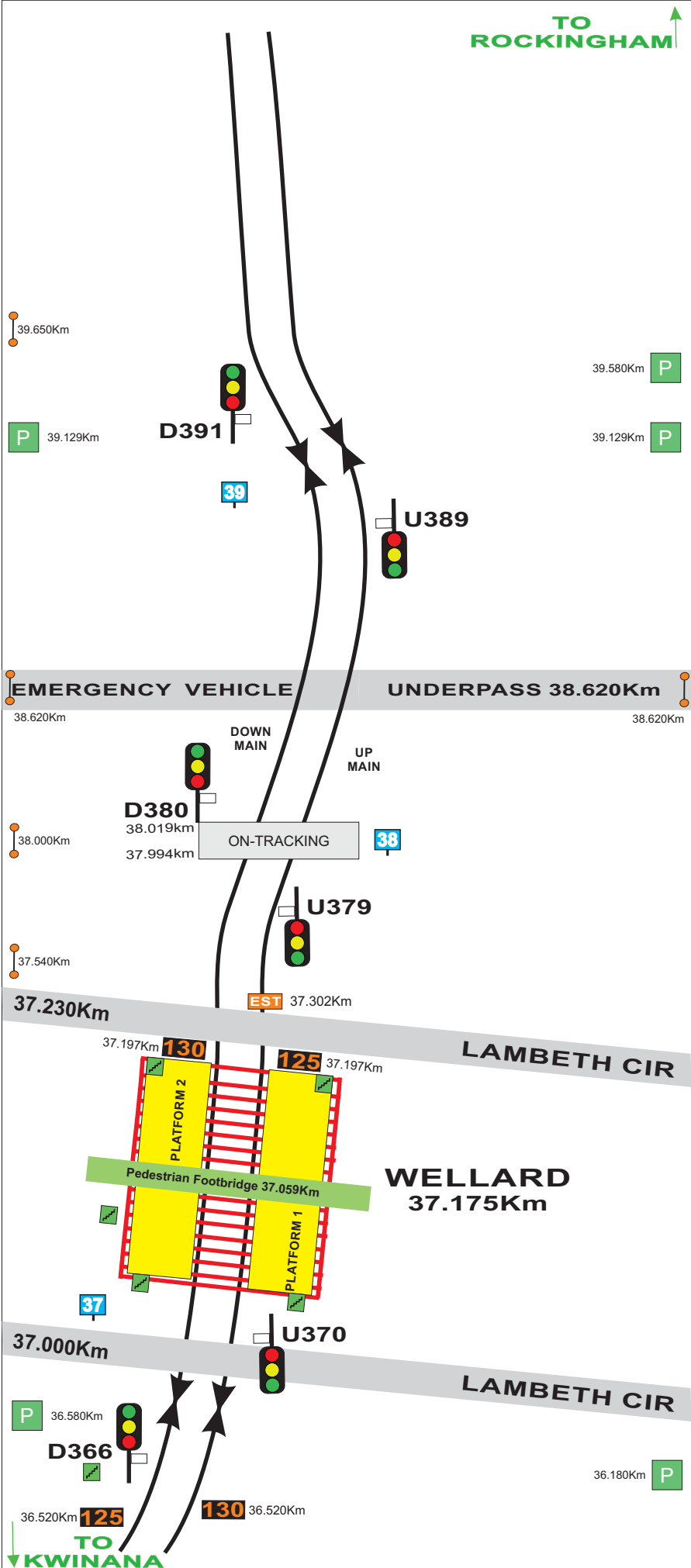
NOTES

1. Bi-Directional working available only when enabled from train control.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO
ROCKINGHAM ↑



NO PLACE OF SAFETY

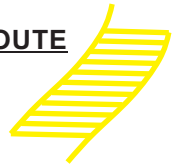
The below locations have No Place of Safety:



1. Wellard Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



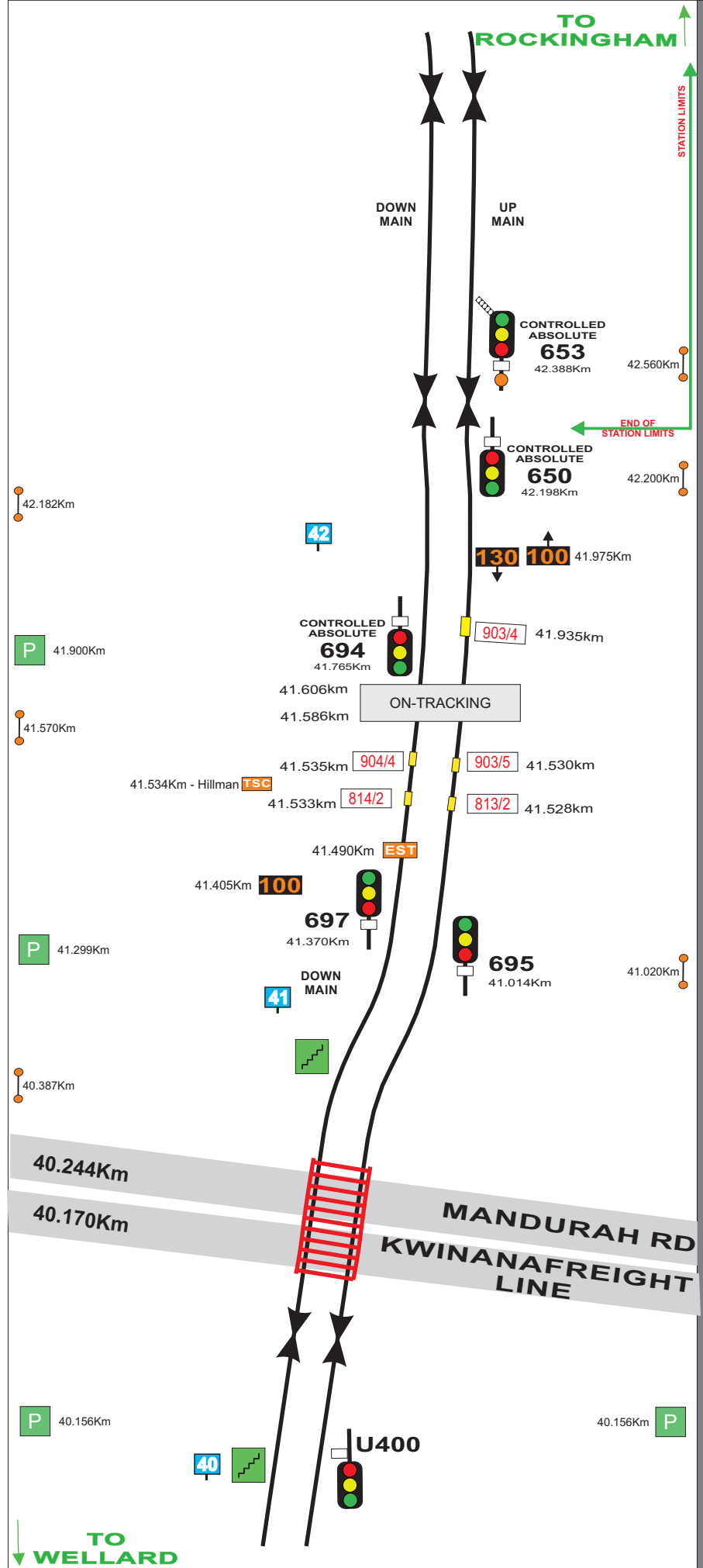
1. Nil.

NOTES

1. Bi-Directional working available only when enabled from train control.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

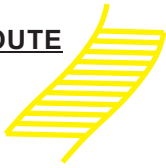
The below locations have No Place of Safety:



1. Mandurah Road / Kwinana Freight Line Bridges, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Nil.

STATION LIMITS

Up Main

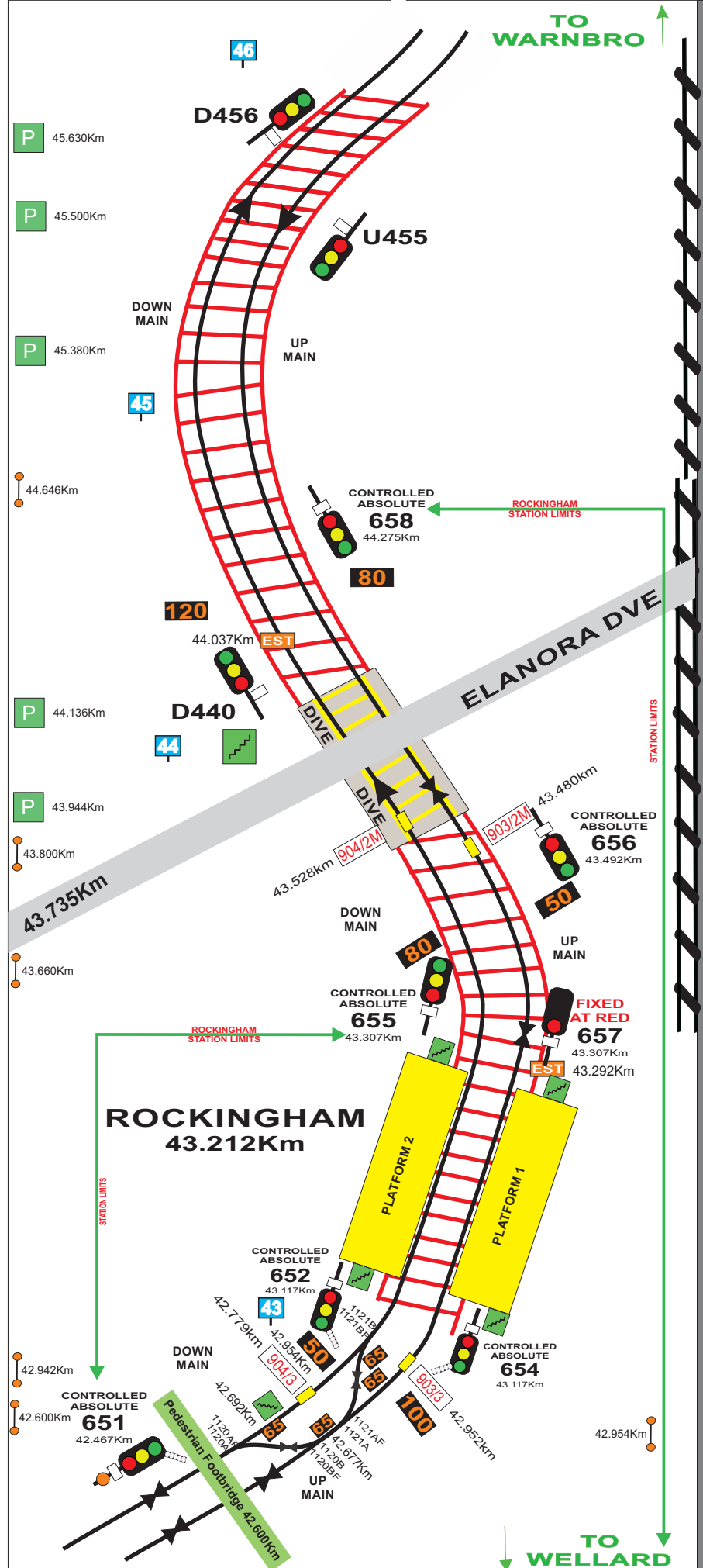
1. Up Controlled Absolute Signal 658 (44.275km) and Up Controlled Absolute Signal 650 (42.198km).

NOTES

1. Bi-Directional working available only when enabled from train control.
2. Down Main, Up Direction - Bi-Directional Controlled Absolute Signal 694 (41.765km)
3. Up Main, Down Direction - Bi-Directional Controlled Absolute Signal 695 (41.014km)

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Signal 652 through to 46KM Peg, Up & Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Elanora Drive Dive, Up & Down Main.



STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 651 (42.467km) and Down Controlled Absolute Signal 655 (43.307km).

Up Main

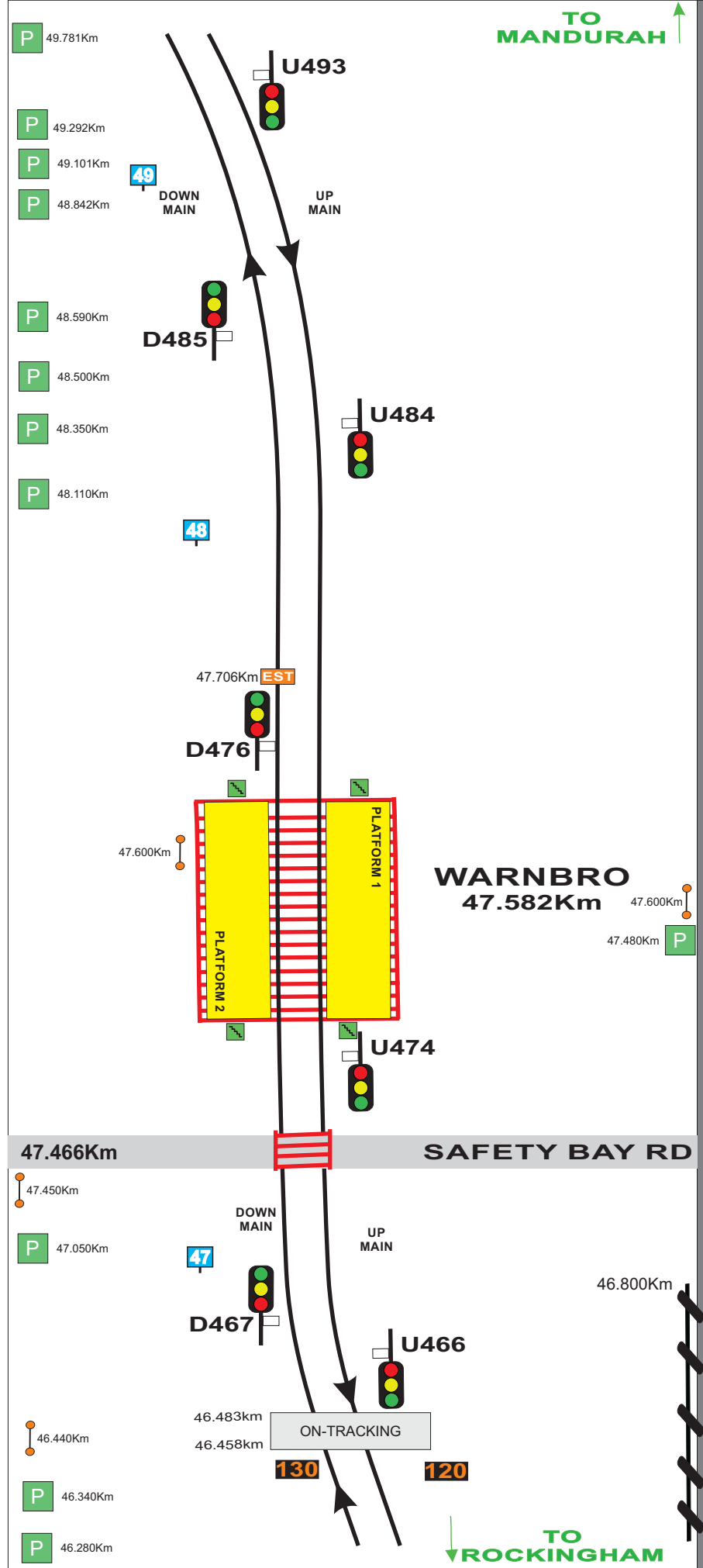
1. Up Controlled Absolute Signal 658 (44.275km) and Up Controlled Absolute Signal 650 (42.198km).

NOTES

1. Bi-Directional Working Limits:
 - Up Direction 43.307Km
 - Down Direction 43.307Km
2. Bi-Directional working available only when enabled from train control.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

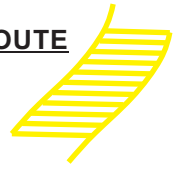
The below locations have No Place of Safety:



1. Warnbro Station, Up & Down Main.
2. Safety Bay Road Tunnel, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Nil.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO MANDURAH ↑

P 54.024Km

54.140Km P

54

STAKEHILL RD

53.900Km

D538

53.865Km P

U537

53.714Km P

DOWN MAIN

UP MAIN

53.294km 902/3

EST 53.297Km

901/3 53.246km

53.294Km P

53.292km 904/1

903/1 53.244km

TSC 53.292Km - Baldivis
(accessed from southbound
lane of Ennis Avenue)

53

D529

52.900km

52.900km

ON-TRACKING

52.880km

P 52.886Km

U527

P 52.789Km

P 52.246Km

P 52.030Km

D520

52

P 51.900Km

P 51.595Km

UP MAIN

P 51.200Km

DOWN MAIN

P 50.815Km

51

D507

P 50.645Km

P 50.268Km

P 49.990Km

50

U505

TO WARNBRO ↓

INSTRUCTIONS

NO PLACE OF SAFETY

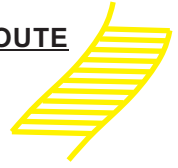
The below locations have No Place of Safety:



1. Stakehill Road Tunnel, Up & Down Main.

DESIGNATED WALKING ROUTE

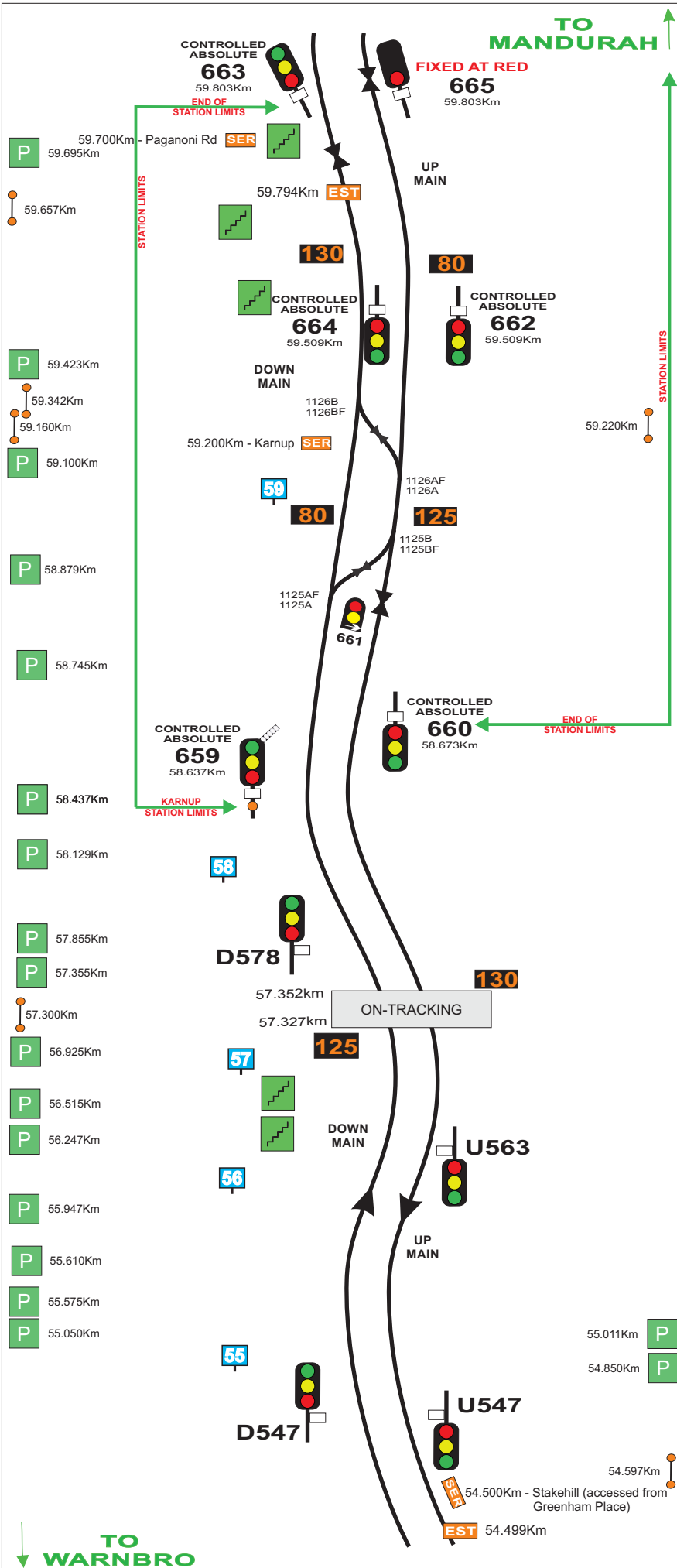
The below locations have a Designated Walking Route available:



1. Nil.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Nil.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.

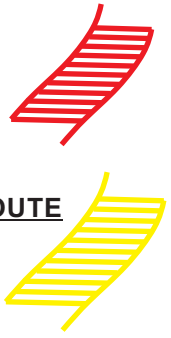
STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 659 (58.637km) and Down Controlled Absolute Signal 663 (59.803km).

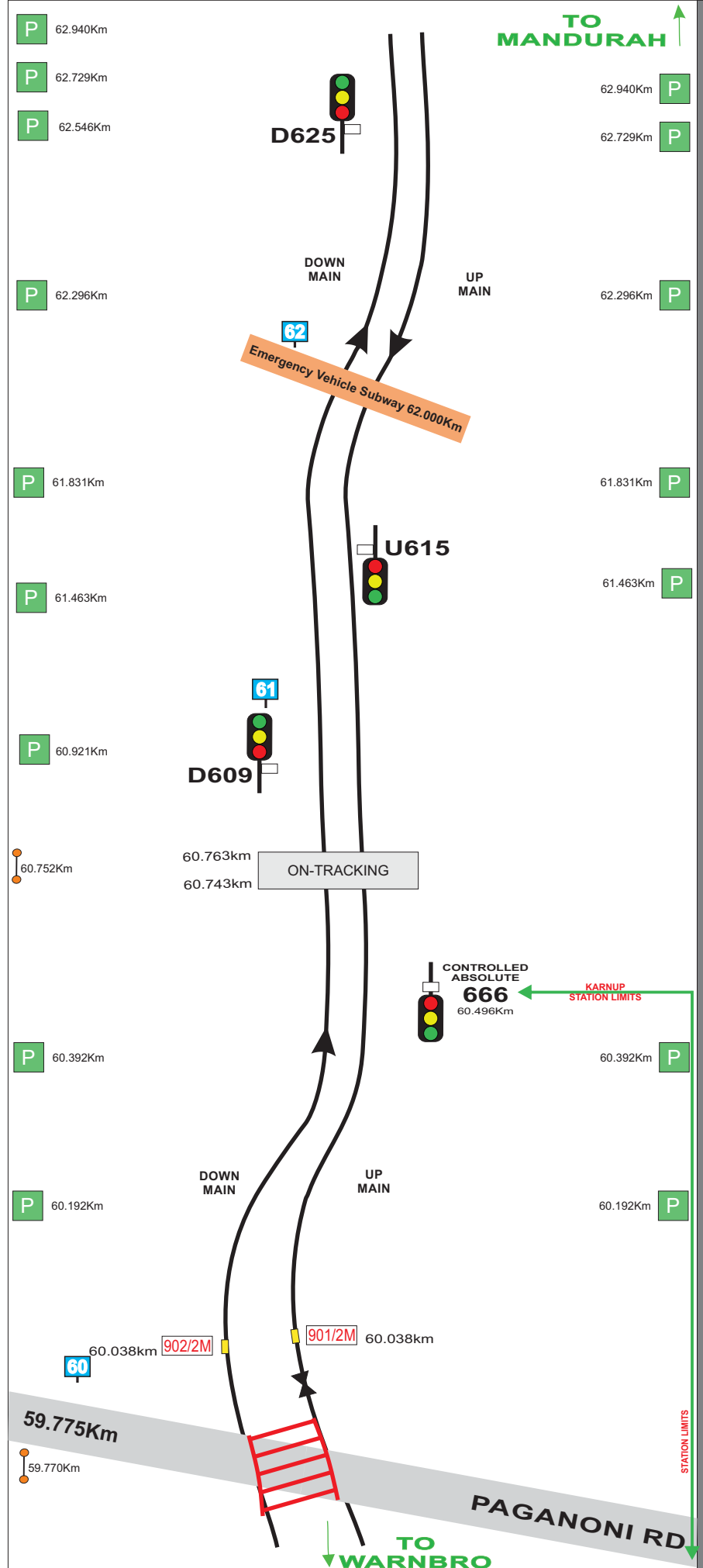
Up Main

1. Up Controlled Absolute Signal 666 (60.496km) and Up Controlled Absolute Signal 660 (58.673km).



PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

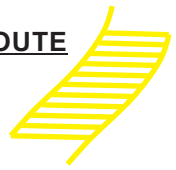
The below locations have No Place of Safety:



1. Paganoni Road Tunnel, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Nil.

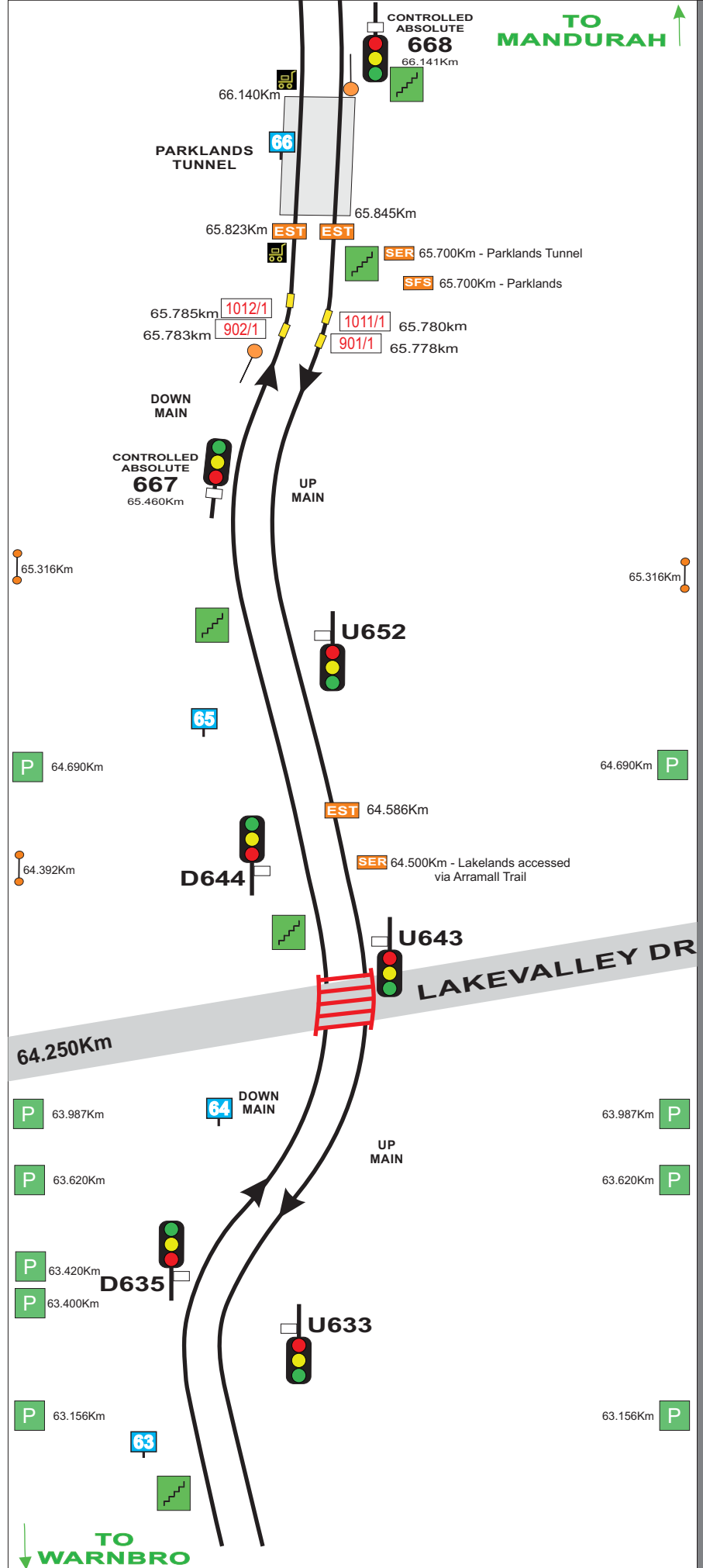
STATION LIMITS

Up Main

1. Up Controlled Absolute Signal 666 (60.496km) and Up Controlled Absolute Signal 660 (58.673km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

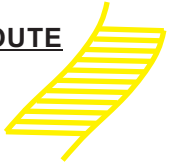
The below locations have No Place of Safety:



1. Lakevalley Drive Tunnel, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



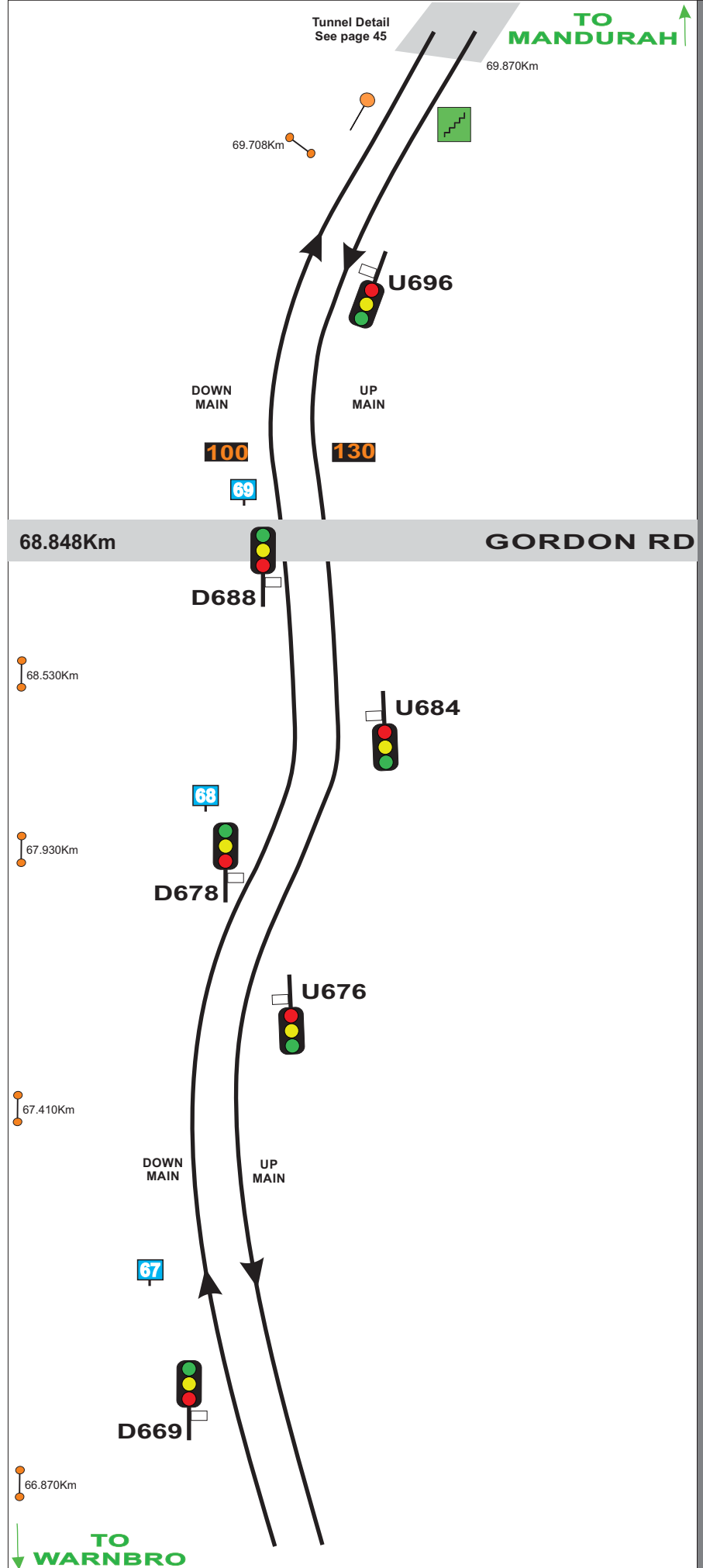
1. Nil.

NOTES

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Parklands Tunnel.
3. Track Trolley Locations:
 - Parklands Tunnel South - Down Main at R66.078Km
 - Parklands Tunnel North - Down Main at R65.735Km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

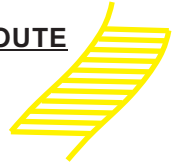
The below locations have No Place of Safety:



- 1. Nil.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



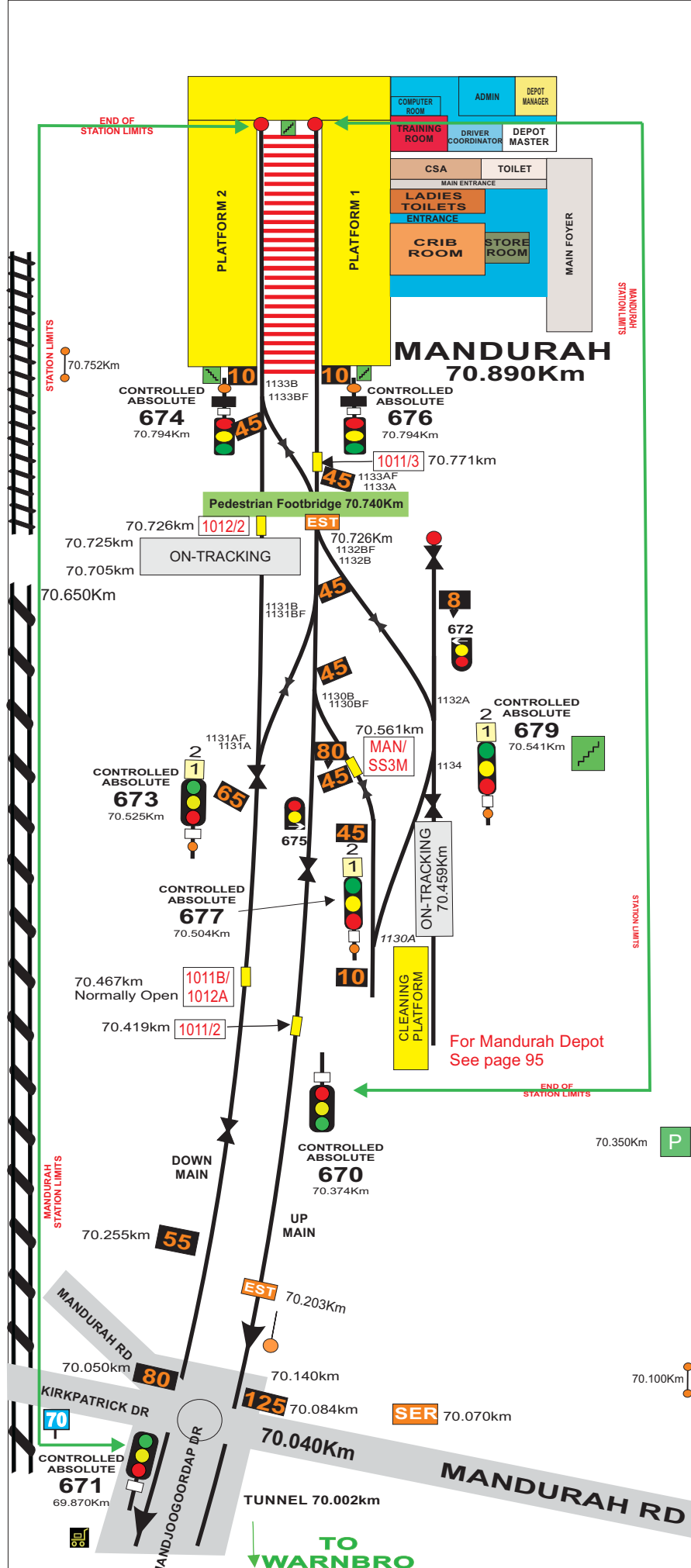
- 1. Nil.

NOTES

- 1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Mandurah (Fremantle) Road Tunnel.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

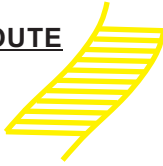
1. Mandurah Station, Up & Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.



STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 671 (69.870km) and Platform 2 Buffer Stop Signal.

Up Main

1. Up Controlled Absolute Signal 670 (70.374km) and Platform 1 Buffer Stop Signal.

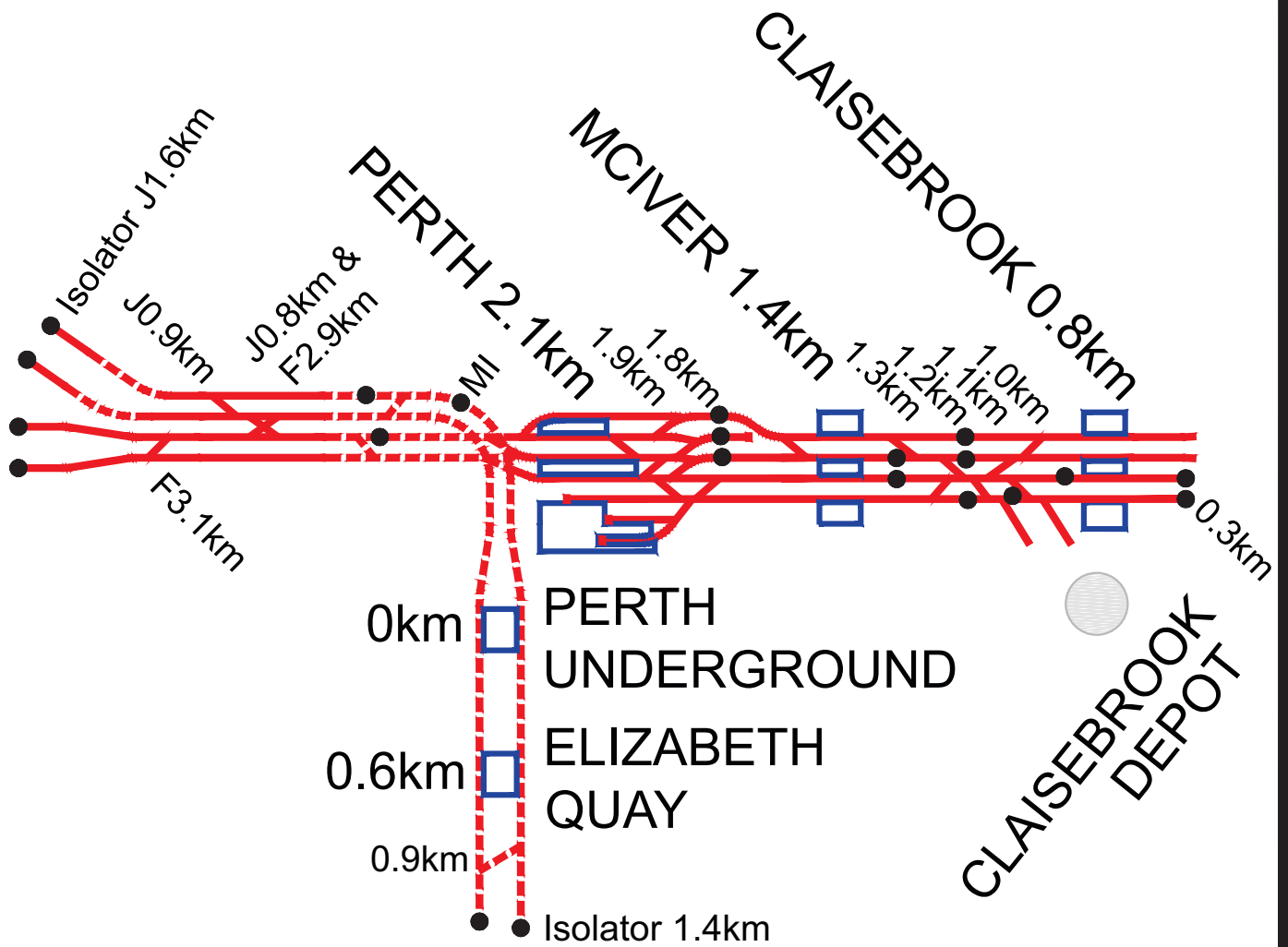
NOTES

1. 70.694km on-tracking for Down Main only.
2. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Mandurah (Fremantle) Road Tunnel.
3. Track Trolley Location:
- Fremantle Road Tunnel - Down Main at R69.668Km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

CITY PRECINCT

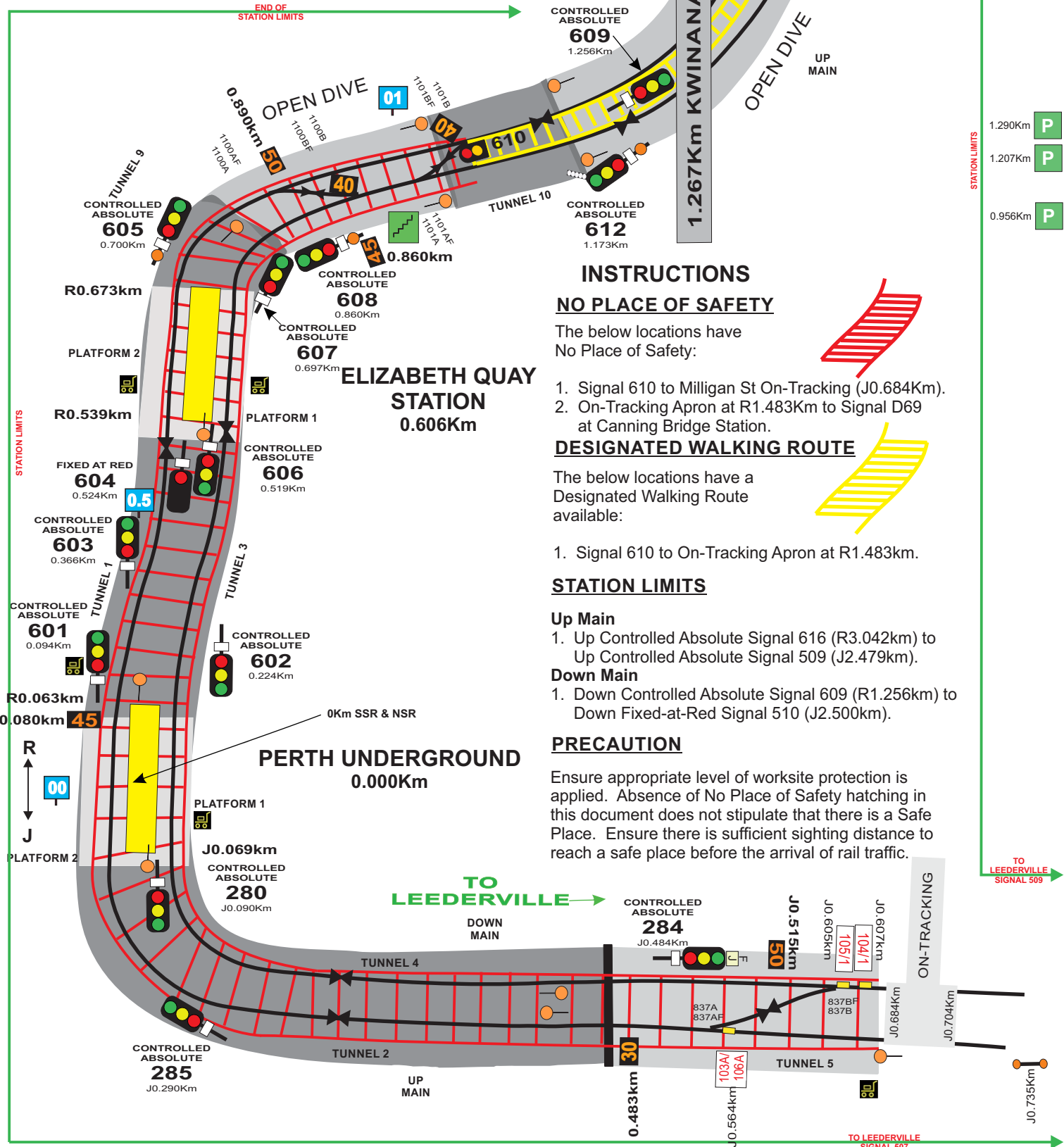


MI - Manual Isolator

NOTES

- Contact ICO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 1, 2, 3, 4, 5, 9 and 10.
- Track Trolley Locations:
 - Tunnel 1 - Down Main at R0.545Km and R0.075Km
 - Tunnel 3 - Up Main at R0.545Km
 - Tunnel 4 - Down Main at J0.075Km
 - Tunnel 5 - Up Main at J0.669Km

Note:
A -48m adjustment exists at 1.376Km
i.e 1.376 = 1.328



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

- Signal 610 to Milligan St On-Tracking (J0.684Km).
- On-Tracking Apron at R1.483Km to Signal D69 at Canning Bridge Station.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

- Signal 610 to On-Tracking Apron at R1.483km.

STATION LIMITS

Up Main

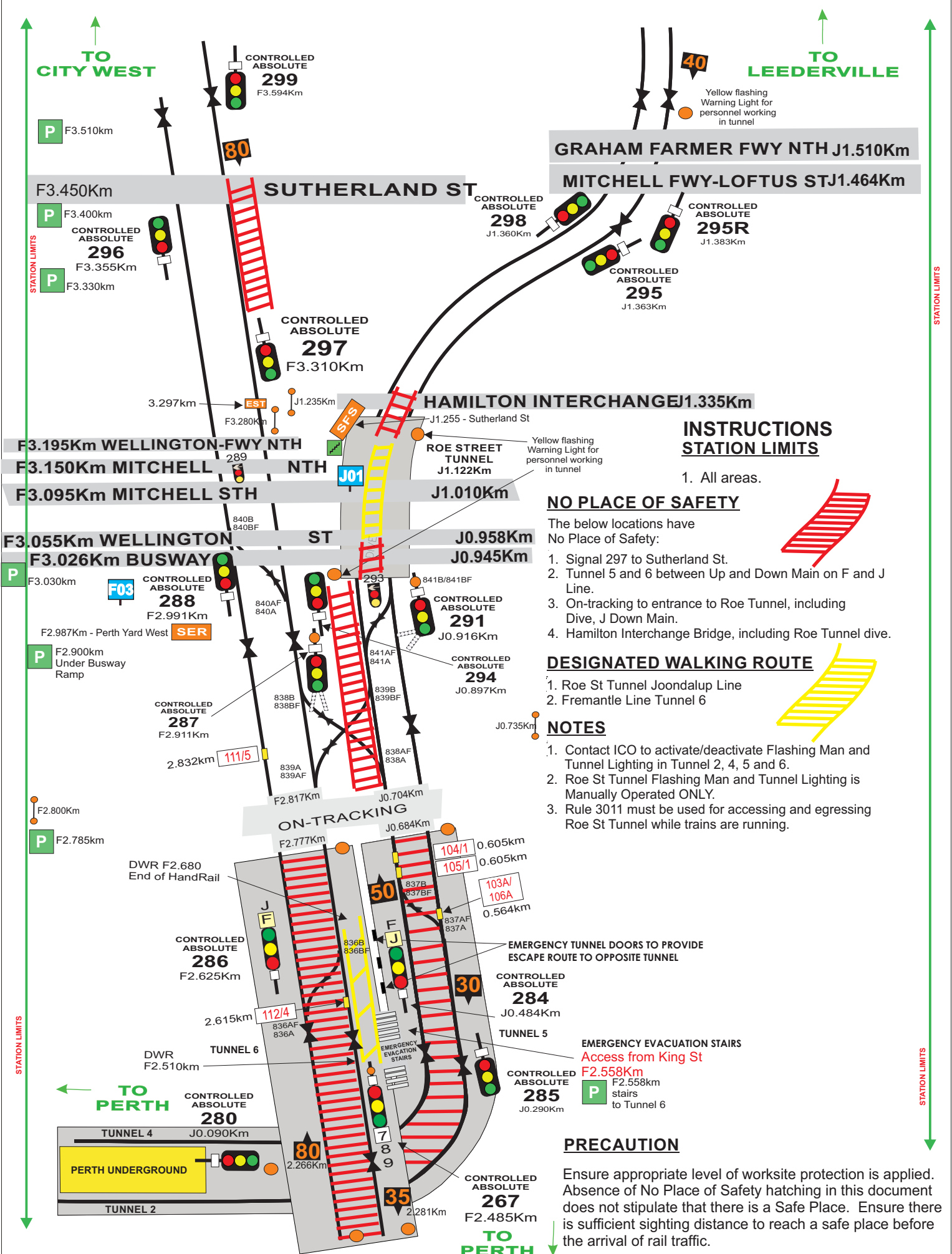
- Up Controlled Absolute Signal 616 (R3.042km) to Up Controlled Absolute Signal 509 (J2.479km).

Down Main

- Down Controlled Absolute Signal 609 (R1.256km) to Down Fixed-at-Red Signal 510 (J2.500km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



**INSTRUCTIONS
STATION LIMITS**

1. All areas.

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Signal 297 to Sutherland St.
2. Tunnel 5 and 6 between Up and Down Main on F and J Line.
3. On-tracking to entrance to Roe Tunnel, including Dive, J Down Main.
4. Hamilton Interchange Bridge, including Roe Tunnel dive.

DESIGNATED WALKING ROUTE

1. Roe St Tunnel Joondalup Line
2. Fremantle Line Tunnel 6

NOTES

1. Contact ICO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 2, 4, 5 and 6.
2. Roe St Tunnel Flashing Man and Tunnel Lighting is Manually Operated ONLY.
3. Rule 3011 must be used for accessing and egressing Roe St Tunnel while trains are running.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

INSTRUCTIONS

STATION LIMITS

1. Area bounded by the green box.

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Tunnel 5 and 6.
2. Platforms 3, 4, 5 and 6 and area heading into Tunnels.
3. Signal 297 to Sutherland St.

DESIGNATED WALKING ROUTE

Refer to page 48 for Tunnel 6 to Butler - Joondalup Line

NOTES

1. Contact ICO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 2, 4, 5 and 6.
2. Roe St Tunnel Flashing Man and Tunnel Lighting is Manually Operated ONLY.
3. Rule 3011 must be used for accessing and egressing Roe St Tunnel while trains are running.

Unwired Track

PERTH STATION

PRECAUTION

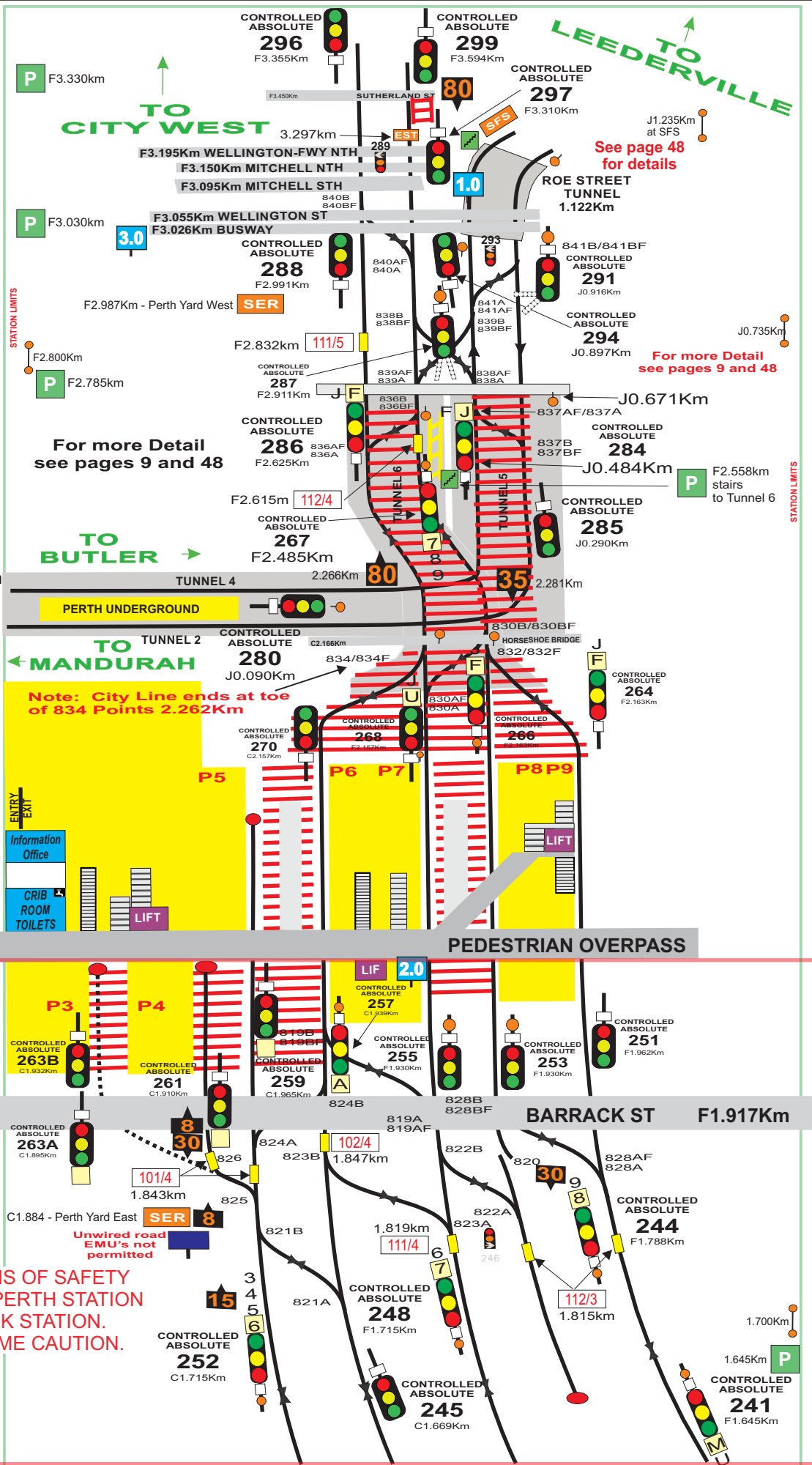
Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

C1.917Km

P C1.710Km

P C1.705Km

TO McIVER



INSTRUCTIONS

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

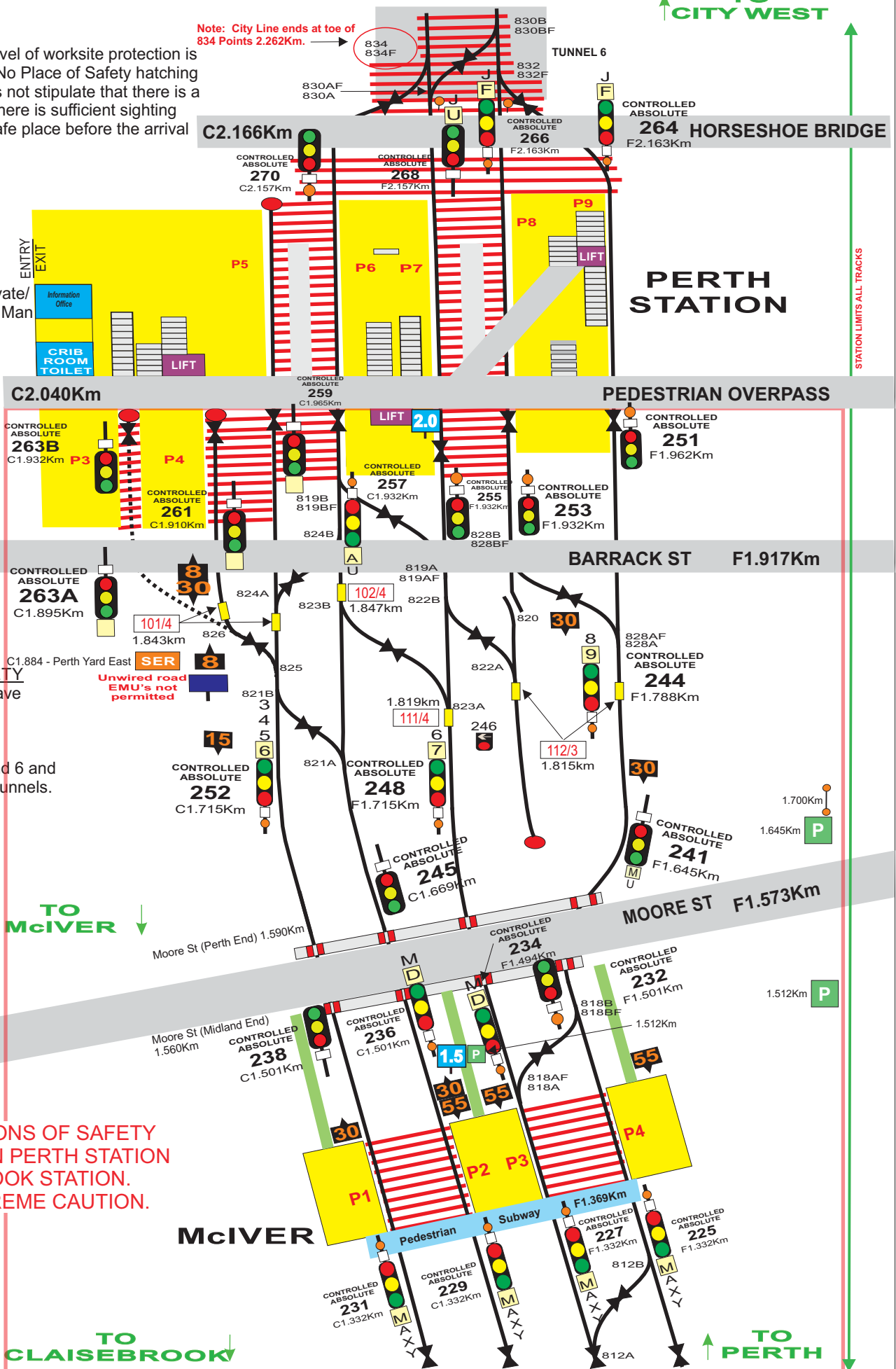
STATION LIMITS

- All Areas.

NOTES

- Contact ICO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 6

Note: City Line ends at toe of 834 Points 2.262Km.



NO PLACE OF SAFETY

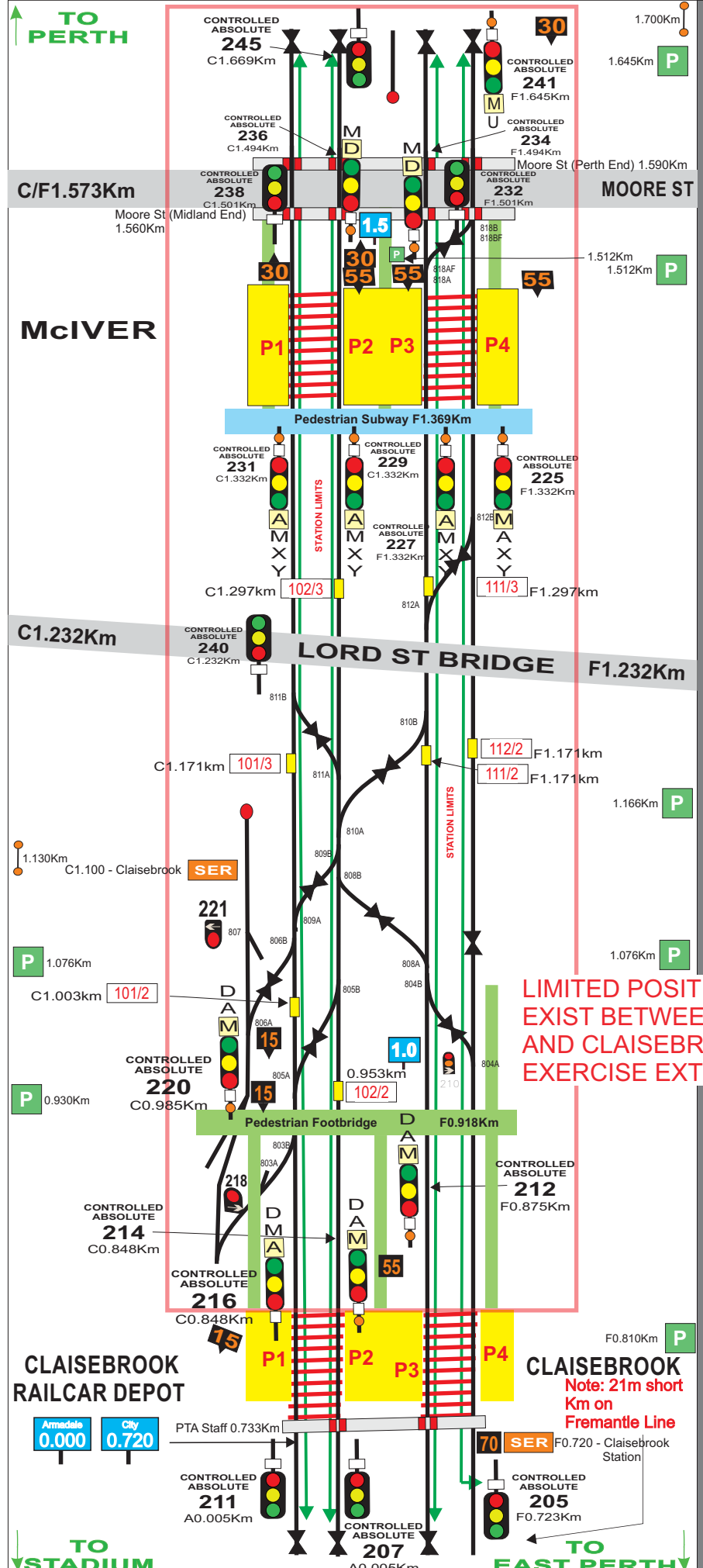
The below locations have No Place of Safety:

- Tunnel 5 and 6.
- Platforms 3, 4, 5 and 6 and area heading into Tunnels.

P C1.710Km

P C1.705Km

LIMITED POSITIONS OF SAFETY EXIST BETWEEN PERTH STATION AND CLAISEBROOK STATION. EXERCISE EXTREME CAUTION.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

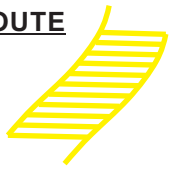
1. Claisebrook Station, Up & Down.
2. McIver Station, Up & Down.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Nil.



NOTES

1. City Line starts at A0.000/C0.720 directly adjacent to Signal 207.
2. **21m Short Km on Fremantle Line at F0.710**

STATION LIMITS

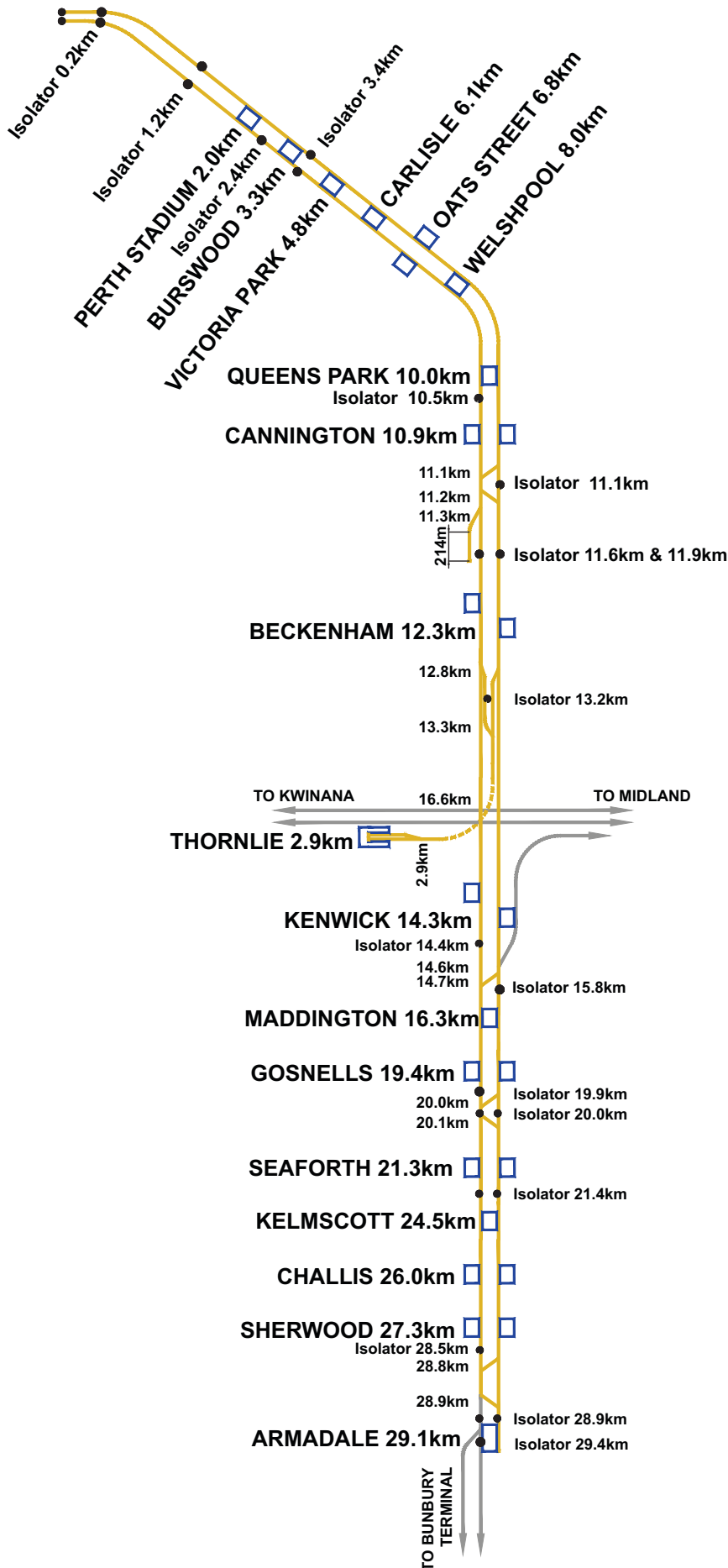
1. All Areas.

LIMITED POSITIONS OF SAFETY EXIST BETWEEN PERTH STATION AND CLAISEBROOK STATION. EXERCISE EXTREME CAUTION.

PRECAUTION

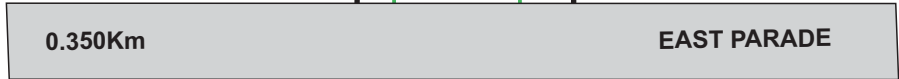
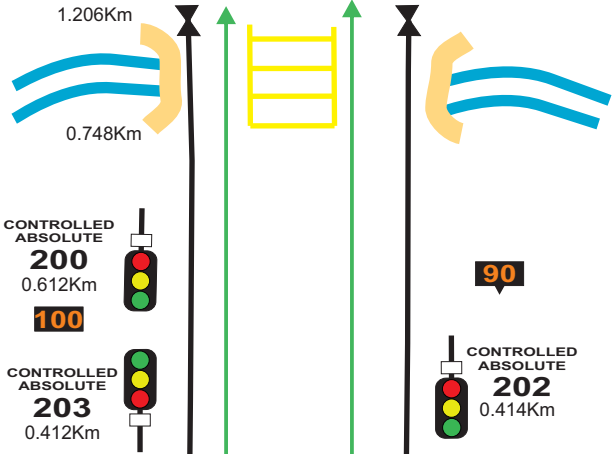
Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

ARMADALE LINE



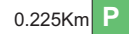
TO STADIUM ↑

GOONGOONGUP BRIDGE (SWAN RIVER)



DOWN MAIN

UP MAIN



CONTINUES TO SIGNAL 204



F0.720Km - Claisebrook Station



Claisebrook Station - 0.733Km

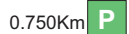


MIDLAND LINE DOWN MAIN

MIDLAND LINE UP MAIN

Claisebrook Station

PLATFORM 1



↓ TO MCIVER

INSTRUCTIONS

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.
1. Goongoongup Bridge.



STATION LIMITS

1. All lines Victoria to Perth.

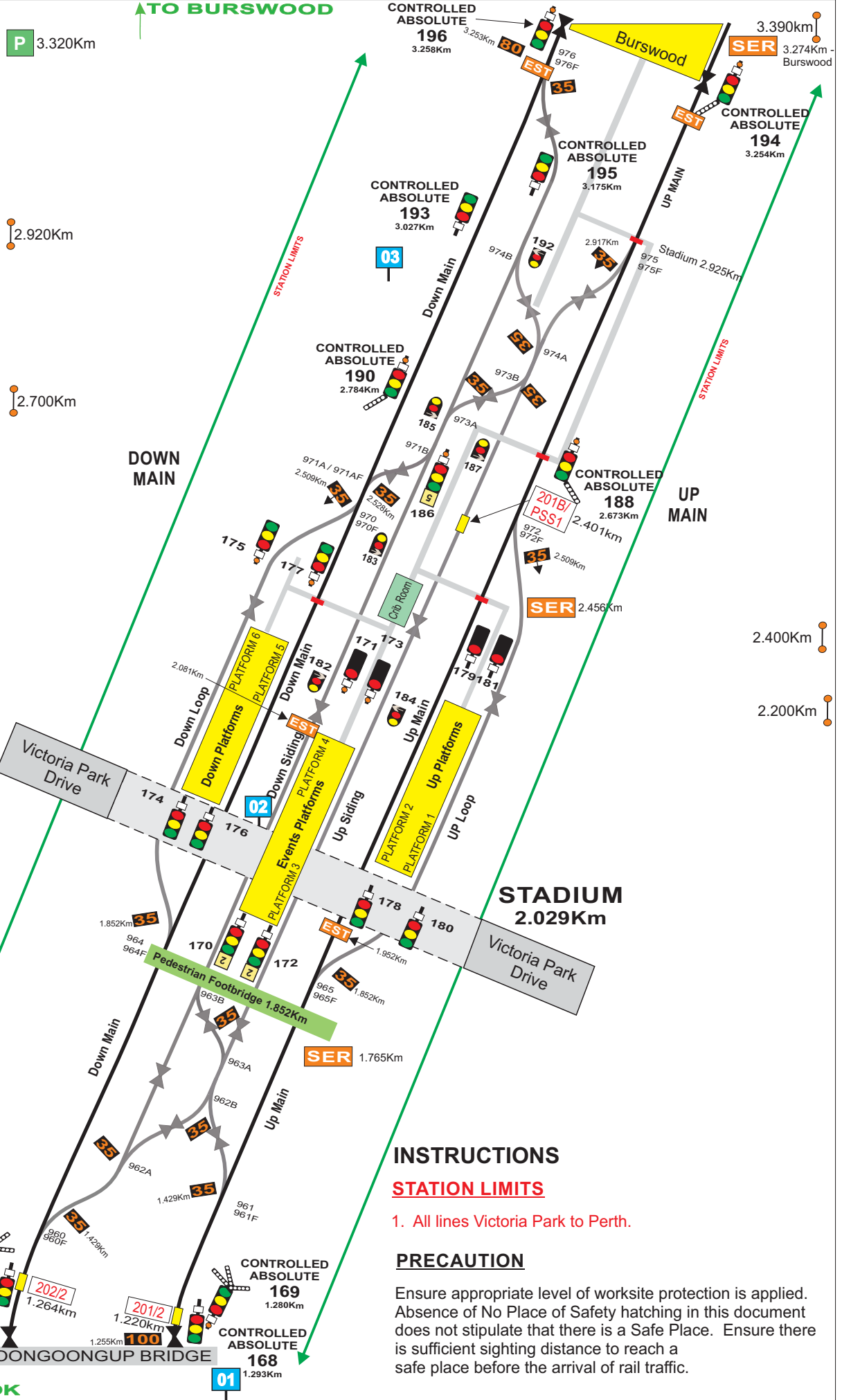
NOTES

1. City Line starts at A0.000/C0.720 directly adjacent Signal 207.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Place of Safety.

Signal	Kilometres
CONTROLLED ABSOLUTE	
170	1.823km
172	1.823km
174	1.973km
175	2.313km
176	1.973km
177	2.313km
178	1.973km
180	1.973km
186	2.589km
FIXED AT RED	
171	2.086km
173	2.086km
179	2.313km
181	2.313km
GROUND SHUNT	
182	2.091km
183	2.517km
184	2.091km
185	2.723km
187	2.723km
192	2.875km



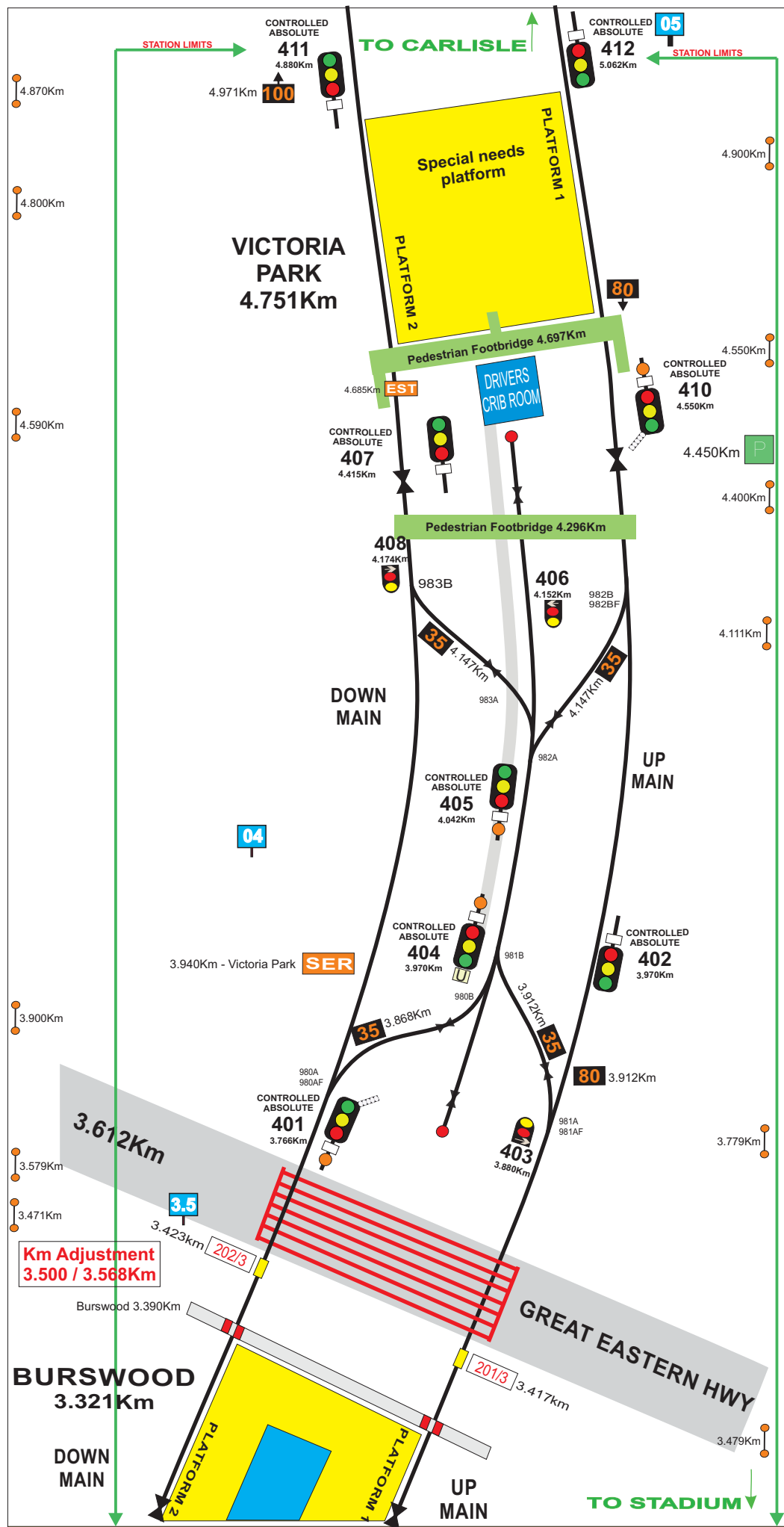
INSTRUCTIONS

STATION LIMITS

- 1. All lines Victoria Park to Perth.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Great Eastern Hwy Bridge.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.

STATION LIMITS

Down Main

1. Signal 411 @ 4.880Km to Perth.

Up Main

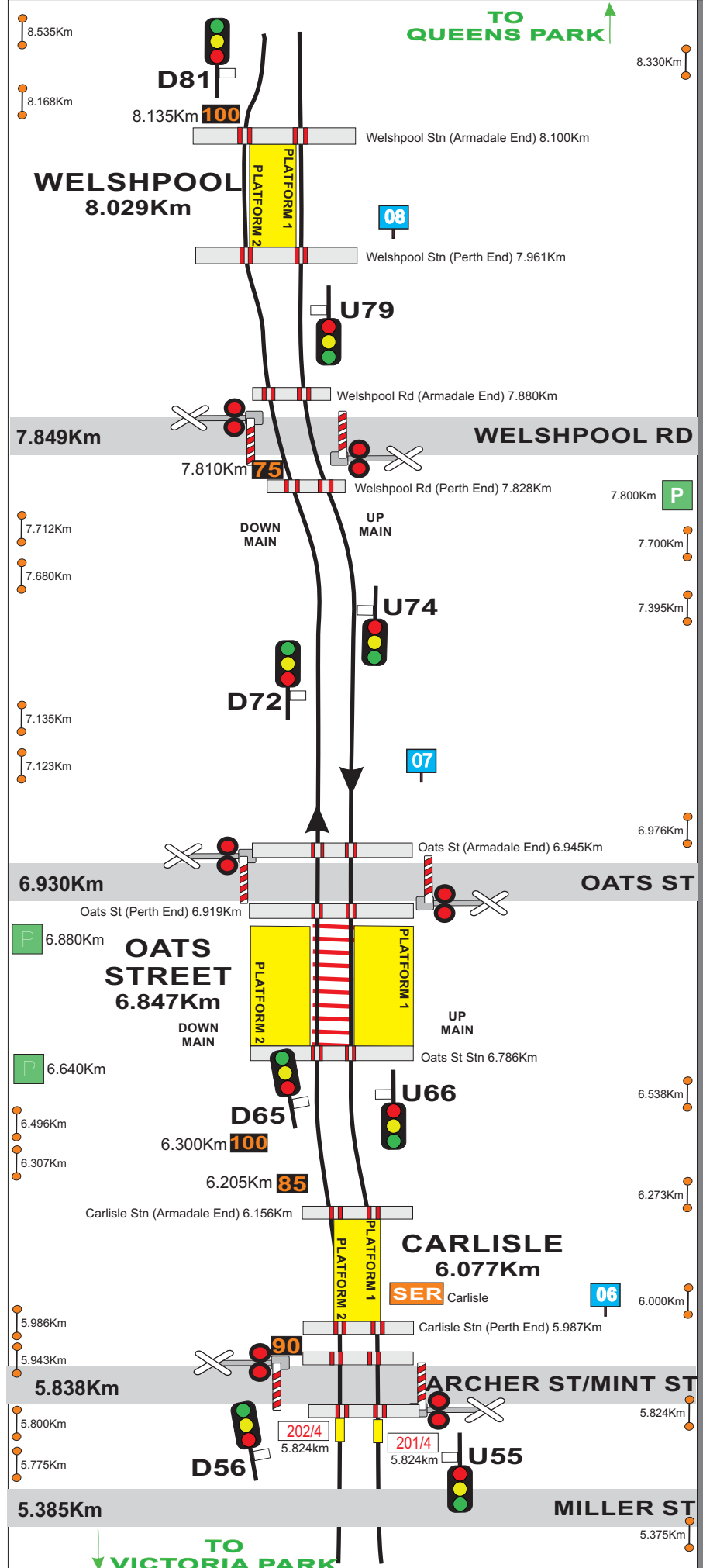
1. Signal 412 @ 5.062Km to Perth.

NOTE

A 68m adjustment exists at 3.5km
ie. 3.50km = 3.568km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Oats Street Station, Up & Down Main.



DESIGNATED WALKING ROUTE

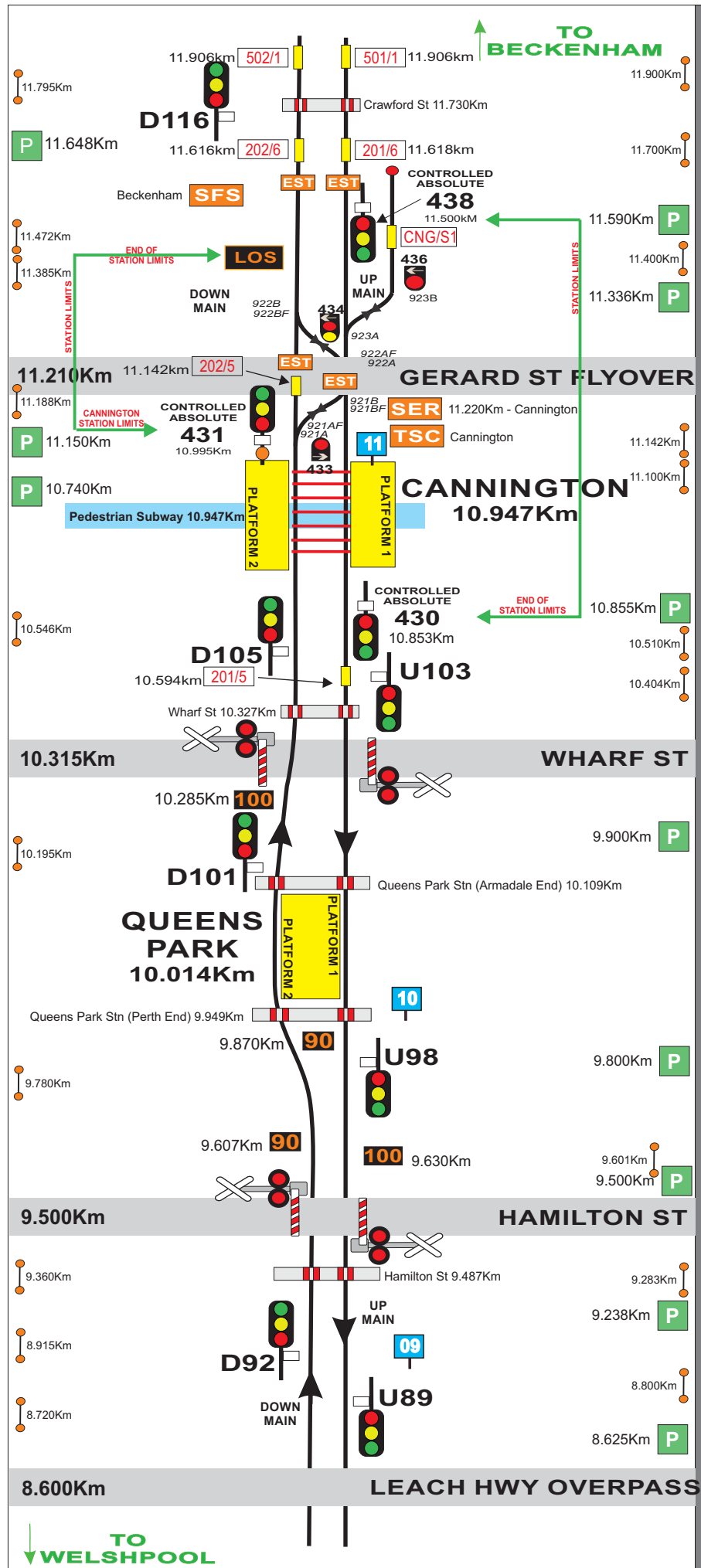
The below locations have a Designated Walking Route available:

1. Nil.



PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Cannington Station, Up & Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.



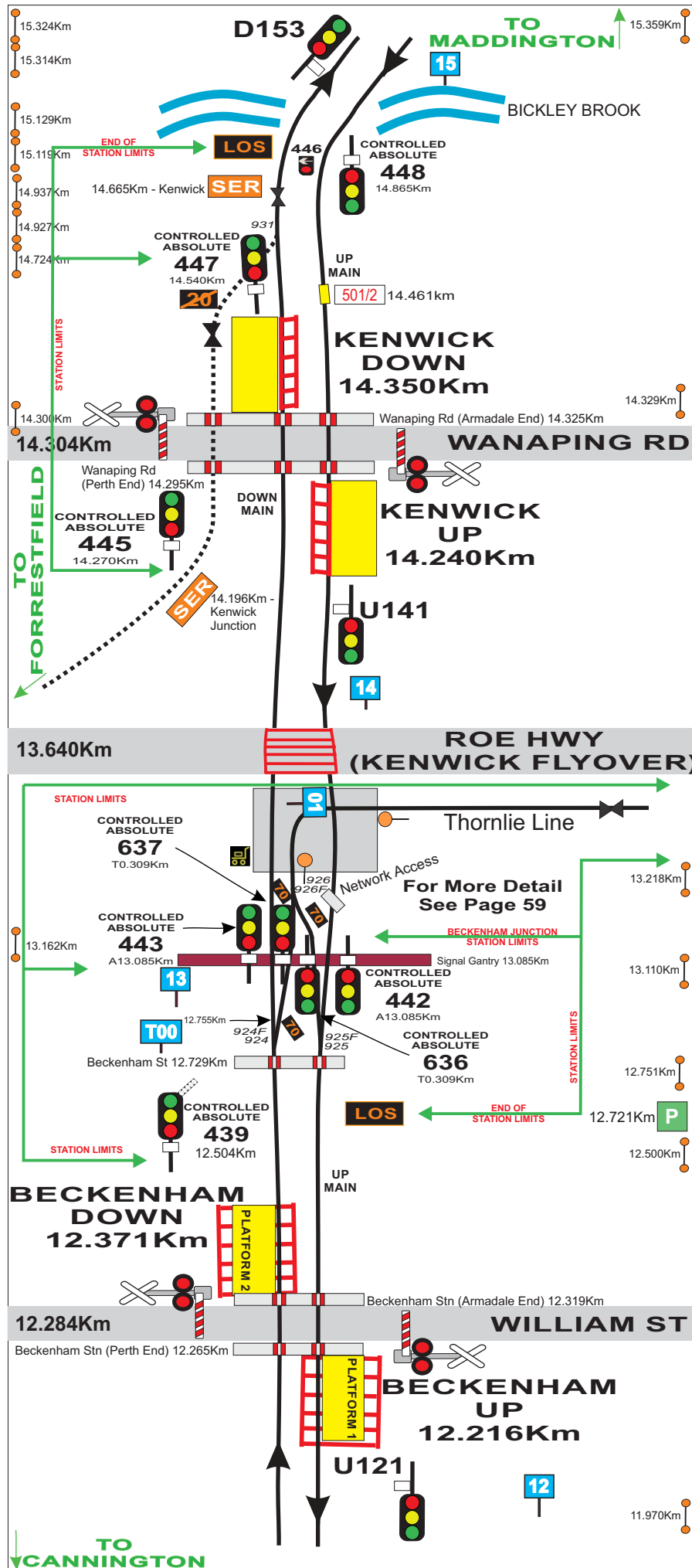
STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 431 (10.995Km) and Limit of Shunt Board (11.397Km) - approx. 160m Armadale side of 434 Ground Shunt Signal.

Up Main

1. Up Controlled Absolute Signal 438 (11.500Km).
2. Up Controlled Absolute Signal 430 (10.853Km).



INSTRUCTIONS

HAZARD, ARC INFRASTRUCTURE MAINS

The below locations are adjacent to ARC Infrastructure Mains and represent a Hazard:

1. Kenwick Station Down Main to Forrestfield

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Kenwick Flyover.
2. Beckenham Station Up & Down Main.
3. Kenwick Station Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.

STATION LIMITS

Beckenham Junction

Armadale line

Down Main

1. Down Controlled Absolute Signal 439 (A12.504Km) to Down Controlled Absolute Signal 443 (A13.085Km)

Up Main

1. LOS board (approx. 160m from 925 points at A12.780Km) to Up Controlled Absolute Signal 442 (A13.085Km).

Thornlie line

Down Main

1. Down Controlled Absolute Signal 439 (A12.504Km) to Single Line Controlled Absolute Signal 638 (T1.460Km)

Up Main

1. LOS board (approx. 160m from 925 points at A12.780Km) to Up Controlled Absolute Signal 638 (T1.460Km)

Thornlie Line Single Line Running

Trains move in both directions from 926 points to Thornlie Station Platform 1 and 2 buffer stops

Kenwick Junction

Down Main

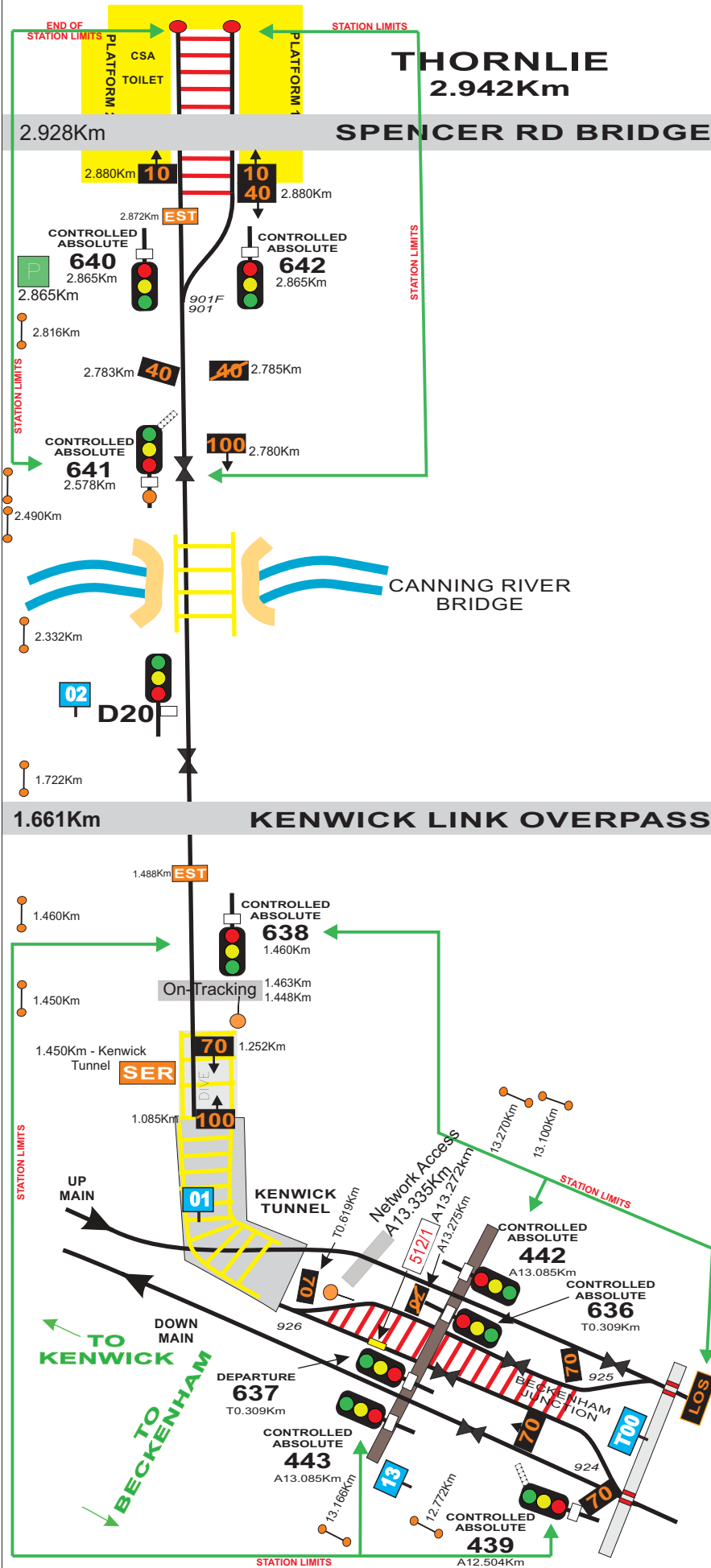
1. LOS board (approx 160m from 446 Ground Shunt Signal A14.892Km) to Down Controlled Absolute Signal 447 (A14.540Km) and to Down Controlled Absolute Signal 445 (A14.270Km) on Freight Line.

NOTES

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Kenwick Tunnel.
2. Track Trolley Location:
 - Kenwick Tunnel - Down Main at T1.165Km

Unwired Track PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Thornlie Station, Up & Down Main.
2. Beckenham Junction, Up & Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Canning River Bridge, Up & Down Main.
2. Kenwick Tunnel, Up & Down Main.



STATION LIMITS

Beckenham Junction Armadale line

Down Main

1. Down Controlled Absolute Signal 439 (A12.504Km) to Down Controlled Absolute Signal 443(A13.085Km)

Up Main

1. LOS board (approx. 160m from 925 points at A12.780Km) to Up Controlled Absolute Signal 442 (A13.085Km).

Thornlie line

Down Main

1. Down Controlled Absolute Signal 439 (A12.504Km) to Single Line Controlled Absolute Signal 638 (T1.460Km)

Up Main

1. LOS board (approx. 160m from 925 points at A12.780Km) to Up Controlled Absolute Signal 638 (T1.460Km)

Up and Down Main

1. Controlled Absolute signal 641 (T2.578Km) to Platform 1 & 2.

Thornlie Line Single Line Running

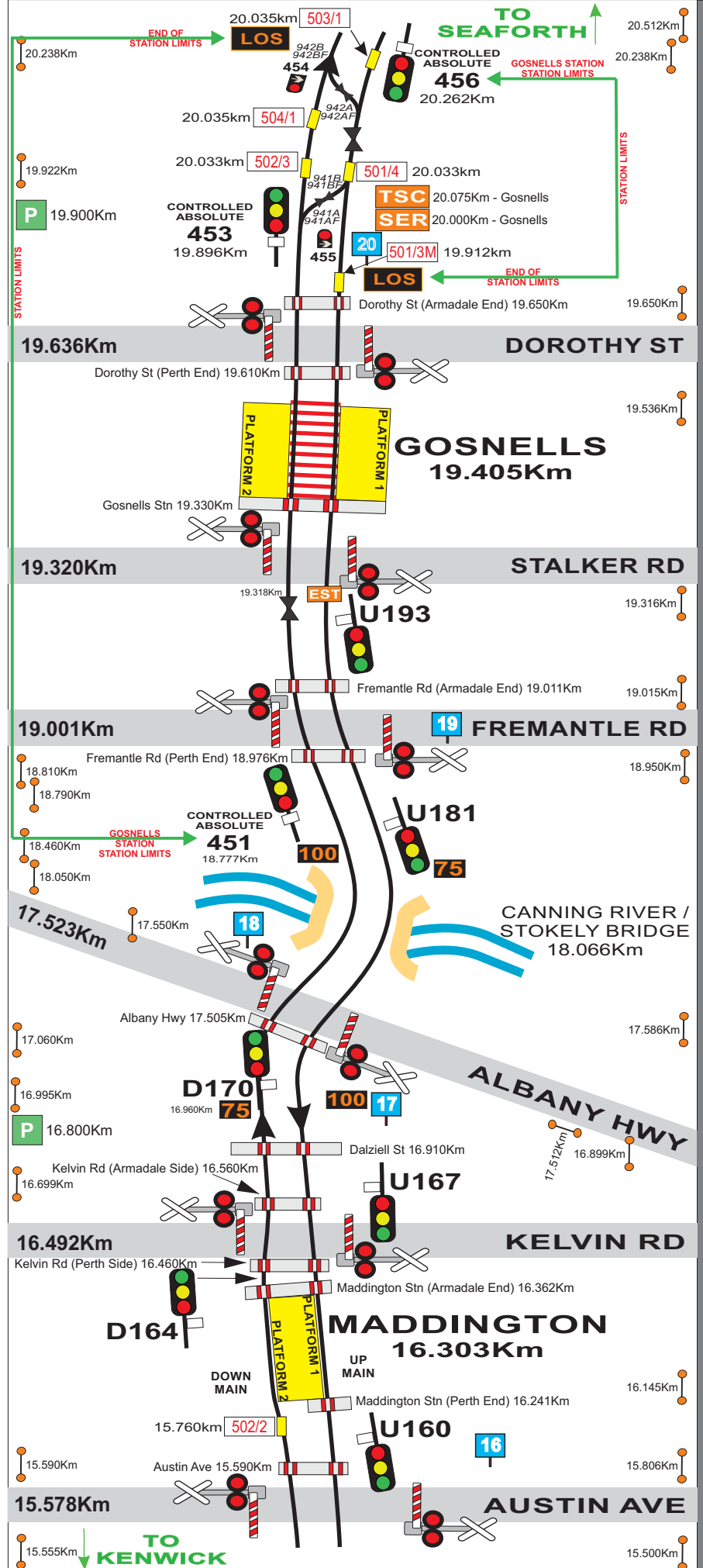
Trains move in both directions from 926 points to Thornlie Station Platform 1 and 2 buffer stops

NOTES:

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Kenwick Tunnel.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Gosnells Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.

STATION LIMITS

Down Main

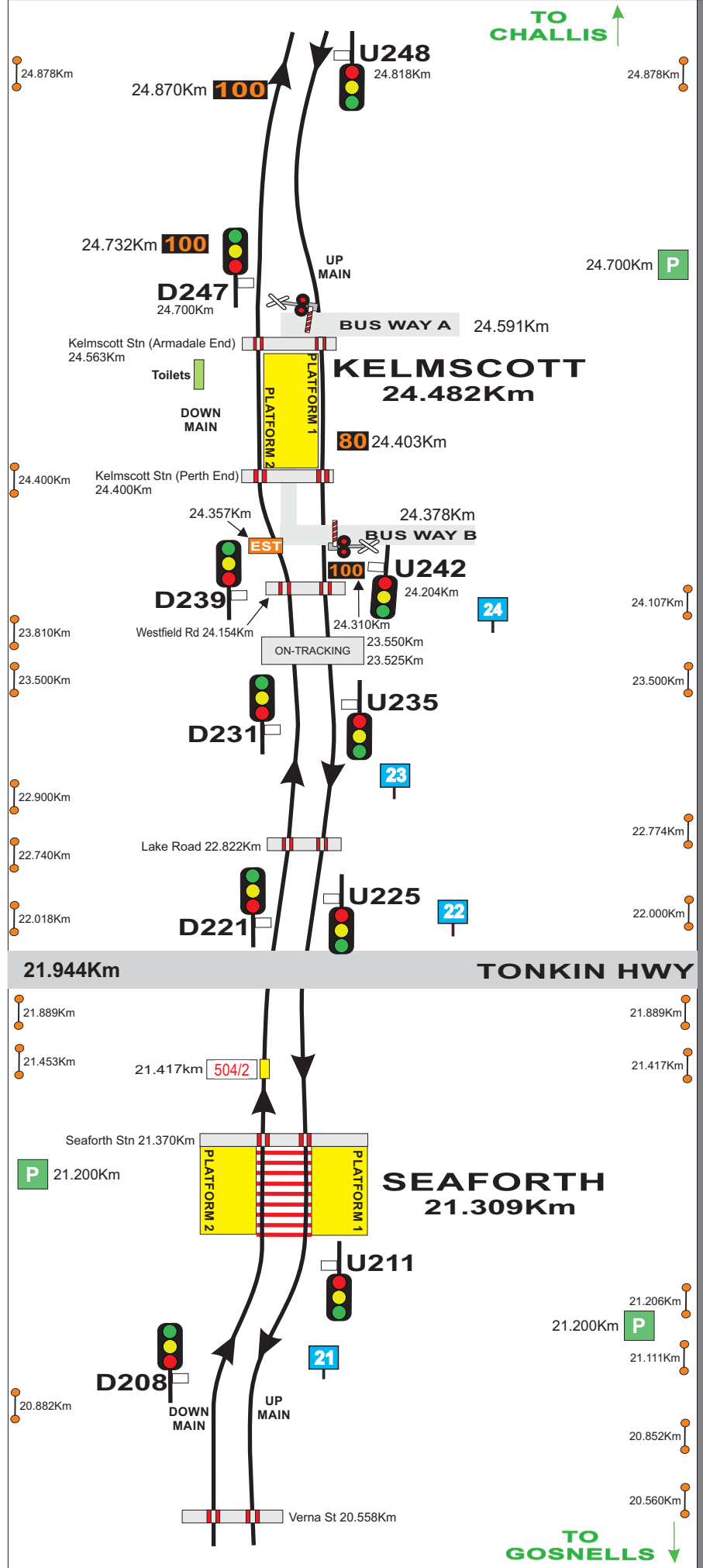
1. Down Controlled Absolute Signal 451 (18.777km) to LOS board (20.260km) approx. 160m Armadale side of 454 Ground Shunt Signal.

Up Main

1. Up Controlled Absolute Signal 456 (20.262km) to LOS board (19.715km) approx. 160m Perth side of 455 Ground Shunt Signal.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

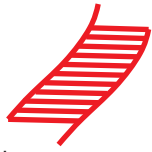


INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

- 1. Seaforth Station, Up & Down Main.



DESIGNATED WALKING ROUTE

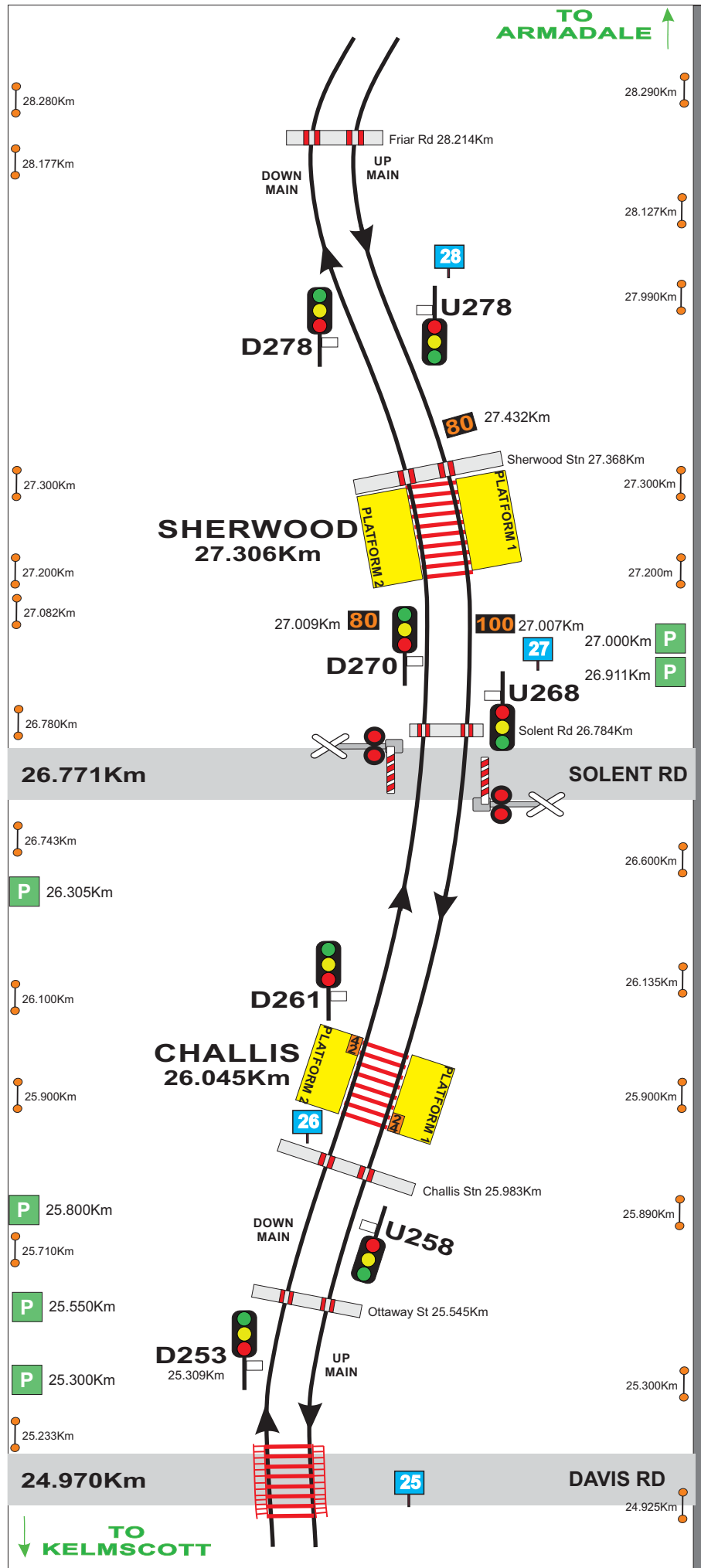
The below locations have a Designated Walking Route available:

- 1. Nil.



PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. Sherwood Station, Up & Down Main.
2. Challis Station, Up & Down Main.
3. Davis Road (Rail Over Road Underpass), Up & Down Main.

DESIGNATED WALKING ROUTE

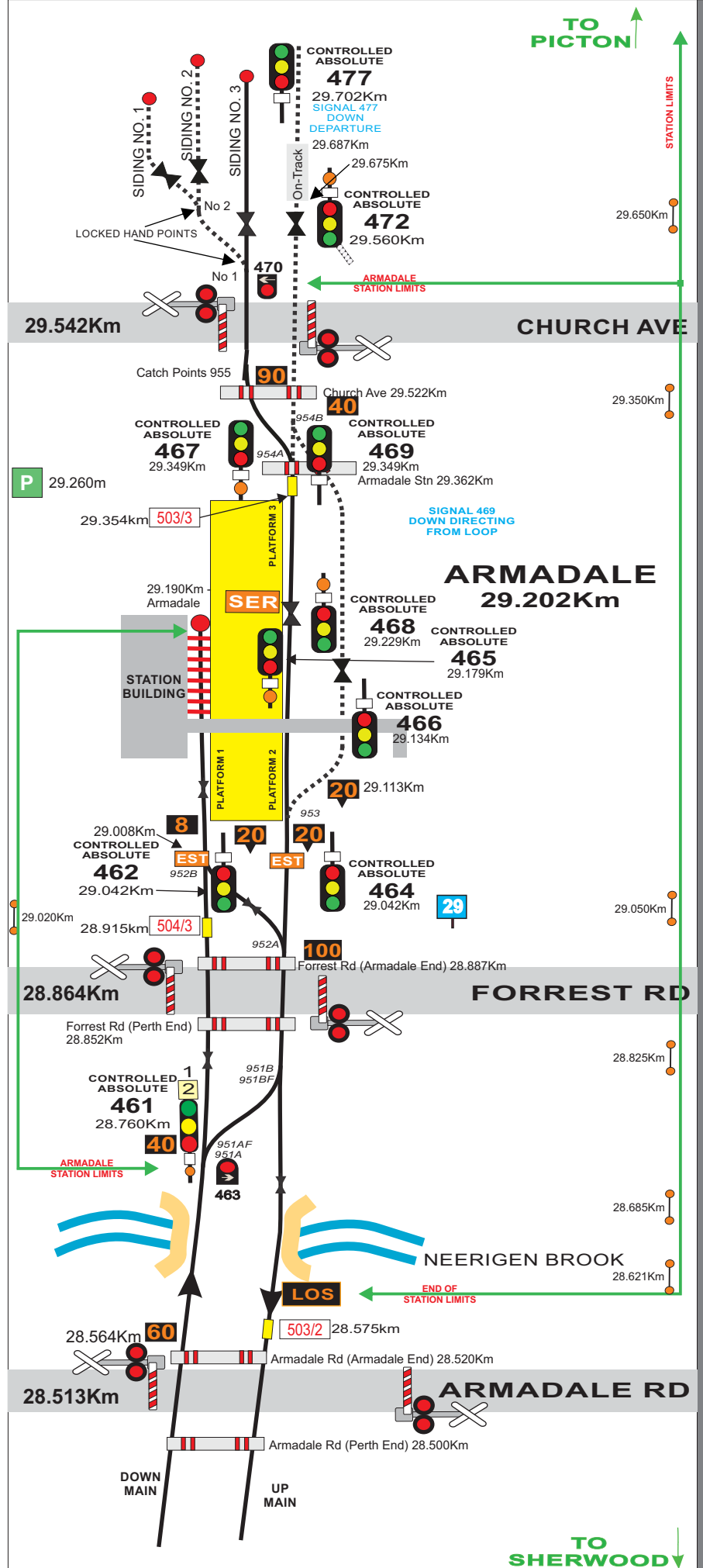
The below locations have a Designated Walking Route available:



1. Davis Road (Rail Over Road Underpass), Up & Down Main. No Handrails yet, to be installed on both sides at a later stage.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

HAZARD, ARC INFRASTRUCTURE MAINS

The below locations are adjacent to ARC Infrastructure Mains and represent a Hazard:

1. Armadale Station, Up Main to Bunbury Station

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Armadale Station, Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil.

STATION LIMITS

Armadale to Mundijong

1. Single line bi-directional.

Down Main

1. Down Controlled Absolute Signal 461 (28.760km) to Platform 1 buffer stop.

Up Main

1. Up Controlled Absolute Signal 480 on single bi-directional Mundijong Line (30.099km) to LOS board (28.600km) approx. 160m Perth side of 463 Ground Shunt Signal.

..... Unwired Track

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

31.180Km

31.050Km

BYRON/WUNGONG RD

32

80/80

80/80

U310

31

CONTROLLED ABSOLUTE
480
30.099Km

ARMADALE
STATION LIMITS

30

Deerness Way 29.910Km

INSTRUCTIONS

STATION LIMITS

- Armadale to Mundijong**
1. Single line bi-directional.
 2. Up Controlled Absolute Signal 480 on single bi-directional Mundijong line (30.099km) to LOS board (28.600km) approx. 160m Perth side of 463 Ground Shunt Signal.

Unwired Track

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

DOWN DEPARTURE
477
29.702Km

29.687Km

29.675Km

470

CONTROLLED ABSOLUTE
472
29.560Km

29.542Km

CHURCH AVE

Church Ave 29.522Km
955 Catch Points

TO PICTON ↑

35.609Km

35.580Km

34.950Km

Larsen Rd 35.610Km

LARSEN RD

35.925Km
35.690Km
35.610Km
35.600Km

35

34.868Km

THOMAS RD

34.900Km

34.820Km

34.800Km

80/80

34

INSTRUCTIONS

STATION LIMITS

- Armadale to Mundijong
1. Single Line bi-directional.

Unwired Track

Road Base Level Crossing 33.200Km

80/80

33

32.850Km

32.816Km

ELEVENTH RD

32.800Km

32.780Km

32.750Km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO ARMADALE ↓

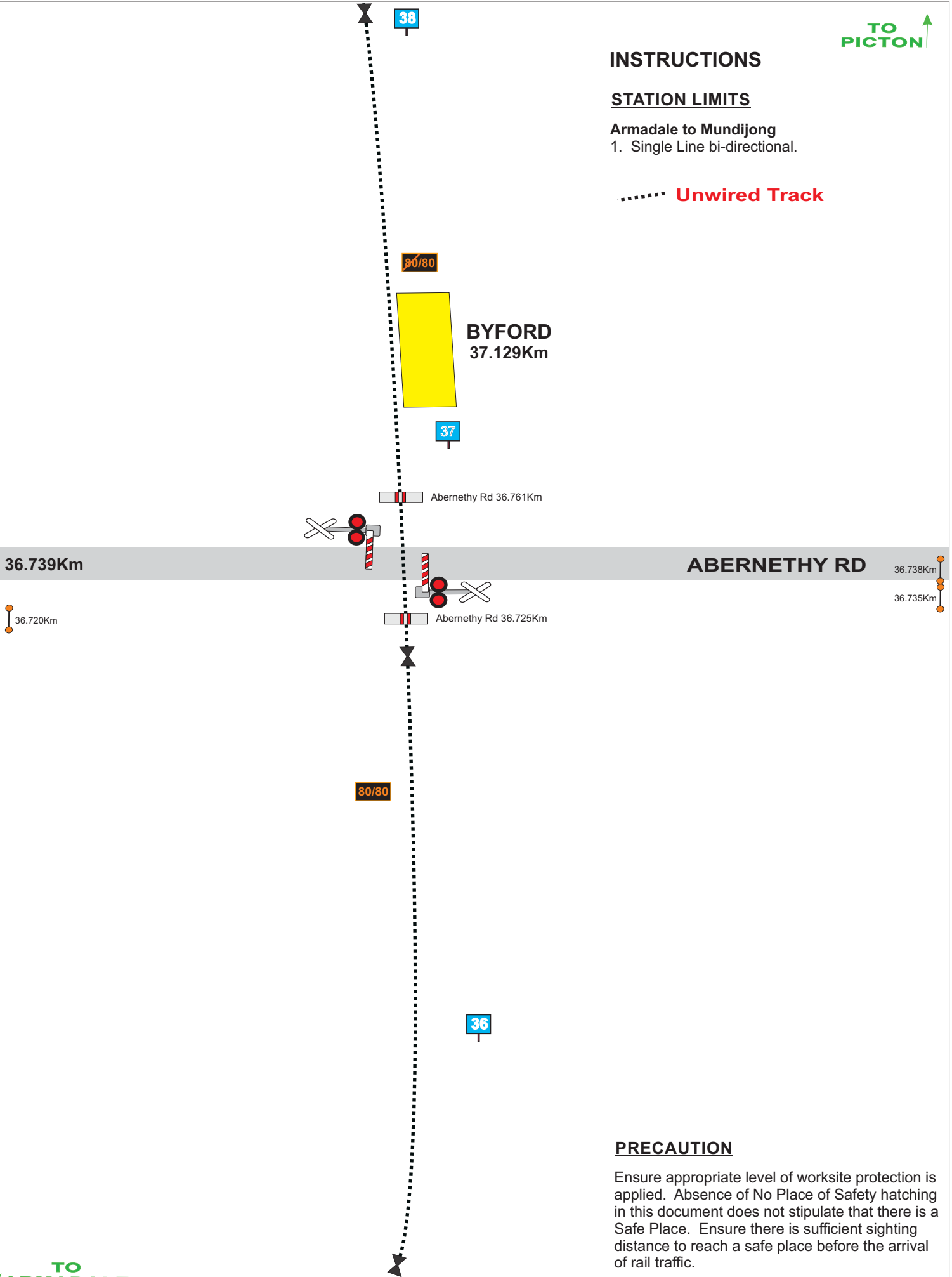
INSTRUCTIONS

STATION LIMITS

Armadale to Mundijong

1. Single Line bi-directional.

..... **Unwired Track**



PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

INSTRUCTIONS

STATION LIMITS

Armadale to Mundijong

1. Single Line bi-directional.

..... **Unwired Track**



41

40

39

38.972Km

CARDUP SIDING RD

PRECAUTION

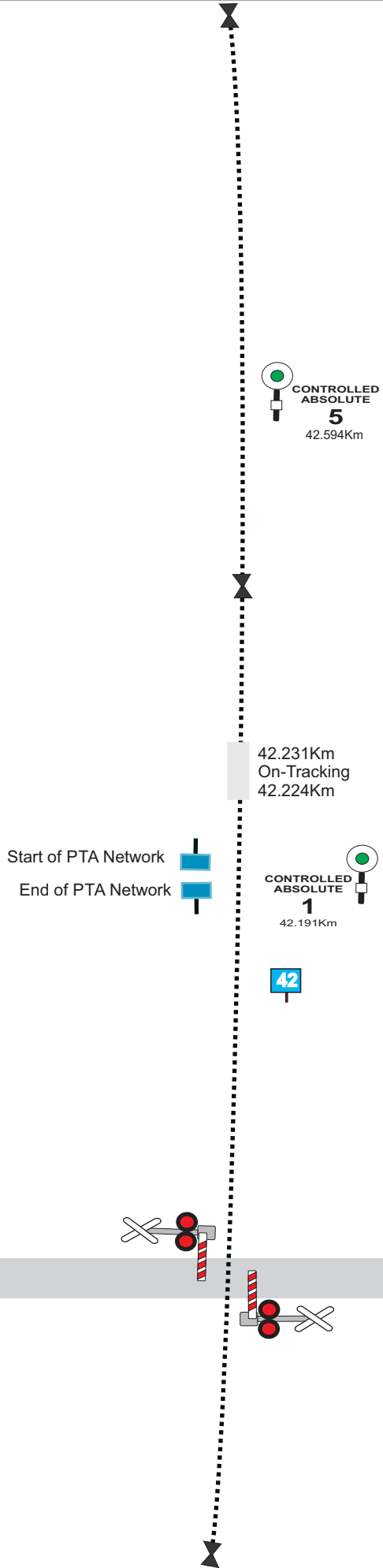
Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

INSTRUCTIONS

STATION LIMITS

Armadale to Mundijong
1. Single Line bi-directional.

 **Unwired Track**



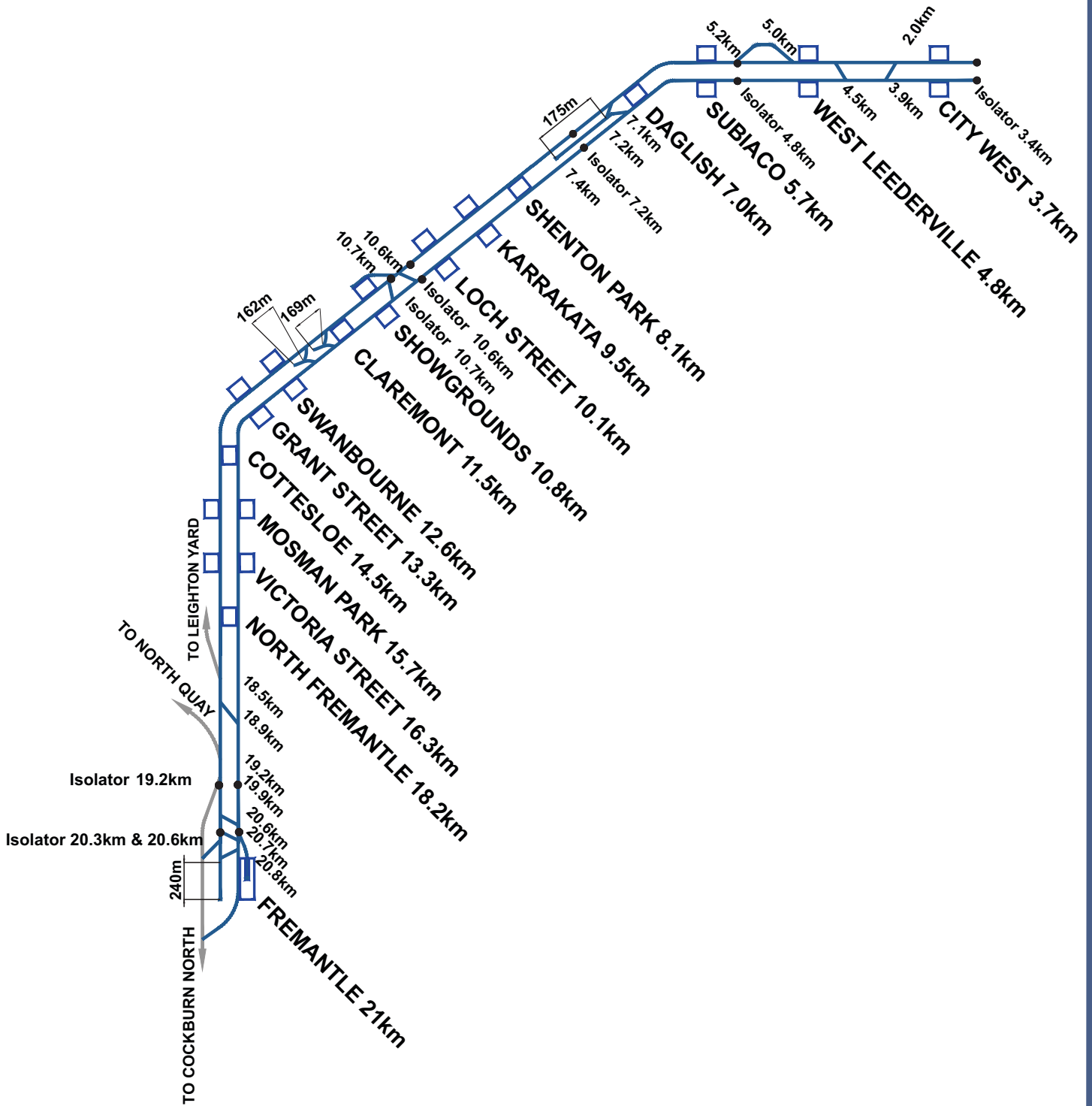
41.648Km

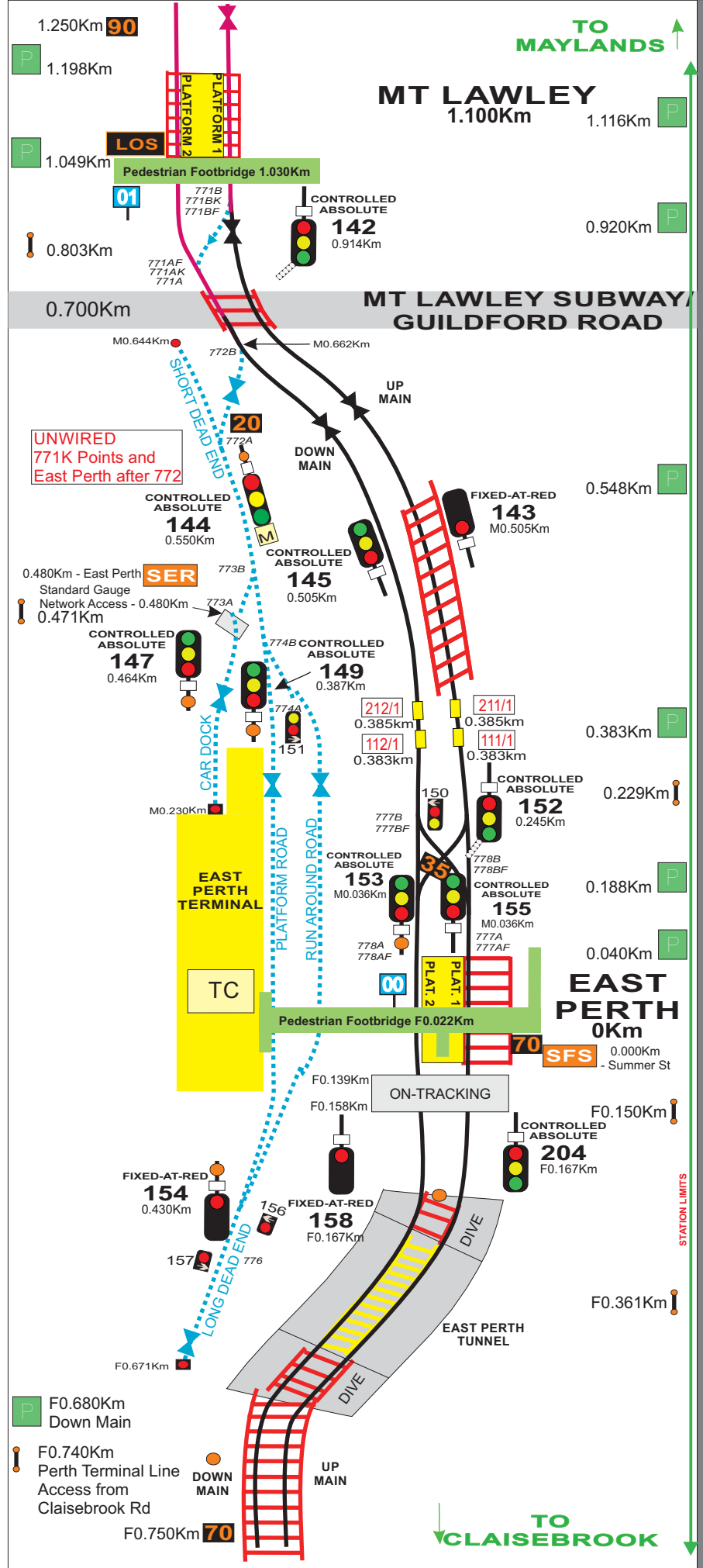
NORMAN RD

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

FREMANTLE LINE

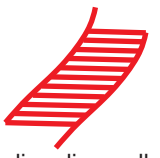




INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. City end of East Perth tunnel including dive walls
2. East Perth Platform, Up Main
3. Isolators 211/1 & 111/1 to Controlled Absolute Signal 143
4. Mt Lawley Subway
5. Mt Lawley Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. East Perth Tunnel.

STATION LIMITS

East Perth Terminal Roads

1. East Perth Terminal all roads from 772B Points.

Down Main

1. Up Fixed-at-Red Signal 158 (F0.170km) to LOS Board (M1.073km) approx. 160m Midland side of 771K points.

Up Main

1. Up Controlled Absolute Signal 140 (1.641km) to Up Controlled Absolute Signal 204 (F0.170km).
2. Up Controlled Absolute Signal 204 (F0.170km) to Perth.

MT LAWLEY and EAST PERTH

- Narrow gauge track
- Dual gauge track
- Standard gauge track
- ... Unwired Track

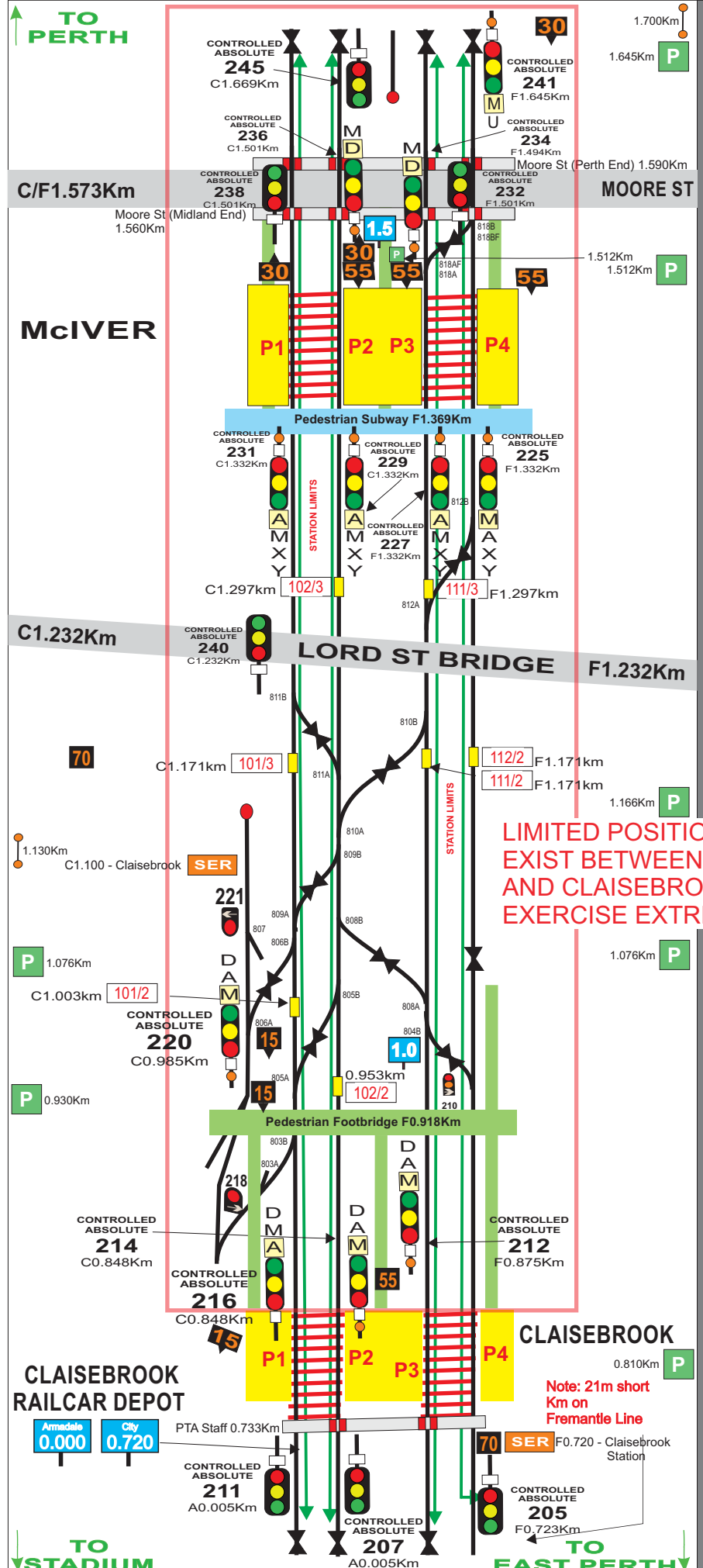
NOTES

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in East Perth Tunnel.
2. Rule 3011 must be used for accessing and egressing East Perth Tunnel while trains are running.

- Flashing Man
- ↑ MIDLAND LINE
- ↓ FREMANTLE LINE

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

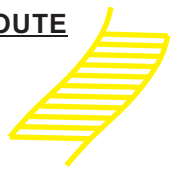
1. McIver Station, Up & Down Main.
2. Claisebrook Station, Up & Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Nil.



STATION LIMITS

Midland Down Main

1. Down Absolute Controlled Signal 205 (F0.723Km) to Perth.

Midland Up Main

1. Armadale Up and Down Mains and City Up and Down Mains.

NOTES

1. City Line starts at A0.000/C0.720 directly adjacent to Signal 207.
2. **21m Short Km on Fremantle Line at F0.710**

LIMITED POSITIONS OF SAFETY EXIST BETWEEN PERTH STATION AND CLAISEBROOK STATION. EXERCISE EXTREME CAUTION.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

INSTRUCTIONS

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

Note: City Line ends at toe of 834 Points 2.262Km.

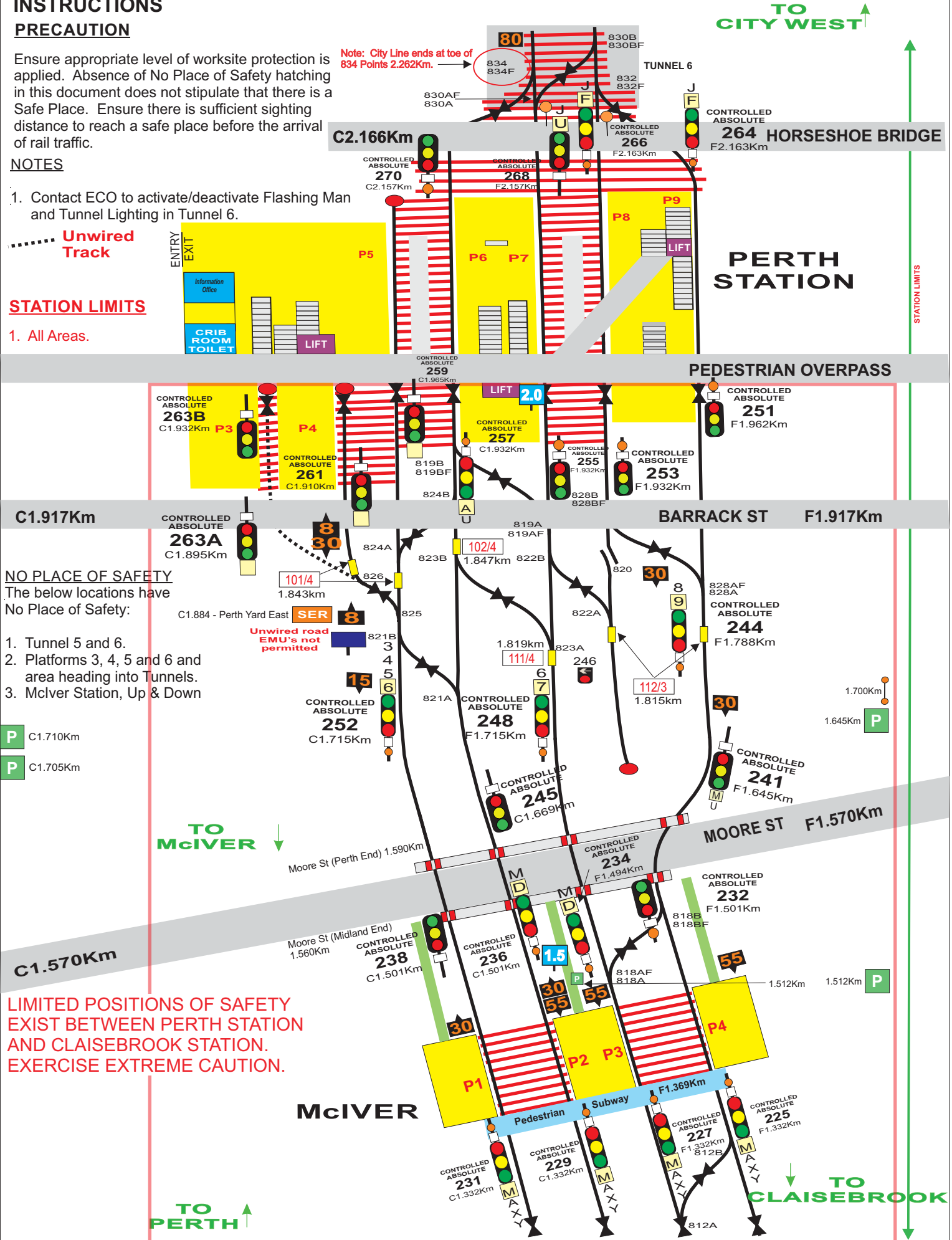
NOTES

- Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnel 6.

Unwired Track

STATION LIMITS

- All Areas.



NO PLACE OF SAFETY

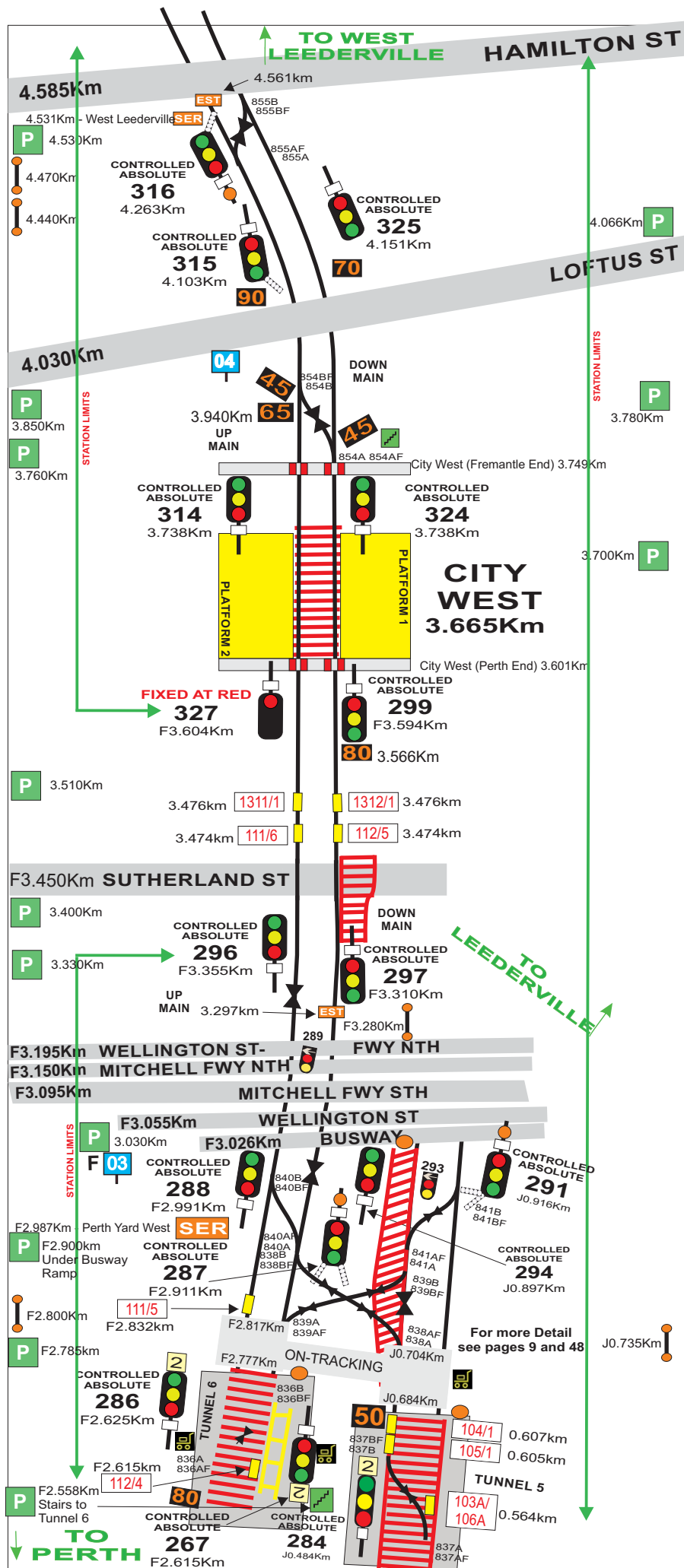
The below locations have No Place of Safety:

- Tunnel 5 and 6.
- Platforms 3, 4, 5 and 6 and area heading into Tunnels.
- McIver Station, Up & Down

P C1.710Km

P C1.705Km

LIMITED POSITIONS OF SAFETY EXIST BETWEEN PERTH STATION AND CLAUSEBROOK STATION. EXERCISE EXTREME CAUTION.



INSTRUCTIONS

NO PLACE OF SAFETY

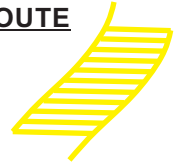
The below locations have No Place of Safety:



1. City West Station, Up & Down Main.
2. Tunnel 6, Up & Down Main.
3. Signal 297 to Sutherland Street Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Roe St Tunnel Joondalup Line
2. Refer to page 48 for DWR in Tunnel 6

STATION LIMITS

1. All areas.

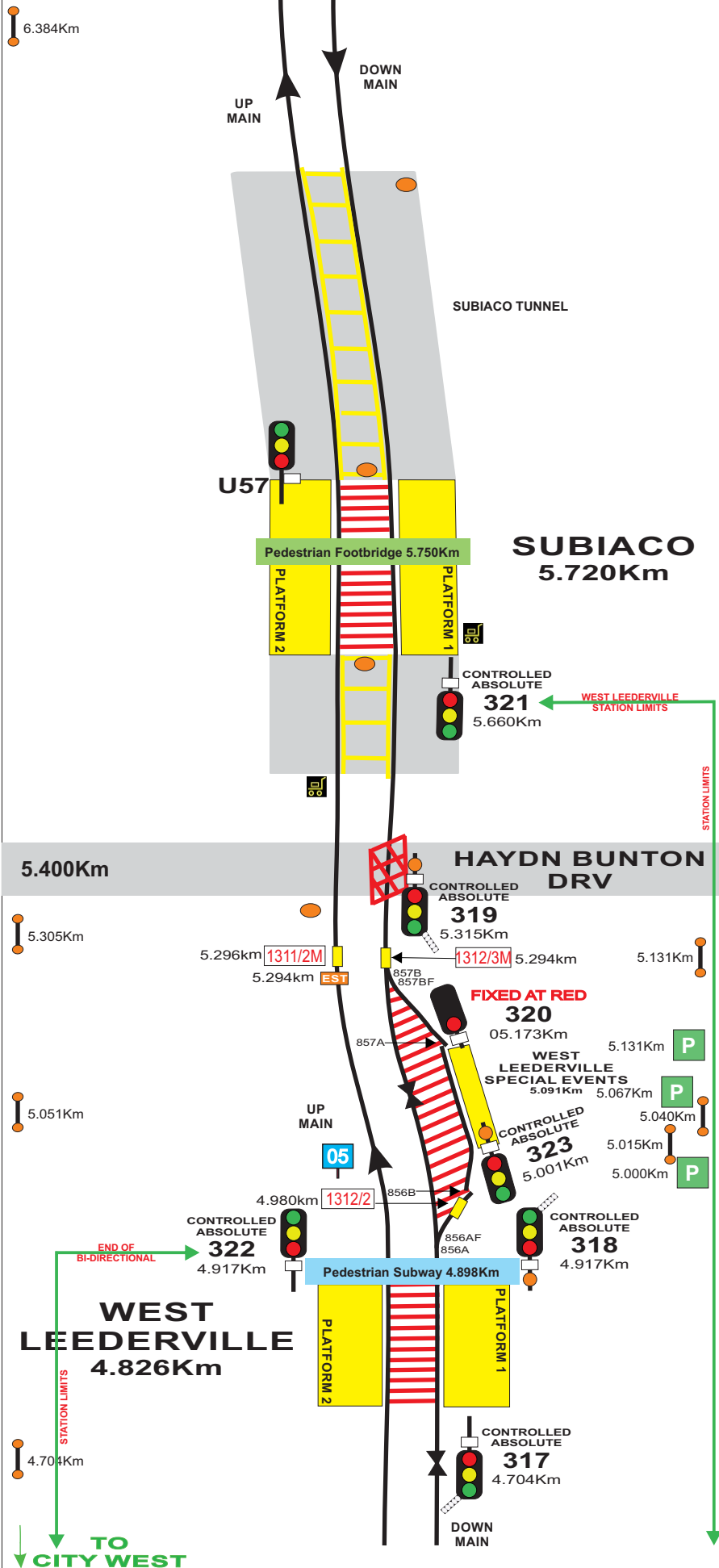
NOTES

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in Tunnels 5 and 6.
2. Roe St Tunnel Flashing Man and Tunnel Lighting is Manually Operated ONLY.
Rule 3011 must be used for accessing and egressing Roe St Tunnel while trains are running.
3. Track Trolley Locations:
 - Tunnel 5 - Up Main at J0.669Km
 - Tunnel 6 - Up Main at F2.625Km
 - Tunnel 6 - Down Main at F2.612Km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

TO
DAGLISH



INSTRUCTIONS

NO PLACE OF SAFETY

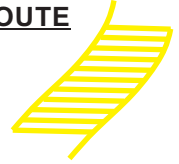
The below locations have No Place of Safety:



1. Subiaco Station, Up & Down Main.
2. West Leederville Station, Up & Down Main.
3. West Leederville Special Events Station, Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Subiaco Tunnel.

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 321 (5.660km) to Perth.

Up Main

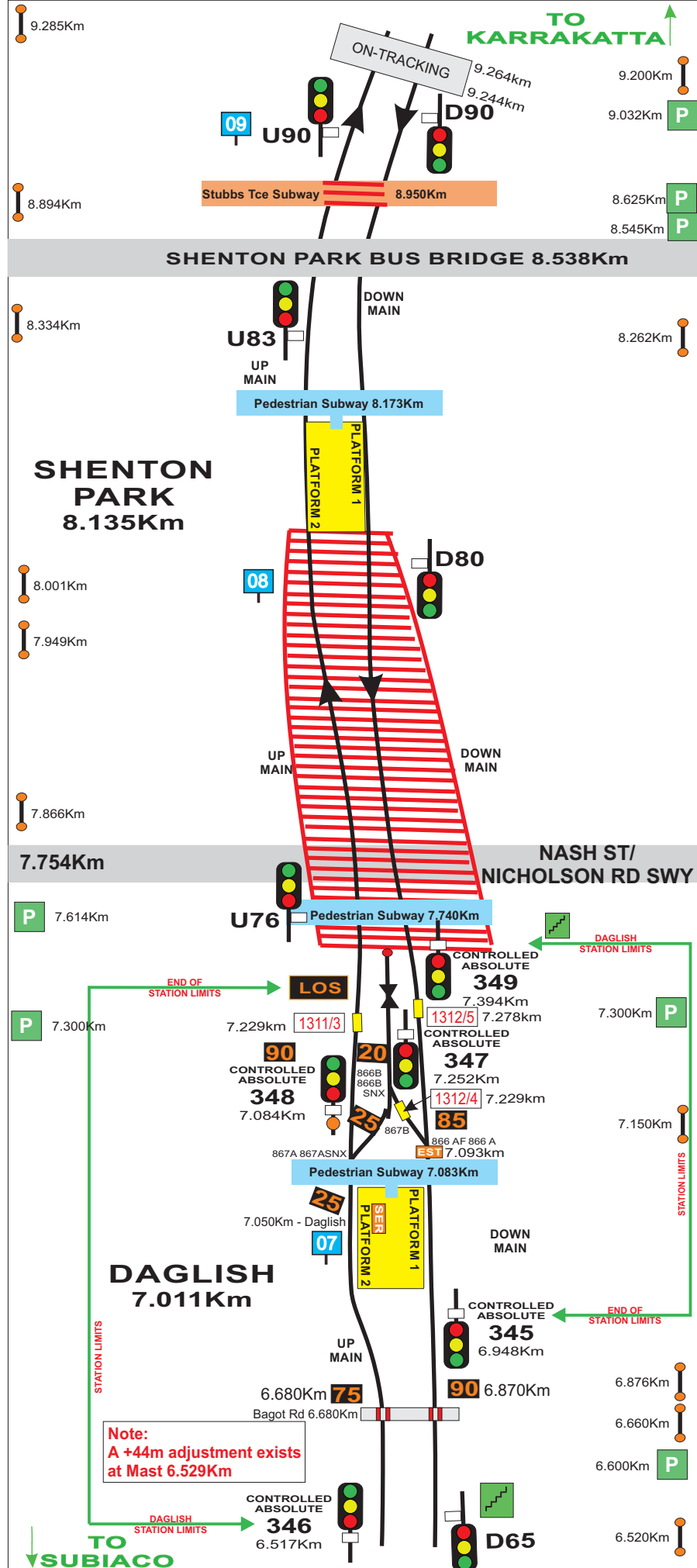
1. Perth to Up Controlled Absolute Signal 322.

NOTES

1. Subiaco Tunnel Flashing Man and Tunnel Lighting is Manually Operated ONLY.
2. Rule 3011 must be used for accessing and egressing Subiaco Tunnel while trains are running.
3. Track Trolley Locations:
 - Subiaco Tunnel - Up Main at F5.452km
 - Subiaco Tunnel - Down Main at F5.670Km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

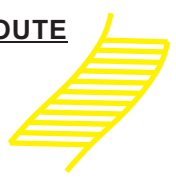
The below locations have No Place of Safety:



1. Shenton Park to Mast 7.549, Perth side of Nicholson Road Subway.
2. Stubbs Terrace Subway Bridge.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Nil.

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 349 (7.394km) to Down Controlled Absolute Signal 345 (6.948km).

Up Main

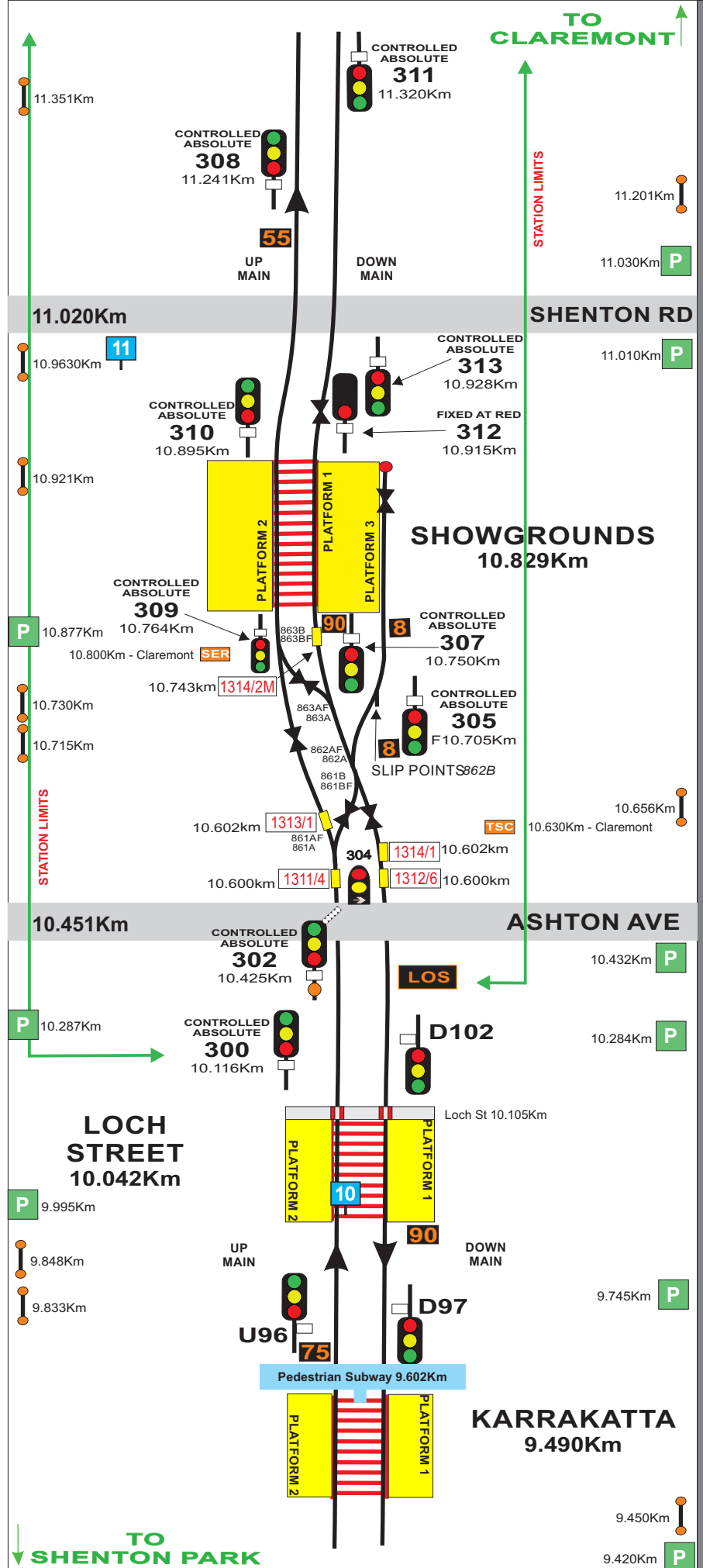
1. Up Controlled Absolute Signal 346 (6.517km) and LOS board (7.449Km) approx. 160m beyond insulated joint at end of 867A Points.

Note:

A +44m adjustment exists at Mast 6.529Km

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

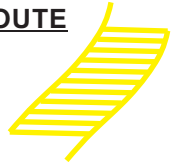
The below locations have No Place of Safety:



1. Showgrounds Station, Up & Down Main.
2. Loch Street Station, Up & Down Main.
3. Karrakatta Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Nil.

STATION LIMITS

Down Main

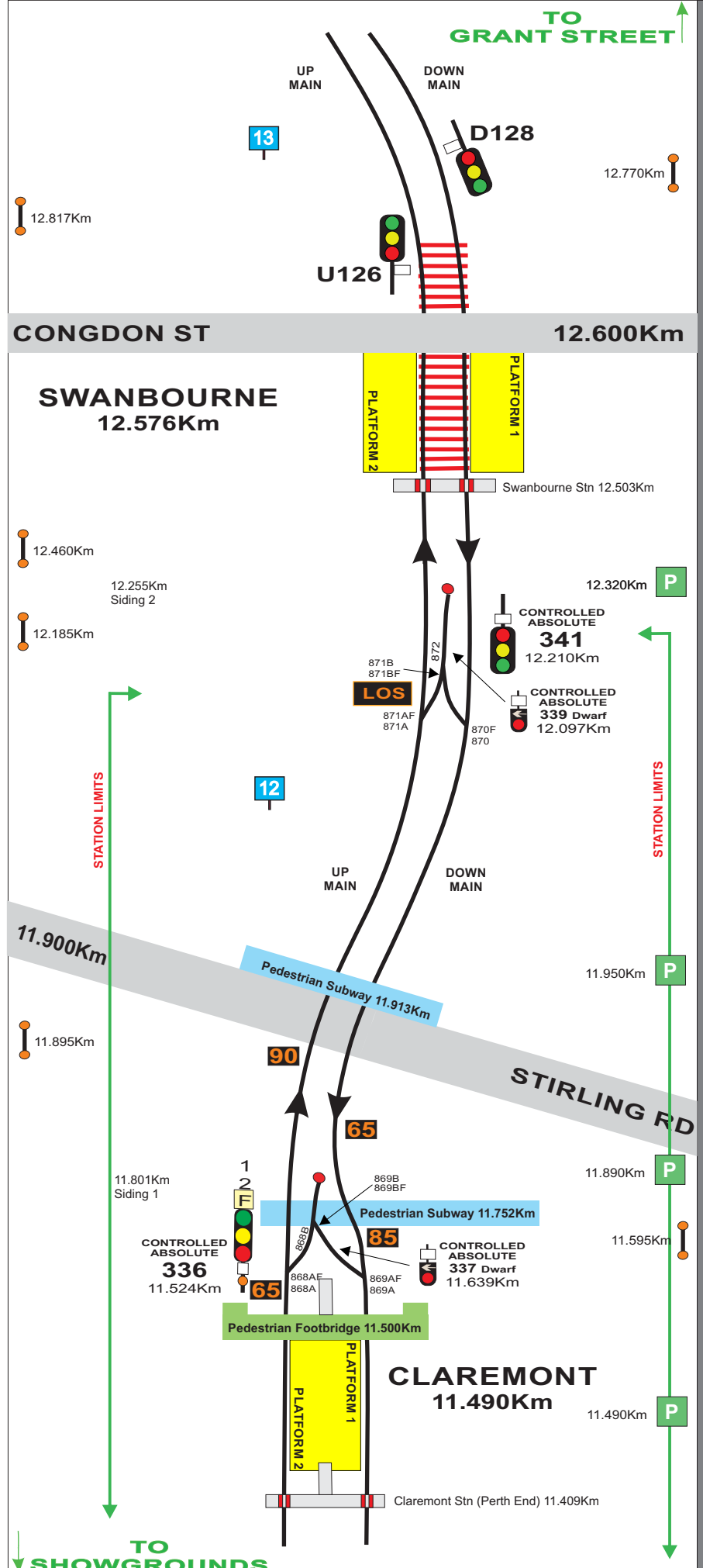
1. LOS Board (10.430km) approx. 160m from 304 Ground Shunt Signal and Controlled Absolute Signal 341 (12.210km)

Up Main

1. Controlled Absolute Signal 300 (10.116Km) and LOS Board (12.026Km) at clearance point of 871A Points.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

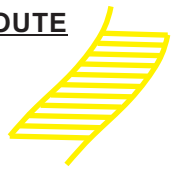
The below locations have No Place of Safety:



1. Swanbourne Station, Up & Down Main.
2. 200m Fremantle Side of Swanbourne Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



1. Nil.

STATION LIMITS

Down Main

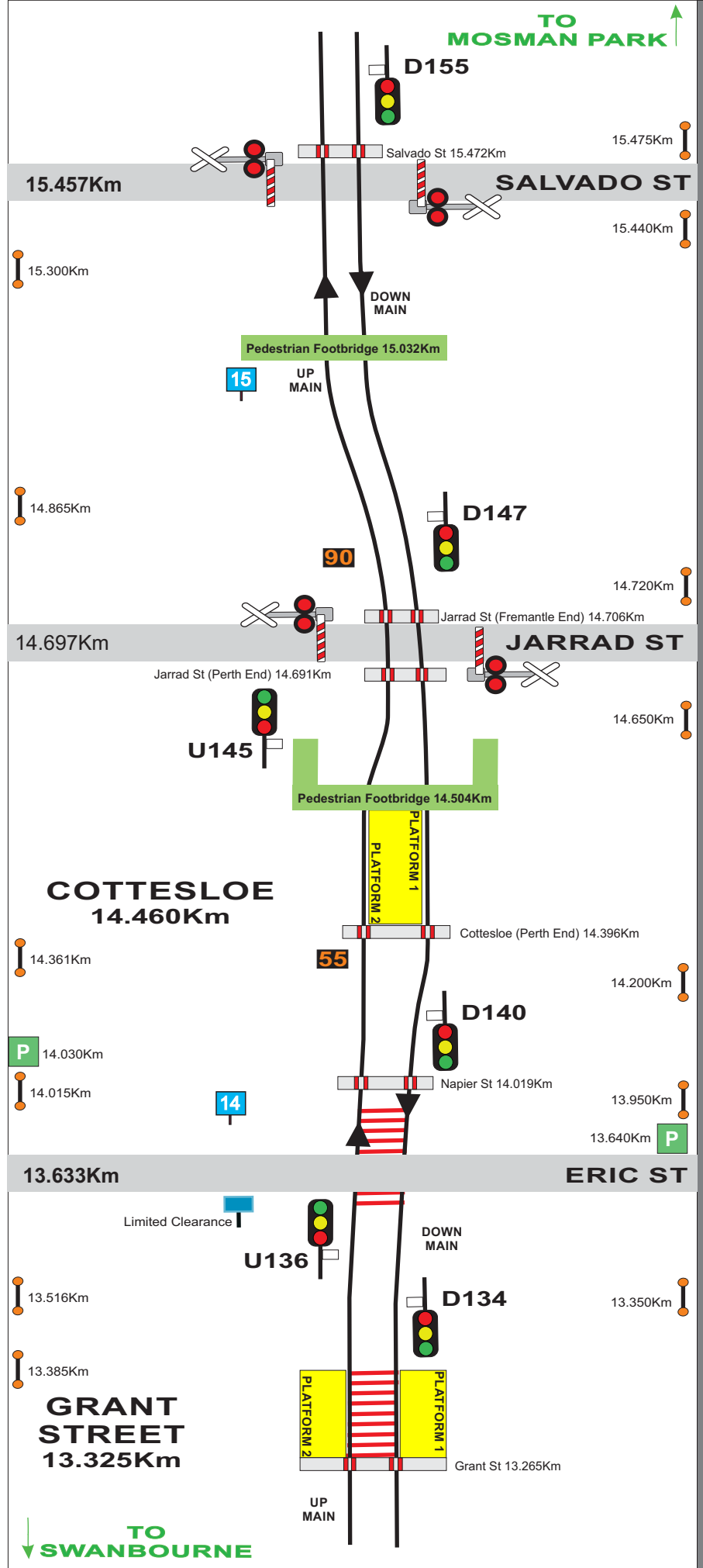
1. Controlled Absolute Signal 341 (12.210km) and LOS Board (10.430km) approx. 160m from 304 Ground Shunt Signal.

Up Main

1. LOS Board (12.026Km) at clearance point of 871A Points and Controlled Absolute Signal 300 (10.116Km).

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

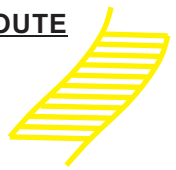
1. Grant Street Station, Up & Down Main.
2. From 13.597 Up Main to 13.689 Up Main.



DESIGNATED WALKING ROUTE

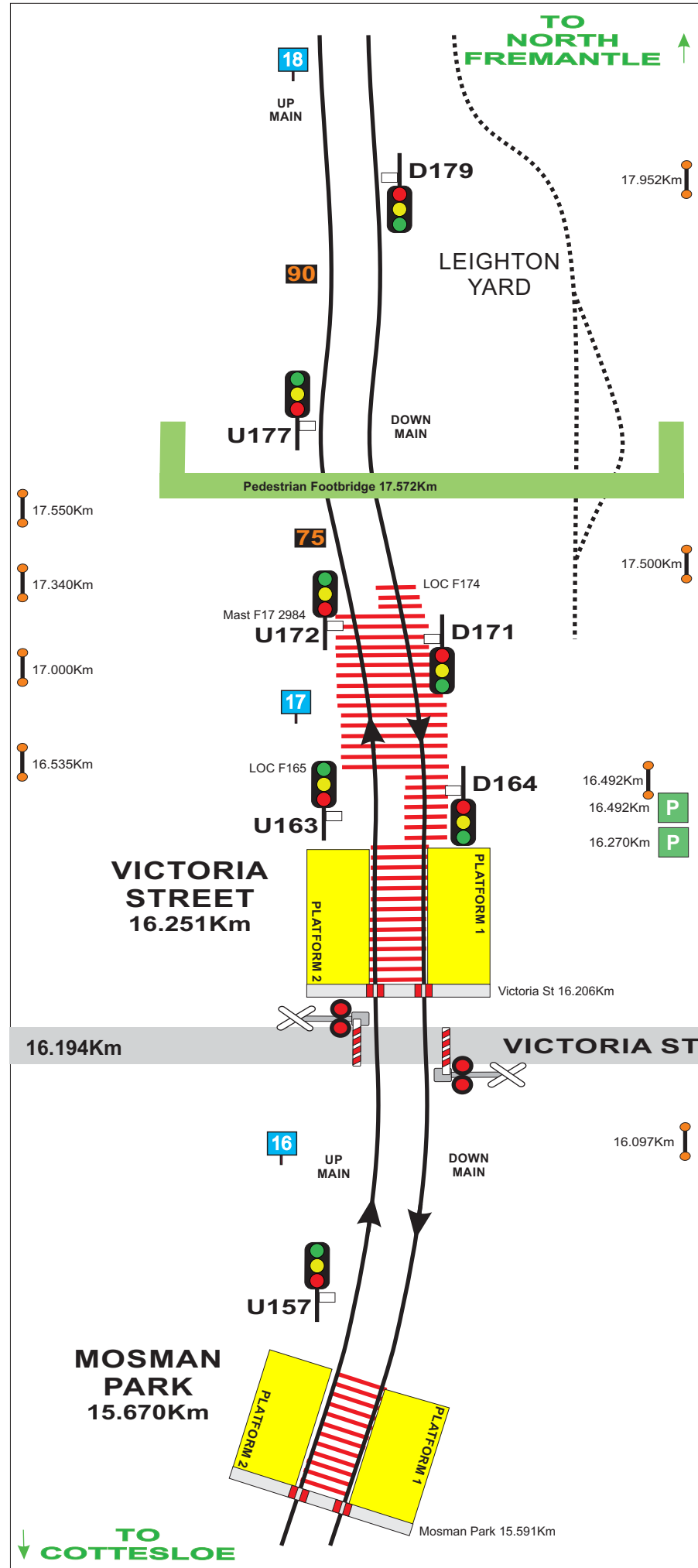
The below locations have a Designated Walking Route available.

1. Nil.



PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

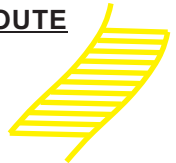
The below locations have No Place of Safety:



1. Victoria Street Station, Up & Down Main.
2. Mosman Park Station, Up & Down Main.
3. Down Main Victoria Station to LOC F174, and Up Main from LOC F165 to Mast F17 2984.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.



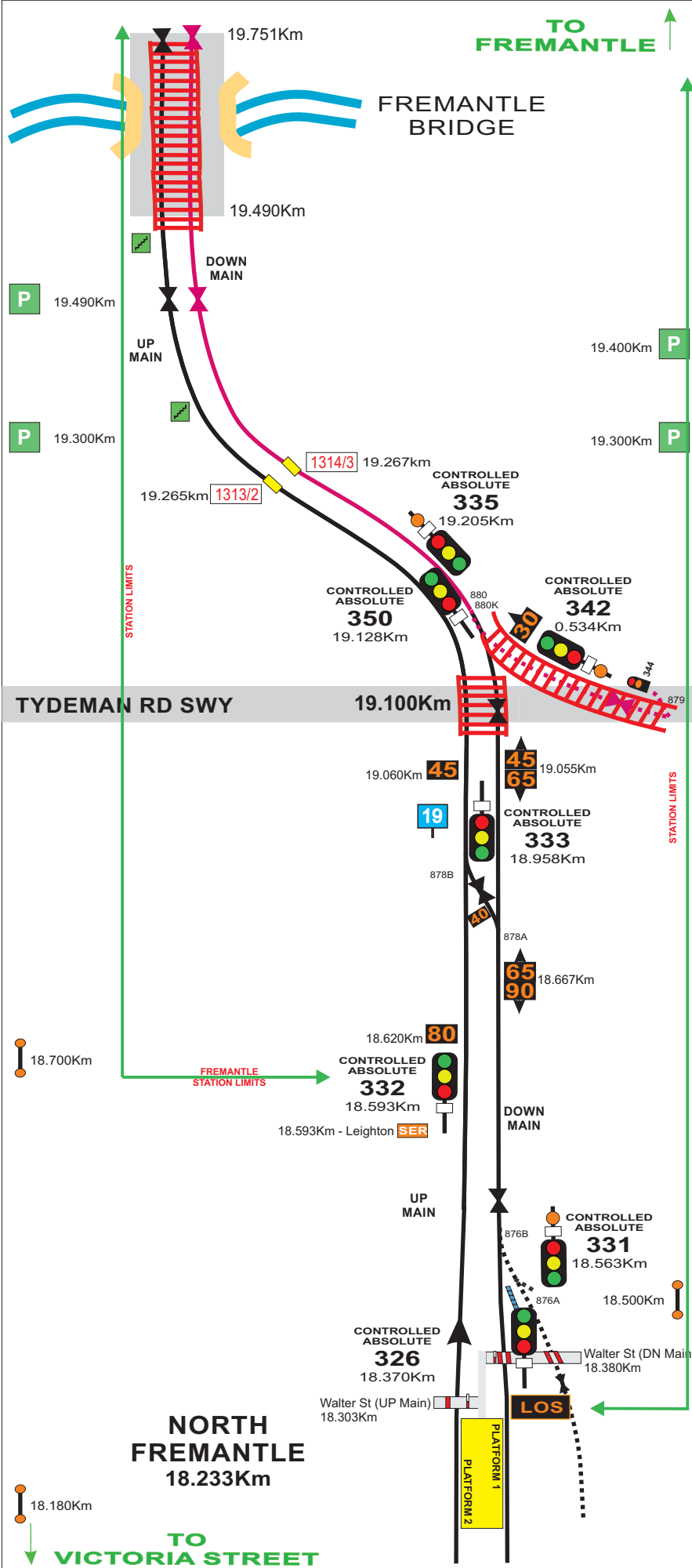
1. Nil.

Gauge

- Narrow gauge track
- ⋯ Unwired Track

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

HAZARD, ARC INFRASTRUCTURE MAINS

The below locations include ARC Infrastructure Mains and represent a Hazard:

1. Fremantle Station, Down Main to Tydemans Road

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Fremantle Bridge, Up & Down Main.
2. Tydemans Road Subway Bridge, Up & Down Main.
3. Tydemans Road - North Quay Freight Line.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Nil.

STATION LIMITS

North Quay

1. Single line bi-directional.

Down Main

1. Down Controlled Absolute Signal 395 (24.394km) to LOS board at 18.337km approx. 160m from 876A Points.

Up Main

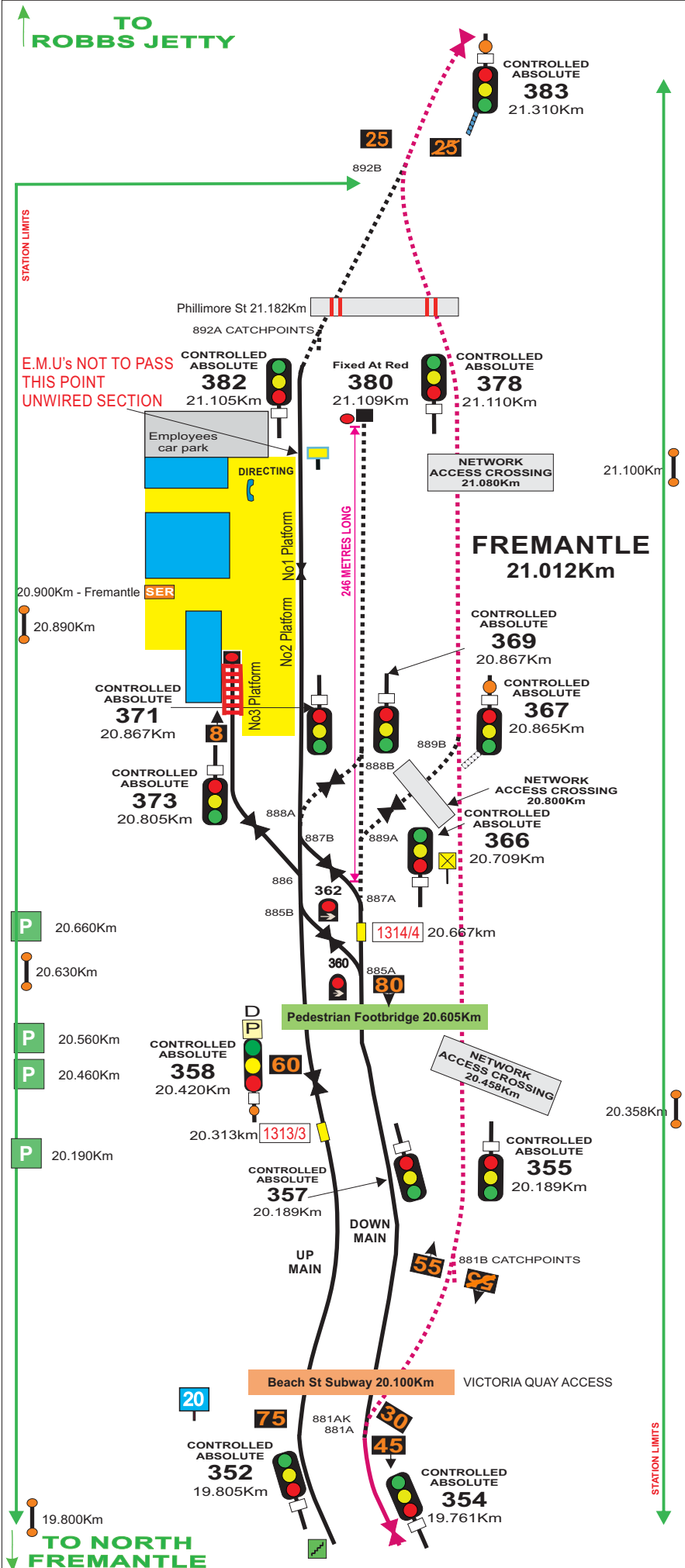
1. Up Controlled Absolute Signal 332 (18.593) to Points 892B Fremantle.

Gauge

- Dual gauge track
- Narrow gauge track
- - - Unwired Dual Gauge

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



E.M.U's NOT TO PASS THIS POINT UNWIRED SECTION

INSTRUCTIONS

HAZARD, ARC INFRASTRUCTURE MAINS

The below locations include ARC Infrastructure Mains and represent a Hazard:

1. Fremantle Station, Down Main to Tydeman Road

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Fremantle Station Platform 3.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available.

1. Nil.

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 395 (24.394km) to LOS board at 18.337km approx. 160m from 867A Points.

Up Main

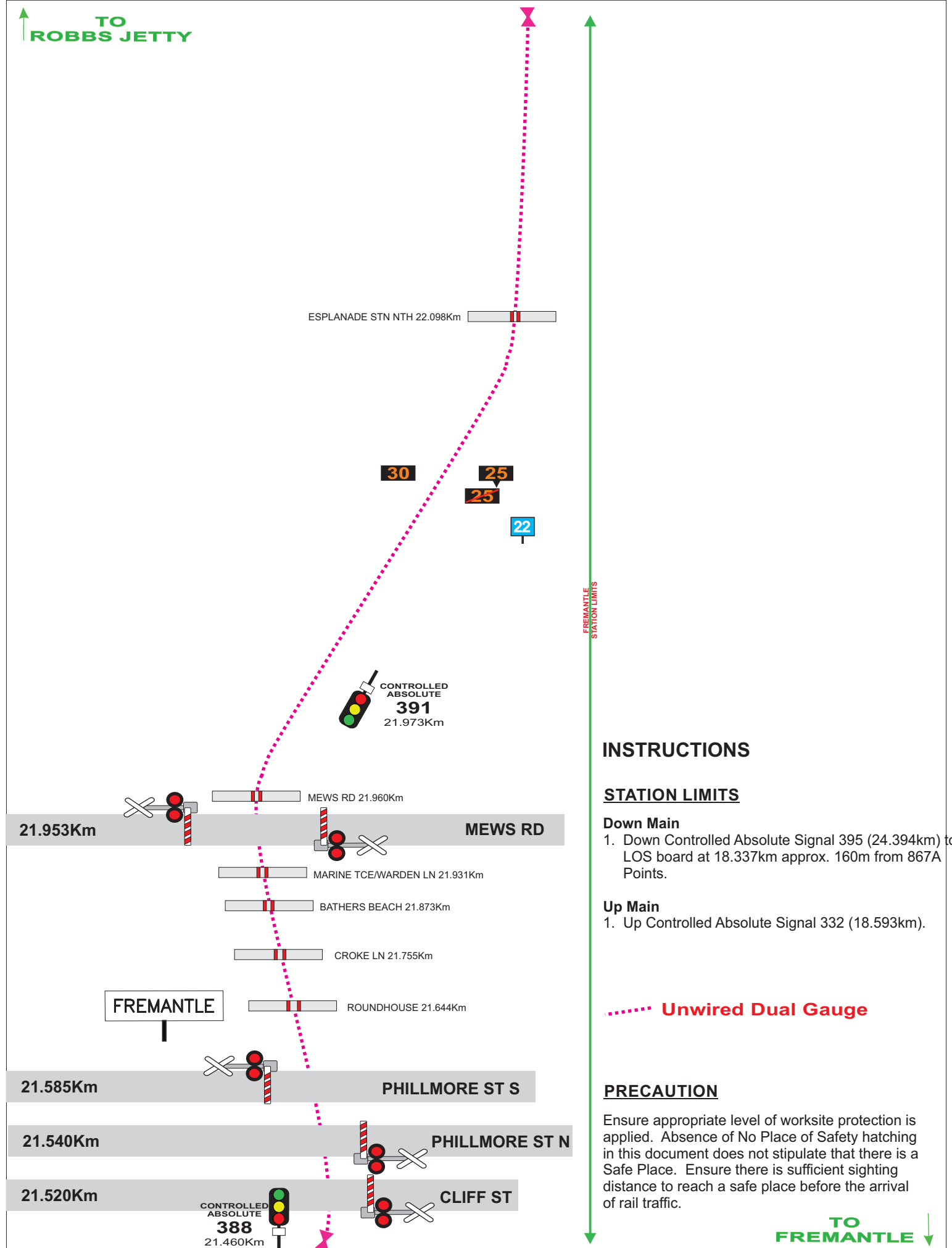
1. Up Controlled Absolute Signal 332 (18.593km).

FREMANTLE

- Dual gauge track
- Narrow gauge track
- Unwired Dual Gauge
- Unwired Narrow Gauge

PRECAUTION

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INSTRUCTIONS

STATION LIMITS

- Down Main**
1. Down Controlled Absolute Signal 395 (24.394km) to LOS board at 18.337km approx. 160m from 867A Points.
- Up Main**
1. Up Controlled Absolute Signal 332 (18.593km).

..... Unwired Dual Gauge

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

STATION LIMITS

Down Main

- 1. Down Controlled Absolute Signal 395 (24.394km) to LOS board at 18.337km approx. 160m from 867A Points.

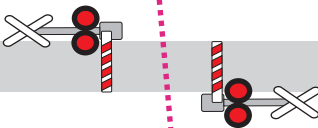
Up Main

- 1. Up Controlled Absolute Signal 332 (18.593km).

Unwired Dual Gauge



22.454Km



ARUNDEL ST

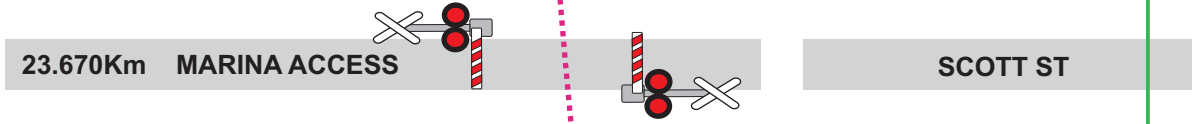


PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

FREMANTLE
STATION LIMITS

↑ TO ROBBS JETTY



FREMANTLE STATION LIMITS

INSTRUCTIONS

STATION LIMITS

Down Main

- 1. Down Controlled Absolute Signal 395 (24.394km) to LOS board at 18.337km approx. 160m from 867A Points.

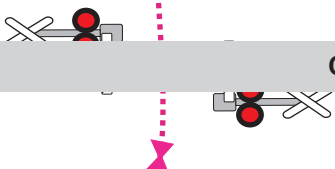
Up Main

- 1. Up Controlled Absolute Signal 332 (18.593km).

..... Unwired Dual Gauge

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



↓ TO FREMANTLE ↓



24.599Km

Commence Train Order Territory / End PTA Network

Start PTA Network / End Train Order Territory

INSTRUCTIONS

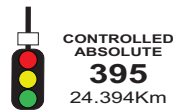
STATION LIMITS

Down Main

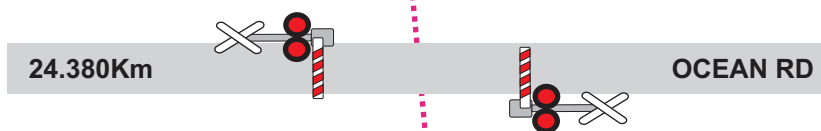
- 1. Down Controlled Absolute Signal 395 (24.394km) to LOS board at 18.337km approx. 160m from 867A Points.

Up Main

- 1. Up Controlled Absolute Signal 332 (18.593km).



OCEAN RD 24.389Km



24.380Km

OCEAN RD

FREMANTLE STATION LIMITS

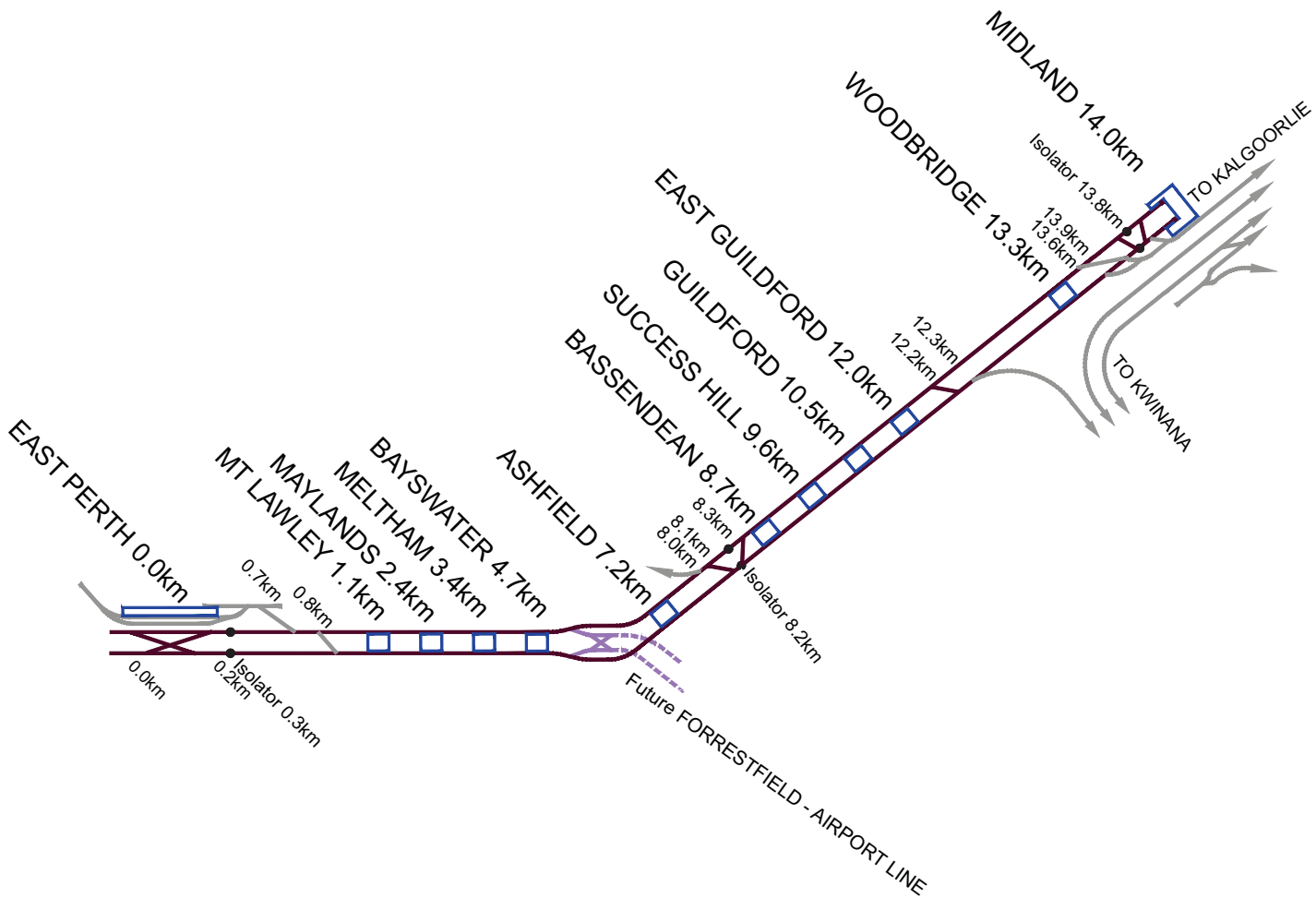
All Unwired

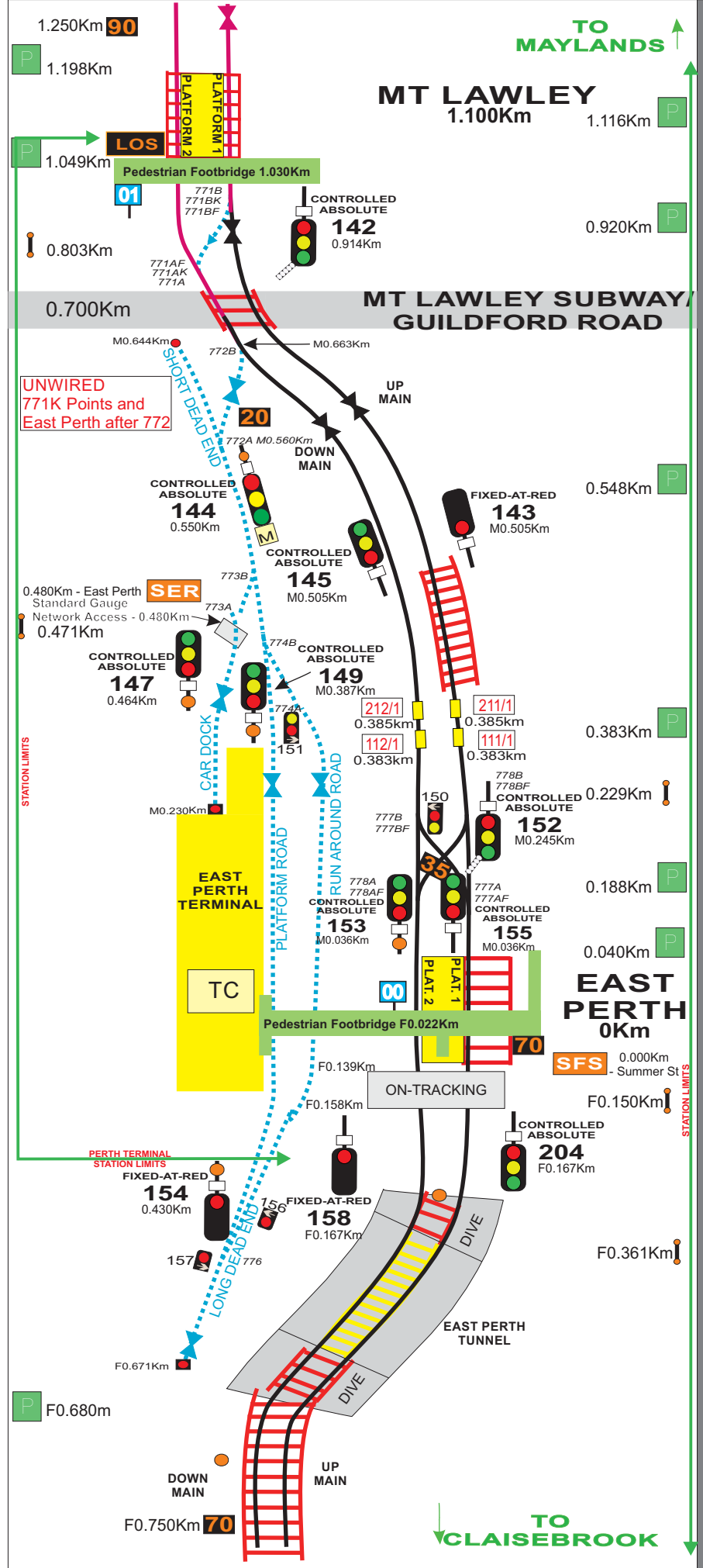
- Narrow gauge track
- Dual gauge track
- Standard gauge track

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a Safe Place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

MIDLAND LINE

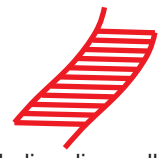




INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:



1. City end of East Perth tunnel including dive walls
2. East Perth Platform, Up Main
3. Isolators 211/1 & 111/1 to Controlled Absolute Signal 143
4. Mt Lawley Subway
5. Mt Lawley Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. East Perth Tunnel.

STATION LIMITS

East Perth Terminal Roads

1. East Perth Terminal all roads from 772B Points.

Down Main

1. Up Fixed-at-Red Signal 158 (F0.170km) to LOS Board (M1.073km) approx. 160m Midland side of 771K points.

Up Main

1. Up Controlled Absolute Signal 140 (1.641km) to Up Controlled Absolute Signal 204 (F0.170km).
2. Up Controlled Absolute Signal 204 (F0.170km) to Perth.

MT LAWLEY and EAST PERTH

- Narrow gauge track
- Dual gauge track
- Standard gauge track
- Unwired Track

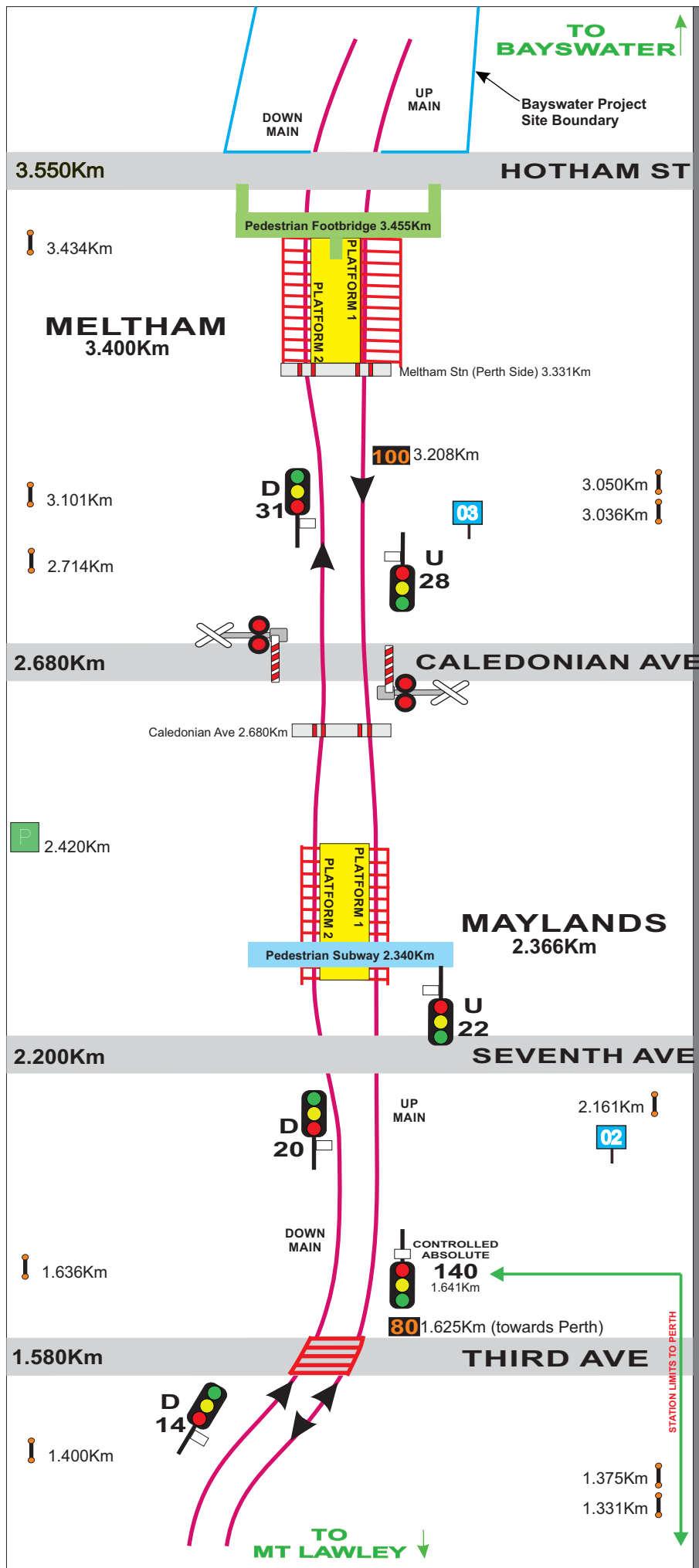
NOTES

1. Contact ECO to activate/deactivate Flashing Man and Tunnel Lighting in East Perth Tunnel.
2. Rule 3011 must be used for accessing and egressing East Perth Tunnel while trains are running.

- Flashing Man
- MIDLAND LINE
- FREMANTLE LINE

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Third Avenue Tunnel.
2. Maylands Station, Up & Down Main.
3. Meltham Station, Up & Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil



STATION LIMITS

Up Main

1. Up Controlled Absolute Signal 140 (1.641km) to Up Controlled Absolute Signal 204 (F0.170km).
2. Up Controlled Absolute Signal 204 (F0.170km) to Perth.

— Dual gauge track

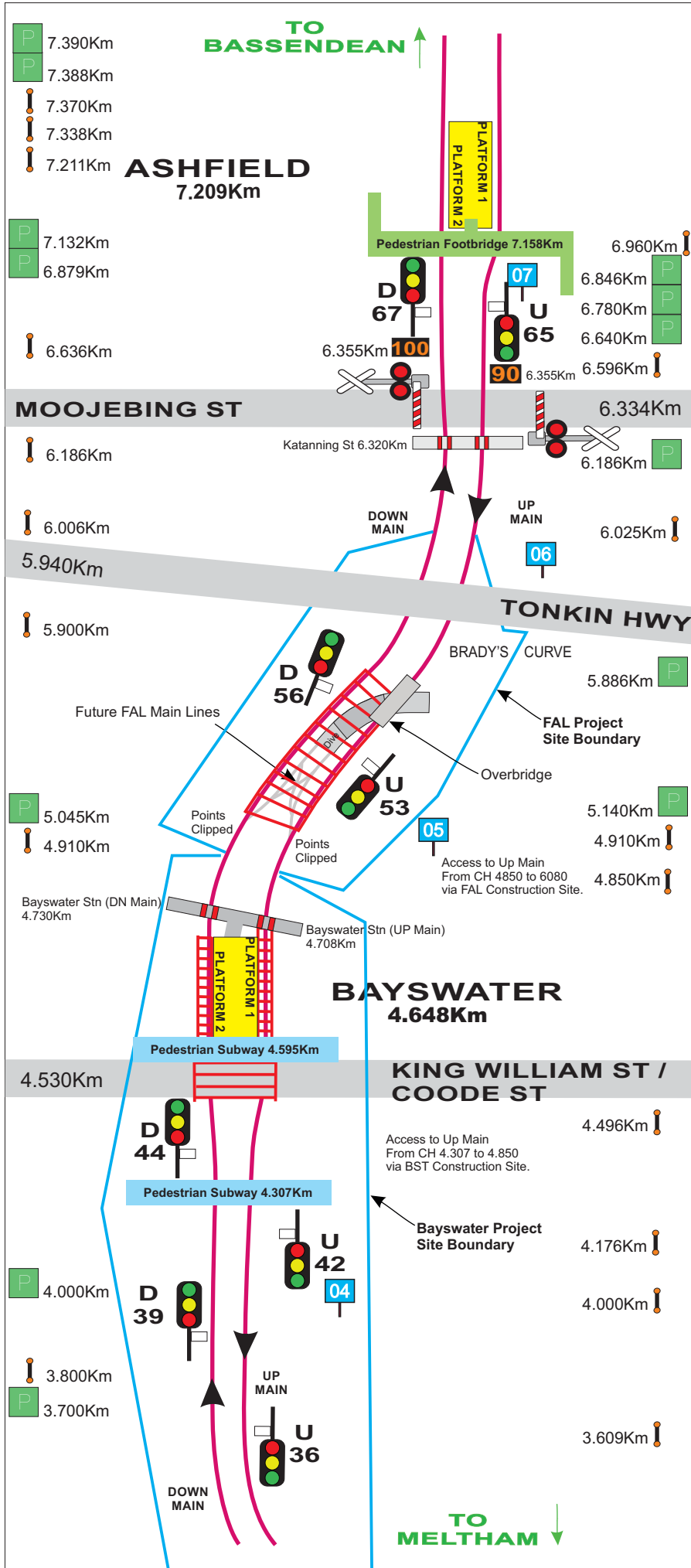
BAYSWATER STATION AND TURNBACK PROJECT

— Job Site 3.600km to 4.850km

1. GE fence erected at 3M off nearest running rail for length of job site.
2. Induction required for Up Main Access. Access requests to OMTID Project Manager.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Bayswater Station, Up & Down Main.
2. Bayswater Subway.
3. 5.000Km to 5.900Km.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:



1. Nil

ASHFIELD and BAYSWATER

— Dual gauge track

SI-NRW JV JOB SITE (FAL PROJECT)

— Job Site 4.850km to 6.080km

1. Overbridge starts from UM 5.664Km.
2. The points for the FAL dive are clipped at DM 5.122Km and UM 5.127Km and not operational.
3. Temporary limestone on-tracking facility located at 4.835Km.
4. Key for locks held by FAL Rail Infrastructure Manager.

BAYSWATER STATION AND TURNBACK PROJECT

— Job Site 3.600km to 4.850km

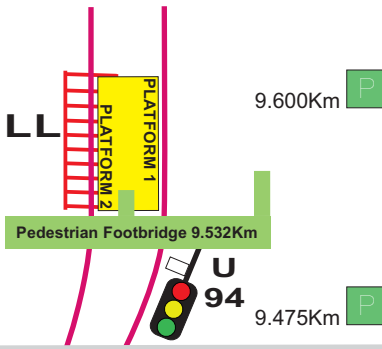
1. GE fence erected at 3M off nearest running rail for length of job site.
2. Induction required for Up Main Access. Access requests to OMTID Project Manager.

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

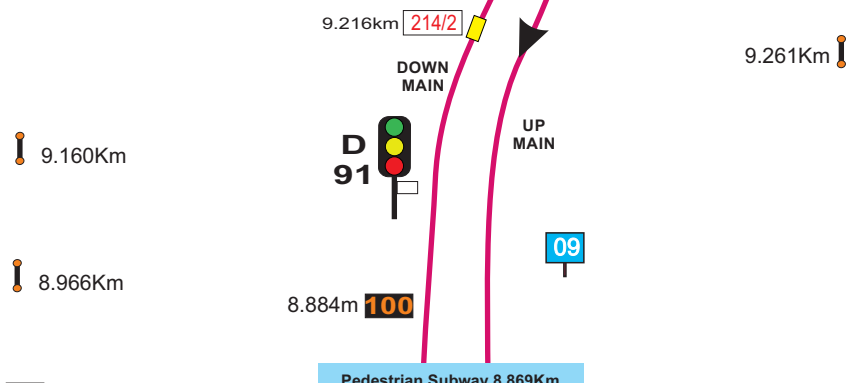
SUCCESS HILL
9.591Km

P 9.575Km
P 9.515Km



9.600Km P

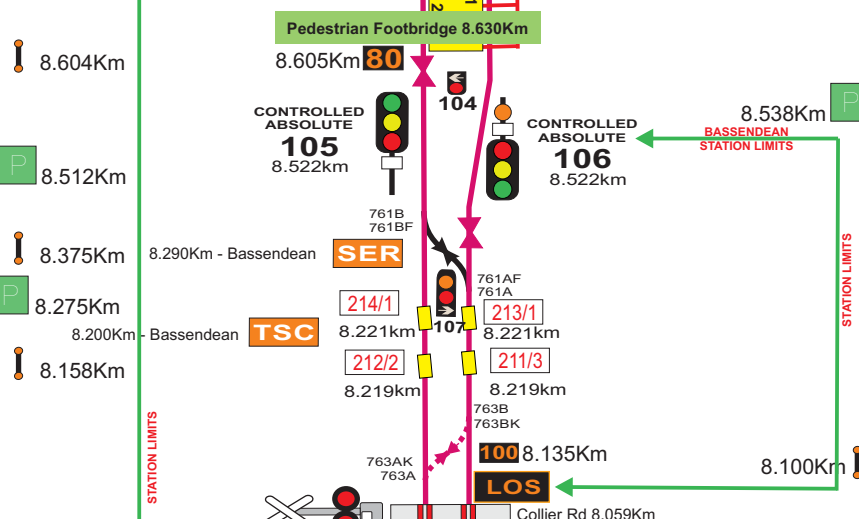
9.413Km **WEST RD**



9.160Km
8.966Km

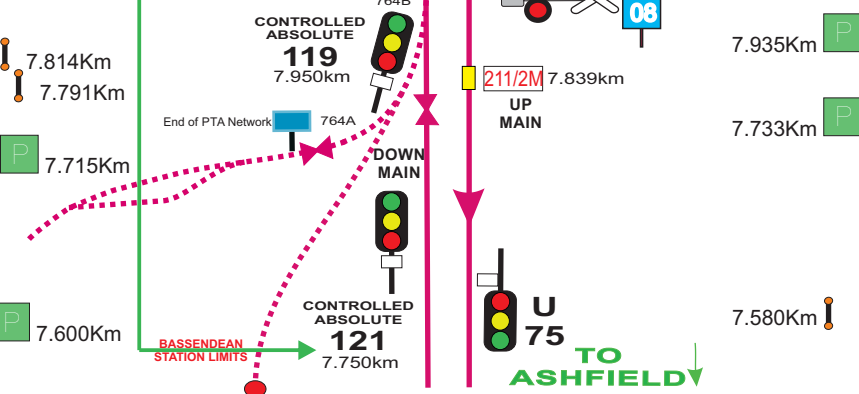
P 8.780Km

BASSENDEAN
8.664Km



8.604Km
8.512Km
8.375Km
8.275Km
8.158Km

8.048Km **COLLIER RD/ IOLAN THE ST**



7.814Km
7.791Km
7.715Km
7.600Km

7.580Km

INSTRUCTIONS

HAZARD, ADJACENT AND INCLUDES ARC INFRASTRUCTURE MAINS

The below locations are adjacent to ARC Infrastructure Mains and represent a Hazard:

1. Collier Road, Up and Down Mains to Rail Museum

NO PLACE OF SAFETY

The below locations have No Place of Safety:

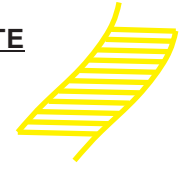
1. Bassendean Station, Up Main.
2. Success Hill Station, Down Main.



DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil



STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 121 (7.750km) to LOS board at 8.760km approx. 160m Midland side of 104 Ground Shunt Signal.

Up Main

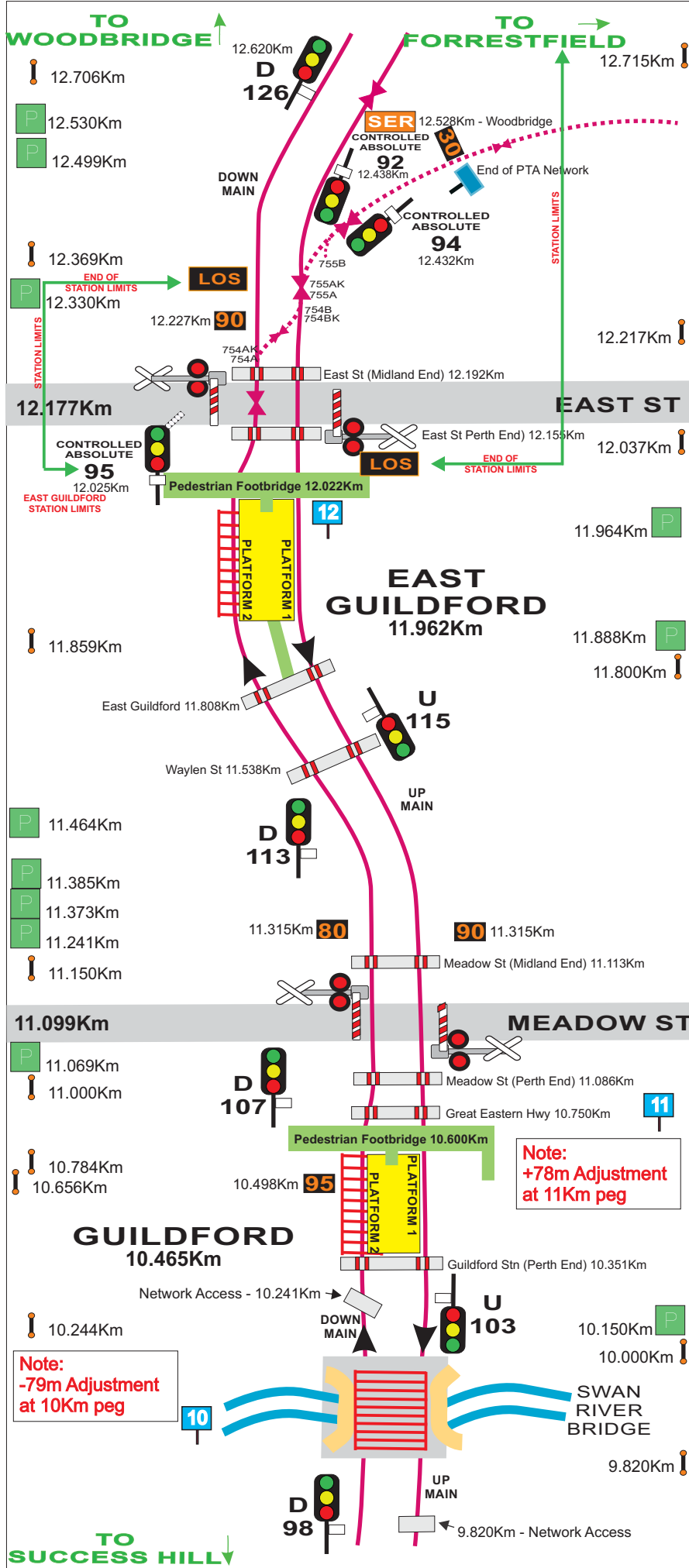
1. Up Controlled Absolute Signal 106 (8.522km) to LOS board (8.049km) approx. 208m Perth side of 107 Ground Shunt Signal.

SUCCESS HILL and BASSENDEAN

- Narrow gauge track
- Dual gauge track
- Unwired Track

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

HAZARD, ADJACENT AND INCLUDES ARC INFRASTRUCTURE MAINS

The below locations are adjacent to ARC Infrastructure Mains and represent a Hazard:

1. East Street, Up and Down Mains to Forrestfield

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. East Guildford Station, Down Main.
2. Guildford Station, Down Main.
3. Swan River Bridge, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 95 (12.029km) to LOS board at 12.373km approx. 160m Midland side of 754AK points.

Up Main

1. Up Controlled Absolute Signal 90 to LOS at 12.153km approx. 160m Perth side of 754BK points.

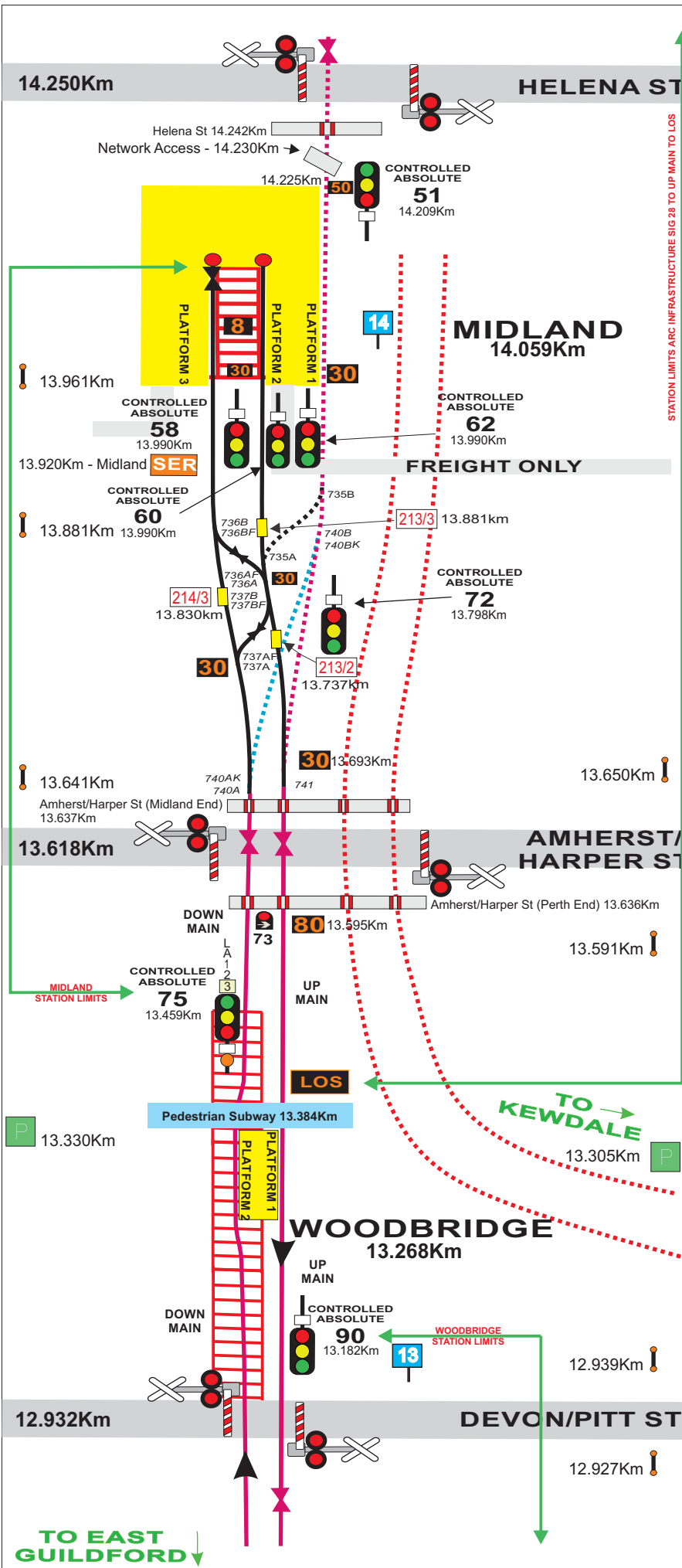
EAST GUILDFORD and GUILDFORD

- Dual gauge track
- - - Unwired Track

Note:
Metre adjustment between 10Km peg and 11Km peg

PRECAUTION

Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.



INSTRUCTIONS

HAZARD, ADJACENT ARC INFRASTRUCTURE MAINS

The below locations are adjacent to ARC Infrastructure Mains and represent a Hazard:

1. Woodbridge Station, Up Main to Midland Station

NO PLACE OF SAFETY

The below locations have No Place of Safety:

1. Woodbridge Station, Down Main.
2. Midland Station, Up & Down Main.

DESIGNATED WALKING ROUTE

The below locations have a Designated Walking Route available:

1. Nil

STATION LIMITS

Down Main

1. Down Controlled Absolute Signal 75 (13.459km) to Midland platforms 1 and 2.

Up Main

1. Up Controlled Absolute Signal 90 to LOS at 12.153km approx. 160m Perth side of 754BK points.
2. Up Controlled Absolute Signal 28 (ARC Infrastructure) and LOS Board at 13.436Km, approx. 160m up from 73 Ground Shunt Signal. Including unwired roads from 740 points and 741 points to ARC Infrastructure.

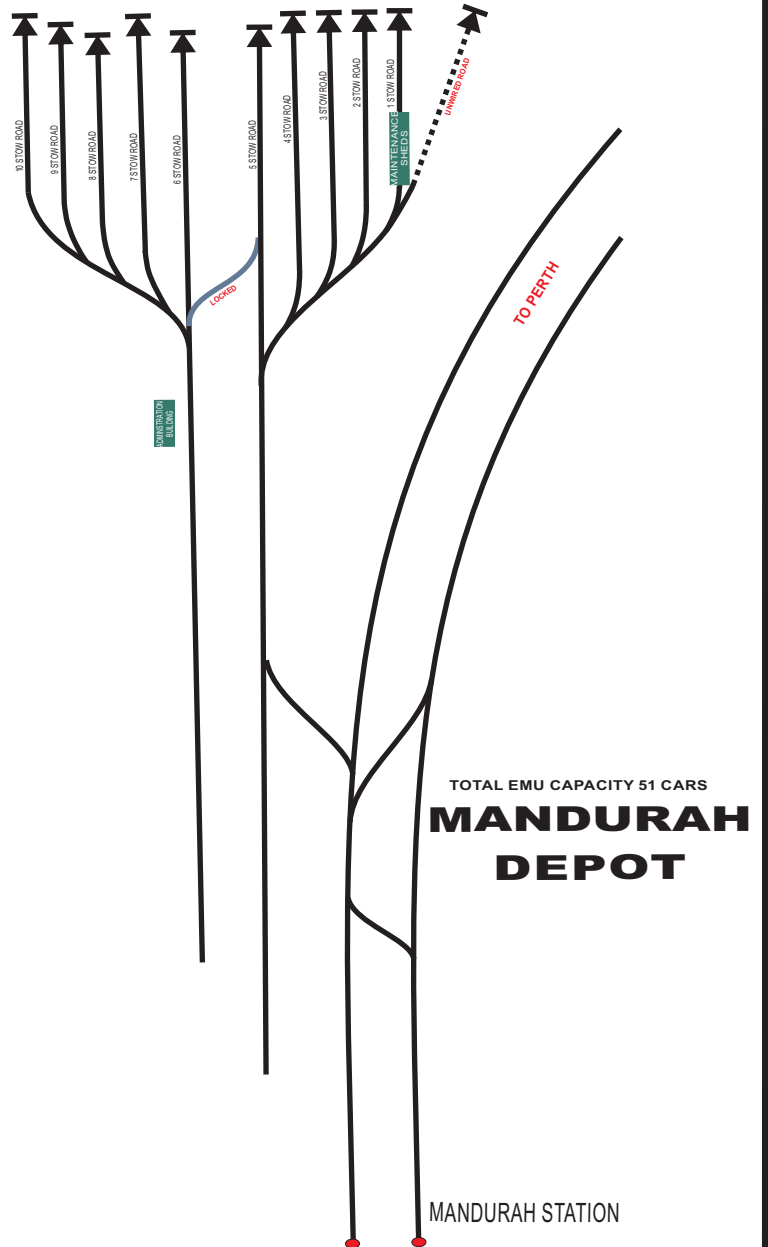
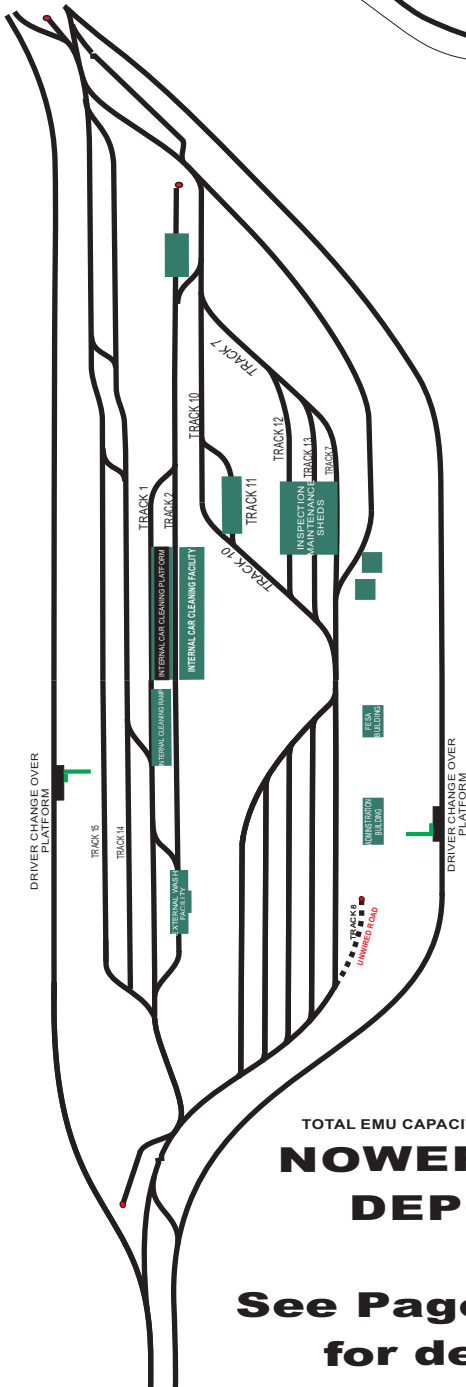
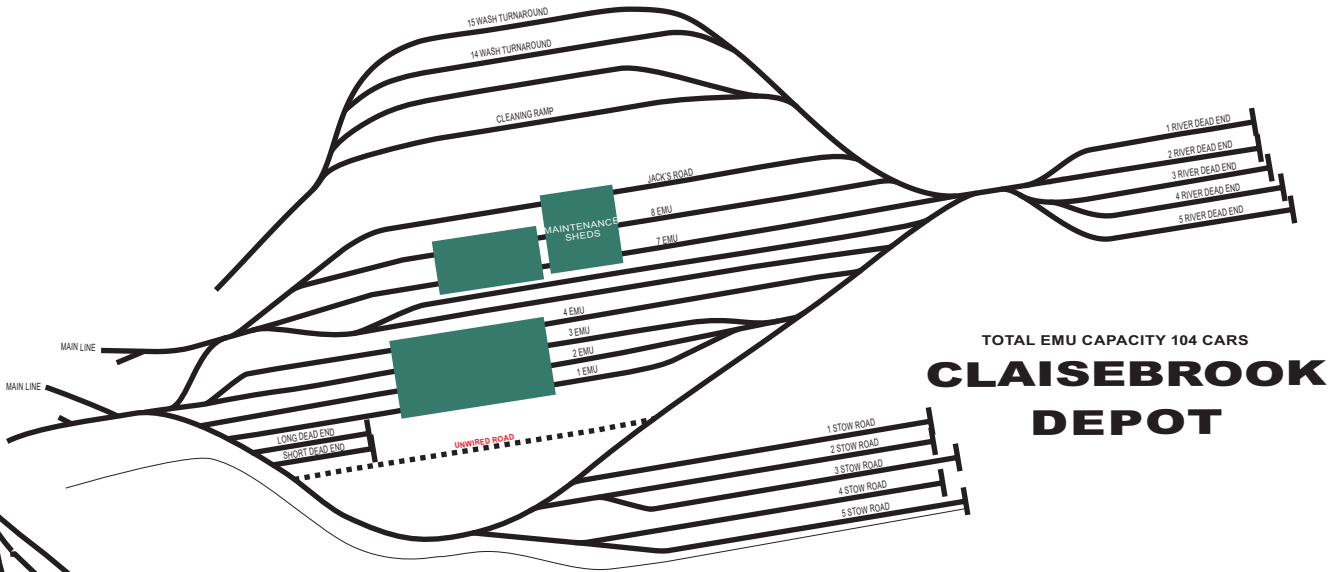
MIDLAND and WOODBRIDGE

- Narrow gauge track
- Dual gauge track
- ... Unwired Standard Gauge
- ... Unwired Dual Gauge
- ... Unwired Narrow Gauge

PRECAUTION

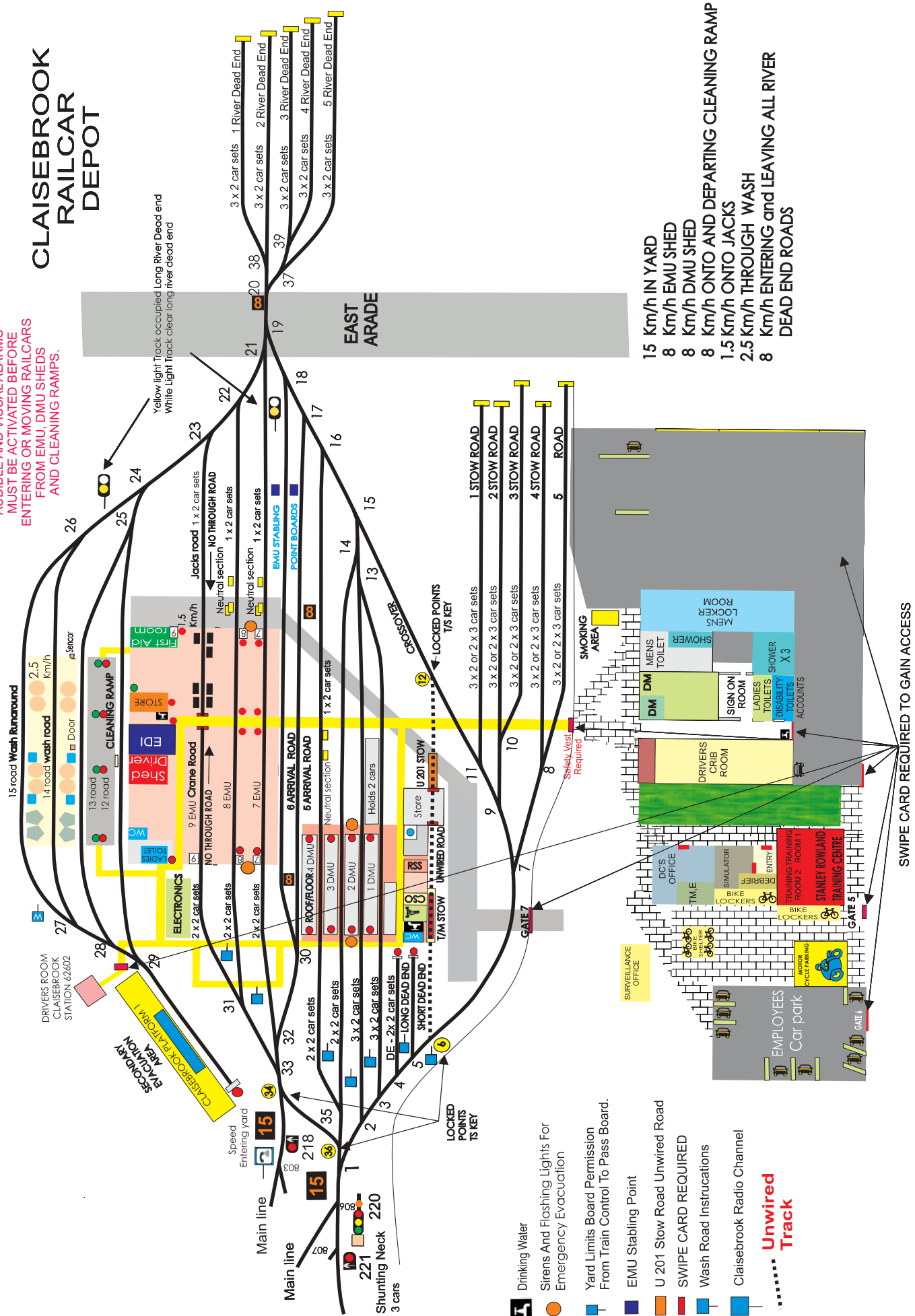
Ensure appropriate level of worksite protection is applied. Absence of No Place of Safety hatching in this document does not stipulate that there is a safe place. Ensure there is sufficient sighting distance to reach a safe place before the arrival of rail traffic.

DEPOTS



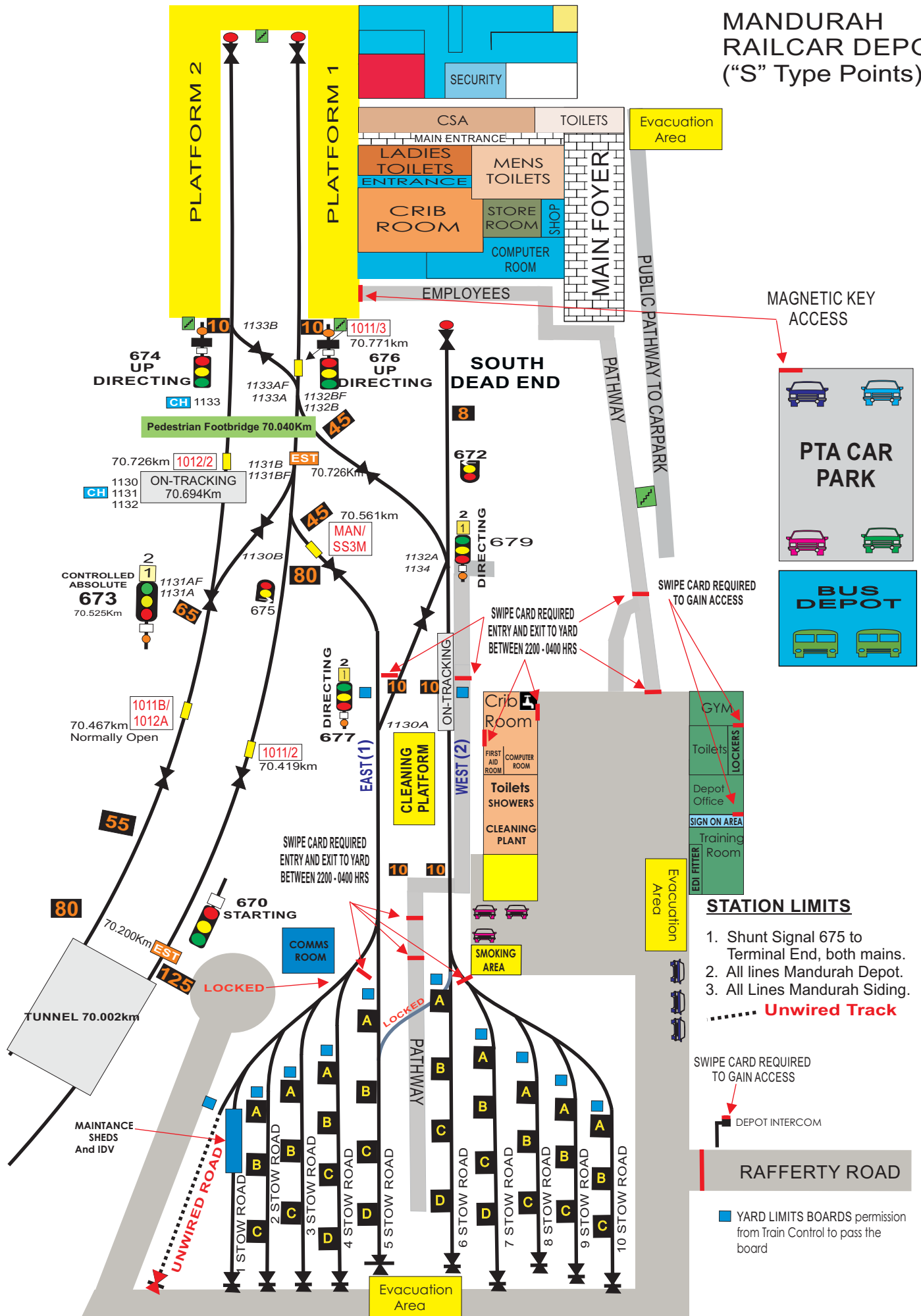
CLAISEBROOK RAILCAR DEPOT

AUDIBLE AND VISUAL ALARMS MUST BE ACTIVATED BEFORE ENTERING OR MOVING RAILCARS FROM EMU, DMU SHEDS AND CLEANING RAMPS.



- 15 Km/h IN YARD
- 8 Km/h EMU SHED
- 8 Km/h DMU SHED
- 8 Km/h ONTO AND DEPARTING CLEANING RAMP
- 1.5 Km/h ONTO JACKS
- 2.5 Km/h THROUGH WASH
- 8 Km/h ENTERING and LEAVING ALL RIVER DEAD END ROADS

MANDURAH RAILCAR DEPOT ("S" Type Points)



MAGNETIC KEY ACCESS

PTA CAR PARK

BUS DEPOT

- STATION LIMITS**
1. Shunt Signal 675 to Terminal End, both mains.
 2. All lines Mandurah Depot.
 3. All Lines Mandurah Siding.
- Unwired Track**

SWIPE CARD REQUIRED TO GAIN ACCESS

DEPOT INTERCOM

RAFFERTY ROAD

■ YARD LIMITS BOARDS permission from Train Control to pass the board

SYMBOL LEGEND

	NARROW GAUGE		UNWIRED ROAD
	DUAL GAUGE		UNWIRED ROAD
	STANDARD GAUGE		UNWIRED ROAD
	PEDESTRIAN MAZEWAY		
	PEDESTRIAN UNDERPASS		
	SPEED BOARD		
	END OF SPEED BOARD		
	SPEED BOARD FOR TURNOUT CROSSOVERS - UNMARKED CROSSOVERS 30KM/H		
	EMERGENCY SUPPLY TRANSFORMER		
	STANDALONE EQUIPMENT ROOM		
	TRACK SECTION CABIN		
	SUBFEEDER STATION		
	KILOMETRE PEGS		
	LIMIT OF SHUNT BOARD		
	FLASHING MAN - FOR PERSONNEL WORKING IN TUNNEL		
	ACCESS GATE FOR VEHICLES		
	PEDESTRIAN ACCESS GATE		
	ACCESS STAIRWAY / STATION ACCESS STAIRWAY		
	WIRE ROPE BARRIER		
	CONCRETE BARRIER		
	BUFFER STOP		
	PERMANENT SPEED BOARD SIGN (ARC)		

SYMBOL LEGEND



INFORMATION BOARDS



CATCH POINTS



NETWORK ACCESS and ON-TRACKING - FOR VEHICLE ACCESS



CONTROLLED ABSOLUTE SIGNAL WITH ROUTE INDICATOR



CONTROLLED ABSOLUTE SIGNAL WITH LOW SPEED SHUNT AND JUNCTION INDICATOR



CONTROLLED ABSOLUTE SIGNAL WITH JUNCTION INDICATOR



ABSOLUTE SIGNAL



CONTROLLED ABSOLUTE SIGNAL



ABSOLUTE APPROACH SIGNAL



NO PLACE OF SAFETY



DESIGNATED WALKING ROUTE



73

GROUND SHUNT SINGLE ASPECT SIGNAL



289

GROUND SHUNT TWIN ASPECT SIGNAL



STATION LIMITS - TRAINS CAN APPROACH FROM EITHER DIRECTION AT ANY TIME



ABSOLUTE SIGNAL CONTROLLED AREA



ISOLATOR



TRACK TROLLEY

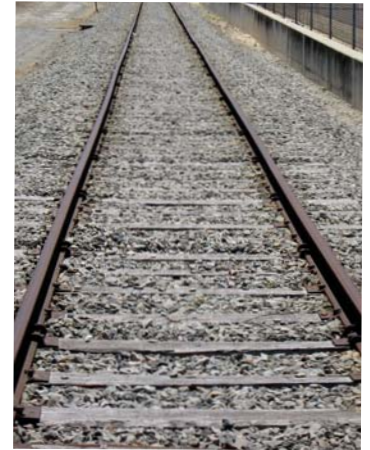
PHOTOS



 **Narrow Gauge**



 **Dual Gauge**



 **Standard Gauge**



 **Unwired Road**



 **Station Access Stairway**



 **70** Speed Board for Turnout Crossovers
UNMARKED CROSSOVERS
30 KM/H



 **70** End of Speedboard



 **110** Speed Board



TSC Track Section Cabin



SER Standalone Equipment Room



SFS Sub Feeder Station



 Pedestrian Underpass



 Access Stairway



 Pedestrian Mazeway



 Access Gate for Vehicles



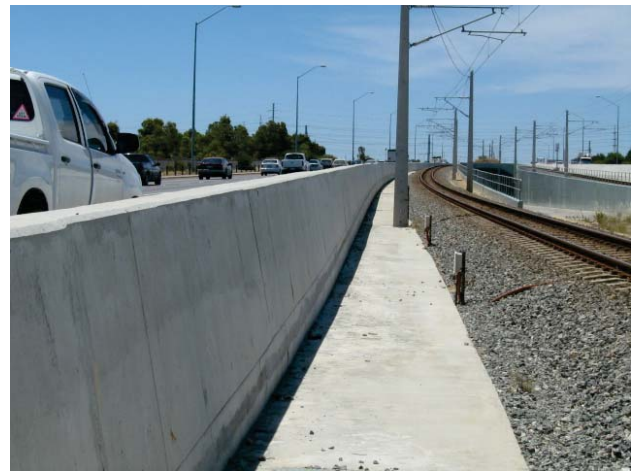
 Access Gate for Vehicles



 Flashing Man - For Personnel working in Tunnel



 Wire Rope Barrier



 Concrete Barrier



 Pedestrian Access Gate



 Kilometre Pegs



 Limit of Shunt Board



 Station Limit Board



 Ground Shunt Single Aspect Signal
Left Icon of Twin Aspect Signal



 Controlled Absolute Signal with Route Indicator



 Controlled Absolute Signal with Junction Indicator



 Information Boards



 Absolute Signal



 Controlled Absolute Signal



1054  Catch Points



 On-Tracking for Vehicle Access



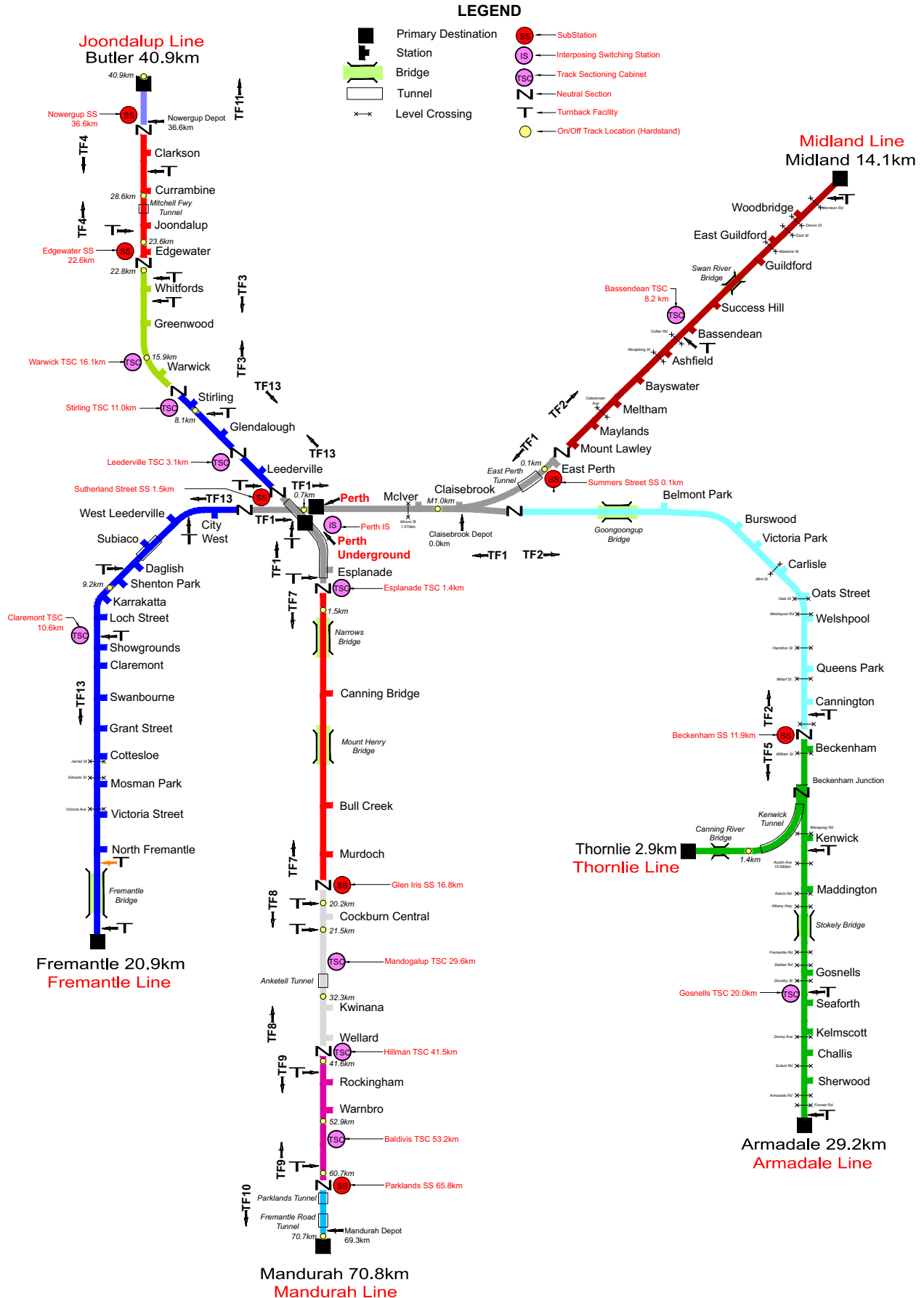
EST Electrical Supply Transformer



 Buffer Stop

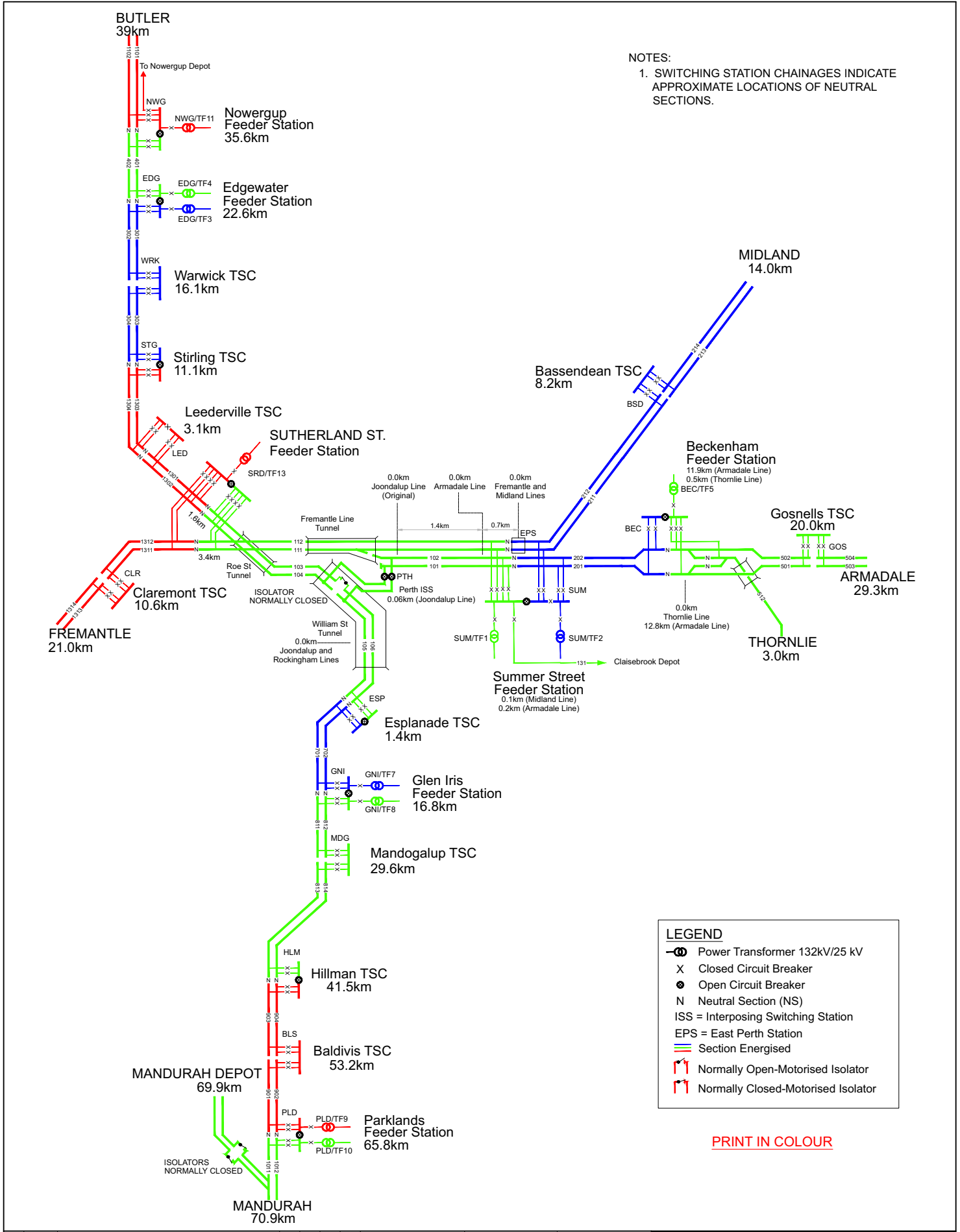
PTA System Map

Key Electrical Infrastructure



		SCALE : NTS (@ A1)		NETWORK & INFRASTRUCTURE		Government of Western Australia Public Transport Authority	
2	16.01.15	INCLUDE TF13 AND ON /OFF TRACK LOCATIONS	KC	MM	JC	DESIGNED	N NGUYEN
1	15.12.14	AMENDMENTS MADE	KC	MM	JC	APPROVED FOR ISSUE	L BEYERS
0	16.10.14	NETWORK DESIGN	KC	MM	LB	DRAWN	K COLLETTE
REV	DATE	AMENDMENT	DRN	CHKD	APP	CHECKED	M MICHALEM
ORIG SIZE	CAD DRAWING PATHNAME				ELECTRICAL ENGINEERING MANAGER		Date
A1	C:\Program Files\Objective\Instances\Objprod\Temp\Res\A1591154-7\00-P-05-0080.dwg				Date		29.10.14
						This document must not be copied without PTA's written permission, and the contents thereof must not be reported to a third party nor be used for any unauthorised purposes.	
						PUBLIC TRANSPORT AUTHORITY SYSTEM MAP KEY ELECTRICAL INFRASTRUCTURE	
						PTA DRG No : 00-P-05-0080 REV : 2	

PTA SYSTEM MAP TRACTION POWER SUPPLY SYSTEM



NOTES:
1. SWITCHING STATION CHAINAGES INDICATE APPROXIMATE LOCATIONS OF NEUTRAL SECTIONS.

LEGEND

- Power Transformer 132kV/25 kV
- Closed Circuit Breaker
- Open Circuit Breaker
- Neutral Section (NS)
- ISS = Interposing Switching Station
- EPS = East Perth Station
- Section Energised
- Normally Open-Motorised Isolator
- Normally Closed-Motorised Isolator

PRINT IN COLOUR

REFERENCES PTA-A1-DRG-SHT-P				SCALE : NTS (@ A1)	DESIGNED JAN STELMACH	
REV DATE AMENDMENT				DATUM : HORIZONTAL: VERTICAL:	DRAWN H. MASROOR	
1	30.11.18	NORMALLY CLOSED ISOLATOR ADDED TO PERTH SYSTEM DESIGN	ARK	ARK	RL	LB
0	20.10.15		ARK	HM	RL	LB
REV DATE AMENDMENT				PTA ACCEPTANCE STAMP A3970631	CHECKED R. LUTFALIZADEH	
REV	DATE	AMENDMENT	DSN	DRN	CHKD	APP
ORIG	SIZE	A1			APPROVED FOR ISSUE L BEYERS	
<small>This document must not be copied without PTA's written permission, and the contents thereof must not be reported to a third party nor be used for any unauthorised purposes.</small>				DATE 12/11/2015	ELECTRICAL ENGINEERING MANAGER	
CAD DRAWING PATHNAME \\ptcwp06b\02\renditiontemp\1mp-44239339\596497072\00-P-05-0062.dwg						
				PUBLIC TRANSPORT AUTHORITY - RAIL NETWORK		
				TRACTION POWER SUPPLY SYSTEM		
				NORMAL FEEDING ARRANGEMENT		
				PTA Drawing No: 00-P-05-0062		
				REV : 1		

PTA Level Crossings, Ped Mazes & On-Trackings / Network Access

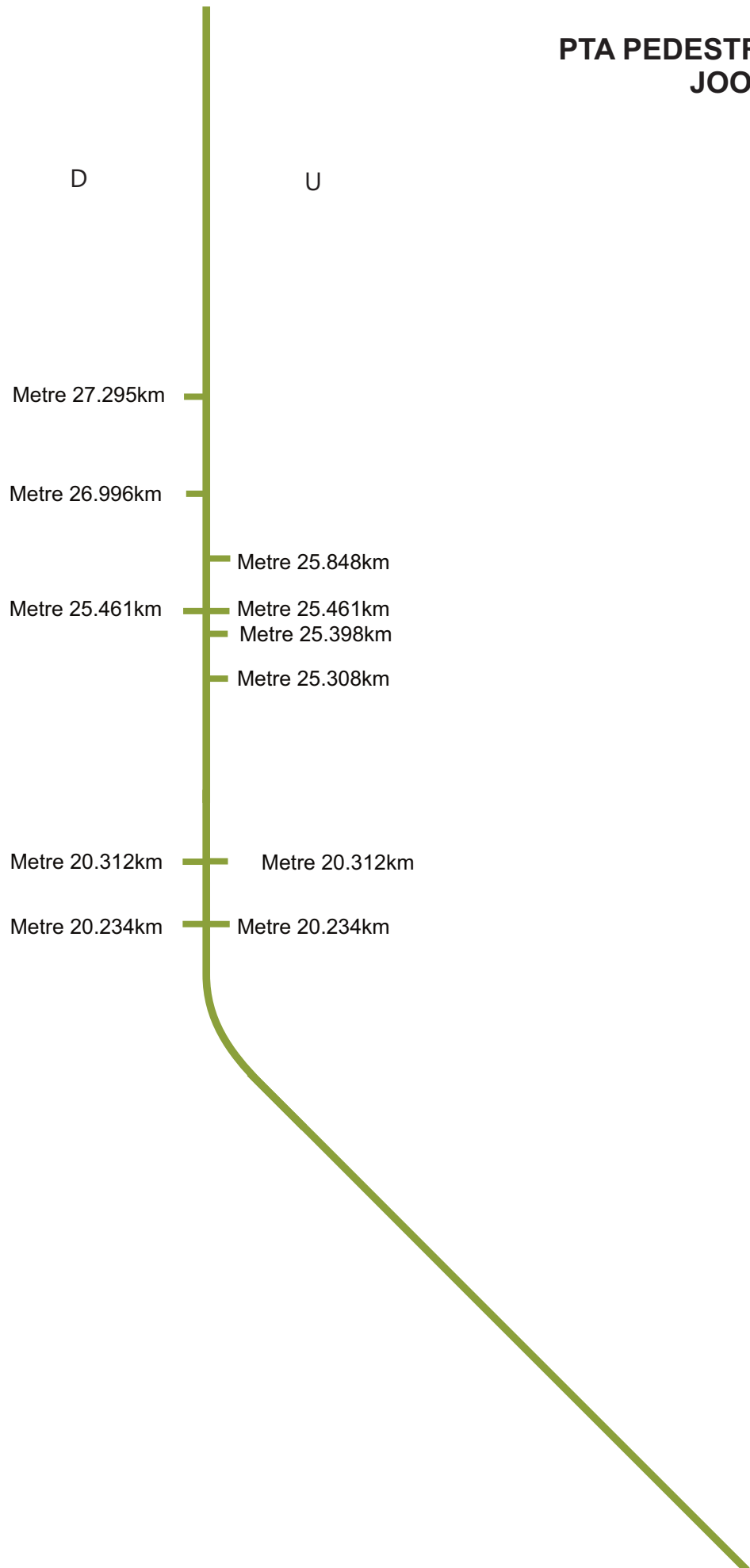


Km	Track U/D	Gate Size	Gate Type
0.735	U		Vehicle Gate
1.235	D		Vehicle Gate
1.700	D	3.3 Metre 1.700km	Vehicle Gate
2.200	U		Vehicle Gate
2.325	D		Vehicle Gate
3.100	D		Vehicle Gate
3.100	U	3.3 Metre 3.100km	Vehicle Gate
3.500	D	3.3 Metre 3.500km	Vehicle Gate
5.000	U	3.3 Metre 5.000km	Vehicle Gate
5.135	D		Vehicle Gate
6.600	U	3.3 Metre 6.600km	Vehicle Gate
7.200	D	3.3 Metre 7.200km	Vehicle Gate
7.700	D	3.3 Metre 7.700km	Vehicle Gate
8.100	D	3.3 Metre 8.100km	Vehicle Gate
10.800	D		Vehicle Gate
11.000	U	3.3 Metre 11.000km	Vehicle Gate
12.800	U	3.3 Metre 12.800km	Vehicle Gate
15.900	D	3.3 Metre 15.900km	Vehicle Gate
17.200	U	3.3 Metre 17.200km	Vehicle Gate
19.300	D	3.3 Metre 19.300km	Vehicle Gate
19.300	U	3.3 Metre 19.300km	Vehicle Gate
20.700	D	3.3 Metre 20.700km	Vehicle Gate
21.350	D	3.3 Metre 21.350km	Vehicle Gate
22.200	D	3.3 Metre 22.200km	Vehicle Gate
22.250	U	3.3 Metre 22.250km	Vehicle Gate
22.700	D	3.3 Metre 22.700km	Vehicle Gate
22.950	D	3.3 Metre 22.950km	Vehicle Gate
23.450	U	3.3 Metre 23.450km	Vehicle Gate
24.100	U	3.3 Metre 24.100km	Vehicle Gate
25.682	U	4 Metre 25.682km	Vehicle Gate
25.848	U		Vehicle Gate
26.545	D	6 Metre 26.545km	Vehicle Gate
26.790	U	6 Metre 26.790km	Vehicle Gate
27.383	D	4 Metre 27.383km	Vehicle Gate
27.595	D	6 Metre 27.595km	Vehicle Gate
27.635	D		Vehicle Gate
27.700	D		Vehicle Gate
27.743	U	6 Metre 27.743km	Vehicle Gate
27.800	U	6 Metre 27.800km	Vehicle Gate
29.085	D	3 Metre 29.085km	Vehicle Gate
29.090	U	6 Metre 29.900km	Vehicle Gate
29.500	D	6 Metre 29.500km	Vehicle Gate
29.675	U	6 Metre 29.675km	Vehicle Gate
30.275	D		Vehicle Gate
30.958	D	8 Metre 30.958km	Vehicle Gate
31.180	U	3 Metre 31.180km	Vehicle Gate
32.115	U	3 Metre 32.115km	Vehicle Gate
32.640	D	4 Metre 32.640km	Vehicle Gate
33.360	D	3 Metre 33.360km	Vehicle Gate
33.560	U	3 Metre 33.560km	Vehicle Gate
34.695	U		Vehicle Gate
35.241	U		Vehicle Gate
35.245	D		Vehicle Gate
35.335	D		Vehicle Gate
35.429	D		Vehicle Gate
35.539	U		Vehicle Gate
35.539	U		Vehicle Gate
35.563	D		Vehicle Gate
35.614	D		Vehicle Gate
35.630	D	3 Metre 35.630km	Vehicle Gate

PTA VEHICLE GATE LOCATIONS JOONDALUP LINE

Km	Track U/D	Gate Size	Gate Type
35.947	D		Vehicle Gate
35.947	U		Vehicle Gate
36.950	D		Vehicle Gate
37.505	D		Vehicle Gate
38.945	D		Vehicle Gate
38.945	U		Vehicle Gate
39.202	U		Vehicle Gate
39.700	D	6 Metre 39.500km	Vehicle Gate
39.800	D		Vehicle Gate
40.538	D		Vehicle Gate

PTA PEDESTRIAN GATE LOCATIONS JOONDALUP LINE



Km	Track U/D	Gate Size	Gate Type
1.516	D		Vehicle Gate
17.576	U		Vehicle Gate
18.352	U	3.6 Metre 18.352km	Vehicle Gate
19.563	U	3.6 Metre 19.563km	Vehicle Gate
20.044	U	3.6 Metre 20.044km	Vehicle Gate
20.625	U	3.6 Metre 20.625km	Vehicle Gate
21.420	U	on to on track	
21.468	U	off freeway to On-Track	Vehicle Gate
22.373	U	3.6 Metre 22.373km	Vehicle Gate
23.401	U	3.6 Metre 23.401km	Vehicle Gate
26.024	U	3.6 Metre 26.024km	Vehicle Gate
26.872	U	3.6 Metre 26.872km	Vehicle Gate
28.386	U		Vehicle Gate
30.713	U	3.6 Metre 30.713km	Vehicle Gate
31.733	D	4 Metre 31.733km	Vehicle Gate
32.117	U	4 Metre 32.117km	Vehicle Gate
32.087	D		Vehicle Gate
32.258	D	4 Metre 32.258km	Vehicle Gate
32.220	U	4 Metre 32.358km	Vehicle Gate
32.479	D	4 Metre 32.479km	Vehicle Gate
32.660	U	4 Metre 32.660km	Vehicle Gate
34.310	D		
35.172	D	8 Metre 35.172km	Vehicle Gate
36.421	D		
36.800	D		
37.540	D		Vehicle Gate
37.737	D		
38.000	D		Vehicle Gate
38.620	DU	emergency vehicles	
39.415	D		
39.650	U	5 Metre 39.650km	Vehicle Gate
40.220	D		
40.387	D	6 Metre 40.387km	Vehicle Gate
41.020			Vehicle Gate
41.570	D		Vehicle Gate
42.182	D	4 Metre 42.182km	Vehicle Gate
42.120	U		Vehicle Gate
42.560	U	4 Metre 42.560km	Vehicle Gate
42.600	D	6 Metre 42.600km	Vehicle Gate
42.942	D	4 Metre 42.942km	Vehicle Gate
42.954	U	4 Metre 42.954km	Vehicle Gate
43.660	D		Vehicle Gate
43.800	D	4 Metre 43.800km	Vehicle Gate
44.646	D	4 Metre 44.646km	Vehicle Gate
46.440	D		Vehicle Gate
47.450	D		Vehicle Gate
47.600	U	4 Metre 47.600km	Vehicle Gate
47.600	D		Vehicle Gate
52.900	D	6 Metre 52.900km	Vehicle Gate
54.597	U	6 Metre 54.597km	Vehicle Gate
57.300	D		Vehicle Gate
59.160	D		Vehicle Gate
59.220	U		Vehicle Gate
59.342	D		Vehicle Gate
59.350	U		Vehicle Gate
59.657	D	4 Metre 59.657km	Vehicle Gate
59.770	D	3 Metre 59.770km	Vehicle Gate
60.752	D	6 Metre 60.752km	Vehicle Gate
65.286	D		
65.316	D	4 Metre 65.316km	Vehicle Gate

PTA VEHICLE GATE LOCATIONS MANDURAH LINE

Km	Track U/D	Gate Size	Gate Type
65.316	U	4 Metre 65.316km	Vehicle Gate
65.600	U		
66.870	D	4 Metre 66.870km	Vehicle Gate
67.407	D	4 Metre 67.407km	Vehicle Gate
67.930	D	4 Metre 67.930km	Vehicle Gate
68.530	D	4 Metre 68.530km	Vehicle Gate
69.708	D		
70.100	U	6 Metre 70.100km	Vehicle Gate
70.752	D		Vehicle Gate

PTA PEDESTRIAN GATE LOCATIONS MANDURAH LINE

Km	Track U/D	Gate Size	
0.956	U	Metre 0.956km	Pedestrian Gate
1.207	U	Metre 1.207km	Pedestrian Gate
1.302	U	Metre 1.302km	Pedestrian Gate
20.933	U	Metre 20.933km	Pedestrian Gate
21.133	U	Metre 21.133km	Pedestrian Gate
21.172	U	Metre 21.172km	Pedestrian Gate
21.328	U	Metre 21.328km	Pedestrian Gate
31.680	D	Metre 31.680km	Pedestrian Gate
31.990	D		Pedestrian Gate
32.950	D	Metre 32.950km	Pedestrian Gate
32.950	U	Metre 32.950km	Pedestrian Gate
33.535	D	Metre 33.535km	Pedestrian Gate
34.064	U	Metre 34.064km	Pedestrian Gate
34.780	U	Metre 34.780km	Pedestrian Gate
35.124	U	Metre 35.124km	Pedestrian Gate
35.659	D	Metre 35.659km	Pedestrian Gate
35.740	U	Metre 35.740km	Pedestrian Gate
36.056	D	Metre 36.056km	Pedestrian Gate
36.180	U	Metre 36.180km	Pedestrian Gate
36.400	D		Pedestrian Gate
36.580	D	Metre 36.580km	Pedestrian Gate
37.028	D		Pedestrian Gate
37.120	U		Pedestrian Gate
37.820	D		Pedestrian Gate
37.888	D		Pedestrian Gate
38.244	D		Pedestrian Gate
38.734	D		Pedestrian Gate
38.825	D		Pedestrian Gate
39.415	D		Pedestrian Gate
40.000	D		Pedestrian Gate
40.510	D		Stairs
41.308	D		
41.490	D		TSC
41.900	D		
42.725	D		Stairs
43.800	D	Metre 43.800km	Pedestrian Gate
45.500	D		Pedestrian Gate
45.680	D		
46.611	D		
48.110	D	Metre 48.110km	Pedestrian Gate
48.350	D	Metre 48.350km	Pedestrian Gate
48.500	D		
48.590	D	Metre 48.590km	Pedestrian Gate
48.842	D	Metre 48.842km	Pedestrian Gate
49.101	D	Metre 49.101km	Pedestrian Gate
49.292	D		
49.780	D		
49.990	D	Metre 49.990km	Pedestrian Gate
50.268	D	Metre 50.268km	Pedestrian Gate
50.645	D	Metre 50.645km	Pedestrian Gate
50.815	D	Metre 50.815km	Pedestrian Gate
51.200	D	Metre 51.200km	Pedestrian Gate
51.595	D	Metre 51.595km	Pedestrian Gate
51.900	D	Metre 51.900km	Pedestrian Gate
52.030	D		
52.246	D	Metre 52.246km	Pedestrian Gate
52.789	D	Metre 52.789km	Pedestrian Gate
52.886	D		
53.294	U		
53.741	U		

Km	Track U/D	Gate Size	
53.865	U	Metre 53.865km	Pedestrian Gate
54.024	D	Metre 54.024km	Pedestrian Gate
54.140	U	Metre 54.140km	Pedestrian Gate
54.850	U	Metre 54.850km	Pedestrian Gate
55.011	U	Metre 55.011km	Pedestrian Gate
55.575	D	Metre 55.575km	Pedestrian Gate
56.247	D	Metre 56.247km	Pedestrian Gate
56.515	D	Metre 56.515km	Pedestrian Gate
56.925	D	Metre 56.925km	Pedestrian Gate
57.355	D	Metre 57.355km	Pedestrian Gate
57.855	D	Metre 57.855km	Pedestrian Gate
58.129	D	Metre 58.129km	Pedestrian Gate
58.437	D	Metre 58.437km	Pedestrian Gate
58.745	D	Metre 58.745km	Pedestrian Gate
58.879	D		
59.100	D	Metre 59.100km	Pedestrian Gate
59.200	D		Karnup SER
59.423	D	Metre 59.423km	Pedestrian Gate
59.602	D		Stairs
59.700	D		Paganoni SER
60.192	D	Metre 60.192km	Pedestrian Gate
60.392	D	Metre 60.392km	Pedestrian Gate
60.392	U	Metre 60.392km	Pedestrian Gate
60.912	D		
61.463	D	Metre 61.463km	Pedestrian Gate
61.831	D	Metre 61.831km	Pedestrian Gate
61.900	U		
62.000	U		
62.296	D	Metre 62.296km	Pedestrian Gate
62.546	D		
62.729	D	Metre 62.729km	Pedestrian Gate
62.940	D	Metre 62.940km	Pedestrian Gate
63.156	D	Metre 63.156km	Pedestrian Gate
63.400	D		Stairs
63.620	D	Metre 63.620km	Pedestrian Gate
63.987	D	Metre 63.987km	Pedestrian Gate
63.987	U	Metre 63.987km	Pedestrian Gate
64.260	D		Stairs
64.690	D	Metre 64.690km	Pedestrian Gate
65.240	D		Stairs
65.730	U		Parklands SER
65.825	U	Metre 65.825km	Pedestrian Gate
66.030	U		Parklands Tunnel Stairs
69.800	U		Mandurah Rd Tunnel
70.570	U		Yard - Carpark
70.830	U	Metre 70.830km	Pedestrian Gate

PTA VEHICLE GATE LOCATIONS ARMADALE LINE

Km	Track U/D	Gate Size	Vehicle Gate
0.210	D		
0.641	U	5 Metre 0.641km	Vehicle Gate
1.095	U	4 Metre 1.095km	Vehicle Gate
1.780	U	4 Metre 1.780km	Vehicle Gate
2.000	U	4 Metre 2.000km	Vehicle Gate
2.622	U		
2.713	D		
3.100	D	5 Metre 3.100km	Vehicle Gate
3.390	U	5 Metre 3.390km	Vehicle Gate
3.469	U	3 Metre 3.469km	Vehicle Gate
3.479	D	4 Metre 3.479km	Vehicle Gate
3.625	D		
3.779	U	4 Metre 3.779km	Vehicle Gate
3.900	U	4 Metre 3.900km	Vehicle Gate
4.370	U		
4.500	D		
4.500	U	4 Metre 4.500km	Vehicle Gate
4.750	D		
4.800	U	6 Metre 4.800km	Vehicle Gate
5.071	D		
5.158	D	6 Metre 5.158km	Vehicle Gate
5.208	U		
5.824	U	3 Metre 5.824km	Vehicle Gate
5.943	D	6 Metre 5.943km	Vehicle Gate
6.000	U	4 Metre 6.000km	Vehicle Gate
6.240	D		
6.273	U	6 Metre 6.273km	Vehicle Gate
6.496	D	5 Metre 6.496km	Vehicle Gate
6.538	U	4 Metre 6.538km	Vehicle Gate
6.976	D	4 Metre 6.976km	Vehicle Gate
7.000	U	4 Metre 7.000km	Vehicle Gate
7.395	U	4 Metre 7.395km	Vehicle Gate
7.626	D		
7.628	U		
8.168	D	4 Metre 8.168km	Vehicle Gate
8.330	U	4 Metre 8.330km	Vehicle Gate
8.535	D	4 Metre 8.535km	Vehicle Gate
8.800	D	4 Metre 8.800km	Vehicle Gate
9.283	U	4 Metre 9.283km	Vehicle Gate
9.601	U	5 Metre 9.601km	Vehicle Gate
10.195	D	4 Metre 10.195km	Vehicle Gate
10.404	U	6 Metre 10.404km	Vehicle Gate
10.510	D	6 Metre 10.510km	Vehicle Gate
11.100	U	3.5 Metre 11.100km	Vehicle Gate
11.142	D	4 Metre 11.142km	Vehicle Gate
11.385	D	4 Metre 11.385km	Vehicle Gate
11.400	D		
11.400	U	4 Metre 11.400km	Vehicle Gate
11.700	D	4 Metre 11.700km	Vehicle Gate
11.900	U	4 Metre 11.900km	Vehicle Gate
11.970	U	4 Metre 11.970km	Vehicle Gate
12.100	U	4 Metre 12.100km	Vehicle Gate
12.500	U	4 Metre 12.500km	Vehicle Gate
12.751	U	4 Metre 12.751km	Vehicle Gate
13.110	D	6 Metre 13.110km	Vehicle Gate
13.218	U	4 Metre 13.218km	Vehicle Gate
14.329	U	4 Metre 14.329km	Vehicle Gate
14.360	D		
14.724	U	4 Metre 14.724km	Vehicle Gate
14.937	D	4 Metre 14.937km	Vehicle Gate

Km	Track U/D	Gate Size	Gate Type
15.119	D	4 Metre 15.119km	Vehicle Gate
15.129	D	4 Metre 15.129km	Vehicle Gate
15.314	U	4 Metre 15.314km	Vehicle Gate
15.470	D		
15.500	U	4 Metre 15.500km	Vehicle Gate
15.540	D		
15.930	D		
16.145	U	4 Metre 16.145km	Vehicle Gate
16.630	D		
16.899	U	4 Metre 16.899km	Vehicle Gate
17.060	D	4 Metre 17.060km	Vehicle Gate
17.512	U	5 Metre 17.512km	Vehicle Gate
17.430	U		
17.586	D	3.6 Metre 17.586km	Vehicle Gate
18.125	D		
18.460	D	4 Metre 18.460km	Vehicle Gate
18.810	D	4 Metre 18.810km	Vehicle Gate
19.015	U	4 Metre 19.015km	Vehicle Gate
19.128	U	4 Metre 19.128km	Vehicle Gate
19.536	U	4 Metre 19.536km	Vehicle Gate
19.660	U		
19.760	U		
19.922	D	4 Metre 19.922km	Vehicle Gate
20.238	U	4 Metre 20.238km	Vehicle Gate
20.512	U	6 Metre 20.512km	Vehicle Gate
20.560	U	4 Metre 20.560km	Vehicle Gate
20.852	D	4 Metre 20.852km	Vehicle Gate
21.206	U	4 Metre 21.206km	Vehicle Gate
21.417	D	4 Metre 21.417km	Vehicle Gate
21.889	D		
21.889	U	6 Metre 21.889km	Vehicle Gate
22.000	U	6 Metre 22.000km	Vehicle Gate
22.774	D	6 Metre 22.774km	Vehicle Gate
22.774	U		
22.900	D		
22.900	U	4 Metre 22.900km	Vehicle Gate
23.500	D		
23.500	U	4 Metre 23.500km	Vehicle Gate
23.550	U	4 Metre 23.550km	Vehicle Gate
23.810	D	4 Metre 23.810km	Vehicle Gate
24.107	U	4 Metre 24.107km	Vehicle Gate
24.878	D	4 Metre 24.878km	Vehicle Gate
24.925	U	4 Metre 24.925km	Vehicle Gate
25.420	U		
25.710	D	4 Metre 25.710km	Vehicle Gate
25.900	U	4 Metre 25.900km	Vehicle Gate
26.100	D		
26.100	U	4 Metre 26.100km	Vehicle Gate
26.135	D	4 Metre 26.135km	Vehicle Gate
26.600	U	4 Metre 26.600km	Vehicle Gate
26.743	D	3.5 Metre 26.743km	Vehicle Gate
27.082	U	4 Metre 27.082km	Vehicle Gate
27.200	D	6 & 4 Metre 27.200km	Vehicle Gate
27.300	D	4 Metre 27.300km	Vehicle Gate
27.990	U	4 Metre 27.990km	Vehicle Gate
28.127	D	4 Metre 28.127km	Vehicle Gate
28.177	D	4 Metre 28.177km	Vehicle Gate
28.280	U	4 Metre 28.280km	Vehicle Gate
28.621	U	4 Metre 28.621km	Vehicle Gate
28.825	U	4 Metre 28.825km	Vehicle Gate

Km	Track U/D	Gate Size	Gate Type
29.020	U	4 Metre 29.020km	Vehicle Gate
29.050	D	6 Metre 29.050km	Vehicle Gate
29.350	U	6 Metre 29.350km	Vehicle Gate
31.180	D	4 Metre 31.180km	Vehicle Gate
32.800	D	4 Metre 32.800km	Vehicle Gate
32.870	U	4 Metre 32.870km	Vehicle Gate
34.780	U		
34.800	U	4 Metre 34.800km	Vehicle Gate
34.820	U	6 Metre 34.820km	Vehicle Gate
34.900	D	6 Metre 34.900km	Vehicle Gate
35.600	U	6 Metre 35.600km	Vehicle Gate
35.610	D	6 Metre 35.610km	Vehicle Gate
35.690	U	6 Metre 35.690km	Vehicle Gate
36.735	U	6 Metre 36.735km	Vehicle Gate

**PTA PEDESTRIAN GATE LOCATIONS
ARMADALE LINE**

**PTA VEHICLE GATE LOCATIONS
THORNIE LINE**

Km	Track U/D	Gate Size		Km	Track U/D	Gate Size	Vehicle Gate
0.225	U			1.251	D	4 Metre 1.251km	Vehicle Gate
0.436	U	Metre 0.436km	Pedestrian Gate	1.450	D	4 Metre 1.450km	Vehicle Gate
0.630	U			1.722	D	4 Metre 1.722km	Vehicle Gate
0.700	U	Metre 0.700km	Pedestrian Gate	2.332	D	4 Metre 2.332km	Vehicle Gate
3.320	D	Metre 3.320km	Pedestrian Gate	2.500	D	4 Metre 2.500km	Vehicle Gate
3.410	D			2.816	D		Vehicle Gate
3.410	U			PTA PEDESTRIAN GATE LOCATIONS THORNIE LINE			
4.150	U						
4.390	U						
4.952	D						
5.020	D	Metre 5.020km	Pedestrian Gate				
5.905	D						
6.059	D						
6.560	D						
7.800	U	Metre 7.800km	Pedestrian Gate				
8.625	U	Metre 8.625km	Pedestrian Gate				
9.238	U	Metre 9.238km	Pedestrian Gate	Km	Track U/D	Gate Size	
9.500	U	Metre 9.500km	Pedestrian Gate	2.870	D	at Station	Pedestrian Gate
9.800	U	Metre 9.800km	Pedestrian Gate				
9.900	U	Metre 9.900km	Pedestrian Gate				
10.740	D	Metre 10.740km	Pedestrian Gate				
11.336	U	Metre 11.336km	Pedestrian Gate				
11.590	U	Metre 11.590km	Pedestrian Gate				
11.648	D	Metre 11.648km	Pedestrian Gate				
12.721	U	Metre 12.721km	Pedestrian Gate				
13.028	U						
14.861	D						
19.240	U						
21.200	D	Metre 21.200km	Pedestrian Gate				
21.200	U	Metre 21.200km	Pedestrian Gate				
24.320	D						
24.630	U						
24.700	U	Metre 24.700km	Pedestrian Gate				
24.750	D						
25.457	D	to LOC case enclosure					
25.800	D	Metre 25.800km	Pedestrian Gate				
26.305	D	Metre 26.305km	Pedestrian Gate				
26.738	U						
26.831	U						
26.911	U	Metre 26.911km	Pedestrian Gate				
27.000	U	Metre 27.000km	Pedestrian Gate				
28.160	U						
28.470	U						
28.518	U						
28.900	D						
29.030	D						
29.178	U						
29.260	D	Metre 29.260km	Pedestrian Gate				

Km	Track U/D	Gate Size	Vehicle Gate
0.150	U	to On-Track PTM	Vehicle Gate
0.361	U	3 Metre Gate 0.361km	Vehicle Gate
0.740	D		Vehicle Gate
0.819	D		Vehicle Gate
1.520	D		Vehicle Gate
1.700	D		Vehicle Gate
2.800	U	6 Metre 2.800km	Vehicle Gate
3.280	D	6 Metre 3.280km	Vehicle Gate
3.330	U		Vehicle Gate
3.510	U		Vehicle Gate
4.440	U	4 Metre 4.440km	Vehicle Gate
4.470	U	4 Metre 4.470km	Vehicle Gate
4.704	U	4 Metre 4.704km	Vehicle Gate
5.015	D	8 Metre 5.015km	Vehicle Gate
5.040	D	4 Metre 5.040km	Vehicle Gate
5.051	U	4 Metre 5.051km	Vehicle Gate
5.305	U	6 Metre 5.305km	Vehicle Gate
6.384	U	6 Metre 6.384km	Vehicle Gate
6.520	D	4 Metre 6.520km	Vehicle Gate
6.660	D	4 Metre 6.660km	Vehicle Gate
6.876	D	4 Metre 6.876km	Vehicle Gate
7.150	D	6 Metre 7.150km	Vehicle Gate
7.300	D		Vehicle Gate
7.866	U		Vehicle Gate
8.000	U	6 Metre 8.000km	Vehicle Gate
8.262	D	6 Metre 8.262km	Vehicle Gate
8.334	U	4 Metre 8.334km	Vehicle Gate
8.894	U	4 Metre 8.894km	Vehicle Gate
9.200	D	4 Metre 9.200km	Vehicle Gate
9.285	D	3 Metre 9.285km	Vehicle Gate
9.450	D		Vehicle Gate
9.833	U	6 Metre 9.833km	Vehicle Gate
9.848	U	6 Metre 9.848km	Vehicle Gate
10.300	D		Vehicle Gate
10.656	D		Vehicle Gate
10.715	U	4 Metre 10.715km	Vehicle Gate
10.730	U		Vehicle Gate
10.921	U	4 Metre 10.921km	Vehicle Gate
10.930	U		Vehicle Gate
11.201	D		Vehicle Gate
11.351	U	4 Metre 11.351km	Vehicle Gate
11.595	D		Vehicle Gate
11.895	U		Vehicle Gate
12.185	U	4 Metre 12.185km	Vehicle Gate
12.460	U	4 Metre 12.460km	Vehicle Gate
12.817	U	3 Metre 12.817km	Vehicle Gate
13.385	U	4 Metre 13.385km	Vehicle Gate
13.450	D		Vehicle Gate
13.516	U	3 Metre 13.516km	Vehicle Gate
13.950	D	6 Metre 13.950km	Vehicle Gate
14.015	U	4 Metre 14.015km	Vehicle Gate
14.200	D	4 Metre 14.200km	Vehicle Gate
14.361	U		Vehicle Gate
14.650	D		Vehicle Gate
14.720	D		Vehicle Gate
14.865	U	4 Metre 14.865km	Vehicle Gate
15.300	U		Vehicle Gate
15.440	D	4 Metre 15.440km	Vehicle Gate
15.800	U		Vehicle Gate
16.097	D	4 Metre 16.097km	Vehicle Gate

PTA VEHICLE GATE LOCATIONS FREMANTLE LINE

Km	Track U/D	Gate Size	Vehicle Gate
16.492	U	4 Metre 16.492km	Vehicle Gate
16.535	U	4 Metre 16.535km	Vehicle Gate
17.000	U	4 Metre 17.000km	Vehicle Gate
17.340	U	4 Metre 17.340km	Vehicle Gate
17.500	U	6 Metre 17.500km	Vehicle Gate
18.180	U	3 Metre 18.180km	Vehicle Gate
18.500	D	3 Metre 18.500km	Vehicle Gate
18.700	U	4 Metre 18.700km	Vehicle Gate
19.800	U	6 Metre 19.800km	Vehicle Gate
20.358	D	6 Metre 20.358km	Vehicle Gate
20.890	U	4 Metre 20.890km	Vehicle Gate
21.100	D/U	6 Metre 21.100km	Vehicle Gate

PTA PEDESTRIAN GATE LOCATIONS FREMANTLE LINE

Km	Track U/D	Gate Size	
0.680	D	F side EPerth Tun	Pedestrian Gate
0.819	D		Pedestrian Gate
1.080	D		Pedestrian Gate
1.117	D		Pedestrian Gate
1.500	D		Pedestrian Gate
1.650	D		Pedestrian Gate
2.558	D		Pedestrian Gate
2.625	U	Metre 2.800km	Pedestrian Gate
3.019	U	Metre 3.019km	Pedestrian Gate
3.400	U		Pedestrian Gate
3.700	U	Metre 3.700km	Pedestrian Gate
3.810	D		Pedestrian Gate
4.550	U	Metre 4.550km	Pedestrian Gate
5.000	D	Metre 5.000km	Pedestrian Gate
5.160	D		Pedestrian Gate
6.600	D	Metre 6.600km	Pedestrian Gate
7.614	U	Metre 7.614km	Pedestrian Gate
8.190	D	Metre 8.190km	Pedestrian Gate
12.320	D	Metre 12.320km	Pedestrian Gate
13.355	D	Metre 13.355km	Pedestrian Gate
13.640	D		Pedestrian Gate
19.400	D	Metre 19.400km	Pedestrian Gate
19.490	U	Metre 19.490km	Pedestrian Gate
20.150	U	Metre 20.150km	Pedestrian Gate
20.630	U		Pedestrian Gate
20.800	U		Pedestrian Gate

PTA VEHICLE GATE LOCATIONS CITY LINE

Km	Track U/D	Gate Size	Gate Type
1.140	U		Vehicle Gate
1.765	U		Vehicle Gate

PTA PEDESTRIAN GATE LOCATIONS CITY LINE

Km	Track U/D	Gate Size	Gate Type
0.960	U		Pedestrian Gate
1.080	U		Pedestrian Gate
1.780	U		Pedestrian Gate

PTA VEHICLE GATE LOCATIONS MIDLAND LINE

Km	Track U/D	Gate Size	Gate Type
0.229	U	4 Metre Gate 0.229km	Vehicle Gate
0.471	D	4 Metre Gate 0.471km	Vehicle Gate
0.803	D	5 Metre Gate 0.803km	Vehicle Gate
1.331	U	4 Metre Gate 1.331km	Vehicle Gate
1.375	U	6 Metre Gate 1.375km	Vehicle Gate
1.419	D	6 Metre Gate 1.419km	Vehicle Gate
1.645	D	4 Metre Gate 1.645km	Vehicle Gate
2.161	U	6 Metre Gate 2.161km	Vehicle Gate
2.714	D	4 Metre Gate 2.714km	Vehicle Gate
3.036	U	4 Metre Gate 3.036km	Vehicle Gate
3.101	D	4 Metre Gate 3.101km	Vehicle Gate
3.434	D		Vehicle Gate
3.609	U	4 Metre Gate 3.609km	Vehicle Gate
3.750	D	4 Metre Gate 3.750km	Vehicle Gate
3.990	U		Vehicle Gate
4.196	U	2 Metre Gate 4.196km	Vehicle Gate
4.496	U	2 Metre Gate 4.496km	Vehicle Gate
4.850	U		Vehicle Gate
4.910	U		Vehicle Gate
4.910	D	temporary fence	Vehicle Gate
5.250	U	4 Metre Gate 5.250km	Vehicle Gate
5.255	U		Vehicle Gate
5.940	D	12 Metre Gate 5.940km	Vehicle Gate
5.961	U		Vehicle Gate
6.006	D	4 Metre Gate 6.006km	Vehicle Gate
6.025	U		Vehicle Gate
6.186	D	4 Metre Gate 6.186km	Vehicle Gate
6.596	U	4 Metre Gate 6.596km	Vehicle Gate
6.636	D	4 Metre Gate 6.636km	Vehicle Gate
6.960	U	set of double gates	Vehicle Gate
7.211	D	4 Metre Gate 7.211km	Vehicle Gate
7.340	D	4 Metre Gate 7.340km	Vehicle Gate
7.370	D		Vehicle Gate
7.390	U		Vehicle Gate
7.580	U		Vehicle Gate
7.791	D	4 Metre Gate 7.791km	Vehicle Gate
7.814	D		Vehicle Gate
8.125	U	6 Metre Gate 8.125km	Vehicle Gate
8.158	D	4 Metre Gate 8.180km	Vehicle Gate
8.375	D	5 Metre Gate 8.374km	Vehicle Gate
8.966	D	4 Metre Gate 8.966km	Vehicle Gate
9.160	D		Vehicle Gate
9.261	U	4 Metre Gate 9.261km	Vehicle Gate

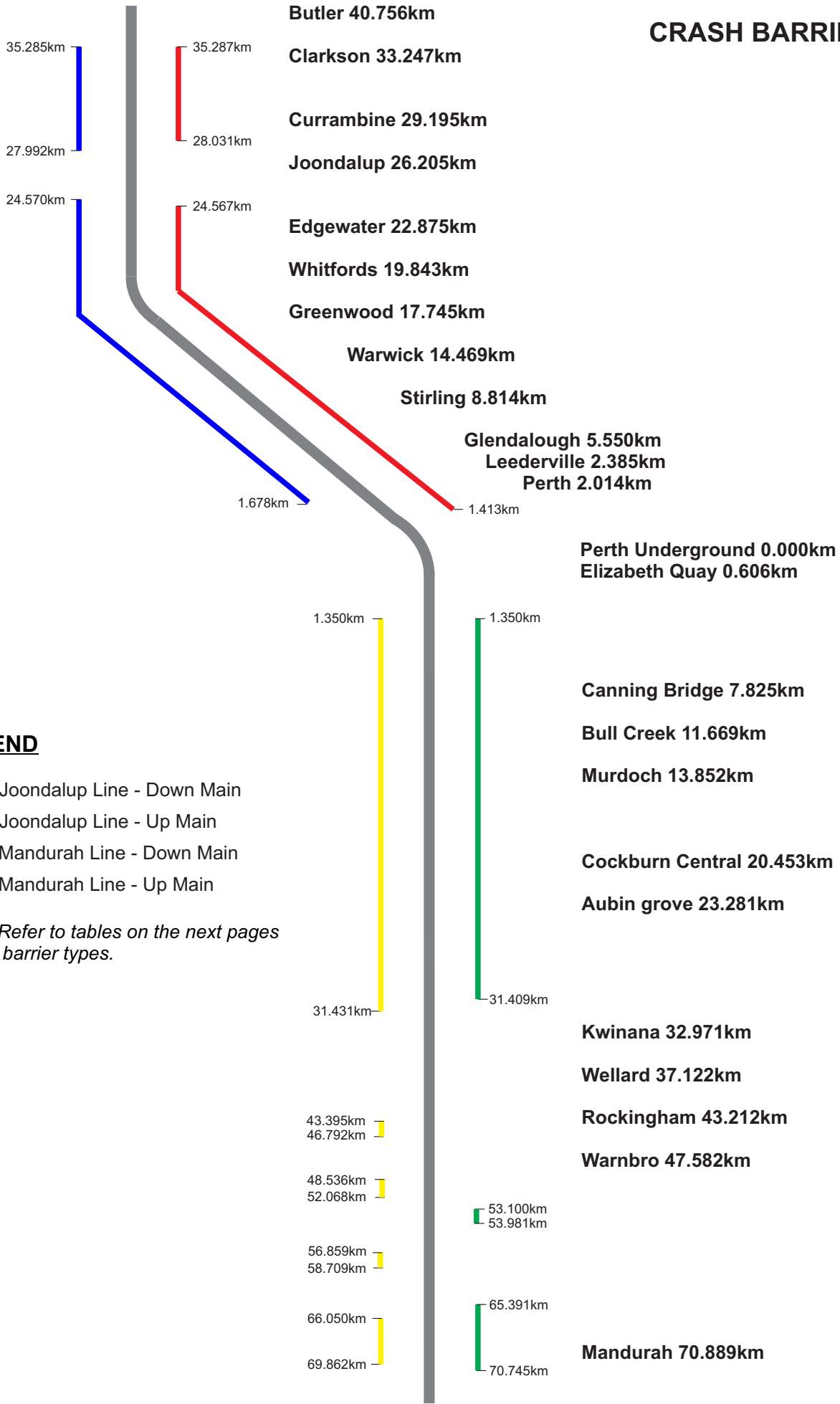
Km	Track U/D	Gate Size	Vehicle Gate
10.244	U	4 Metre Gate 10.244km	Vehicle Gate
10.656	D		Vehicle Gate
10.784	D	3 Metre Gate 10.784km	Vehicle Gate
11.000	D		Vehicle Gate
11.150	D	4 Metre Gate 11.150km	Vehicle Gate
11.331	U	6 Metre Gate 11.331km	Vehicle Gate
11.800	U/D	4 Metre Gate 11.800km	Vehicle Gate
12.037	U	2 Metre Gate 12.037km	Vehicle Gate
12.217	U		Vehicle Gate
12.369	D	6 Metre Gate 12.369km	Vehicle Gate
12.706	D	6 Metre Gate 12.706km	Vehicle Gate
12.715	U		Vehicle Gate
12.927	U		Vehicle Gate
12.939	U		Vehicle Gate
13.591	U	4 Metre Gate 13.591km	Vehicle Gate
13.641	D	4 Metre Gate 13.641km	Vehicle Gate
13.650	U		Vehicle Gate
13.881	D	4 Metre Gate 13.881km	Vehicle Gate
13.961	D	6 Metre Gate 13.961km	Vehicle Gate
14.050	U		Vehicle Gate

PTA PEDESTRIAN GATE LOCATIONS MIDLAND LINE

Km	Track U/D	Gate Size	Gate Type
0.040	U	Designated path to Platform	Pedestrian Gate
0.188	U	Metre Gate 0.188km	Pedestrian Gate
0.383	U	Metre Gate 0.383km	Pedestrian Gate
0.548	U	Metre Gate 0.548km	Pedestrian Gate
0.920	U	Metre Gate 0.920km	Pedestrian Gate
1.049	D	Metre Gate 1.049km	Pedestrian Gate
1.116	U	Metre Gate 1.116km	Pedestrian Gate
1.198	D	Metre Gate 1.198km	Pedestrian Gate
2.420	D	Metre Gate 2.420km	Pedestrian Gate
3.578	D	Metre Gate 3.578km	Pedestrian Gate
3.700	D	Metre Gate 3.700km	Pedestrian Gate
4.000	D	Metre Gate 4.000km	Pedestrian Gate
5.045	D	Metre Gate 5.045m	Pedestrian Gate
5.094	D	Metre Gate 5.094km	Pedestrian Gate
5.140	U		Pedestrian Gate
5.886	U		Pedestrian Gate
6.186	U	Metre Gate 6.186km	Pedestrian Gate
6.640	U	Metre Gate 6.640km	Pedestrian Gate
6.780	U	Metre Gate 6.780km	Pedestrian Gate
6.846	U	Metre Gate 6.846km	Pedestrian Gate
6.879	D		Pedestrian Gate
7.132	D	Metre Gate 7.132km	Pedestrian Gate
7.340	D		Pedestrian Gate
7.388	D	Metre Gate 7.388km	Pedestrian Gate
7.600	D		Pedestrian Gate
7.715	D	Metre Gate 7.710km	Pedestrian Gate
7.733	U	Metre Gate 7.733km	Pedestrian Gate
7.935	U	Metre Gate 7.935km	Pedestrian Gate
8.275	D	Metre Gate 8.275km	Pedestrian Gate
8.512	D		Pedestrian Gate
8.538	U	Metre Gate 8.538km	Pedestrian Gate
8.620	D		Pedestrian Gate
8.780	D	Metre Gate 8.780km	Pedestrian Gate
9.475	U	Metre Gate 9.475km	Pedestrian Gate
9.515	D	Metre Gate 9.515km	Pedestrian Gate
9.575	D	Metre Gate 9.575km	Pedestrian Gate
9.600	U	Metre Gate 9.600km	Pedestrian Gate
10.150	U	Metre Gate 10.150km	Pedestrian Gate
11.064	D	Metre Gate 11.064km	Pedestrian Gate
11.241	D	Metre Gate 11.241km	Pedestrian Gate
11.373	D	Metre Gate 11.373km	Pedestrian Gate
11.385	D		Pedestrian Gate
11.464	U	Metre Gate 11.464km	Pedestrian Gate
11.888	U		Pedestrian Gate
11.964	U		Pedestrian Gate
12.217	U		Pedestrian Gate
12.330	D	Metre Gate 12.330km	Pedestrian Gate
12.499	D	Metre Gate 12.499km	Pedestrian Gate
12.530	D		Pedestrian Gate

ACCESS TO MIDLAND UP MAIN FROM CH4.850 TO CH 6.186 IS THROUGH FAL PROJECT CONSTRUCTION SITE. REFER TO FENCING PLAN AND ACCESS AGREEMENT. ALL ACCESS VIA MAIN GATE AT INTERSECTION OF WHATLEY AND NEWTON STREETS.

CRASH BARRIERS



LEGEND

- █ Joondalup Line - Down Main
- █ Joondalup Line - Up Main
- █ Mandurah Line - Down Main
- █ Mandurah Line - Up Main

Note: Refer to tables on the next pages for the barrier types.

Crash Barrier Types

Joondalup Line - Down Main				
Section	Barrier Type	Start KM	End KM	Length (m)
1	Formed Concrete	1.678	5.868	4190
2A	Wire Rope	5.868	6.756	888
2B	Wire Rope	6.756	7.992	1236
3	Lip Channel	7.992	8.426	434
4	Formed Concrete	8.426	8.757	331
5	Tri - Conc block	8.757	9.136	379
6	Formed Concrete	9.136	9.378	242
7	Lip Channel	9.378	9.894	516
8	Tri - Conc block	9.894	9.902	8
9	Lip Channel	9.902	11.244	1342
10	Tri - Conc block	11.244	11.271	27
11	Lip Channel	11.271	11.632	361
12	Formed Concrete	11.632	12.773	1141
13	W-beam	12.773	12.778	5
14	Tri - Conc block	12.778	12.806	28
15	Lip Channel	12.806	13.170	364
16	Tri - Conc block	13.170	13.181	11
17	Lip Channel	13.181	13.379	198
18	Tri - Conc block	13.379	13.409	30
19	Lip Channel	13.409	13.459	50
20	Tri - Conc block	13.459	13.499	40
21	Lip Channel	13.499	13.678	179
22	Tri - Conc block	13.678	13.708	30
23	Lip Channel	13.708	14.165	457
24	Tri - Conc block	14.165	14.195	30
25	Lip Channel	14.195	14.339	144
26	Tri - Conc block	14.339	14.382	43
27	Lip Channel	14.382	14.542	160
28	Tri - Conc block	14.542	15.262	720
29	Lip Channel	15.262	15.406	144
30	Tri - Conc block	15.406	15.446	40
31	Lip Channel	15.446	15.739	293
32	Tri - Conc block	15.739	15.769	30
33	Lip Channel	15.769	16.059	290
34	Tri - Conc block	16.059	16.099	40
35	Lip Channel	16.099	16.149	50
36	Tri - Conc block	16.149	16.179	30
37	Lip Channel	16.179	16.281	102
38	Tri - Conc block	16.281	16.311	30
39	Lip Channel	16.311	16.474	163
40	Tri - Conc block	16.474	16.504	30
41	Lip Channel	16.504	16.678	174
42	Tri - Conc block	16.678	16.718	40
43	Lip Channel	16.718	16.968	250
44	Tri - Conc block	16.968	16.998	30
45	Lip Channel	16.998	17.179	181
46	Tri - Conc block	17.179	17.209	30
47	Lip Channel	17.209	17.513	304
48	Wire Rope	17.513	17.615	102
49	Formed Concrete	17.615	18.037	422
50	Wire Rope	18.037	19.679	1642
51	Formed Concrete	19.679	19.965	286
52	Wire Rope	19.965	21.676	1711
53	Formed Concrete	21.676	22.692	1016
54	Wire Rope	22.692	22.854	162
55	Formed Concrete	22.854	22.940	86
56	Wire Rope	22.940	24.127	1187
57	Formed Concrete	24.127	24.190	63
58	Wire Rope	24.190	24.270	80
59	Formed Concrete	24.270	24.570	300
60	Formed Concrete	27.992	28.441	449
61	Wire Rope	28.441	29.062	621
62	Formed Concrete	29.062	29.697	635
63	W-beam	29.697	29.754	57
64	Wire Rope	29.754	30.297	543
65	Formed Concrete	30.297	30.475	178
66	W-Beam	30.475	30.533	58
67	Wire Rope	30.533	32.912	2379
68	Formed Concrete	32.912	33.730	818
69	Wire Rope	33.730	35.285	1555

Joondalup Line - Up Main				
Section	Barrier Type	Start KM	End KM	Length (m)
1	Lip Channel	1.413	1.481	68
2	Tri - Conc block	1.481	1.521	40
3	Lip Channel	1.521	1.923	402
4	Tri - Conc block	1.923	1.988	65
5	Lip Channel	1.988	2.107	119
6	Tri - Conc block	2.107	2.115	8
7	Lip Channel	2.115	2.126	11
8	Tri - Conc block	2.126	2.154	28
9	Lip Channel	2.154	2.168	14
10	Tri - Conc block	2.168	2.176	8
11	Wire Rope	2.176	2.677	501
12	Lip Channel	2.677	3.927	1250
13	Formed Concrete	3.927	4.678	751
14	Lip Channel	4.678	4.767	89
15	Wire Rope	4.767	5.571	804
16	Lip Channel	5.571	7.052	1481
17	Formed Concrete	7.052	9.768	2716
18	Lip Channel	9.768	10.238	470
19	Tri - Conc block	10.238	10.278	40
20	Lip Channel	10.278	12.093	1815
21	Tri - Conc block	12.093	12.127	34
22	Lip Channel	12.127	13.102	975
23	Formed Concrete	13.102	13.162	60
24	W-Beam	13.162	13.166	4
25	Tri - Conc block	13.166	13.291	125
26	Lip Channel	13.291	13.386	95
27	Tri - Conc block	13.386	13.424	38
28	Lip Channel	13.424	13.822	398
29	Tri - Conc block	13.822	13.852	30
30	Lip Channel	13.852	14.340	488
31	Tri - Conc block	14.340	14.388	48
32	Lip Channel	14.388	14.540	152
33	Tri - Conc block	14.540	15.092	552
34	Lip Channel	15.092	15.252	160
35	Tri - Conc block	15.252	15.294	42
36	Lip Channel	15.294	15.424	130
37	Tri - Conc block	15.424	15.454	30
38	Lip Channel	15.454	15.743	289
39	Tri - Conc block	15.743	15.783	40
40	Lip Channel	15.783	16.596	813
41	Tri - Conc block	16.596	16.636	40
42	Lip Channel	16.636	16.695	59
43	Tri - Conc block	16.695	16.725	30
44	Lip Channel	16.725	17.533	808
45	Wire Rope	17.533	17.626	93
46	Formed Concrete	17.626	17.876	250
47	Wire Rope	17.876	18.043	167
48	Lip Channel	18.043	19.731	1688
49	Formed Concrete	19.731	20.008	277
50	Lip Channel	20.008	22.253	2245
51	Formed Concrete	22.253	24.511	2258
52	Lip Channel	24.511	24.567	56
53	W-Beam	28.031	28.061	30
54	Formed Concrete	28.061	28.401	340
55	Wire Rope	28.401	28.798	397
56	Formed Concrete	28.798	29.678	880
57	Wire Rope	29.678	31.918	2240
58	W-Beam	31.918	31.973	55
59	Formed Concrete	31.973	32.234	261
60	Wire Rope	32.234	32.782	548
61	W-Beam	32.782	32.838	56
62	Formed Concrete	32.838	33.418	580
63	Wire Rope	33.418	33.857	439
64	Formed Concrete	33.857	34.740	883
65	Wire Rope	34.740	35.287	547

Crash Barrier Types

Mandurah Line - Down Main

Section	Barrier Type	Start KM	End KM	Length (m)
0	Formed Concrete	1.350	17.620	16270
1	Wire Rope	17.620	18.605	985
2	Formed Concrete	18.605	18.918	313
3	Wire Rope	18.920	20.077	1157
4	Formed Concrete	20.077	20.811	734
5	Wire Rope	20.811	23.583	2772
6	Formed Concrete	23.583	24.263	680
7	Wire Rope	24.259	26.156	1897
8	Formed Concrete	26.159	26.710	551
9	Wire Rope	26.710	29.743	3033
10	Formed Concrete	29.741	30.026	285
11	Wire Rope	30.026	30.922	896
12	Formed Concrete	30.924	31.409	485
13	W-Beam	53.100	53.981	881
14	Wire rope	65.391	65.571	180
15	Formed Concrete	65.571	65.903	332
16	W-Beam	66.571	66.642	71
17	W-Beam	66.002	66.043	41
18	Formed Concrete	66.043	66.877	834
19	Wire Rope	66.877	68.801	1924
20	Formed Concrete	68.801	69.878	1077
21	Formed Concrete	70.121	70.231	110
22	W-Beam	70.231	70.664	433
23	Wire Rope	70.664	70.745	81

Mandurah Line - Up Main

Section	Barrier Type	Start KM	End KM	Length (m)
0	Formed Concrete	1.350	17.567	16217
1a	Wire Rope	17.567	20.184	2617
1b	Wire Rope	20.184	25.967	5783
2	Formed Concrete	25.970	26.030	60
3	Wire Rope	26.030	31.000	4970
4	Formed Concrete	31.000	31.431	431
5	Formed Concrete	43.395	43.708	313
6	Formed Concrete	43.772	44.787	1015
7	Wire Rope	44.787	46.792	2005
8	Wire Rope	48.536	52.068	3532
9	Wire Rope	56.859	58.709	1850
10	Formed Concrete	66.050	66.743	693
11	Wire Rope	66.743	68.823	2080
12	Formed Concrete	68.826	69.862	1036