

Traffix Group

Minta Farm Infrastructure Contributions Plan Casey Planning Scheme Amendment C269

Traffic Engineering Evidence Statement to Planning Panels Victoria

Date of Statement: 7 April 2020

Prepared For: Victorian Planning Authority
Instructed By: Hall & Wilcox Lawyers

Reference: G27294R-01A

**IN THE MATTER OF AMENDMENT C269 TO THE CASEY PLANNING SCHEME RELATING TO
THE MINTA FARM INFRASTRUCTURE CONTRIBUTIONS PLAN**

**STATEMENT TO PLANNING PANELS VICTORIA BY WILLIAM DE WAARD, TRAFFIC
ENGINEER**

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Amendment C269: Traffic Engineering Evidence Statement to Planning Panels Victoria

Minta Farm Infrastructure Contributions Plan Casey Planning Scheme Amendment C269

Our Reference: G27294R-01A

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Introduction

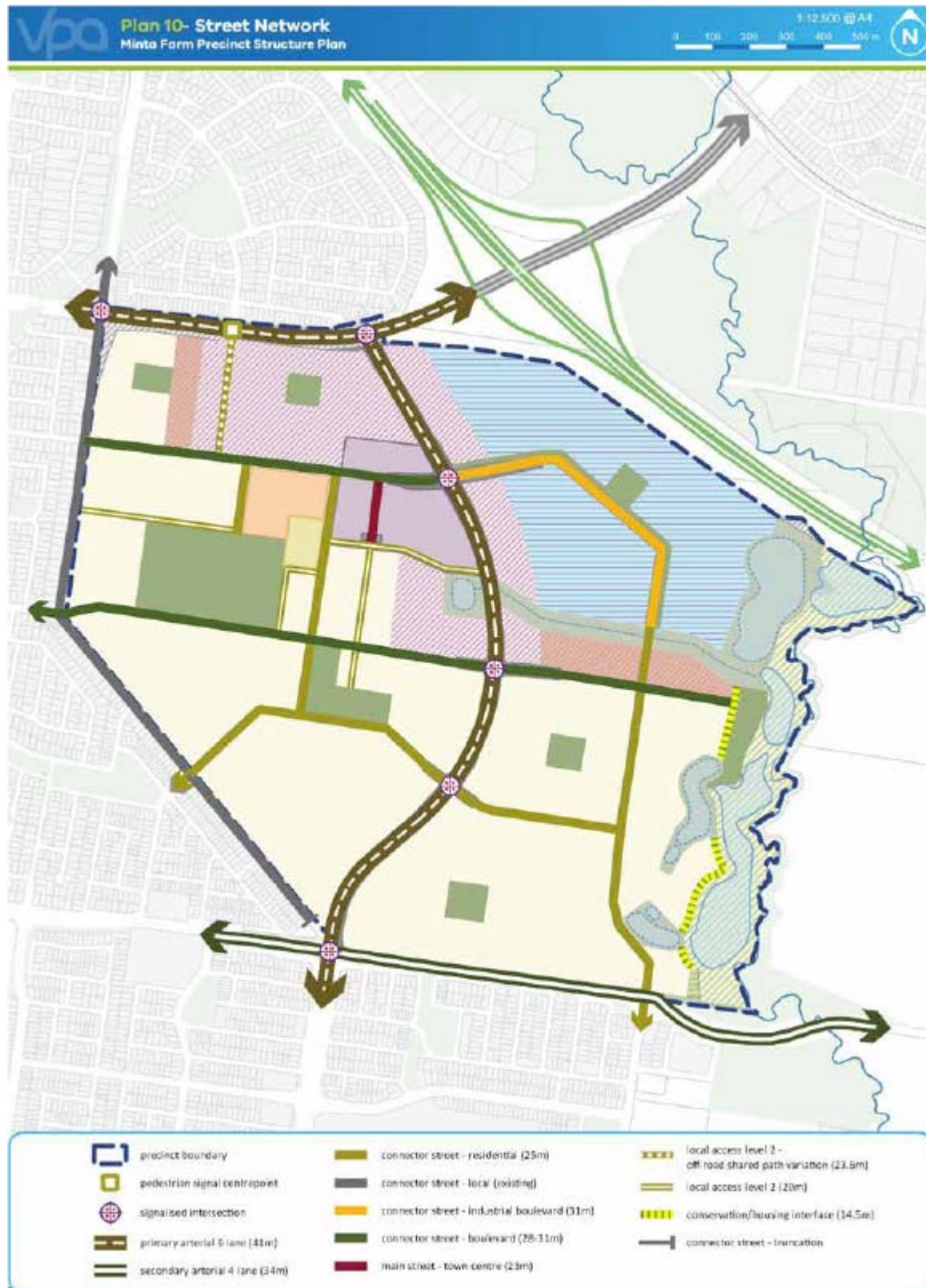
- 1 I have been retained by Hall & Wilcox Lawyers on behalf of the Victorian Planning Authority to undertake a traffic engineering review and prepare traffic evidence in relation to Amendment C269 to the Casey Planning Scheme.
- 2 The scope of this engagement has specifically been focused on a review of submissions related to the ultimate arrangements of the North-South Arterial Road intersections and associated Public Acquisition Overlay (PA03).
- 3 I note that I provided traffic engineering evidence to Planning Panels Victoria for Amendment C228 to the Casey Planning Scheme for the Minta Farm PSP 11 and my firm has provided advice and the preparation of 'interim' and ultimate functional layout plans. The 'interim' functional layout plans are incorporated in the Minta Farm Precinct Structure Plan. I was the Director responsible for the delivery of the layout plans.
- 4 Appendix A contains a statement setting out my qualifications and experience, and the other matters raised by "Planning Panels Victoria – Planning Panels – Expert Evidence". My CV is provided at Appendix B.

History

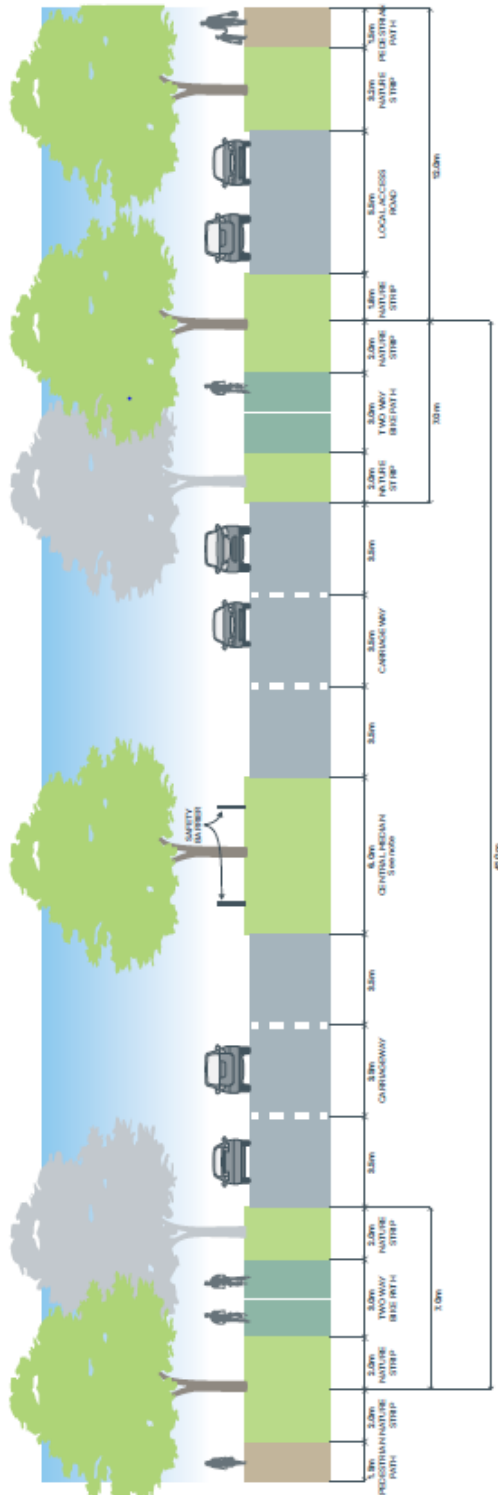
- 5 The Minta Farm Precinct Structure Plan was approved by the Minister for Planning in December 2018 and gazetted in January 2019 under Amendment C228 to the Casey Planning Scheme.
- 6 The Minta Farm 'Interim' Infrastructure Contributions Plan was gazetted in July 2019.
- 7 Amendment C269 to the Casey Planning Scheme proposes to introduce an Infrastructure Contributions Plan (ICP) that applies to land affected by the Minta Farm Precinct Structure Plan (PSP).

Minta Farm Precinct Structure Plan

- 8 The Minta Farm Precinct has a total land area of approximately 285 hectares of land within the City of Casey and is around 40 kilometres south east of Melbourne's Central Business District. The site is generally bounded by the Princes Freeway to the north, Cardinia Creek to the east, Grices Road to the south and Soldiers Road to the west.
- 9 The Minta Farm Precinct provides for the development of approximately 3,000 dwellings and an employment hub that is envisioned to support around 11,000 local jobs. The new Local Town Centre is expected to provide a mix of commercial, office and knowledge-based and technology businesses.
- 10 The Minta Farm Precinct 'Street Network' (Plan 10) as shown at Figure 1 shows the road network structure with a central 'North-South Arterial Road' through the precinct connecting Grices Road (to the south) and O'Shea Road/Monash Freeway (to the north). A number of Connector Streets are provided in the east-west direction that intersect with the North-South Arterial Road.



- #### 4.7 Road cross sections



Amendment C269

- 12 Amendment C269 to the Casey Planning Scheme proposes to introduce an Infrastructure Contributions Plan (ICP) that applies to land affected by the Minta Farm Precinct Structure Plan (PSP). This ICP will replace the 'interim' ICP incorporated into the Casey Planning Scheme.
- 13 Amendment C269 incorporates a supplementary levy to the ICP that is required on the basis that the standard levy is insufficient to fully cover the transport costs of the PSP. The standard levy is fixed by the Ministerial Direction on the Preparation and Content of Infrastructure Contribution Plans (1 July 2018).
- 14 In addition, the Amendment seeks to apply a Public Acquisition Overlay in favour of Casey City Council (PAO3) that is consistent with the North-South Arterial Road identified in the Minta Farm PSP and shown below in Figure 1.

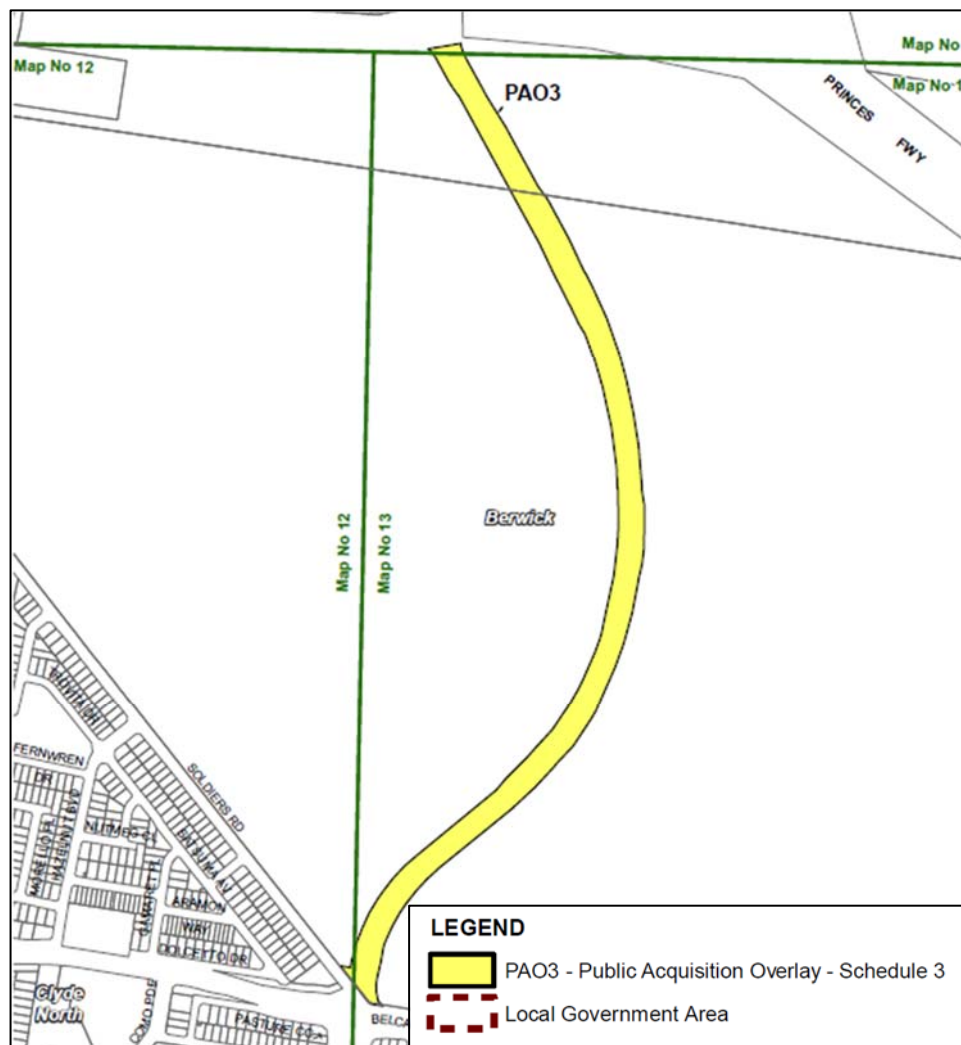


Figure 1: PAO3 – Public Acquisition Overlay – Schedule 3

- 15 The Minta Farm Infrastructure Contributions Plan (ICP) includes a series of 'Intersection' (IN-01, IN-02, IN-03, IN-04 & IN-05) and 'Road' (RD-01, RD-02, RD-01-04 & RD-04) projects associated with the delivery of the 'interim' North-South Arterial Road as shown on the diagram below.



- 16 The ICP includes infrastructure costing plans prepared by Cardno that indicate the extent of 'interim' works for the North-South Arterial Road, i.e. road projects (RD) and intersection projects (IN). These plans are based on earlier work (interim and ultimate) undertaken by Traffix Group as for the Minta Farm Precinct Structure Plan.

17 The Stockland development forms the southern portion of the Minta Farm Precinct. Advice provided by Casey Council indicates that a planning permit has been issued for the extent of the North-South Aerial Road from Grices Road (IN05) to the southern approach to IN03. The extents of the road reservation are shown below.



- 18 I understand that the Department of Transport have approved the road reservation provided for the North-South Arterial Road providing for the PAO and associated intersection requirements for IN05, IN04 & IN03 (part).

- 19 The Minta Farm Infrastructure Contributions Plan (ICP) was placed on Public Exhibition in August/September 2019. A number of submissions were received relating to the exhibition of the ICP from Department of Transport, Casey City Council, Cardinia Shire Council and interests associated with the landholders including Stockland.
- 20 Specific submissions related to the ultimate arrangements of the North-South Arterial Road intersections and associated Public Acquisition Overlay (PAO3) were limited to the Department of Transport, as follows:

21 Ultimate Intersection Layout (IN-02):

- *Update plan to include slip lane layout plan is missing a north to east left turn slip lane which is inconsistent with the accompanying traffic assessment. The plan should be updated to include a slip lane, sized appropriately to support the future inclusion of a bus queue jump lane extending from the left turn lane.*

22 Ultimate Intersection Layouts (IN-05)

- *Departure side bus lanes (with indented bus bays) are missing on Grices Road west and east legs. There appears to be sufficient space on the south-west corner to accommodate the treatments. The plans should be updated to include the departure side lanes and bus stops.*

23 Ultimate Intersection Layouts (All North-South)

- *As per previous advice, departure side short merge lanes with indented bus stops should be provided on all north and south departures to accommodate bus stops and bus priority. Plans should be updated for all intersections accordingly.*

Review of Submissions

24 IN-02 Ultimate Layout

25 The DoT have requested that IN-02 include a left slip lane on the north-east corner appropriately sized for a future bus jump lane.

26 My firm prepared 'first principles' traffic models to support the 'ultimate' intersection layouts for the North-South Arterial Road including IN-02. The associated SIDRA intersection modelling for IN-02 included versions with and without a left slip lane on the north east corner.

27 I have reviewed the SIDRA intersection models for both scenarios, i.e. with and without the slip lane and the only vehicle movement impacted is left turning traffic on the northern approach. Table 1 below summarises the impact of the left turn movement.

Table 1: IN-02 Slip Lane Comparison

| Movement | DOS | Average Delay (s) | 95 th Percentile Queue (m) |
|-------------------|--------------|-------------------|---------------------------------------|
| AM Peak | | | |
| Without Slip Lane | 0.68 | 19 | 134 |
| With Slip Lane | 0.48 | 9 | 84 |
| Difference | -0.20 | -10 | -50 |
| PM Peak | | | |
| Without Slip Lane | 0.15 | 16 | 29 |
| With Slip Lane | 0.10 | 8 | 5 |
| Difference | -0.05 | -8 | -24 |

- 28 Table 1 above shows that the inclusion of a left-turn slip lane will provide improvements to the left turn movement from the north approach for degree of saturation, average delay and queue length.
- 29 Based in the above, I am of the view that based on the above that there is benefit in providing the left slip lane on the north east corner of IN-02. Accordingly, I have prepared an updated 'ultimate' functional layout plan for IN-02 incorporating the left slip lane. A copy of the plan is provided at Appendix C.
- 30 The impact of including the left slip lane on the north east corner of IN-02 is the requirement for an additional 166m² of land to be provided as noted on the attached plan. I note this layout does not provide for a future bus jump lane (see Item 39).
- 31 IN-05 Ultimate Layout
- 32 The current 'ultimate' layout for IN-05 includes bus queue jumps lanes on the Grices Road approaches (east and west).
- 33 The DoT have commented that the ultimate intersection layout for IN-05 was missing departure side bus lanes (with indented bus bays) on Grices Road.
- 34 I note that the Stockland site (as outlined at Item 17) has set the road reservation for IN-05. It is not known whether any consideration was given by the DoT for the 'ultimate' functional layout to accommodate their request.
- 35 Grices Road is a secondary arterial road with a 60km/h speed limit and accordingly indented bus bays are not necessarily required.
- 36 I am of the view that the current functional layout for IN-05 is appropriate.
- 37 North-South Arterial Intersections
- The DoT have requested departure side short merge lanes with indented bus stops on all north and south departures to the intersections to accommodate bus stops and bus priority.
- I note that this request is now largely limited to IN-02 and IN-03 (part) as the road reservation (PAO) has been set within the Stockland site (as outlined at Item 17).
- 38 The VicRoads document 'Guidance for Planning Road Networks in Growth Areas' indicates that bus priority lanes aren't typically provided on six-lane primary arterial road intersections with other primary arterials or connector roads as follows:
- **Arterial / Connector Intersections** – *Time priority (though provision of extended green time) may be used as the primary form of bus priority, without a significant impact on the level of service determined for the connector street*
- 39 I am of the view that given that the North-South Arterial Road is a six-lane primary arterial road that bus priority lanes are not a specific requirement and accordingly an appropriate justification to provide beyond this guideline should be provided.
- 40 I have reviewed the impact of the inclusion of departure side merge lanes with indented bus stops and these facilities will potentially require an additional 700 – 800m² of land at each intersection outside the PAO. Further additional land of in the order of 130m² would also be required on the north approach of IN-02 to provide for a bus jump lane.

- 41 Furthermore, I have reviewed the option of providing a fully indented bus bay within the current cross-section including adjacent verges outside the PAO. The adjacent verges provide an additional 1.8 – 3.5m in width that combined with 7.0m for the arterial road verges provides adequate width to incorporate a bus indent and hardstand as well as the 3.0m shared path/bicycle (2 way) facility.
- 42 I am advised that the VPA and DoT are currently in discussions as to whether or not bus facilities, i.e. bus priority, departure side bus/merge lanes or indented bus bays are required.
- 43 Overall, I am satisfied that the current 'ultimate' intersection arrangements are appropriate for buses to travel on and service the North-South Arterial Road.

Conclusions

- 44 Having undertaken traffic engineering review of submissions related to the ultimate arrangements of the North-South Arterial Road intersections and associated Public Acquisition Overlay (PAO3) received during the exhibition of Amendment C269 to the Casey Planning Scheme, I am of the opinion that:
- a) There is benefit in providing the left slip lane on the north east corner of IN-02. Accordingly, I have prepared an updated 'ultimate' functional layout plan for IN-02 incorporating the left slip lane. A copy of the plan is provided at Appendix C.
 - b) The current functional layout for IN-05 is appropriate.
 - c) The current 'ultimate' intersection arrangements are appropriate for buses to travel on and service the North-South Arterial Road.
- 45 I have made all the inquiries that I believe are desirable and appropriate and there are no matters of significance I regard as relevant, which to the best of my knowledge, have been withheld from the Panel.



WILLIAM DE WAARD
TRAFFIC ENGINEER

7 April 2020



Appendix A

Practice Note – Expert Evidence

Statement of Witness

Name

William Douglas de Waard

Position

Director, Traffix Group

Address

Level 28, 459 Collins Street
MELBOURNE
VICTORIA 3000

Qualifications

My qualifications and membership of professional associations are as follows:

- Bachelor of Civil Engineering (Honours), Swinburne Institute of Technology, Hawthorn
- Masters of Traffic, Monash University (50% complete),
- Accredited Senior Road Safety Auditor with VicRoads,
- Member, Institution of Engineers, Australia,
- Member, Institute of Transportation Engineers, and
- Member, Victorian Planning & Environmental Law Association.

I have 27 years' experience in Traffic Engineering and Transport Planning including 7 years in local government in traffic engineering roles and 20 years as a Traffic Engineer and Planning Consultant with both Turnbull Fenner Pty Ltd and Traffix Group Pty Ltd where I am a company Director.

Area of Expertise

I have experience and expertise in traffic management, road safety engineering, parking management and strategy development, development impact assessment of a range of land-use developments, road design, construction and contract administration.

A copy of my CV is attached at Appendix C to this report.

Disclosure of Interests

I disclose that I have no private relationship with the permit applicant. Traffix Group has worked with other companies involved in this application.

These relationships have not impacted on my ability to provide impartial Expert Evidence to the Panel.

Engagement and Scope of Report

I was retained by Hall & Wilcox Lawyers on behalf of the Victorian Planning Authority to undertake a traffic engineering review and prepare traffic evidence in relation to Amendment C269 to the Casey Planning Scheme.

The scope of this engagement has specifically been focused on a review of submissions related to the ultimate arrangements of the North-South Arterial Road intersections and associated Public Acquisition Overlay (PAO3).

I note that I provided traffic engineering evidence to Planning Panels Victoria for Amendment C228 to the Casey Planning Scheme for the Minta Farm PSP 11 and my firm has provided advice and the preparation of 'interim' functional layout plans incorporated in the Minta farm Precinct Structure Plan.

Facts and Assumptions

As detailed in evidence.

Reference Documents

As detailed above and in evidence.

Summary of Opinions

See Conclusions section of the evidence statement.

Provisional Opinions

Not applicable.

Identity of Persons Undertaking Work

Chris Blair (Senior Traffic Engineer) assisted with the preparation of this report.

Report Completeness

Final report.



Appendix B

CV

Will de Waard

Director



Will de Waard is a founding director of Traffix Group, with specialist skills in transport engineering and road design.

Will manages a team of traffic engineers and traffic designers to deliver projects for clients in state and local government and the private sector.

He is highly regarded for his sound judgement, practical approach and focus on project outcomes, and brings extensive experience in engineering design to the broad range of projects he manages.

Professional History

| | |
|---------------------------|--------------|
| Traffix Group | Since 1999 |
| Manningham City Council | 1997 to 1999 |
| Banyule City Council | 1995 to 1997 |
| City of Greater Dandenong | 1992 to 1995 |

Qualifications

Bachelor of Civil Engineering (Honours),
Swinburne Institute of Technology

Masters of Traffic, Monash University (50%)

Accredited Senior Road Safety Auditor (VIC)

Affiliations

Member, Engineers Australia

Member, VPELA

Areas of Expertise

Traffic Impact Assessments:

- Town Planning Applications for medium density housing developments and residential subdivisions, retail, shopping centre, office, restaurant/café, medical centre, aged care, various industry and entertainment venue developments.
- Presentation of Expert Witness Evidence before the Victorian Civil and Administrative Tribunal on behalf of private sector and local government clients.

Transport Studies / Traffic Management Plans

- Completed over 50 local Area Traffic Management (LATM) Studies for local government clients
- Completed major parking and access studies for local government clients, ranging from major Activity Centres to Neighbourhood Strip Shopping Centres and small regional towns.

Road Safety Audits

- Senior Road Safety Auditor for private clients, Local Government and VicRoads, including Existing Conditions, Feasibility/Development Audits, Preliminary & Detailed Design Stage Audits, Pre/Post Opening Audits, Traffic Management/Event Audits.

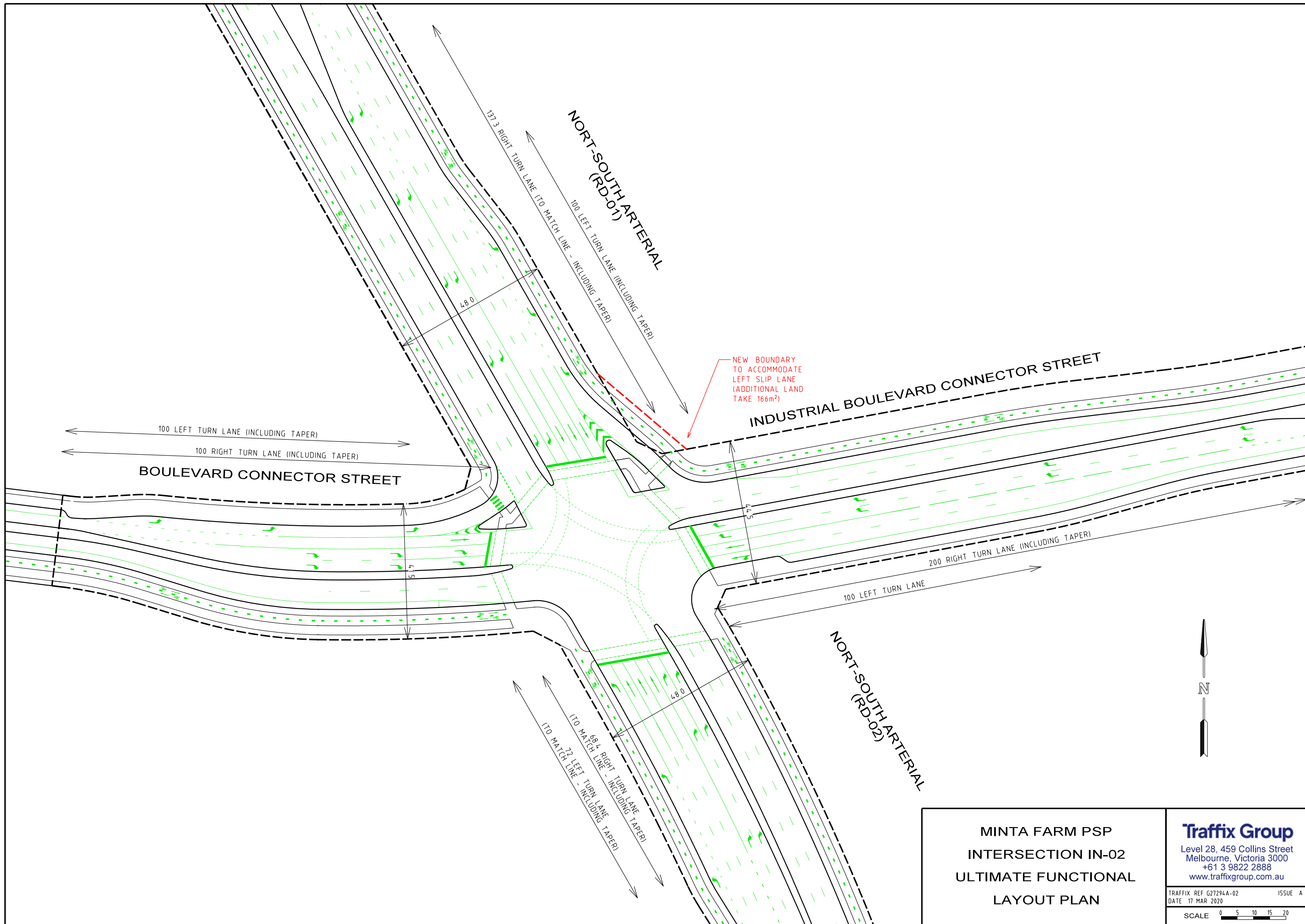
Traffic Engineering Design

- As Executive Manager of Traffix Group’s Design Section, Will provides a wealth of experience ranging from conceptual design to detailed design on a range of traffic and transport related projects.



Appendix C

IN-02 Ultimate Functional Layout with Left Slip lane



MINTA FARM PSP
INTERSECTION IN-02
ULTIMATE FUNCTIONAL
LAYOUT PLAN

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