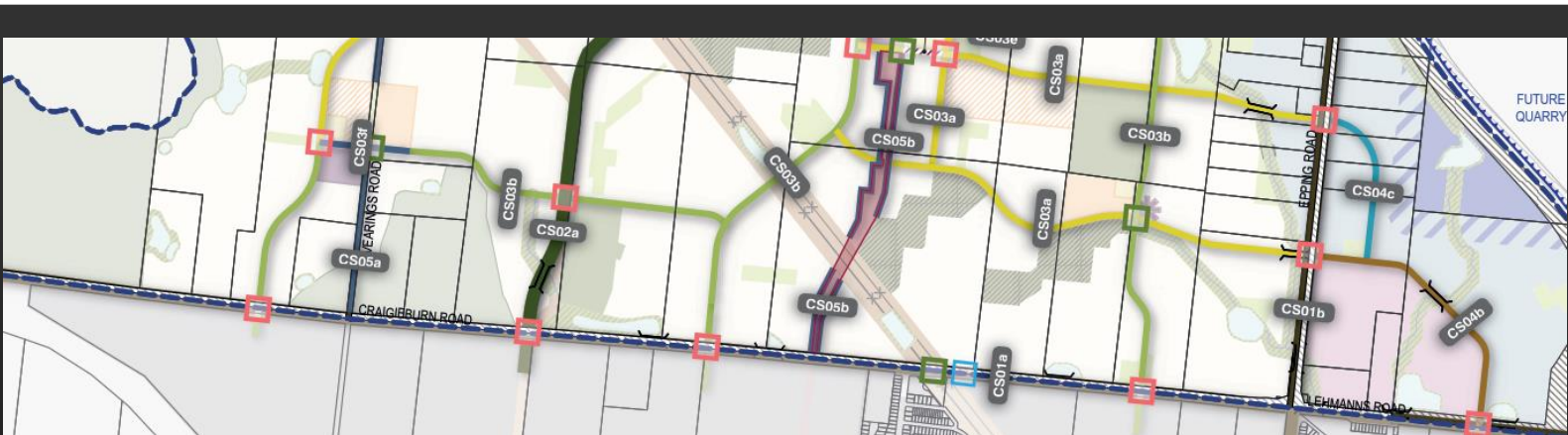


## ***PSP 1070 - Wollert, Amendment C187***

Expert Evidence Statement – Traffic & Transport




15154REP001B-F  
30 November 2015

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<b>Prepared By</b>	Valentine Gnanakone	<b>Authorised By</b>	Ross Hill
<b>Signature</b>		<b>Signature</b>	

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# 1 QUALIFICATIONS AND EXPERTISE

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In accordance with Planning Panels Victoria, Guide to Expert Evidence, my qualifications, experience and expertise to provide my opinions on this matter are summarised below:

Name:	Valentine Premkumar Gnanakone
Address:	1/59 Keele Street Collingwood Victoria 3066
Professional Qualifications:	Bachelor of Engineering (Civil), RMIT University 2003 Master of Business Administration (MBA), Deakin University 2013
Professional Experience:	Director, <b>onemilegrid</b> , 2014 – present Associate, Cardno, 2011 – 2014 Senior Traffic Engineer, Cardno, 2007 – 2011 Engineer, Grogan Richards, 2004 – 2007
Areas of Expertise:	Car parking and traffic engineering design and compliance. Traffic advice and assessment of land use and development proposals to local and state planning authorities, government agencies, corporations and developers for a variety of projects including low, medium & high density residential, commercial, retail, industrial, institutional, service orientated and mixed use projects. Preparation and presentation of expert evidence before VCAT and Planning Panels.
Expertise to Prepare this Report:	My professional qualifications, training and experience over a number of years on all forms of development qualifies me to comment on the car parking and traffic implications of the proposal.
Relationship to the Applicant:	I do not have any private or business relationship with the applicant.
Instructions:	I have been requested by Boglis Family to provide my expert opinions in relation to the traffic engineering matters relevant to the Planning Scheme Amendment (C187).

Facts, Matters,  
and Assumptions  
Relied Upon:

Whittlesea Planning Scheme  
Relevant Exhibition Documentation for Amendment C187  
Wollert Development Contributions Plan (April 2015)  
Wollert – Precinct Structure Plan (April 2015)  
Traffic Modelling and SIDRA Analysis undertaken by SMEC  
Northern Growth Corridor Traffic Modelling Report prepared by SKM  
Interim and Ultimate Traffic Designs prepared by Cardno  
Subdivision Layout Plans prepared by Breese Pitt Dixon (BPD)

Identity of Persons  
Undertaking the  
Work:

Valentine Gnanakone, Director **onemilegrid** (BE Civil, MBA)

*I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.*



---

Valentine Gnanakone  
Director – Senior Traffic Engineer  
**onemilegrid**

## 2 INTRODUCTION

---

My name is Valentine Gnanakone and I am Director at **onemilegrid** where I practice as a traffic engineer.

I have been requested by Norton Rose Fullbright on behalf of the Boglis Family to undertake an assessment of the traffic engineering matters relevant to the land addressed as 340 – 360 Craigieburn Road East and 390 Vearings Road, Wollert as a result of the Planning Scheme Amendment C187, and present expert evidence on the traffic and parking implications of the proposal to the Planning Panel.

Specifically, I have been requested to provide my opinions in relation to: -

- Vearings Road Function and connection to Craigieburn Road;
- Vearings Road Alignment;
- Internal road network realignments and resultant traffic impacts.

In the course of preparing this report on the proposal, I have inspected the site and its environs, reviewed development plans and background information and assessed the traffic implications of the amendment.

## 3 AMENDMENT C187 WHITTLESEA PLANNING SCHEME

---

The Wollert Precinct Structure Plan (PSP) has been prepared by the City of Whittlesea in conjunction with Metropolitan Planning Authority (MPA), to guide the development of the land within the amendment area known as the Wollert PSP. The PSP area will ultimately house in the order of 13,500 lots accommodating 37,000 residents.

The PSP has been prepared to identify amongst other things the future transport network including roads, public transport, and active transport with due consideration of broader planning outcomes.

In conjunction with the PSP, a Development Contributions Plan (DCP) has also been prepared which details the contributions required by land holders within the PSP area to deliver the infrastructure items required to support the development of the land. These items include, but are not limited to, roads, bridges, and intersections.

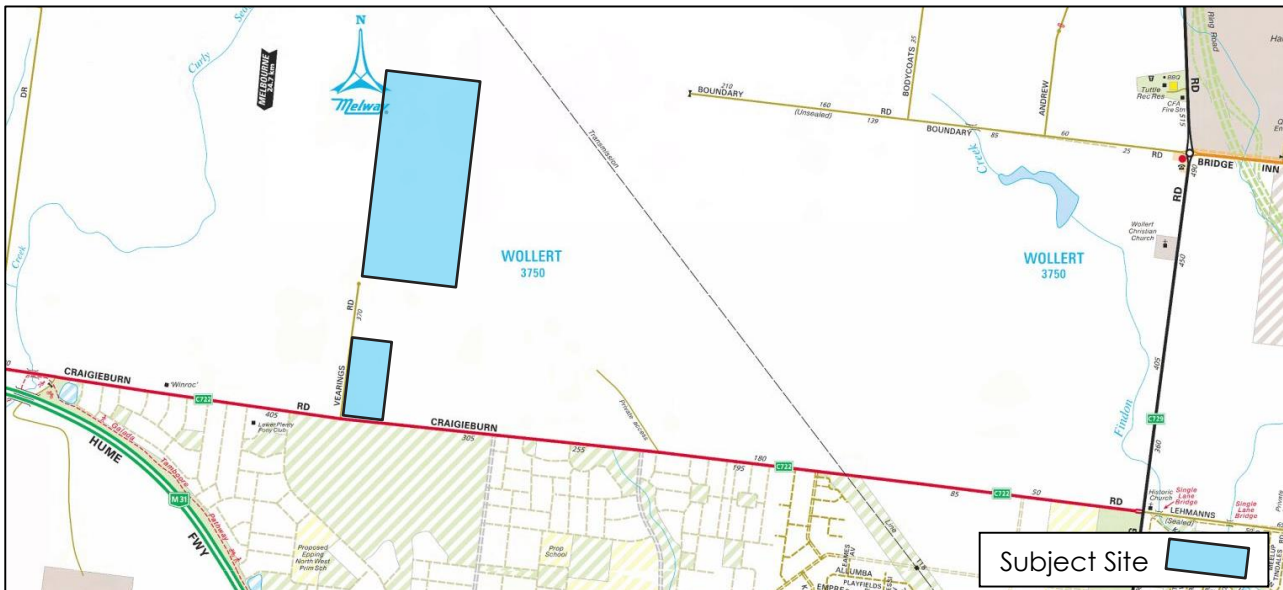
## 4 EXISTING CONDITIONS

### 4.1 Site Location

The subject site (controlled by the Boglis Family) is addressed as 340 – 360 Craigieburn Road East and 390 Vearings Road, Wollert and is located on the north side of Craigieburn Road East at the north eastern corner of the intersection of Vearings Road.

The locality of the site is shown in Figure 1.

**Figure 1 Locality Plan**



### 4.2 Road Network

**Craigieburn Road East** in the vicinity of the site operates as a single carriageway with one traffic lane in each direction.

A view of the existing Craigieburn Road East cross section is provided in Figure 2.

**Figure 2 Craigieburn Road East looking east**



**Vearings Road** is a local road that is aligned north – south from Craigieburn Road East to its termination approximately 700 metres to the north. Vearings Road is a single carriageway unmade road which provides local access only.

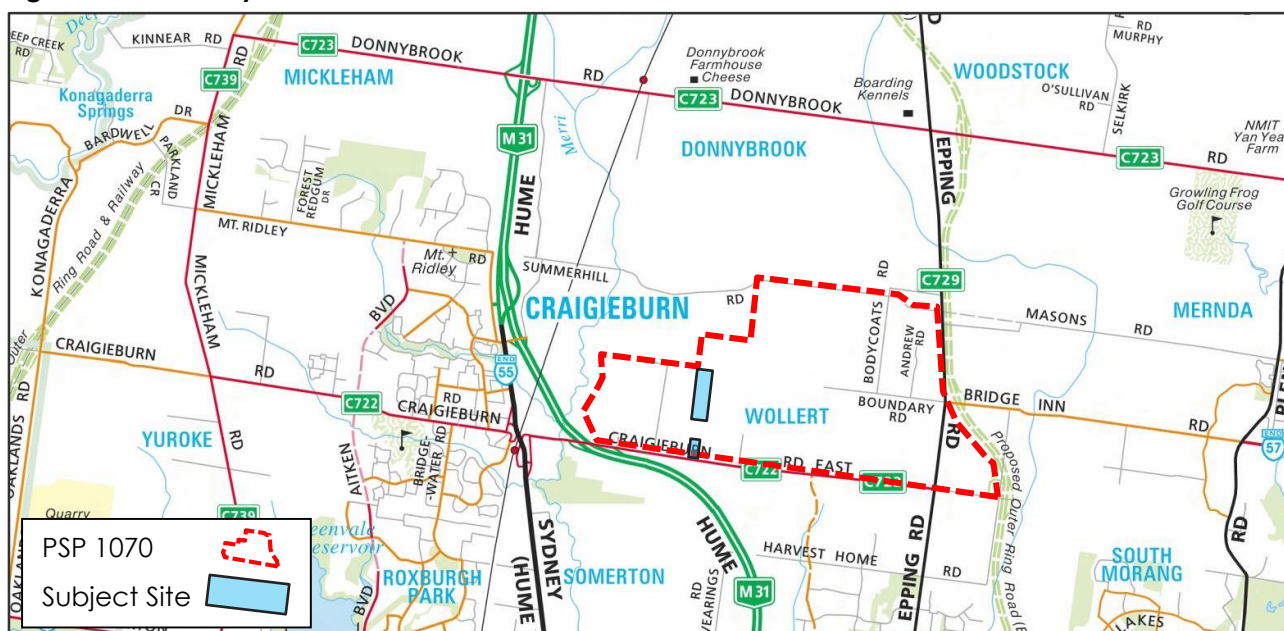


## 5 WOLLERT PRECINCT STRUCTURE PLAN (PSP 1070)

### 5.1 General

The Wollert PSP covers an area of 1434 hectares and is bound by Craigieburn Road East to the south, Summerhill Road to the north, the Curly Sedge Creek to the west and the reservation of the future E6 to the east. The locality of the PSP area and the subject site in the context of the surrounding area is provided in Figure 3.

**Figure 3 Locality Plan**



With regard to the PSP planning, Figure 4 illustrates the site location within the PSP area and surrounding road network and land uses.

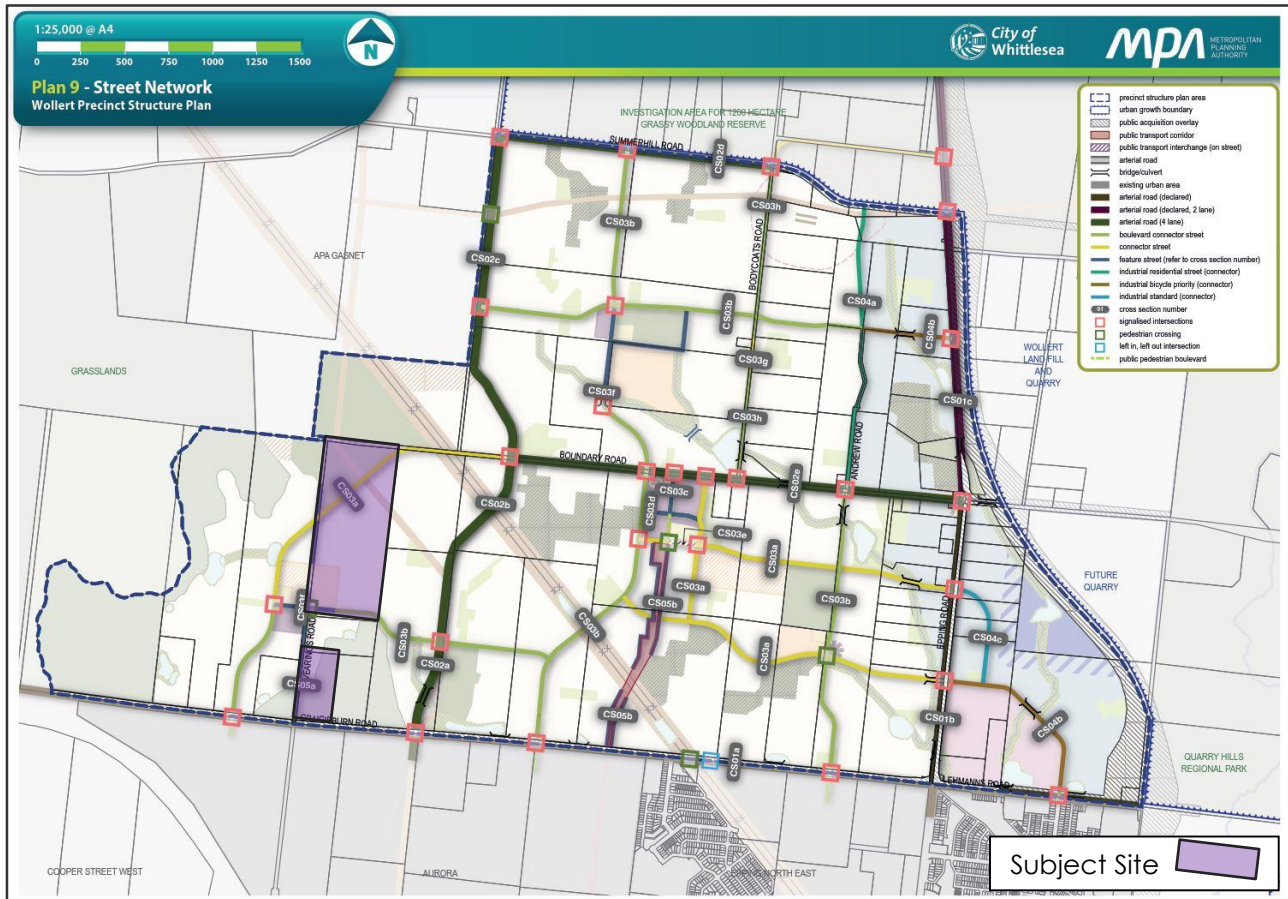
**Figure 4 Site Location within PSP Area**



## 5.2 Road Network

As part of the PSP and DCP roads in the vicinity of the subject site will be upgraded. Those relevant to the site are discussed below. An extract illustrating the road network from the PSP is provided in Figure 5.

**Figure 5 Wollert PSP Road Network**



### 5.2.1 Craigieburn Road East

As part of the PSP, Craigieburn Road East is to be upgraded to provide 3 traffic lanes in each direction separated by a central median set within a 41 metre road reservation. Road widening is proposed to occur to the north of the existing reservation to accommodate the larger cross section.

### 5.2.2 Koukoura Drive

Koukoura Drive is a new Arterial Road that is proposed to run north from Craigieburn Road East through the PSP area and up to the northern extremity at Summerhill Road. It will operate within a varying reservation between 27 metres and 34 metres and provide two traffic lanes in each direction.

At the intersection with Craigieburn Road East, traffic signals are to be installed (IN-05).

### **5.2.3 Future Western North – South Road**

A future north – south collector road is located to the west of the site approximately 400 metres from the existing Vearings Road intersection. The future road is proposed to travel north from a signalised intersection with Craigieburn Road (IN-06) and link to Boundary Road approximately midway along the PSP area.

The future road is designated as a 'Boulevard Connector Street' with a reservation of 29 metres up to its first major intersection with an internal east – west aligned connector road. Thereafter the reservation changes to a standard 'Connector Street' cross section with a reservation of 25 metres.

### **5.2.4 Vearings Road**

Vearings Road is Council road located 700 metres west of the future Koukoura Drive and 400 metres east of the western north – south future collector road. Each of Koukoura Drive and the western north – south road will be ultimately controlled by traffic signals in the future as shown in Figure 5.

As part of the PSP, Vearings Road is to operate as a Local Access Road within a 22.5 metre road cross section which includes a 7.3 metre wide sealed pavement. The current reservation for Vearings Road is 20 metres, with widening proposed to occur to the west of the existing reservation.

### **5.2.5 Future East – West Road**

A future east – west collector road is located in the western portion of the PSP area and is aligned generally east to west from the future western north – south road through to another future north – south road located generally midway along the PSP area.

The future road is designated as a 'Boulevard Connector Street' with a reservation of 29 metres for the majority of its length with the exception of its first portion along the school and town centre frontage where the cross section decreases to 23 metres albeit still providing the same traffic function.

### **5.2.6 Boundary Road**

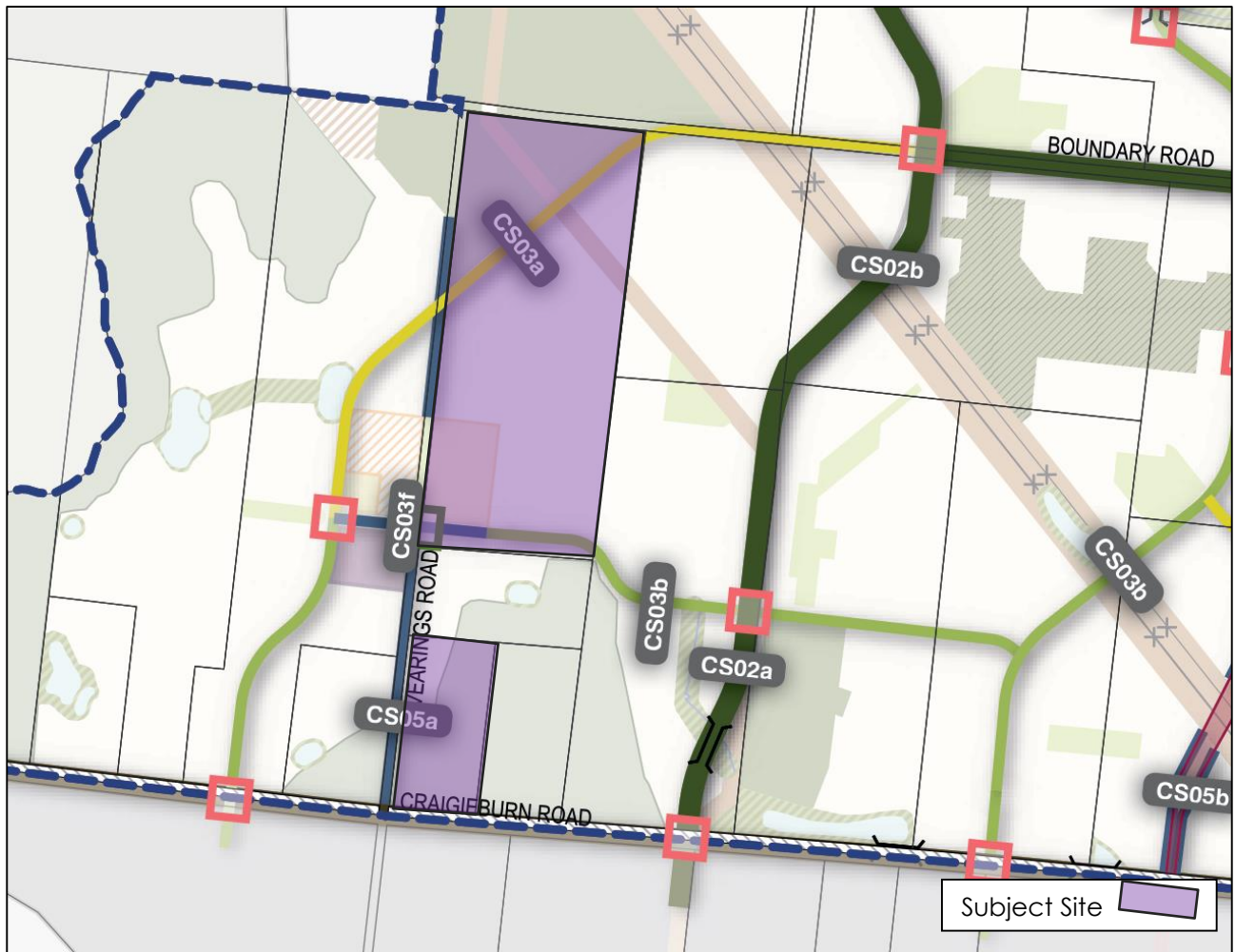
Boundary Road currently exists towards the eastern end of the site. As part of the PSP it will be upgraded to an Arterial Road from Epping Road through to Koukoura Drive within a 34m reservation accommodating two traffic lanes in each direction separated by a central median.

The existing reservation is 21 metres and as such road widening will be required to accommodate the ultimate road reservation.

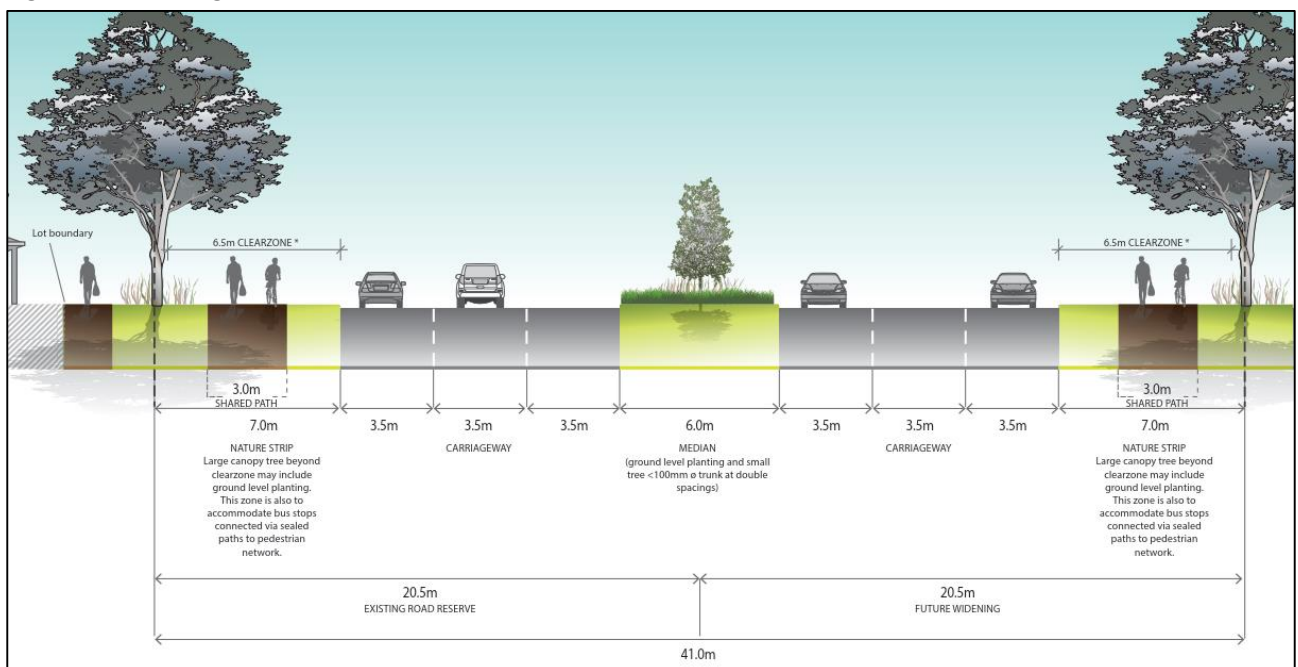
A detailed view of the site area with respect to the proposed road network is shown in Figure 6, whilst the proposed road cross sections for the respective roads is provided in Figure 7 to Figure 12.



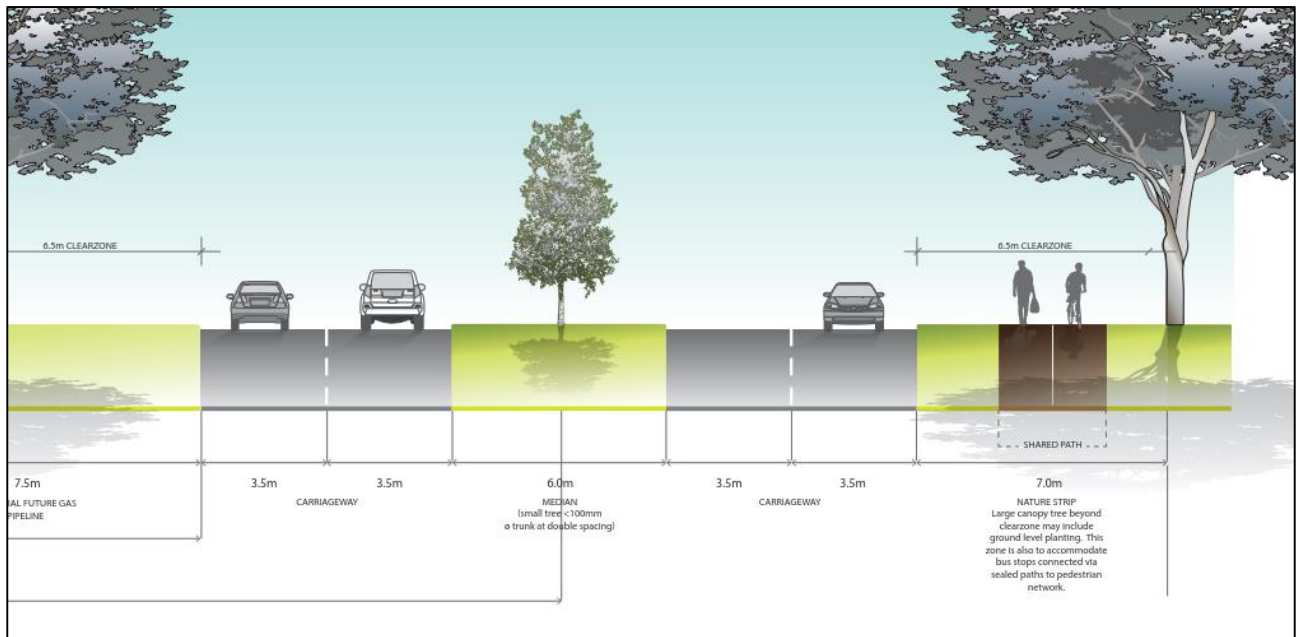
**Figure 6 Detailed view of Site Area and Adjacent Road Network**



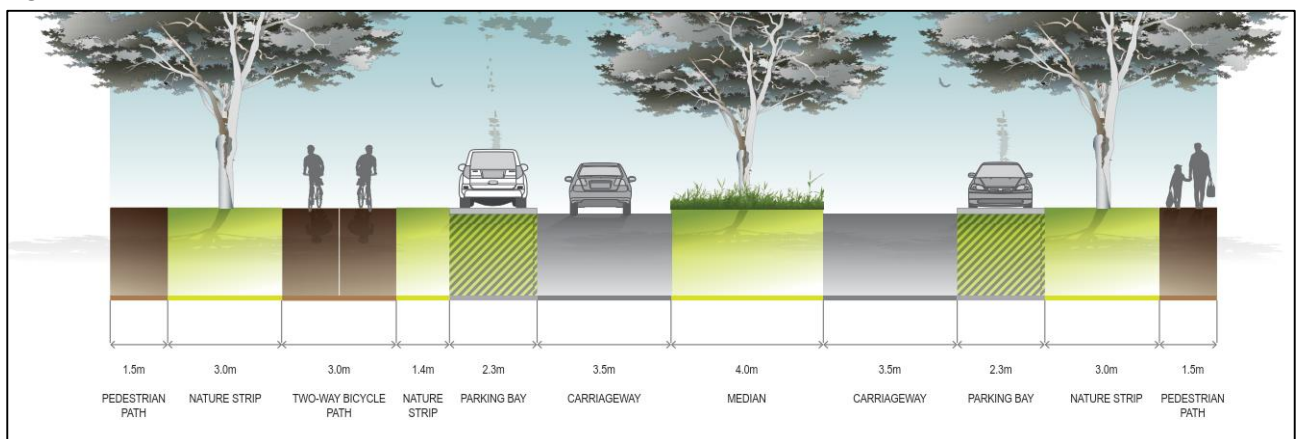
**Figure 7 Craigieburn Road East (CS01a – 41metres)**



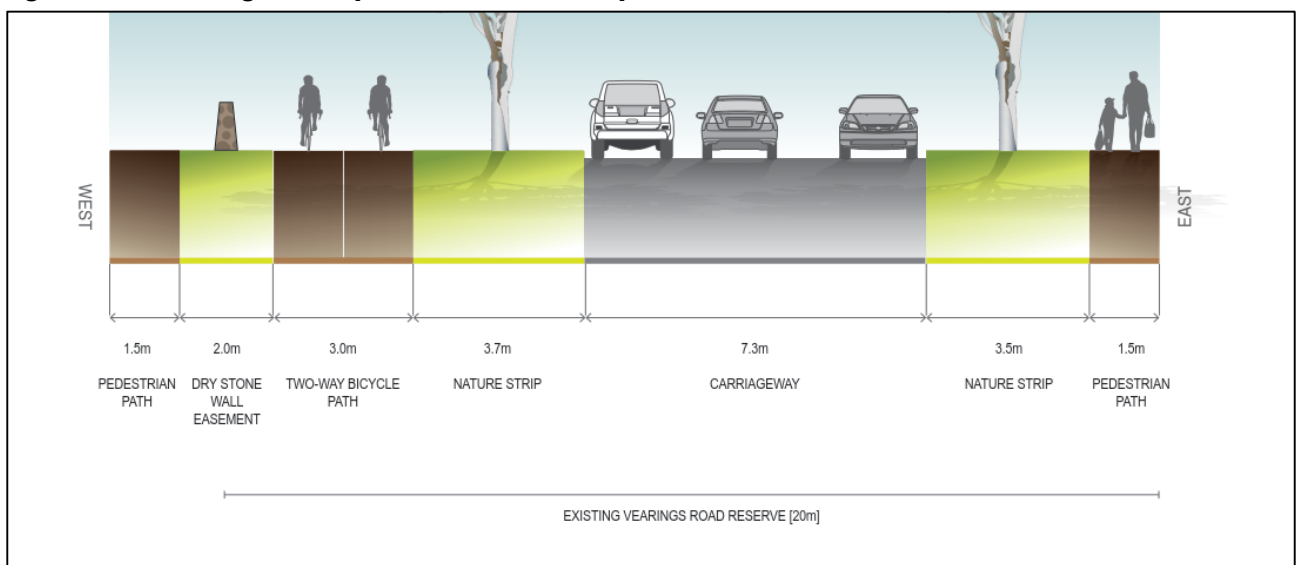
**Figure 8 Koukoura Drive (CS02a – 27 metres)**



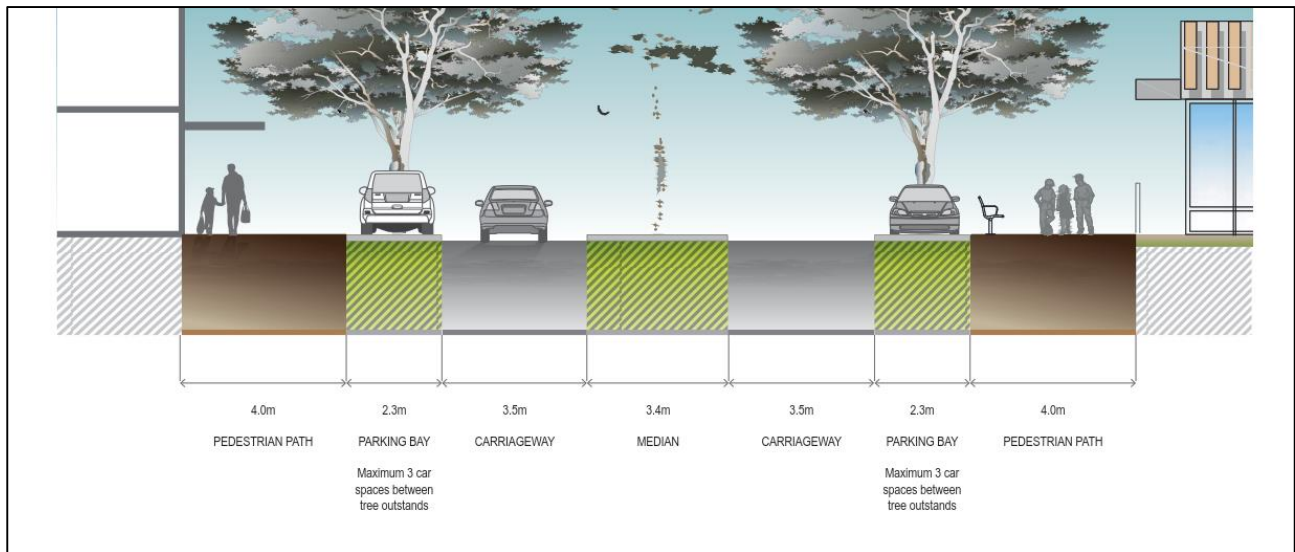
**Figure 9 Boulevard Connector Street (CS03b – 29 metres)**



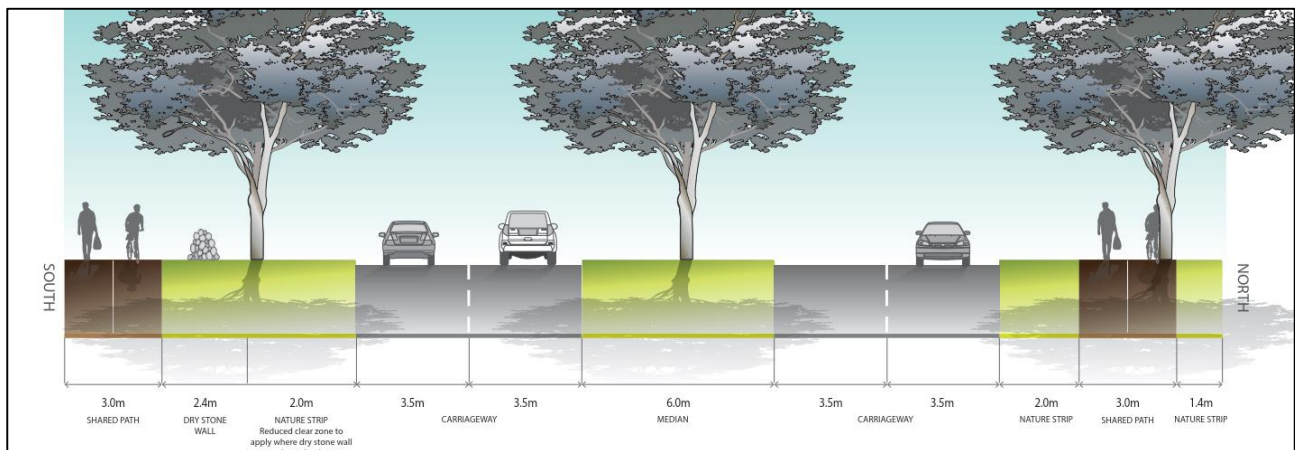
**Figure 10 Vearings Road (CS05a – 22.5 metres)**



**Figure 11 Connector Street - Town Centre (CS03f – 23 metres)**



**Figure 12 Boundary Road (CS02e – 34 metres)**



## 5.3 Traffic Volumes

As part of the preparation of the PSP, AECOM were engaged by the MPA to prepare a traffic model for the precinct. Within the model, projections were made for the interim and ultimate development scenarios.

### 5.3.1 Craigieburn Road East

With respect to Craigieburn Road East, the following volume output has been sourced based on the published intersection volumes at Koukoura Drive and the western Collector Road for the interim and ultimate scenarios (reference case). The interim and ultimate volumes are summarised in Table 1 and Table 2 respectively.

**Table 1 Interim (2026) Traffic Volumes – Craigieburn Road East (vph)**

Peak	Eastbound	Westbound	Total
AM	690	761	1,451
PM	782	868	1,650

**Table 2 Ultimate (2046) Traffic Volumes – Craigieburn Road East (vph)**

<i>Peak</i>	<i>Eastbound</i>	<i>Westbound</i>	<i>Total</i>
AM	956	994	1,950
PM	1,104	1,254	2,358

### 5.3.2 East – West Road

To determine the projected traffic volumes for the East – West Collector Road, intersection volumes for Koukoura Drive and the east – west road (IN-21) has been sourced for the interim and ultimate scenarios (reference case) as summarised in Table 3 and Table 4.

**Table 3 Interim (2026) Traffic Volumes – East West Road (vph)**

<i>Peak</i>	<i>Eastbound</i>	<i>Westbound</i>	<i>Total</i>
AM	220	325	545
PM	244	316	560

**Table 4 Ultimate (2046) Traffic Volumes – East West Road (vph)**

<i>Peak</i>	<i>Eastbound</i>	<i>Westbound</i>	<i>Total</i>
AM	270	375	645
PM	345	364	709



## 6 VEARINGS ROAD

The PSP documentation shows Vearings Road aligned north to south from Craigieburn Road through to the first east – west road in the vicinity of the Local Town Centre. With regard to access, the PSP documentation does not provide clear direction for the intersection with Craigieburn Road East.

### 6.1 Alignment

To accommodate the retention of an existing significant tree, it is proposed to alter the alignment of Vearings Road marginally and divert to the east to provide appropriate clearance from the tree and ensure its retention.

I have reviewed the proposal to realign Vearings Road to avoid the tree and am comfortable with the proposed realignment. The road design principles are still maintained with a 7.3 metre carriageway remaining consistent, and appropriate sight distances around the curve provided. A view of the proposed realignment is provided in Figure 13.

It is my understanding that the Department of Environment, Land, Water and Planning have agreed to the retention of Vearings Road and its alignment.

**Figure 13 Vearings Road Realignment**



### 6.2 Craigieburn Road Intersection

Vearings Road currently operates within an established road reservation and includes an uncontrolled access to Craigieburn Road East. It is my view that the retention of access to Craigieburn Road is appropriate and moreover is suitably located with regard to separation from Koukoura Drive (700 metres) and the future western north-south road (400 metres). A view of the separation distances is provided in Figure 14.

With regard to the access control, it is my view that, in the interim, which would be prior to the duplication of Craigieburn Road, the intersection could provide for fully directional movements facilitated by a channelised right turn lane and an auxiliary left turn lane. At such time as duplication occurs (or another mechanism through a Planning Permit), the intersection should revert to left in / left out movements.

I am comfortable with this arrangement and am of the view that it will provide for a safe and efficient outcome for abutting land. Furthermore, the retention of Vearings Road will provide for a greater benefit with improved traffic circulation within the area as it will provide an alternative to local residents thus reducing travel distances.

My firm has prepared a concept functional layout plan which illustrates how the interim and ultimate arrangements in this location would operate and is attached as Appendix A.



**Figure 14**      **Vearings Road Separation Distances**



## 7 REVISED TOWN CENTRE & SCHOOL LOCATIONS

### 7.1 Overview

The exhibited PSP documentation suggests the provision of a government and non-government school and a community facility on the north side of the future east – west road within the PSP area, with a NAC located on the south side as shown in Figure 15.

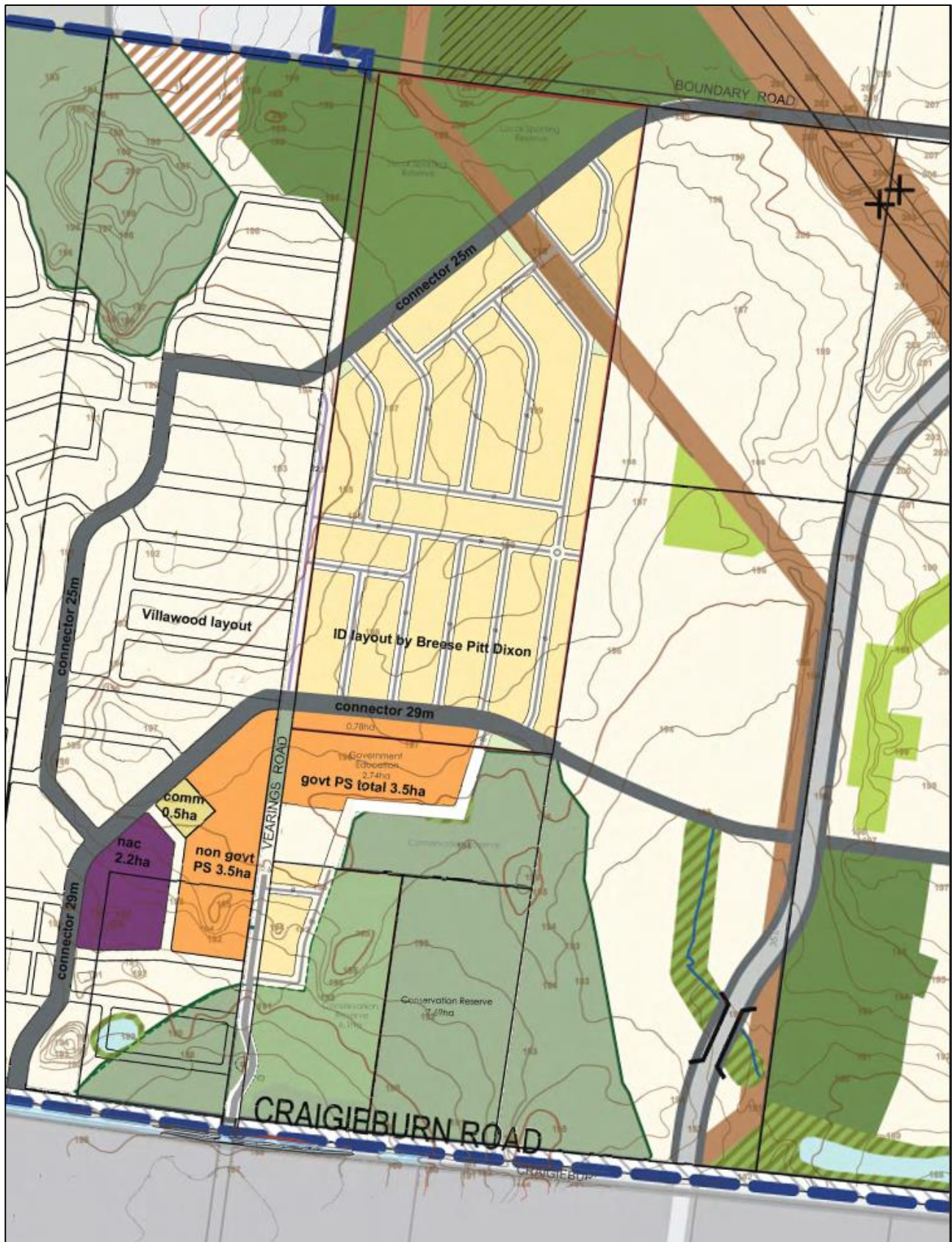
**Figure 15 Exhibited NAC & School Location**



I have been advised that the Boglis Family together with neighbouring landowners have determined that it is preferable to co-locate the proposed schools, community centre and the NAC to the same side of the proposed east – west road (south side). As a result of these changes and others, the road network within the area is proposed to be modified as shown in Figure 16.



Figure 16 Modified Road Network



The proposed amendments amongst other things contemplate the following with respect to road layout:-

- Removal of a standard T-intersection and replaces it with an angled T-intersection;
- Provision of a continuous Boulevard Connector Road from Craigieburn Road through the PSP area;
- Removal of a direct road link to Boundary Road and introduction of a less continuous road link in its place.

My opinions in relation to the proposed amendments follow.

## 7.2 Road Layout

The main feature of the amended road layout is the removal of the direct link from Craigieburn Road through to Boundary Road. Instead, the amended road layout contemplates the provision of a less connective connector road linkage with priority afforded to the east – west direction opposed to the north – south direction as implied by the PSP road network. This may have implications to the modelled traffic volumes through the NAC and along the school frontages and consequently the east – west road within the Boglis Family land.

Notwithstanding the above, I am of the view that the proposed road network amendments are acceptable and will provide for a suitable level of connectivity throughout the road network without detriment to abutting land uses. With regard to the priority of the connector road network, intersections can be designed as required to still meet the PSP intentions.

It is noted that traffic signals were intended for the intersection of the north – south road and the east – west road within the PSP (not DCP funded). These signals would then be relocated to the intersection at the realigned road network as shown in Figure 17.

**Figure 17 Amended Road Layout and Intersections**



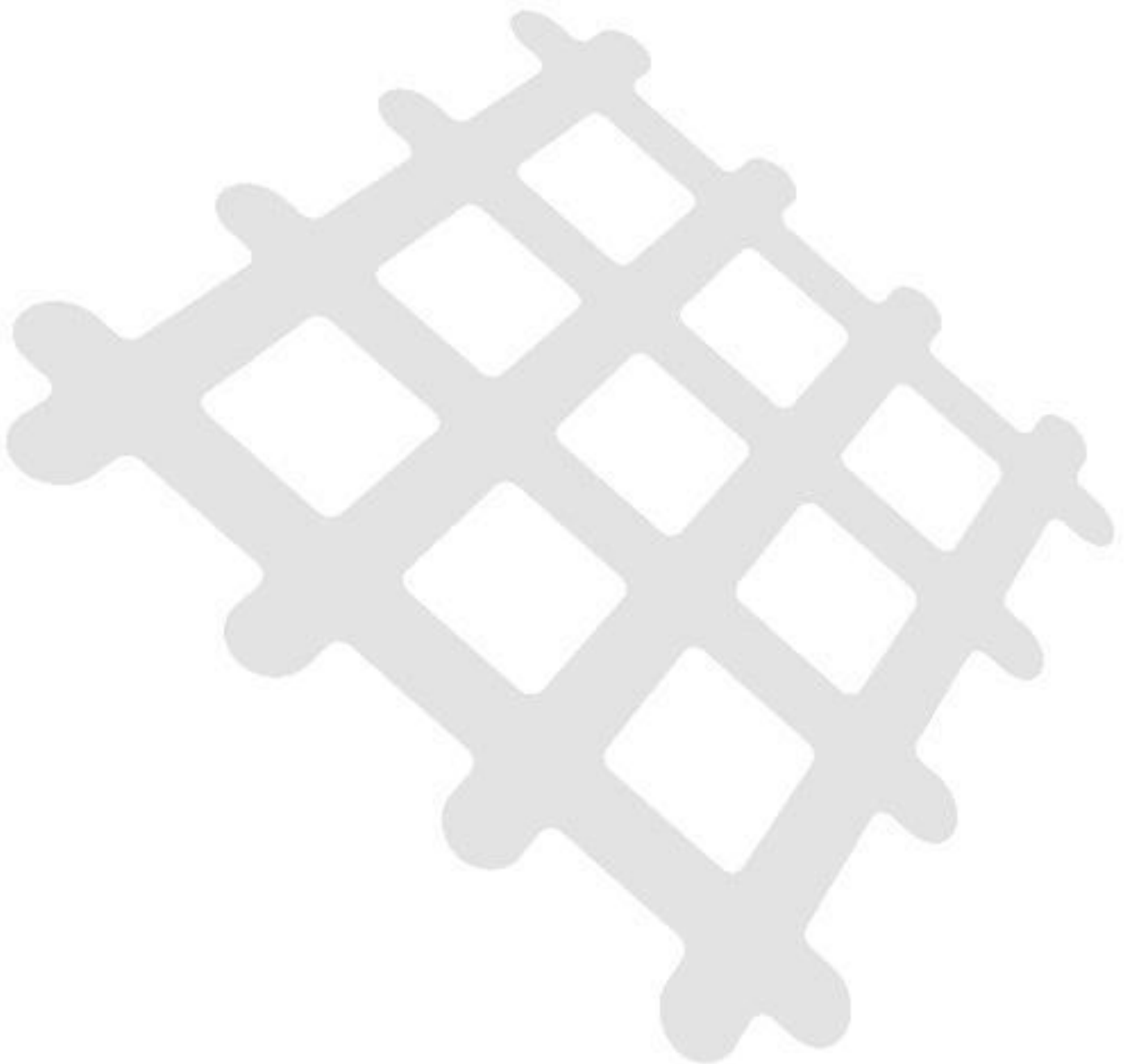
## 8 CONCLUSIONS

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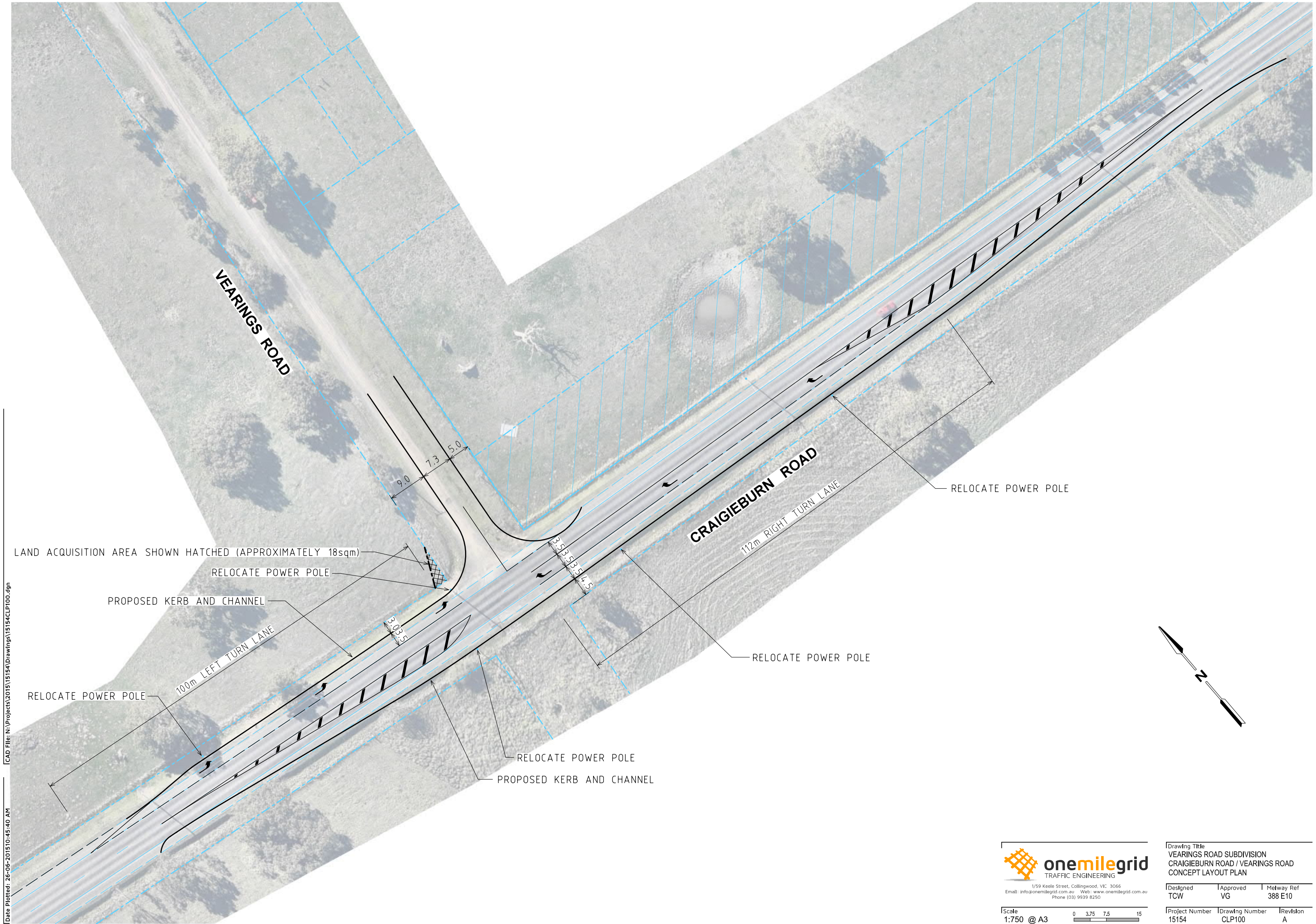
Considering the analysis presented above, I can conclude that:

- Vearings Road should be retained in the interim and ultimate;
- The interim arrangement for Vearings Road should allow fully directional movements;
- Ultimately, Vearings Road should revert to left in / left out only;
- The slight realignment of Vearings Road is acceptable;
- The proposed relocation of the town centre and schools is appropriate from a traffic point of view;
- The consequential changes to the collector road network is acceptable.

# ***Appendix A    Concept Functional Layout Plan***







CAD File: N:\Projects\2015\15154\Drawings\15154CLP100.dgn

Date Plotted: 26-06-2015 10:45:40 AM



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Scale  
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Drawing Title VEARINGS ROAD SUBDIVISION CRAIGIEBURN ROAD / VEARINGS ROAD CONCEPT LAYOUT PLAN		
Designed TCW	Approved VG	Metway Ref 388 E10
Project Number 15154	Drawing Number CLP100	Revision A



