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**ROAD SAFETY AUDIT OF  
A PROPOSED RESIDENTIAL  
SUBDIVISION ACCESS ROAD  
OFF CASSAR DRIVE  
CRANEBROOK**

**ON BEHALF OF  
WHELAN INSITES PTY LTD**

**Ref: 12-153**

**August 2014**

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## 1. INTRODUCTION

### 1.1 Audit Description

Development Consent (DA 13/0288.01) was granted on 8 May 2014 by Penrith City Council for the creation of 21 Residential Allotments, Road Construction and Dedication of a Bioretention Basin for property forming part of the Parramatta Catholic Diocesan owned land being Lot 1, DP1144668, 86-94 Andromeda Drive Cranebrook for The Trustees of the Roman Catholic Church for the Diocese of Parramatta.

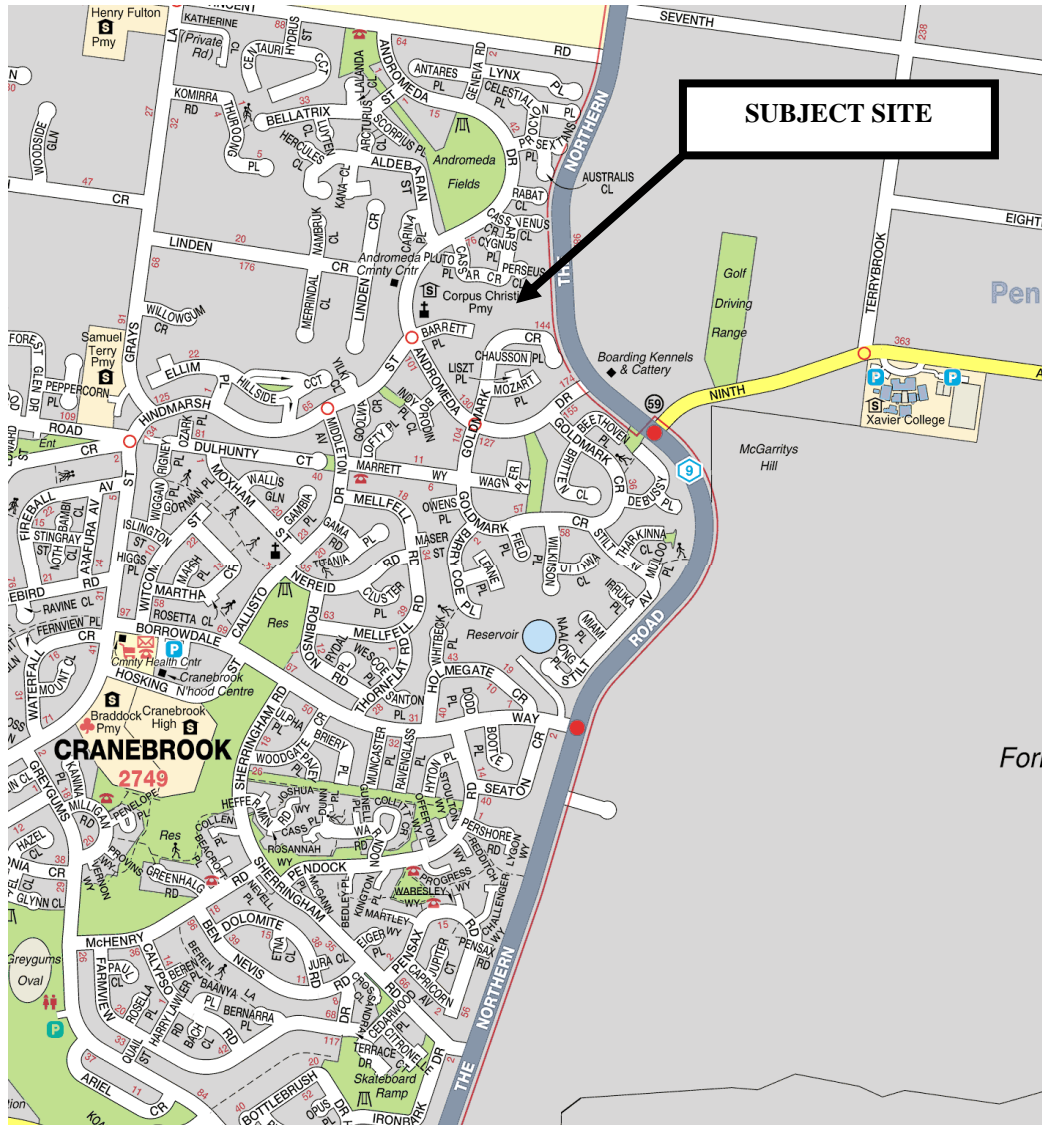
The RPS Group Pty Ltd ( previously Whelan Insites Pty Ltd ) has designed a proposed residential access road to service these 21 residential lots in accordance with attached engineering plans. This design forms part of the conditions imposed by Penrith Council viz Condition No 15 which states that *“the proposed roads have been designed in accordance with Penrith City Councils Design Guidelines and Construction Specification for civil works and with criteria of a road reserve of 14m , carriageway width of 7m , verge width of 3.5m and footpath northern side of 1.5m and Condition no 16 which requires that “A Stage 3 (detailed design ) Road Safety Audit (RSA) shall be undertaken on the proposed roadwork’s by an accredited auditor who is independent of the design consultant . A copy of the RSA shall accompany the design plans submitted with the Construction Certificate application.*

Personnel of this Practice, the authors of this report are accredited Lead Auditors and are independent of the designer RPS Group Pty ltd .The detailed design audit involves a Stage 3 – Detailed Design Stage Audit in accordance with the Austroads (2009) *Guide Road Safety Audits Part 6: Road Safety Audit* and the Roads & Traffic Authority’s *Accident Reduction Guide Part 2: Road Safety Audits*. The aim of the audit is to identify any potential safety hazards for road users associated with the subject subdivision road design or safety issues that are evident and to ensure that measures to eliminate or reduce safety problems are fully considered.

### 1.2 Project Description / Background

A Development Consent (DA 13/0288.01) operating from 8 May 2014 was issued by Penrith City Council for the provision 21 Residential Allotments, Road Construction and Dedication of a Bioretention Basin Consolidation The lots varying size from 555m<sup>2</sup> to 1303m<sup>2</sup> with average lot size being approximately slightly under 600m<sup>2</sup> are serviced a proposed subdivision road being a cul-de-sac which forms a T junction with Cassar Crescent at which the access road and the north south section of Cassar Crescent are to form the head of the “T” forming the priority route which links with Andromeda Drive

The civil roadwork’s as shown on the plans audited , form part of preliminary works associated with the proposed residential subdivision road and the road connection to the existing road system embracing Cassar Crescent and beyond as shown on the site location **Figure 1** overleaf



**FIGURE 1 – SITE LOCATION**

### 1.3 Engineering Plans

The engineering plans prepared by RPS Group Pty Ltd , Project No 117EG having a total of 15 plan civil works sheets in all of which the this audit has included the following sheets considered relevant to road safety being :-

Cover sheet - sheet 1; Plan including Pavement details - sheet 2; Longitudinal Sections and Setout - sheet 4; Cross Sections - sheet 5 & 6; Kerb Returns & Intersection Design - sheet 7 and Linemarking and Signage - sheet 15

These plans show the following design features:-

- A 7m wide residential road with rolled kerb and 3.5m wide footways with a 1.5m footpath on its northern and eastern sides with a 8.5 m radius cul de sac or turning bulb .
- A short portion of the road construction external to the subject development site for connection to the existing Cassar Crescent creating a T junction configuration with priority traffic control
- The above newly formed junction with major/minor road control supplemented by a give way sign on the western approach of the new junction on Cassar crescent
- A access handle to service lot 19 being 4m in width with 0.5m footways

The primary purpose of the proposed road is obviously to service the proposed residential subdivision and to satisfactorily accommodate turning access movements at its terminating end and to provide a connection to the existing local road network off Cassar Crescent.

The road works are to include appropriate traffic management measures to be implemented particularly within the existing local road system to maintain existing public road and abutting development access as well as managing the interaction of construction workers / equipment and existing public road users. These works should be mindful of existing traffic and pedestrian flows within the existing local road adjoining the site

The construction staging and traffic management procedures implemented during the different stages of the works will be subject to approval by Penrith City Council including approval to certain work by both council staff and as required Councils Traffic committee. This will involve the preparation of staged Traffic Control Plans as per the RMS's *Traffic Control at Worksites* manual.

## 1.4 Surrounding Road Network

Cassar Crescent forms a pavement width of approximately 7m within an overall road reservation of 14m. It serves a local residential function serving the adjacent low density residential development as well as 4 short cul-de-sacs that intersect therewith, being Venus Close, Cygnus Place, Perseus Close and Pluto Place. The available carriageway width facilitates one through lane of traffic in conjunction with parallel parking along both kerb alignments where this parking somewhat impedes through vehicular traffic as discussed with respect to the proposed internal subdivision Road No. 1. A speed limit of 50km/h applies.

Cassar Crescent intersects with Andromeda Drive at both its north eastern and south western extremity, consistent with its 'crescent function'. Both intersections are under major/minor give-way control, with Cassar Crescent provided with paved surface treatment at these intersections to reinforce its low order residential status in the road hierarchy.

Andromeda Drive is considered to perform a major collector function within the local road hierarchy, providing a north/south link between Vincent Road to the north and The Northern Road to the south. In the vicinity of Cassar Crescent and Corpus Christi Primary School, Andromeda Drive forms a pavement width of 13m with an overall road reserve of 20m, generally providing one kerb-side parking land and one through lane in either direction in conjunction with marked parking lanes along both alignments. A speed limit of 50km/h applies, with school zone 40km/h restrictions applying between 8.00am - 9.30am and 2.30pm – 4.00pm.

## 2. AUDIT BACKGROUND INFORMATION

### 2.1 Audit Team

David Thompson	Thompson Stanbury Associates, Castle Hill
Morgan Stanbury	Thompson Stanbury Associates, Castle Hill

### 2.2 Audit Timeframe

The audit included the following:

- An inspection of the audit site at the entrance to the subject site from within Cassar Crescent was undertaken on 18 July 2014, the weather during the inspection was fine;
- A number of telephone conversations with the Project Designer Katrina Griffin ,RPS Grope Pty Ltd
- Detailed assessment of the draft issue engineering plans for CC prepared by RPS Group Pty Ltd in July 2014.

## 2.3 Reference Documents

The engineering design plans were audited in accordance with Austroads (2009) *Guide Road Safety Audits Part 6: Road Safety Audit* and the Roads & Traffic Authority's *Accident Prevention Guide – Part 2: Road Safety Audits*. Specific reference is also made in this audit to the “*Austroads Guide to Road Design Guide, Part 3 Geometric Design*” and “*Penrith City Council Development Control Plan 2010 Section C10 Transport Access & Parking*” and “*Section C11 Subdivision*”

## 3. AUDIT FINDINGS

### 3.1 Road Safety Audit

The Roads & Traffic Authority's *Accident Prevention Guide – Part 2: Road Safety Audits* indicates that the primary objective of design audits is to identify any potential safety hazards for road users associated with the subject works or safety issues that are prevalent and to ensure that measures to eliminate or reduce safety problems are fully considered. This Practice has accordingly undertaken an analysis of all design characteristics with particular attention to the following specific items

### 3.2 Special Road Users

#### *Pedestrians*

The 3.5 m wide footways provides for pedestrian separation for other road users such as vehicles etc within the development site. Pedestrian links to existing pedestrian footways located within the exiting road system viz Cassar Crescent, is to be provided with a 1.5m footpath to be located on the northern and eastern side of the proposed subdivision road.

#### *Bicycles*

We note that no specific provision has been made for bicycles in the design with this specific use required to share the 7m wide roadway. This width however provides adequate provision for cyclists without the need for any special considerations such as shared footways etc within a low volume environment which is typical of a cul de sac where children are at play and along within which casual bicycle riding is likely to occur on a regular basis within a terminating thoroughfare.

### 3.3 Road Widths

The design provides for a road width of 7m. This width is a specific requirement of Council consent being Item 15 of Council consent conditions , such a width being less than that specified in Councils DCP 2010 Section C10 which states that it is desirable for an 8m width to be provided within a local road of which a cul de sac forms part thereof . The cul de sac turning bulb diameter of 17m is also appropriate for this road type and satisfies Council design requirements

### 3.4 Sight distance

Sight distance available to all vehicles for both vehicle to vehicle and vehicle to pedestrians between the proposed public and proposed residential allotments, is considered appropriate and in accordance with industry standards. The only road junction proposed within the audited plans is that relating to the new road with the existing Cassar Crescent at which adequate sight lines are afforded all vehicle and pedestrian movements using the proposed new junction.

### 3.3 Responding to the Audit

As set out in the Road Safety Audit Guidelines, responsibility for the road safety audit always rests with the Project Manager and not the auditor. However, a Project Manager is under no obligation to action any findings of this audit report. Also, it is not the role of the auditor to agree to, or approve of the Project Manager's response to the audit. Rather, the audit provides the opportunity to assess potential problems and have them formally considered by the Project Manager, in conjunction with all other project considerations.

## 4. CONCLUDING STATEMENT

We, the undersigned declare that we have reviewed the material and data listed in Section 2 of this report, undertaken inspections of the site and available design material and identified the findings contained within Section 3 of this report. The engineering design prepared by Whelan Insites Pty Ltd is considered to be suitable for implementation from a road safety point of view.



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David Thompson  
Transport Planning Consultant & Lead Road Safety Auditor (Team Leader)



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Morgan Stanbury  
Transport Engineer & Lead Road Safety Auditor (Assistant Team Leader)