

WINNING TRAFFIC SOLUTIONS

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Traffic Impact Assessment

FOR

**Planning Proposal Outline
1377 Hue Hue Road,
Wye NSW 2259**

December 2021

CLIENT

TOPA Property Pty Ltd.

Traffic Impact Assessment FOR Planning Proposal Outline 1377 Hue Hue Road, Wye NSW 2259

1. Introduction

1.1 Background

Winning Traffic Solutions Pty. Ltd have been engaged by TOPA Property Pty. Ltd. as the Client representative, to prepare a Traffic Impact Assessment (TIA) in support of the rezoning of the subject property identified as 1377 Hue Hue Road, Wye from rural to low density residential purposes.

The site is currently zoned for rural purposes and the realisation of any residential development requires the rezoning of the land. In line with Lake Macquarie City Council's (Council) Information Sheet for Rezoning and LEP Amendment Requests, this TIA is in support of the submitted memorandum that has been separately (refer GLN Memorandum 10 May 2021) prepared to provide an overview of the site, key land considerations and detail the desired land use change and development outcome for Council's consideration prior to the lodgment of a formal planning proposal.

The site comprises the land at 1377 Hue Hue Road, Wye and is legally identified as Lot 437 in Deposited Plan 755242, located in the Lake Macquarie local government area. The site is located within the township of Wye and is approximately 4.5 hectares in size with approximately 150m frontage to Hue Hue Road. The site has been used predominantly for cattle grazing and dairy farming since the mid-1800s with the majority of vegetation cleared apart from the southern extent of the site as shown in the figure below.



Figure 1

For the purpose of assessment, the site is proposed to be developed as a low density residential subdivision of part of the site and deliver approximately fifty-four (54) residential lots. It is assumed that each of the residential lots will accommodate stand-alone residential housing of four (4) bedrooms on the regular lots and access road connecting to Hue Hue Road via Diagy Road (refer Appendix 1).

Winning Traffic Solutions Pty Ltd has been engaged to provide a Traffic Impact Assessment in support of the subject proposal addressing the traffic issues in particular relating to the impact of additional generated traffic by the proposed submission and overall impact on the existing road network.

1.2 Scope of this Statement

An evaluation of the traffic impacts and the subdivisional road access network of the proposed development have been based on Australian Standards 2890.1 Off-Street Parking, Roads and Traffic Authority (2002) "*Guide to Traffic Engineering Developments*" (Issue 2.2) and relevant Council DCPs and relevant Austroads and Council Design guidelines.

This report provides an evaluation of the traffic impacts and access requirements of the proposed development (refer Appendix 1).

2. Site Description & Adjoining Road Network

2.1 Site Description

The Site is identified as 1377 Hue Hue Road, Wyee and is legally identified as Lot 437 in Deposited Plan 755242 (refer Figure 1),

The site currently contains a rural residential dwelling and associated structures that are to be demolished to accommodate the proposed subdivision.

For the purpose of assessment, the site is proposed as a subdivision of the subject land into fifty-four (54) lots, all lots proposing to accommodate stand-alone residential housing of four (4) bedrooms on the regular lots (refer Appendix 1).

As previously mentioned, the site is currently zoned for rural purposes and the realisation of any residential development requires the rezoning of the land, in line with Lake Macquarie City Council's (Council) Information Sheet for Rezoning and LEP Amendment Requests.

The objective of the Planning Proposal is to amend Lake Macquarie Local Environmental Plan 2014 (LEP) to facilitate the logical expansion of the Wyee West Precinct to permit appropriate forms of residential development whilst maintaining the conservation outcomes that are in place for the southern extent of the site (refer Figure 2).

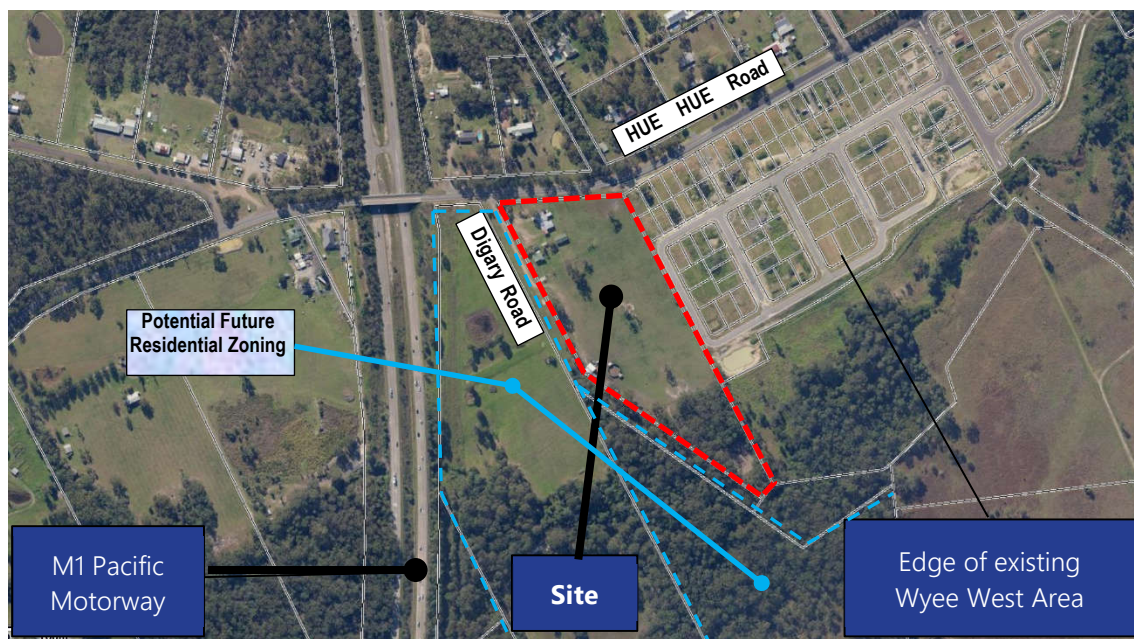


Figure 2

As per the Indicative Concept Plan (refer Appendix 1), it is anticipated the rezoning would provide for approximately 54 new residential lots with supporting drainage infrastructure and local roads, including the (partial) delivery of Digary Road which is currently an unformed road.

It is proposed to provide road connections to existing subdivision east of the site as well as upgrading the Digary Road connection to Hue Hue Road.

The concept road reserve network and adjoining residential lots has been provided in accordance with Council's DCP that requires standard road widths (carriageway and footpath) and traffic lanes to be accommodated for a local road access network.

2.2 Adjoining Road Network

For the purpose of assessment Hue Hue Road is orientated as a east/west road and the site is on the southern side of the road (refer Figure 3).

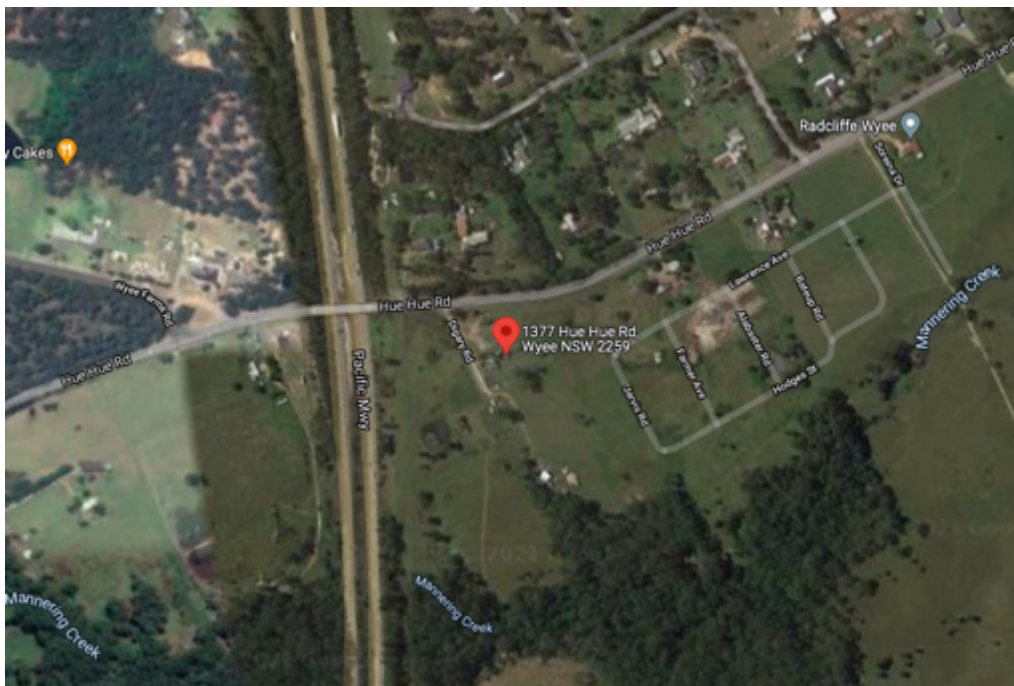


Figure 3

Hue Hue Road is an assumed unclassified designated collector/distributor road serving the precinct, is administered by Council and serving part of the Wyee precinct. The road connects with Wyong (in the west) and Wyee (in the east).

AADT volumes along Hue Hue Road are not known however, given the existing and extended (proposed) residential subdivision of the precinct it is considered ultimately, and when populated, traffic volumes along Hue Hue Road are assumed would be moderate and accommodate generally a Level Of Service (LoS) for the operating road network at B. It is considered this LoS, following observation during the site inspection, would be commensurate with a collector/distributor road serving a predominantly semi-rural residential precinct on large tracks of land.

In the vicinity of the site Hue Hue Road operates as a two-lane two-way road, within a road reserve approximately 20 metres wide accommodating 7.0m wide bitumen sealed roadway with partially bitumen sealed shoulder on both sides of the road and grassed footways (refer Figure 4).



Figure 4 (Looking west)

Unrestricted parking is permitted both sides of the road and the road functions at a signposted urban speed limit of 60 km/h.

In the vicinity of the site Hue Hue Road is generally on a straight horizontal alignment and the proposed Diagary Road vehicle access road located on a slight crest vertical curve. It is recognized the widening of Hue Hue Road, along the frontage of the site and Diagary Road refurbishment/ construction will need to be a “consideration” for development requirement of the proposed planned residential subdivision and to this end adequate design vehicle safe intersection sight distances (SISD) in accordance with Austroads Design Guides are available along Hue Hue Road at Diagary Road.



Figure 5 (looking east toward Diagary Road)

3. Evaluation of Traffic Generated Impacts

3.1 Traffic Generation of the Proposed Planning Development Application

The TfNSW (RMS) Technical Direction TDT 2013/04a – Guide to Traffic Generating Developments; Updated Traffic Surveys, was used as the basis for determining the rates of traffic generation by the subject development.

The above publication provides information relating to the estimated daily and peak hour (two-way) vehicle trips per dwelling within a low density residential environment within the Sydney Region as follows:

Low density residential dwellings

Eleven surveys were conducted in 2010, six within the Sydney urban area and five within regional NSW. The results of the surveys were as follows:

Rates

Daily vehicle trips = 10.7 per dwelling in Sydney, 7.4 per dwelling in regional areas Weekday average evening peak hour vehicle trips = 0.99 per dwelling in Sydney (maximum 1.39), 0.78 per dwelling in regional areas (maximum 0.90).

Weekday average morning peak hour vehicle trips = 0.95 per dwelling in Sydney (maximum 1.32), 0.71 per dwelling in regional areas (maximum 0.85).

(The above rates do not include trips made internal to the subdivision, which may add up to an additional 25%).

For the purpose of evaluation, each Lot is proposed to accommodate stand-alone residential housing of four (4) bedrooms on the regular lots and a new access road connecting to Hue Hue Road via Biagary Road Road (refer Appendix 1).

Thus, on the basis of the above and applying the calculated traffic generation for the Planning Proposal Application for two-way vehicle trips is:

Daily vehicle trips for 54 dwellings x 7.8 = 422 veh trips per day

Weekday avg. **morning** peak hour vehicle trips for 54 x 0.0,71 = 38 veh trips per hour

It is considered the above calculated vehicle trips per hour (vtpH) are not sufficiently significant to warrant road widening and vehicle turning bays at Diagary Road to maintain a LoS B, previously assumed.

Notwithstanding, if it is considered that ultimately the “Potential Future Residential Zoning” within the precinct (refer Figure 2) will generate say 3 times the number of vtpH and major road infrastructure upgrade/expansion will need to be considered by Council.

On this basis consideration will need to be given to the funding of identified infrastructure upgrade.

3.2 Evaluation of Traffic Generated Impacts

The following is offered for consideration to address issues relating to additional traffic and any impact on the surrounding road network, including intersections that require upgrade.

As stated above AADT volumes along Hue Hue Road are not known however, given the extended residential subdivision of the precinct it is considered ultimately, and when populated, the traffic volumes along Hue Hue Road are assumed would be moderate and accommodate a Level Of Service at B and following observation during the site inspection would be commensurate with a collector/distributor road serving a predominantly residential precinct on large tracks of land.

The critical operation times of the road network, in terms of Level Of Service (LoS) accommodated on the road network, would be during peak hour commuter times both AM and PM. In addition, the intersections both east and west of the subject site also need to be considered in terms of the accumulated impacts of the precinct development.

The subject proposed development is estimated would generate in excess of 100 vtpd two-way weekday evening peak hour vehicle trips per hour. The impact of these additional trips into the existing road network (following whole of precinct development) is considered would have an impact on the existing road operation,

On this basis consideration will need to be given to an assessment of the Hue Hue Road/Diagary Road intersection upgrade in line with Council's assessment and Austroads Guidelines for evaluation of whether a Type CHR (Chanelised Right Turn) intersection treatment is warranted as per the Austroads: Guide to Traffic Management-Part 6 and Guide To Road Design-Part 4A.

It is anticipated there will be a warrant for upgrading the road network infrastructure accommodating the "Potential Future Residential Zoning" for the whole of precinct.

It is offered that consideration for funding of the associated road infrastructure for the proposed subdivision. for the whole of the precinct, be negotiated through a Planning Agreement with Council.

4. Conclusion

Assessment of the subject subdivision has considered traffic generation and the impacts on the surrounding road network including intersections.

As stated within the Planning Proposal Outline the objective of this planning proposal is to amend the LEP to facilitate the appropriate development and conservation of the site, which adjoins an existing residential subdivision. The South West Growth Area incorporating Wyee, has considerable opportunities for urban development in line with regional and local planning strategies, to be a location of significant population and employment growth. Its position near the Central Coast, M1 Pacific Motorway and Northern Rail Line means that increased access to this area has the potential to facilitate growth and affordable and diverse housing development.

The increased traffic flow generated by the proposed residential development and for the “whole of precinct” can be accommodated on the surrounding road network subject to an assessment of the adjoining road network to absorb additional traffic flow.

It is also submitted the proposed road network applied to the subdivision complies with Council’s DCP requirements. On this basis consideration will need to be given to an assessment of the Hue Hue Road/Diagary Road intersection upgrade in line with Council’s assessment and Austroads Guidelines for evaluation of whether a Type CHR (Chanelised Right Turn) intersection treatment is warranted as per the Austroads: Guide to Traffic Management-Part 6 and Guide To Road Design-Part 4A.

It is anticipated there will be a warrant for upgrading the road network infrastructure accommodating the “Potential Future Residential Zoning” for the whole of precinct and it is submitted funding of such works be negotiated through a Planning Agreement with Council.

Overall, it is considered that traffic flows and circulation, the vehicular access circulation provisions within and outside of the proposed development, specifically during peak activity times, are adequate and meet Council requirements.



Terry Winning
Director
Winning Traffic Solutions Pty. Ltd.

Appendix 1

Concept Plan of Subdivision

