

APPENDIX 4
Assessment of the Traffic Effects
associated with the Proposed Plan
Change



11278
23 September 2011

Mr James Beban
Senior Resource Consents Planner
Cuttriss Consultants Ltd
P O Box 30429
Lower Hutt

Copy via email: Jamie.Beban@cuttriss.co.nz

Dear James

Proposed Private Plan Change 1-13 Ludlam Crescent, Lower Hutt Transportation Assessment

Following your instruction, we have now completed an assessment of the potential transportation related effects arising from the proposed rezoning of 1-13 Ludlam Crescent from Suburban Commercial to General Residential Activity Area. In doing so, our assessment has considered the activity which is likely to occur under the proposed residential zoning.

We report as follows.

1. Introduction

The site at 1-13 Ludlam Crescent is currently vacant and was most recently used as a service station.

The approach undertaken in this assessment has been to consider and compare the traffic effects associated with a permitted activity being developed on the site under each of the existing and proposed zoning scenarios.

2. Transport Environment

Figure 1 shows the location of the site in the context of the surrounding transport network. The site has an area of 3,246m² and has frontages onto both Ludlam Crescent and Whites Line West.

Whites Line West is a no exit road and is classified as an Access Road in the District Plan. Along the frontage to the site it has footpaths and kerbside parking along both sides and a kerb-to-kerb width of 15.2m. Around the corner to the south and adjacent to the roundabout Whites Line West becomes Trevethick Grove which has a narrower carriageway width of 6m with a footpath along the western side.

Ludlam Crescent is defined as a Minor Distributor in the District Plan with a primary function of providing for through traffic between suburbs and accommodating bus routes. The site is located on Ludlam Crescent immediately to the north of its intersection with Randwick Road



and Whites Line East, from where excellent connectivity is available to the wider road network.

Along the frontage to the site the northbound traffic lanes pass through a signalised pedestrian crossing and then merge from two lanes to a single lane. In the southbound direction there are two traffic lanes on the approach to the pedestrian crossing which continue through to the roundabout. To the north there is a flush median with a width of 2.6m which gradually narrows to a width of 2m prior to the start of a solid median through the pedestrian crossing.

The latest traffic count undertaken by Council in September 2009 recorded a daily traffic flow on Ludlam Crescent of some 23,700 vehicles per day between Wai-iti Crescent and Nikau Grove. Peak hour flows of between 2,100 and 2,200vph were recorded on weekdays between 8:00 and 9:00am and between 4:00 and 5:00pm. Peak hour flows of 1,700 and 1,400vph were recorded on the Saturday and Sunday respectively. Figure 2 provides more detail regarding the daily and directional profile of these traffic flows.

It is of note that the Monday and Tuesday traffic flows were recorded during the school holidays and are noticeably lower than the other weekdays, especially in the northbound direction during the morning peak where there is an absence of school related trips.

There are bus stops on Ludlam Crescent located approximately 100m to the north of the site. The site is also within a 400m walk of Woburn train station.

3. Potential Development

Following the District Plan Change it will be necessary to obtain a subdivision consent which will be a controlled activity. As shown in Figure 3, development plans prepared by Cuttriss Consultants suggest that such a subdivision could involve up to five residential lots.

The permitted activity provisions of the District Plan will then enable each lot to accommodate any of the following:

- a single dwelling;
- a home occupation with no more than two additional people working there;
- a childcare facility for up to five children; or
- a residential facility for eight to ten people.

All other more intensive traffic generating activities will require a separate assessment of transportation effects as restricted discretionary activities (comprehensive residential developments, healthcare services and accessory buildings on legal road) or discretionary activities. Even more significant developments such as retail would be non-complying activities again requiring a separate assessment.

This assessment has focused on the likely development involving five private dwellings. It is however noted in this regard the District Plan requires on-site parking at a rate which generally makes most activities self-sufficient, including two parking spaces for dwellings, an additional space for home occupations, one space per staff member for childcare facilities and four spaces for a residential facility. On this basis it is considered that any demands for parking beyond the site will be infrequent.



4. Permitted Baseline

The site is currently within the Suburban Commercial Activity Area and in accordance with Rule 5C2.1 could be developed with the following permitted uses:

- a) Retail activities and commercial activities, excluding licensed premises under the Sale of Liquor Act 1989;
- b) Community facilities and places of assembly;
- c) Health care services;
- d) Residential activities;
- e) Workshops where the front of the building is used for the retail of goods manufactured or repaired on site;
- f) Activities on sites which abut residential activity areas, and do not exceed 500m² gross floor area.

For the purposes of this assessment and given the local context, a permitted baseline scenario has been considered which includes 500m² of retail/commercial activity on the site. To meet the transportation related permitted activity standards, such a development would need to include on-site truck servicing by a maximum rigid truck for the retail/commercial activity.

The driveway would need to be separated by 8m or 20m from the adjacent intersection, depending on whether any on-site parking was included for the retail/commercial activity. The driveway could reasonably be expected to be up to 6m wide.

5. Traffic Generation and Parking Demands

Residential dwellings in this suburban location are expected to generate between 8 and 10 vehicle movements per day with 1 to 1.2 vehicle movements per hour during the peak hours. Accordingly five residential dwellings can be expected to generate 40 to 50 vehicle movements per day with five to six vehicle movements per hour during the busiest hours.

The provision of two carpark spaces per dwelling as per the District Plan requirements are expected to meet all day-to-day parking demands with only occasional demands for kerbside parking, which can be readily satisfied in Whites Line West.

With regard to the retail/commercial activity included in the permitted baseline scenario, offices could reasonably be expected to have parking demands and peak hour traffic generation rates of 2.5 spaces and 2vph per 100m² GFA being equivalent to 13 spaces and 10vph for a 500m² GFA development. Alternatively a retail development might generate peak parking demands and traffic activity of 1 to 3 spaces and 8 to 24vph per 100m² GFA being equivalent to 5 to 15 spaces and 40 to 120vph for a 500m² GFA development. This analysis is based on an assumption that any retail activity in this location will serve the local residential market and will typically involve attract short visits.

Accordingly a permitted baseline scenario might include some 13 to 15 carpark spaces with traffic generations of 10 to 120vph depending on the type and combination of activities.



6. Traffic Effects

The traffic and transportation attributes of a residential-only versus mixed use development including retail and/or commercial activity are compared in Table 1.

	RESIDENTIAL	PERMITTED BASELINE – MIXED USE
	5 residential lots	500m ² GFA of retail or commercial
Access	Single shared 6m wide driveway onto Ludlam Crescent. Single driveway onto Whites Line West District Plan requires minimum separation of 8m to adjacent intersection	Shared 6m wide driveway onto Ludlam Crescent. Possible driveway onto Whites Line West Minimum separation requirement of 8 to 20m depending on whether on-site parking included.
Parking	Likely day-to-day demand for up to 2 spaces per dwelling District Plan requires 2 spaces per dwelling	Likely day-to-day demand for 13 to 15 spaces District Plan has no parking requirement for commercial or retail developments of less than 500m ² GFA.
Servicing	Kerbside rubbish collection with no District Plan requirement to accommodate trucks	District Plan requires that a maximum rigid truck can be accommodated on-site
Traffic generation	5 to 6vph in peak hours	10-120vph depending on combination of activities

Table 1: Comparison of traffic and transportation attributes

Accordingly, the traffic effects associated with the residential zoning and subsequent development of the site are likely to be less than those associated with a development that complies with the existing zoning. In particular, with residential development there would be no need for truck movements onto and off the site, the parking demands will typically be accommodated within the site compared to a possible 13 to 15 space kerbside demand associated with retail/commercial development, and the likely traffic generation would be significantly less.

7. Road Safety

The local road safety record has been investigated by searching the NZTA crash analysis system. A search covering the five year period 2006 to 2010 shows ten reported accidents along the section of Ludlam Crescent between Wai-Iti Crescent and the roundabout with Randwick Road and Whites Line East. The accidents were all non-injury and can be summarised as follows:

Northbound

- northbound car on Ludlam Crescent collided with a car U-turning from the same direction;
- rear end collision between northbound vehicles on Ludlam Crescent, 70m to north of the roundabout;
- northbound car on Ludlam Crescent collided with a parked car;
- two separate accidents involving loss of control turning right into Ludlam Crescent at the roundabout;
- collision between northbound vehicles changing lanes on Ludlam Crescent close to the roundabout.



Southbound

- two separate accidents involving rear end collisions at the signalised pedestrian crossing;
- southbound truck on Ludlam Crescent turned left from incorrect lane at the roundabout;
- southbound car on Ludlam Crescent failed to give way to turning vehicle on the roundabout.

Given the traffic volumes through this part of the road network along with the roundabout and associated lane merges and diverges, as well as the pedestrian crossing, the accident history is not unexpected. It should be noted that none of the reported accidents involved vehicles turning into or out of residential or commercial driveways in this location, or indeed in relation to the previously-existing service station.

A matter for consideration at the resource consent stage will be how to safely accommodate the right-turn out of the site and onto Ludlam Crescent. Sufficient separation from the pedestrian crossing will be needed to enable an exiting vehicle to turn onto the median and straighten prior to merging with the southbound traffic. A further consideration will be the need to ensure that motorists turning right out of the site can see the signal lanterns as they approach the pedestrian crossing. It is anticipated that these matters can be addressed as part of the detail design work associated with any resource consent application.

8. Conclusion

Subject to appropriate design, it is concluded that this site on the corner of Ludlam Crescent and Whites Line West is a good location for residential zoning with excellent connectivity to the wider road network and good access to both bus and rail services.

This assessment has found that the transportation-related effects of the anticipated level of residential development will likely be less than those associated with a mixed use development that could reasonably be established in accordance with the existing zoning. Furthermore, the provisions of the District Plan provide that any more intensive land uses will be separately assessed if and when a consent application is made.

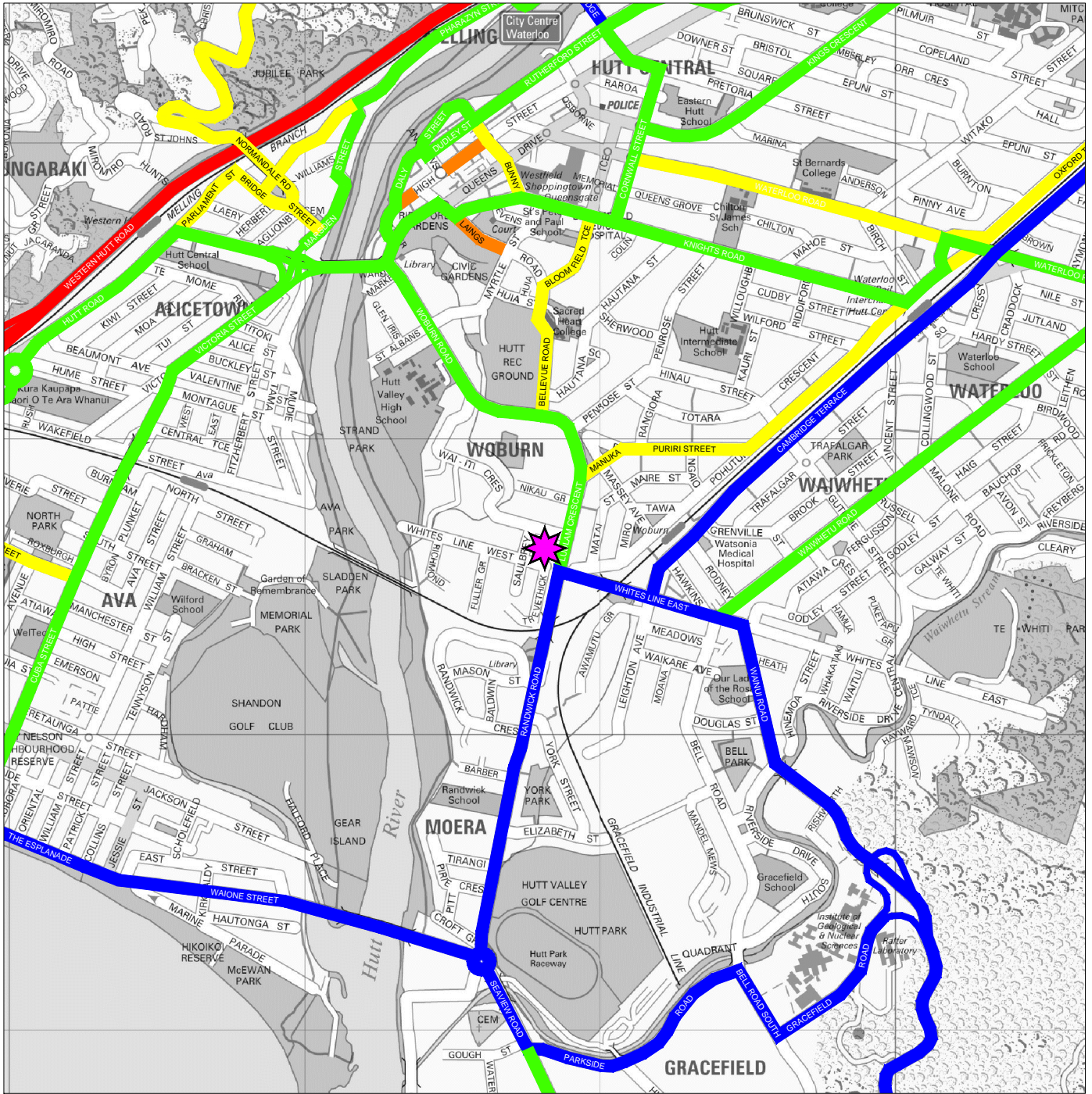
This report details the findings of our assessment and we would be glad to discuss any aspects as you may wish.

Yours faithfully
Traffic Design Group Ltd

Harriet Fraser
Principal Transportation Planner

harriet.fraser@tdg.co.nz

Attach....



- █ Primary Distributor
- █ Major District Distributor
- █ Minor District Distributor
- █ Local Distributor
- █ Pedestrian Streets
- ★ Site Location



Friday, 9 September 2011

Plan Change Ludlam Crescent, Lower Hutt

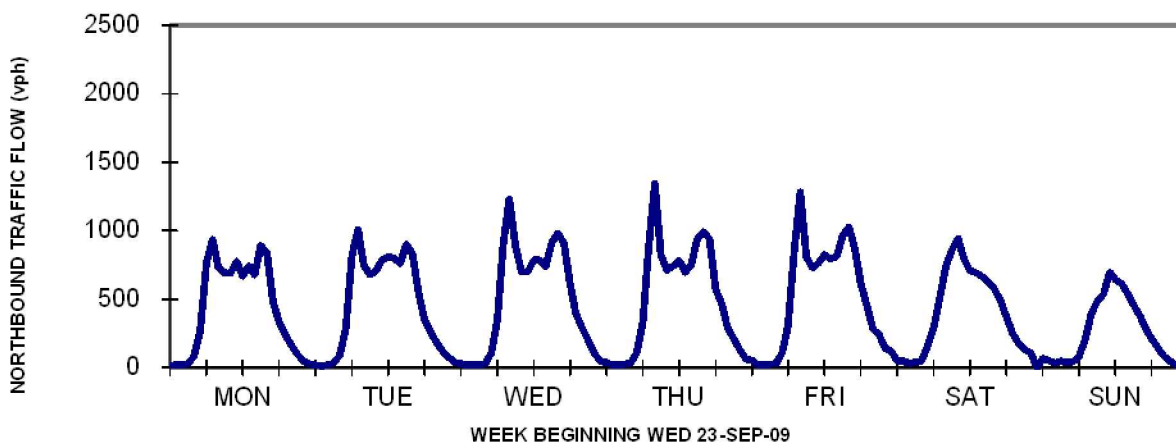
Site Location

Traffic Design Group

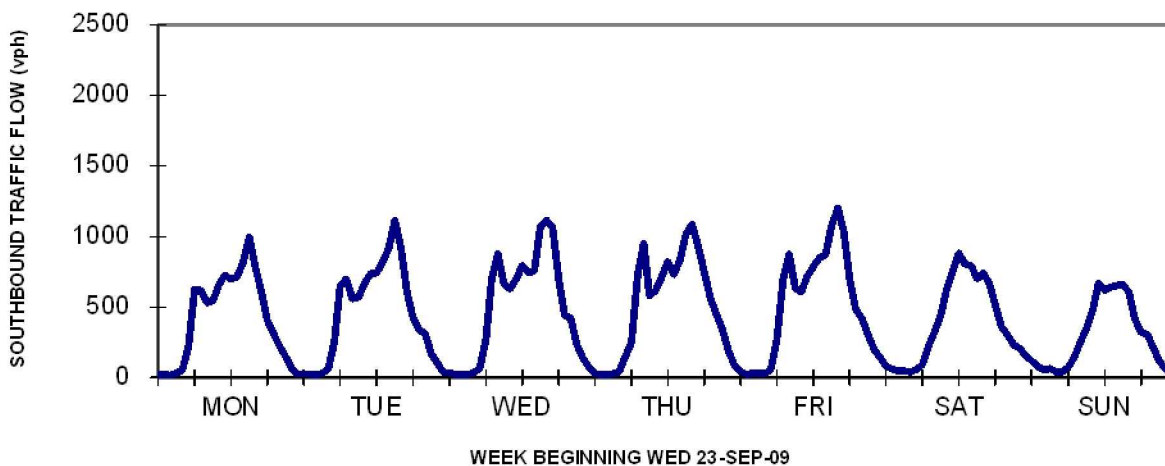
1

SCALE: 1:20,000

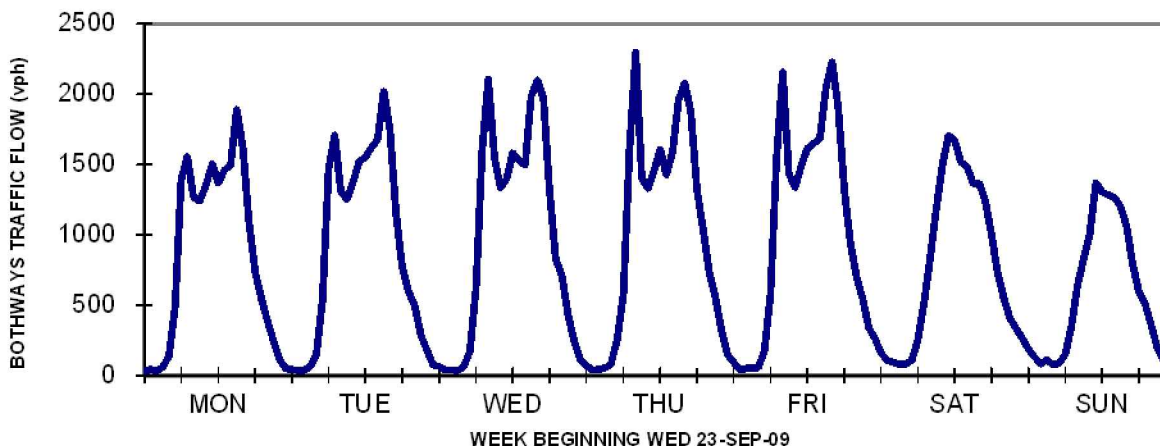
LUDLAM CRES - BETWEEN NIKAU GROVE & WAI-ITI CRES (NORTHBOUND)



LUDLAM CRES - BETWEEN NIKAU GROVE & WAI-ITI CRES (SOUTHBOUND)

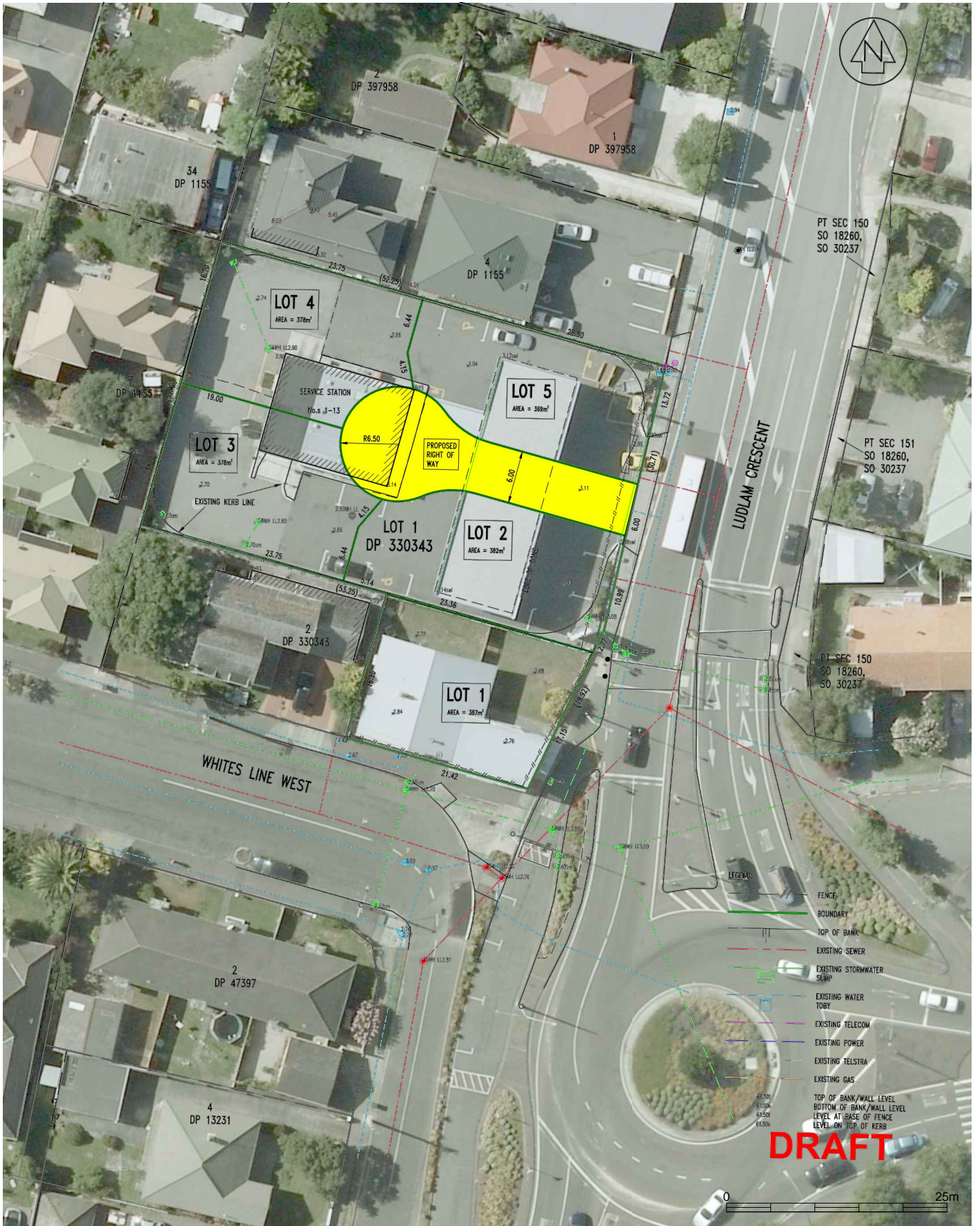


LUDLAM CRES - BETWEEN NIKAU GROVE & WAI-ITI CRES (BOTHWAYS)



Thursday, 22 September 2011

Friday, 9 September 2011



Plan Change Ludlam Crescent, Lower Hutt
 Indicative Site Layout



3

SCALE: 1:600