

STAFF REPORT

TO: Chair And Members, Engineering Services Committee

FROM: Development Engineer, Dugald Ley

REFERENCE:

DATE: 16 January 2006

SUBJECT: Development/Customer Services – Three Monthly Update October 2005 to December 2005

PURPOSE

To update the Committee on the previous three months' engineering development around the region, together with customer services enquiries' volumes.

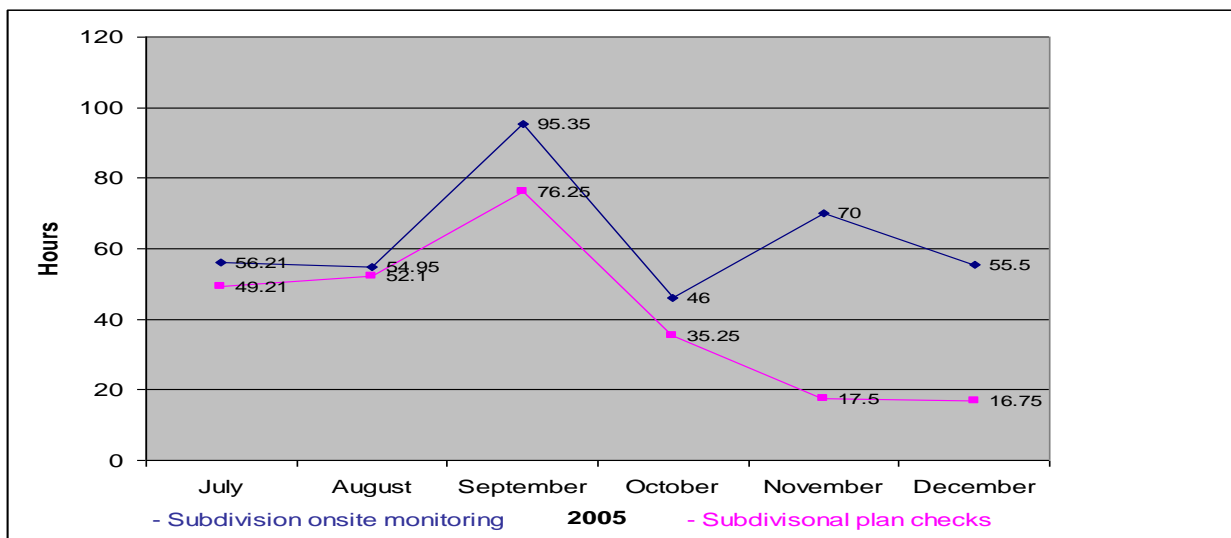
SUBDIVISION DEVELOPMENT

Major developments occurring around the District are:

- Hunter Avenue/Washbourn Drive extension
- Parker Street, Motueka
- Fearon Gardens, Parker Street
- Tata Beach development
- Old Coach Road
- Various infill developments

Many of the consents are continuing to be constructed. The Water Tank Hill (S Andrew) at Brightwater is in the planning stage together with the Eden Subdivision of 88 Valley getting consent within the next month.

The following is a graph showing the hours spent on subdivision plan checking and monitoring in the field of subdivision consents.



The graph shows a levelling off on site checking, as projects are being constructed and plan checking decreasing as developers concentrate on their projects as above.

ENGINEERING STANDARDS

A number of Rural 3 (CTA) Subdivisions have been approved recently with one appealing conditions to the Environment Court.

Engineering have recommended in every consent that conditions are consistent with Council's Engineering Standards and that Council's long term maintenance goals are not increased.

It is evident that in some approvals the Consents Committee, after hearing evidence from submitters, has chosen to reduce the Engineering Standards' requirements below the minimum or have chosen to not impose some conditions at all. This effect in the long term will create increased costs for Council when retro fitting of infrastructure services or installing at a later date, as opposed to getting them installed at time of subdivision by the developer.

An example is at Bay Vista in Pohara where a footpath was not required as part of the consent and subsequently, a few years later, Officers are being pressured to install a footpath by the new property owners.

It is an expectation that people who move into some of these areas expect urban services even though they may well be in or at the edge of a rural area.

As an interesting topic, each of my future reports will include an engineering subject and set out some of the reasons why consistent engineering standards should be imposed on consents.

The topic for this quarter report will be "footpath and road lighting".

Road/footpath lighting standards require lighting to comply with NZS 1158. These requirements require either, or a combination of flag lights at intersections, "V" lighting where visual requirements for motorists are dominant and "P" lighting where pedestrian/Cyclist requirements are dominant and the need for them to orientate themselves and detect potential hazards in front of them. Council's Engineering Standards on table 6.1 specify which lighting standard is attributable to each road category.

The three components for the need for "P" lighting are:

- 1 Safe movement of that particular activity. Whether it is for vehicle movement "V" or pedestrian/cycle movements "P".
- 2 Risk of Crime
This component has to be assessed so that a level of lighting may be selected in order to mitigate actual or perceived crime. The lighting will generally be one of a number of anti-crime measures to be implemented at a location.

Two interconnected aspects are involved, actual crime and fear of crime. If a community has a heightened perception of crime occurrence or risk (which may be unjustified) it will lead to a general fear of personal involvement.

This in itself reduces the quality of life for individuals and also leads to changes in lifestyle, including not going out on the streets at night. The less occupied streets then can become more attractive to wrongdoers and more dangerous to those still wishing to use them. As a result the police recognise that dispelling fear of crime as well as actual crime is a major objective.

With regarding to lighting, a poorly lit street creates just such a situation. On the other hand, a street with a relatively high level of illumination, good uniformity and the consequent high range and quality of visibility creates an increase in both the perceived and actual level of safety, leading to greater use and the accompanying further increase in safety.

3 Need to enhance prestige.

This criteria has been introduced so that a level of lighting may be selected where a higher degree of prestige and amenity is desired eg in a new housing development or in a refurbishment of a civic area. The lighting will often be one of a number of items being implemented to enhance prestige.

Council's Standards for lighting in some of the lower standard roads (ie Rural 3 CTA area) fall into the "P" pedestrian dominant category of lighting. The main purpose of this lighting is to assist pedestrians to orientate themselves and detect potential hazard and to discourage fear of crime and crime against the person while protecting the integrity of the night time environment through control of light spill and glare.

So for assessing light requirements for a rural/residential subdivision in road reserve the following table is used ie footpath adjacent to the road carriageway.

Note: The highest P value used in the table shall be used.

Lighting Categories for Road Reserves in Local Areas

1	2	3	4	5	6
Type of road or pathway		Selection Criteria ^{a,b}			Applicable Lighting Subcategory ^{c,d}
General Description	Basic Operating Characteristics	Pedestrian/Cycle Activity	Risk ^f of Crime	Need to enhance prestige	
Collector roads or non-arterial roads which collect and distribute traffic in an area, as well as serving abutting properties	Mixed vehicle and pedestrian traffic	N/A High Medium Low	High Medium Low Low	N/A High Medium N/A	P1 P2 P3 P4
Local roads or streets used primarily for access to abutting properties, including residential properties	Mixed vehicle and pedestrian traffic	N/A High Medium Low Low	High Medium Medium Low Low	N/A High Medium N/A N/A	P1 P2 P3 P4 P5 ^e
Common area, forecourts of cluster housing	Mixed vehicle and pedestrian traffic	N/A High Medium Low	High Medium Low Low	N/A High Medium N/A	P1 P2 P3 P4

a) The selection criteria of Columns 3 to 5 should be separately evaluated. The highest level of any of the selection criteria that is deemed appropriate for the road will determine the applicable lighting subcategory.

- b) Refer to Appendix C for guidance on choosing the applicable level of each selection criteria for the environment and purpose of a lighting scheme.
- c) Lighting categories P3, P4 and P5 apply across the whole of the road reserve width, including the footpath. Lighting categories P1 or P2 may be selected where there is a significant risk of crime or need to enhance the prestige of the area, however, such lighting only applies over the physical extent of any formed pathway.
- d) Refer to the footnotes in Table 2.6 regarding modified subcategories P3R and P4R for use in New Zealand.
- e) Discretionary use of subcategory P5.

Generally, subcategory P5 shall only be applied to the replacement of existing luminaires installed on existing electricity distribution poles or for the initial application of a lighting scheme where the cost to re-configure these poles limits or precludes compliance with category P4.

It is recognised however that for some authorities, category P4 could be deemed as being excessive in terms of providing adequate level of service and meeting with community expectations. In this case subcategory P5 may be used.

- f) The risk levels 'High', 'Medium' and 'Low' correspond to classification of the same names in HB 436.

An example for cluster housing with a medium pedestrian/cycle activity and a low level risk of crime and a medium level to enhance the prestige of the area, the lighting subcategory would be to a P3 and is consistent with Tasman District Council's Engineering Standards.

Of interest to Councillors will also be a light performance perimeter of which "Glare" and "Upward Waste Light" are important in a subdivision.

Glare is the luminous intensity spilled from the light and Upward Waste Light (UWLR) is the amount of luminaires (Glare) emitted above horizontal. The above can be formed into a table as below:

Classification of Luminaires and Associated Criteria for Control of Glare and Upward Waste Light

1 Luminaire Classification	2 Characteristics of Luminaire Light Distribution	3 Glare Criteria ^a Control	4 Maximum UWLR ^b
Type 1	Approximately uniform light distribution in azimuth with maximum intensities at or near the horizontal. A clear or translucent enclosure which neither disperses the lamp outline nor diminishes the brightness of the lamp (eg clear sphere)	Note ^c	Note ^c
Type 2	Similar light distribution to Type 1 but the outline of the lamp is either dispersed or shielded from direct view, providing an enclosure of a reasonably uniform brightness (eg opal or capped sphere)	The average luminance of the enclosure shall not exceed 10 kcd/m ² at (vertical) angles of between 70° and 90°. Note ^e	40% Note ^d

1 Luminaire Classification	2 Characteristics of Luminaire Light Distribution	3 Glare Control Criteria ^a	4 Maximum UWLR ^b
Type 3	Approximately uniform light distribution in azimuth with maximum intensities directed below horizontal. Like Type 2, the outline of the lamp is either dispersed or shielded from direct view, providing an enclosure of a reasonably uniform brightness (eg capped lantern style)	Where the outline of the lamp is dispersed above gamma 75 ^o , as specified for Type 2. Where any part of the lamp or reflector is visible above gamma 75 ^o the intensity shall be not more than: i) 270 cd/100 lamp lumens at a (vertical) angle of 80 ^o ; and ii) 120 cd/1 000 lamp lumens at a (vertical) angle of 90 ^o at any angle of azimuth	20%
Type 4	An asymmetric light distribution in azimuth in which: a) the maximum intensities are directed below the horizontal; and b) in directions along the road to either side of the luminaire	The intensity shall be not more than: i) 180 cd/1 000 lamp lumens at a (vertical) angle of 80 ^o ; and ii) 80 cd/1 000 lamp lumens at a (vertical) angle of 90 ^o at any angle of azimuth	10%
Type 5	Luminaire with a symmetrical or asymmetric beam distribution, with fixed mounting or capable of being adjusted with respect to the direction of aiming (eg Cat V luminaire or aimable floodlight ^f)	The absolute intensity shall be not more than: a) 1 000 cd at a (vertical) angle of 90 ^o ; and b) 2 500 cd at a (vertical) angle of 80 ^o	3%
Type 6	Luminaire with symmetrical or asymmetric beam with flat horizontal visor and fixed mounting not capable of vertical aiming eg Road luminaire or floodlight both with flat horizontal visor ^f	Zero cd at γ (vertical) angle of 90 ^o at any angle of azimuth	0%

- a) The requirements apply to luminaire types 1-4 in the position photometered and to Type 5 (aimable) as installed. All are based on the initial (100 h) lamp output.
- b) The requirements apply to each luminaire in the attitude in which it is installed.
- c) Type 1 luminaires produce excessive glare and upward waste light and are not suitable for use in the applications covered by this Standard.
- d) Type 2 luminaires produce considerable glare and upward waste light and are not encouraged for use in the applications covered by this Standard.
- e) Compliance with glare control criteria may be determined by measurement with a luminance photometer or by examining the quotient of projected surface area of light emitting portions at gamma 90^o, divided by the maximum absolute intensity in azimuth at gamma angles between 70^o and 90^o.

f) Refer to appropriate Appendix in AS 4282 for illustration of typical examples.

Summary

Lighting for any development and, in particular, cluster rural/residential development can give rise to unsightly light omissions as viewed from other rural areas.

To give Councillors some confidence in mitigating lighting/glare problems in particular the CTA Rural 3 Zone, it is suggested the following lighting specification be considered for guidance.

“That consent holders shall provide street lighting in accordance with the Tasman District Council’s Engineering Standards and Amendments”. “In particular, for a Rural 3 CTA Cluster Housing development. Flag lights will be required at road intersections and street/pedestrian lighting, complying with the P4 type 6 Standard and the light pole height shall be no more than 5.0 m in height.”

An example of the above is seen in the photo below of a recent new subdivision in Wanaka.



CUSTOMER SERVICES

The table below gives a summary of the last three months' service requests entered into the system.

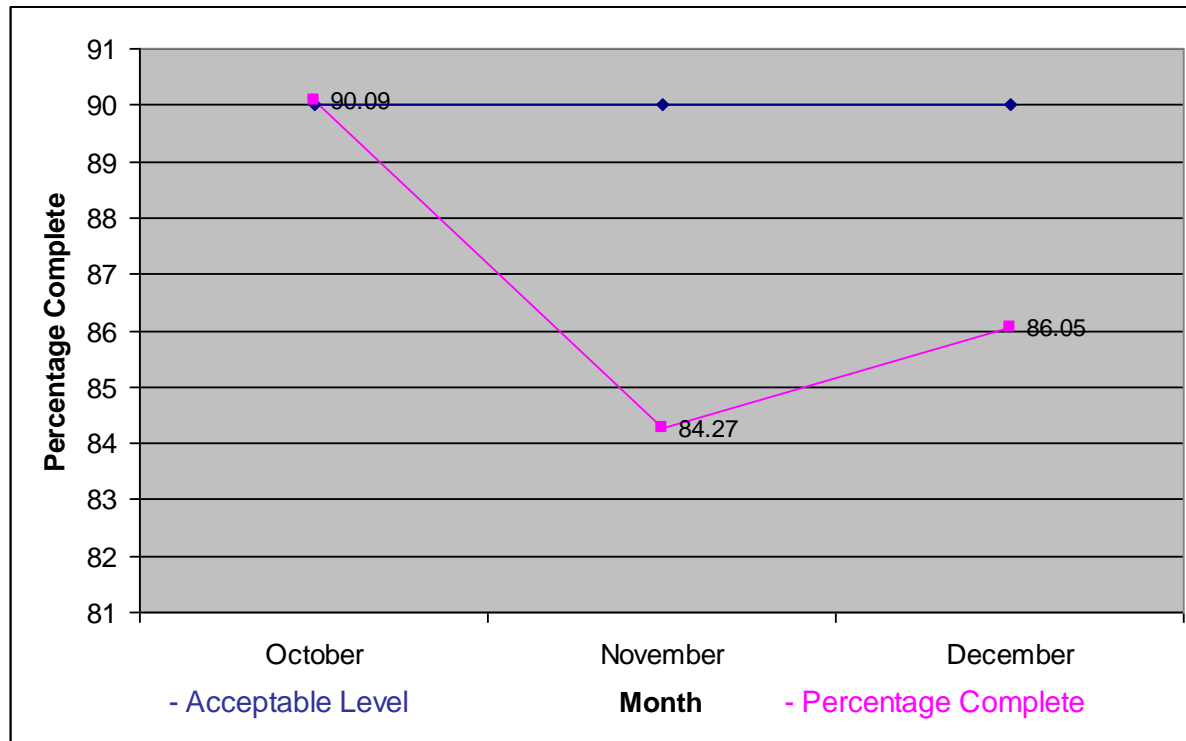
Table 1 – Totals of Service Requests Generated Per Month

Category	October 2005	November 2005	December 2005
Water	189	242	156
Wastewater	22	32	28
Stormwater	8	5	14
Roading Maintenance	58	85	101
Refuse/Rubbish Collection	3	7	5
Footpath/Carparks	8	17	11
Rivers	-	-	-
Totals	288	388	315

The increase in roading inquiries may be attributable to gravel (unsealed) roads drying out, causing dust and loss of running course complaints.

The graph below represents the numbers each month of customer service requests (CSRs) completed within their individual timeframes.

Note: 90% is deemed an acceptable level.



The graph shows a drop-off below the 90% acceptance rate. Some of this is attributable to Council installing a new computer server during November which adversely affected access to system information by MWH and the contractors, especially Fulton Hogan,

who were unable to close jobs off. This problem has been remedied and performance is expected to improve in the next month.

RECOMMENDATION

THAT the Development/Customer Services – Three Monthly Update October 2005 to December 2005 be received.

Dugald Ley
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