



Memorandum

TO: Conner Marner, Planner

FROM: Lyn Pope, Environmental Health Officer

DATE: 20 November 2017

SUBJECT: **LUC-2017 - 317**
70-76 Gordon Road, Mosgiel

Environmental Health has reviewed the additional information supplied by BP Oil Limited regarding 72-76 Gordon Road, Mosgiel.

A request for more information about existing sound levels in the area and details on the acoustic fencing and mechanical plant screening was requested.

Ambient Noise

The applicant has provided additional information regarding the noise assessment report carried out by SLR Consulting NZ Ltd.

Table 2 in the additional information shows averaged LA10 and LA90 results for both the shoulder and night time periods. Because the results have been averaged over a long night time period it is very difficult to draw a meaningful understanding of noise level trends within that time, for example this does not allow you to compare levels just after the shoulder period with those from mid-night to 6am. The LA10 result given for entire night-time period is very similar to the District Plan permitted night time noise levels. However the LA90 shows a very low result which is possibly indicative of the very quiet nature of the area for the majority of the night time period.

We have attempted to undertake our own noise assessment but unfortunately due to equipment failure we were unable to produce a result. Ambient noise readings taken for another recent development on Gordon Road with similar residential boundaries also showed much the same averaged L10 result. However, these results were displayed graphically and did show a significantly lower L10 result between midnight and 5am.

Acoustic fence

The original application stated the carwash to be approximately 4m in height with a proposed boundary acoustic fence 2m in height running along all boundaries.

The additional information has stated the acoustic fence height has now been increased to 3m in certain areas (around the carwash unit) and pulled back from the boundary by an additional 0.6m. Detail showing the methodology behind the proposed reduction of 5dBA to 13dBA still appears to be fairly limited.

Whilst it was stated that no vents or ventilation fans are contained within the carwash, no additional information was provided about where the actual carwash plant equipment is located, for example if the principle noise source is at the roof level the benefits of an acoustic fence would be far less.

Mechanical Plant screening

No additional information on the nature of the compound screening of plant equipment was provided.

Lyn Pope
Environmental Health Officer



Memorandum

TO: Madeline Seeley, Planner

FROM: Lyn Pope, Environmental Health Officer

DATE: 15 August 2017

SUBJECT: **LUC-2017 - 317**
70-76 Gordon Road, Mosgiel

Environmental Health has reviewed this application by BP Oil Limited to redevelop and extend the existing service station located at 72-76 Gordon Road, Mosgiel. The extension to the site will cover 70 Gordon Road on which it is proposed a carwash facility will be located.

The site is zoned Residential 2 in the District Plan, with its main boundary on Gordon Road (State Highway 87). The wider surrounding area comprises of a mixture of residential and non-residential uses.

The proposed service station will include a retail shop (BP Connect store and Wild Bean Café), a forecourt with 16 filling stations and a carwash. The fuel sales and shop will operate 24 hours per day, 7 days a week and the carwash will operate between 7am and 9pm Monday to Friday and 8am to 9pm on weekends and statutory holidays.

The following matters should therefore be considered:

1. Noise

District Plan Noise Limits

The proposal must operate within the noise limits as set out by the District Plan as described below:

Residential 2 zone

Daytime	Night time	Shoulder period
0800 – 1800 hours	2100 – 0700 hours Including 24 hours on Sundays and public holidays.	0700 – 0800 and 1800 – 2100 hours Monday to Friday and 1800-2100 hours on Saturday
50 _{L10} dB(A)	40 _{L10} dB(A)	45 _{L10} dB(A)

Section 16 - Resource Management Act 1991

S.16 Duty to avoid unreasonable noise

- (1) Every occupier of land (including any premises and any coastal marine area), and every person carrying out an activity in, on, or under a water body or the coastal marine area, shall adopt the best practicable option to ensure that the emission of noise from the land or water does not exceed a reasonable level.*

Noise may still be deemed a noise nuisance of unreasonable nature whether it complies with a District Plan noise limit or not.

The applicant is reminded that the Best Practicable Option should continue to be applied to ensure that the noise levels emitted do not create a noise nuisance. It is Environmental Health's opinion that this would apply to emissions of noise from the proposed land/site only and therefore primarily apply to potential 'break-out' noise from plant, equipment and on site activities.

Section 326 Resource Management Act 1991

Environmental Health wish to draw attention to the limitations of this section of the Resource Management Act with respect to determining 'excessive noise'.

S.326 Meaning of Excessive Noise

- (1) In this Act, the term **excessive noise** means any noise that is under human control and of such a nature as to unreasonably interfere with the peace, comfort, and convenience of any person (other than a person in or at the place from which the noise is being emitted), **but does not include any noise emitted by any—**
 - (a) aircraft being operated during, or immediately before or after, flight; or
 - (b) **vehicle being driven on a road** (within the meaning of [section 2\(1\)](#) of the Land Transport Act 1998); or
 - (c) train, other than when being tested (when stationary), maintained, loaded, or unloaded.

Construction Noise

The New Zealand Standard Acoustics - Construction Noise (NZS 6803:1999) states that "typical duration" of construction, means construction work at any one location for more than 14 calendar days but less than 20 weeks.

Construction shall be limited to the times set out below and shall comply with the following noise limits for 'typical duration' for construction noise received within a residential or rural area as per New Zealand Standard Acoustics - Construction Noise NZS 6803:1999.

Recommended upper limits for construction noise received in residential zones and dwellings in rural areas.

Time of week	Time period	Duration of work					
		Typical duration (dBA)		Short-term duration (dBA)		Long-term duration (dBA)	
		Leq	Lmax	Leq	Lmax	Leq	Lmax
Weekdays	0630-0730	60	75	65	75	55	75
	0730-1800	75	90	80	95	70	85
	1800-2000	70	85	75	90	65	80
	2000-0630	45	75	45	75	45	75
Saturdays	0630-0730	45	75	45	75	45	75
	0730-1800	75	90	80	95	70	85

	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75
Sundays and public holidays	0630-0730	45	75	45	75	45	75
	0730-1800	55	85	55	85	55	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75

In urban areas, traffic noise may control the background sound level at relatively high levels, for example 60 dBA L90. In such circumstances, the high background level may warrant less stringent noise limits than those in the standard.

Noise comments

The proposed site is located on Gordon Road, Mosgiel which is the main arterial route in and out of the township. The land is zoned 'Residential' with all surrounding land also zoned 'Residential'. Residential activities to the south, west and east should be considered noise sensitive however those to the east also border Gordon Road so affected more so with higher traffic movements and associated noise. There are also some non-residential activities in the immediate area including a veterinary clinic on the immediate northern boundary and other commercial and community activities in the wider environment.

The proposal is to operate 24 hours per day, seven days a week with the carwash and vacuum being turning off at 9pm.

Noise generated from the proposed activity would include;

- Vehicle movements entering and leaving the site and the people noise associated with this – engine noise, car doors, talking
- Fuel deliveries and tank refilling
- Plant equipment associated with the carwash and vacuuming unit
- Plant equipment associated with heating, ventilation, and air conditioning

The applicant has provided a noise assessment report carried out by SLR Consulting NZ Ltd which details the results of calculations of potential noise emissions and the assessment of noise emissions from the proposed development on surrounding sites.

This assessment was based on their previous experience undertaking assessments of similar service station operations and considered against and with regard to the District Plan. However a review of the existing environment including ambient noise levels measured around the proposed area was not undertaken. These existing levels would have represented the context within which potential noise from the service station might be received. The 'intrusiveness' of nuisance noise can be defined as the degree by which the normally occurring ambient noise levels are exceeded, irrespective of what noise levels outlined or permitted in the District Plan.

The noise assessment carried out was also based on current vehicle movement rates (80 per hour during day and shoulder times and 60 per hour during night time) to establish the likely worst case scenario peak noise levels. A Traffic Assessment undertaken by TDG estimates no significant increase as a result of this development. It was also noted that the carwash would be unlikely to attract additional vehicles but the increase in shop size with the addition of the café could attract an extra 20 vehicles per hour. This would result in approximately 100 vehicles per hour in the peak times and may therefore exceed the levels used to determine predicted noise levels.

The proposal is to operate 24/7 however there is no mention as to current operating hours to compare the potential increase in activity against. I believe the operator's website currently states operating hours are 7am to 10pm 7 days. The noise assessment

has not indicated whether increasing to 24 hours a day will bring additional activity onsite during later night time hours and how that may affect neighbours compared to what they currently experience.

In regards to vehicular noise from traffic visiting and leaving this site it should be noted that the Resource Management Act Section 326 Meanings of Excessive Noise (1)(b) does not include noise emitted from any vehicle being driven on a road. In addition, Section 16 places a duty on every occupier of land to ensure emissions of noise from that land do not exceed a reasonable level, which would be difficult to apply to the applicant.

Noise generated by on-site activities would include plant equipment, namely the carwash and vacuum units, the mechanical plant servicing the building and the activity of refilling the underground tanks.

The noise assessment report did state noise associated with tank refilling is expected to be negligible given the tanks are gravity fed and the truck engines must be turned off. There have not been any issues regarding noise nuisance and current tank refilling operations that this department is aware of.

The report also states that noise effects from other on-site activities will be reduced by the implementation of noise mitigation measures such as the construction of an acoustic fence and the siting of other plant equipment within the rubbish compound adjacent to the main building which will provide for effective acoustic screening when combined with the boundary screening (acoustic fence).

Little information was provided about how the proposed acoustic fence will lower the noise levels particularly behind the proposed carwash and vacuum units which will share an immediate boundary with a residential dwelling on the southern end of the site. Likewise no further detail was provided about the rubbish compound and the screen associated with it.

2. Glare/Lighting

Reflections and glare from structures, signs, vehicles and lighting can be an irritation and a nuisance, and detract from the general amenity of an area. Any effect of glare and lighting must comply with the District Plan which requires that no activity shall result in greater than:

- (a) 16 lux of light onto any other site in a Residential Zone, measured inside that site.
- (b) 8 lux of light onto any other site used for residential purposes during night-time hours measured at the windows of any such residentially occupied building.

In Conclusion

I would recommend that the applicant provide further information to address the areas of concern raised in my discussion above.

Lyn Pope
Environmental Health Officer