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30 May 2011

Director, Infrastructure Projects
NSW Department of Planning & Infrastructure
GPO Box 39
Sydney NSW 2001

URGENT

Dear Director

Re: M5 Widening Project – Non Inclusion of Noise Walls on M5 Liverpool Georges River Bridge

We have been residents of Casula Links since 2000 and prior residents of Liverpool Links since 1974.

Liverpool and Casula Links Estates are 'Hillside Estates' which are east-facing and directly exposed to the M5 Liverpool Georges River Bridge. Most of the residential dwellings were constructed in the 1970's, which was then a peaceful enclave on the banks of the Georges River with views across the Links Golf Course.

Since that time, traffic noise levels have increased to unsafe levels, with some 90 houses directly affected by traffic noise from the M5 Liverpool Georges River Bridge.

Resident complaints about noise date back to 1992 *(refer attachment herein 'Parliament of NSW Mr Peter Anderson November 1992').* The repeated request for noise on the M5 Liverpool Georges River Bridge has been rejected at every stage.

On this occasion, residents represented the predominant number of submissions over all other submissions. Residents overwhelmingly objected to the non-inclusion of noise walls on the M5 Liverpool Georges River Bridge. Other respondents supporting noise walls include Liverpool City Council, The Greens Party and the East Liverpool Progress Association *(refer M5WW Volume 2 Appendix A – List of Respondents).*

(We note submissions from several residents including our own we not recorded in the 'List of Respondents.')

Chronology of Construction (affecting M5 Liverpool Georges River West Bridge)

1980-85	Construction $ - of two lane Georges River Bridge (Hume Hwy to Moorebank Ave)
1991-92	Construction $ - M5 Motorway East (Moorebank Ave to King Georges Rd)
1993-94	Construction $ - M5 Western Link (Hume Hwy to Camden Valley Way)
1996-97	Construction $ - (Northern) four lane Georges River Bridge
1998-01	Construction $750m - M5 East Tunnel (King Georges Rd to Southern Cross Dr)
2003-05	Construction $1.5bn - M7 Motorway (Camden Valley Way to M2 Motorway)
2011+	Construction $400m – Widening of M5 Motorway

What Noise Criteria Applies?

Interim Traffic Noise Policy (RTA) September 1992
Environmental Criteria for Road Traffic Noise (EPA 1999) or ECRTN

Noise Criteria in both cases is similar (but not the same) however criteria 55dba night and 60dba day has been adopted.

We have previously requested RTA provide supporting evidence to claims that noise monitoring results undertaken at Liverpool and Casula Links, post construction of all works (Hume Hwy to Moorebank Ave) completed prior to 1997, confirmed noise levels below Interim Traffic Noise Policy (RTA) September 1992 of 55dba night and 60dba. We have yet to get a reply.

We are concerned that the RTA has not been co-operative in this regard.

Further, we believe the Noise Control Act 1975 was the applicable legislation for noise control when the original two- lane Georges River Bridge was constructed in the early 1980's.

We request, for the ministers consideration;

- **A detailed summary of noise test results pre and post all works prior to 1997 (Hume Hwy to Moorebank Ave).**
- **Clarification whether Noise Control Act 1975 applies to the original Georges River Bridge.**

1996-97 Bridge Duplication

The construction of the Northern Georges River Bridge in 1996-97 saw the roadway double in capacity from two lanes to four lanes in each direction, both east and west bound.

Again, the RTA claimed that noise monitoring was carried out post construction confirming noise levels of 55dba night and 60dba day. We have yet to get a reply.

We believe the RTA has not been consistent in adhering to Interim Traffic Noise Policy (RTA) September 1992. Because, by their own admission, a newly constructed bridge that brings a four-lane roadway closer to houses would have a large noise impact.

The 1996-97 northern bridge duplication did in fact increase noise to nearby Liverpool Links residents. We believe this increase to have been much higher than 3db as prescribed in Interim Traffic Noise Policy (RTA) September 1992 *(refer policy 1.2)*.

Therefore, noise walls should have been erected on the duplicated Georges River Bridge.
This of course did not occur.

We request, for the ministers consideration;

- **A detailed summary of noise testing conducted pre and post construction of the Georges River Bridge north duplication.**
- **A detailed explanation as to why noise walls were not installed as a result of increased noise levels above the prescribed noise criteria.**

More Recent Noise Reports

The closest house (< 50m) to the M5 Liverpool Georges River Bridge is 20 Lakewood Crescent, Liverpool Links.

RTA Commissioned Report in August 2006 *(refer RTA Report TD265-15F01 (REV2) 20 Lakewood Cres, Liverpool)*, produced results of 63dba night and 66dba day. Further, the report showed daily noise levels regularly exceeding 80dba, some 20-25dba above Noise Criteria (1999). This level is equivalent to 'loud music played at home'.

Therefore, we derive the conclusion that somewhere between 1997 (last RTA Test) and 2006 (this RTA test) the noise levels increased from under 60day/55night to 66day/63night.

Engineering experts, Renzo Tonin, advise that a rise of 10bd in sound level corresponds approximately to a doubling of subjective loudness. That, is a sound of 66db is twice as loud as a sound of 56db or 200% the loudness.

In addition, 9 Segefield Place, Casula Links, some 300m away from the M5 Liverpool Georges River Bridge, was noise tested in December 2008 *(refer RTA Report TE142-24F01 (REV 2) 9 Segefield Pl, Casula Links)*, showing 56dba night and 60dba day. Similarly, 6 Cypress Place, Liverpool Links, also 300m away from the M5 Liverpool Georges River Bridge, was noise tested in May 2009 *(refer RTA Report TE363-21F01 (REV 2) 6 Cypress Pl, Liverpool)* showed 57dba night and 61dba day.

Therefore, houses tested 300m away from the M5 Liverpool Georges River Bridge have noise levels at or slightly above relevant Environmental Criteria for Road Traffic Noise (EPA 1999), whilst houses tested within 50m grossly exceeding Environmental Criteria for Road Traffic Noise (EPA 1999).

Approximately of 90 other houses (not adequately tested), lie within these two boundaries that would therefore show noise Levels above Environmental Criteria for Road Traffic Noise (EPA 1999).

We request, for the ministers consideration;

- **A detailed explanation and reasoning for noise level increases in the area between 1997 and 2006.**

LACK OF NOISE TESTING (disputing integrity of data)

Despite the fact that residents have complained, made submissions, petitioned and attended numerous community consultation meetings over the years, dating back to 1992, RTA did not undertake noise testing anywhere in the Liverpool and Casula Link's area. Rather, RTA relied on computer modelling to predict both current and future noise levels.

For reasons stated previously, the integrity of data from computer modelling alone is in question.

Further, the inclusion of appropriate noise walls on the M5 Liverpool Georges River Bridge would significantly reduce noise levels. *M5 WW Volume 2 Appendix C - Section 8.7* indicates a noise reduction of 10dba could be achieved. Such a reduction would clearly place noise nearer to Environmental Criteria for Road Traffic Noise (EPA 1999).

We request, for the ministers consideration;

- **A detailed explanation why noise monitoring was not conducted in this area, in light of the overwhelming objections and known risks.**
- **NEW noise testing conducted at nominated locations by an independent acoustic engineer as agreed.**
- **A detailed summary comparing and explaining past noise results in the area to the new results.**
- **A detailed summary modelling likely noise scenarios WITH adequate noise walls erected on the M5 Liverpool Georges River Bridge.**

MAXIMUM NOISE LEVELS & SLEEP DISTURBANCE (results have not been adequately addressed)

Similarly, the Environmental Criteria for Road Traffic Noise (EPA 1999), recommends an assessment for sleep disturbance.

This includes an examination of 'maximum noise events', defined as any single event where the LAmax noise level exceeds 65dba and exceeds the LAeq(1hr) noise level by more than 15dba during the hours of 10.00pm and 7.00am.

Again, the RTA Noise Report 2006 produced results for Liverpool Links showing LAmax of 100dba and consistent readings, day and night, above LAmax 80dba.

Further, RTA Noise Reports for 9 Segefield Place, Casula and 6 Cypress Place, Liverpool Links, showed LAmax of 90dba and numerous readings, day and night, above LAmax 80dba.

Wilkinson & Murray Report May 2011 (*refer M5WW Volume 2 Appendix C – Section 9.2)*, states that only one site in Narwee, was tested for 'Maximum Noise Levels' in this regard. Whilst, another other site in Hammondville had a 'device malfunction'.

Contrary to the report, neither location is representative of the Liverpool and Casula Links.

A recent study by D. Quis, 'Annoyance from Road Traffic Noise: A Review' Journal of Environmental Psychology 2001 – writes "the alarming increase in the volume of traffic is actually inversely related to the degradation of the environment. Environmental noise produces negative effects on people's health since it interferes with basic activities such as sleeping, resting, studying and communicating."

Earlier studies, T. Osada Yoshida, 'Effects of Road Traffic Noise on Inhabitants of Tokyo' Journal of Sound Vibration 1997 – writes "irregular noise from traffic of a maximum less of 45dba affects subjective sleep quality, tiredness the following day and the time necessary to fall asleep."

It is well documented that Environmental Policy around the world is guided by direct comparison to World Health Organization (WHO) Health Criteria. WHO states 45dba (night) and 55dba (day) are acceptable levels. Japan has adopted these levels as Environmental Standard.

We request, for the ministers consideration;

- **Detailed explanation why sleep disturbance issues have not been adequately assessed nor addressed.**
- **A detailed explanation why noise monitoring was not conducted in this area, in light of the overwhelming objections and known risks.**
- **NEW noise testing conducted at nominated locations by an independent acoustic engineer as agreed.**
- **A detailed report comparing and explaining past noise results in the area to the new results.**
- **A detailed report modelling likely noise scenarios WITH adequate noise walls erected on the M5 Liverpool Georges River Bridge.**

TRAFFIC VOLUMES INCREASING (situation well not improve)

Wilkinson & Murray Report May 2011(*refer M5WW Volume 2 Appendix C – Table 8.1),* shows the section of road between the Hume Hwy across the Georges River to Moorebank Ave, in 2009 recorded the highest traffic volume along the M5 with 124,542 vehicles daily. Further Table 8-4 shows traffic volumes in 2023 increasing to 179,613 vehicles daily.

The M5 Liverpool Georges River Bridge is, and will continue to be, the most congested section of road on the entire M5 network, for both cars and trucks in the next 20+ years.

Residents have a daily reminder of these statistics.

The M5 West Widening Project is to facilitate residential, commercial and industrial expansion of South Western Sydney; a major growth corridor. Therefore, traffic levels will continue to increase, most likely well beyond expectations, and the impact of noise pollution will not be remedied.

We request, for the ministers consideration;

- **Detailed explanation how increased traffic volumes will not significantly impact local residents.**

INFERIOR AREAS GIVEN PRIORITY (not fair and reasonable)

Principal of Wilkinson & Murray, Mr Rob Bullen, is of the view that more could be done on the M5 Liverpool Georges River Bridge and residents would 'no doubt gain benefit' from noise walls on the Bridge.

The reduction in noise levels would be 'significant', hence the reason for inclusion of noise walls along all parts of Sydney Motorway Network.

The M5WW proposal supports noise walls (ranging from 3.6m to 4.8m in height) on other M5 Bridge overpasses, notably; Penshurst Road, Bonds Road, Salt Pan Creek Bridge, Queen Street and Nuwarra Road (*refer M5WW Volume 2 Appendix C, Appendix F – Section 7.1.6).* These areas have lower noise levels than Liverpool and Casula Links, yet noise walls have been proposed (*refer to M5WW Volume 2 Appendix C, Appendix G – Sheet 10,11,14,15 & 16).*

Again, we reiterate M5 Liverpool Georges River Bridge will remain the only bridge with nearby residents, on the entire Sydney motorway network, without noise walls.

We request, for the ministers consideration;

- **Detailed explanation on how and why priority was given to other bridge overpasses on the M5 in comparison to Liverpool Georges River Bridge West.**

In addition, the M5WW proposal includes noise walls on sections of roads alongside non-residential areas such as golf courses; New Brighton and Riverlands (200-350m of new walls) and an industrial factory in Moorebank (200m of new walls). *Refer to M5WW Volume 2 Appendix C, Appendix G – Sheet 7, 8 & 5.*

These areas clearly have no residential night time noise implications.

Also, there a several new noise walls proposed adjacent to open green space and other noise walls protecting less than 10 nearby homes. New walls range from 50m to 500m long *(refer to M5WW Volume 2 Appendix C, Appendix G – Sheet 1,3,6,12 & 13).*

We request, for the ministers consideration;

- **Detailed explanation on how and why priority was given to inferior areas such as golf courses, industrial factories and open space in comparison to Liverpool Georges River Bridge West.**

EXPERTS SAY NOISE WALLS MOST EFFECTIVE (most appropriate measure not enforced)

Research reports undertaken by prevalent independent acoustic engineers; Masson Wilson Twiney (VIC) and The Acoustic Group (NSW), are both of the view that;

*'Noise mitigation measures are most effective at the noise source and in the noise transmission path. Noise mitigation at receiver locations are generally least preferred because external noise levels may remain high. Noise can be controlled in the transmission path by using separation distances, barriers and sound absorptive materials. **Barriers** are most effective when they are located close to the noise source and when they block the line of sight between the source and receiver.*

*The amount of noise reduction achieved depends on the height and mass of the barrier and the frequency of the noise (barriers are less effective for low-frequency noise). Noise barriers should have no gaps. Use of absorptive material on the side of the barrier facing the noise source can also help to reduce noise levels by reducing noise reflections. **Materials commonly used for noise barriers** include solid brick walls, concrete blocks or panels, earth mounds, trenches and cuttings. **Sound-absorptive materials** reduce the level of reflected sound. They are porous materials such as glass fibre, wool and mineral wool. Thin layers are capable of absorbing only high frequencies, whereas thicker layers can absorb over a wider frequency range.'*

Further, in relation of to controlling noise at the receiver's location (i.e. the house) they add;

'This can be cost effective if used at the planning and construction stage, but is typically the least desirable of the three types of noise mitigation for treating existing problems.'

Therefore, it is clear that noise walls are the most effective and most preferred method to bring noise levels down to Environmental Criteria for Road Traffic Noise (EPA 1999), for the 90 odd houses affected in this area. The least effective and least preferred method is attending to selected houses only.

We request, for the ministers consideration;

- **Detailed explanation of the underlying reason for rejecting the most effective noise mitigants solution (according to experts).**

CONCLUSION

Despite resident pleas since 1992 and the recent overwhelming objections to the M5WW proposal, excessive and unsafe noise levels continue unabated.

The proposal indicates that once again this area of South-West Sydney is getting the short straw. The residents of Liverpool and Casula Links Estates have endured excessive traffic noise levels long enough.

The M5 Project is a collective endeavor for the community good and requires community wide solutions which are just and equal for all residents, whether in North Sydney or South West Sydney.

Likewise, noise pollution is a neighborhood wide problem that starts first with neighborhood solutions, such as noise walls for all and better road surfaces for all. If then, the problem persists, and only then should you take the next step and resort to specific attention to individual homes.

It is for this reason that noise walls have been erected across all over NSW road networks, which is fully supported by acoustic engineering experts.

We do not wish, nor want people to get ill or injured from sleep and rest disturbance to illustrate our point. Now is the time for Government to act before it's too late. We appeal to you, the Minister, to do what is morally correct and remedy the problem once and for all. We do not buy the argument that the Project is short of funds – billions of dollars have been spent on and around the Liverpool Georges River Bridge, yet residents continue to suffer.

Greater Sydney and indeed the state of NSW need the Liverpool Georges River Bridge to operate and function, and we residents need noise walls on the same bridge to also operate and function.

Noise walls on the bridge are 'feasible and reasonable' and should be included in the project as a priority. If a new bridge was to be proposed today, the NSW Government would automatically have the money to construct it and put up noise walls. However, as it stands today this is the only bridge on the entire motorway network with no noise walls.

We seek your support to include noise walls on the M5 Liverpool Georges River Bridge.

Yours sincerely

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Dinuka McKenzie - M5 noise Casula

From: "Alec Dick" <alecjean@bigpond.net.au>
To: <plan_comment@planning.nsw.gov.au>
Date: 5/31/2011 4:08 PM
Subject: M5 noise Casula

We note that no noise barriers are proposed for the M5 Georges River Bridges at Casula.
We live quite a distance from the M5, although it is visible from our back balcony.
Depending on the weather and wind direction the noise from the M5 varies from a continuous dull roar to a very intrusive and objectionable range of traffic noises making it difficult to sit or have a barbeque on our back balcony.
This is certain to get worse with the increase in traffic following the widening of the M5 on the other sections.
Noise barriers on the bridges are essential.
Jean & Alec Dick,
11Buckland Road,
Casula.