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Mr Marino Ferlazzo
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28 September 2015



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REVIEW OF ACOUSTIC PLANNING ISSUES
SYDNEY METRO NORTHWEST
RAPID TRANSIT RAIL FACILITY

Atkins Acoustics was engaged by Mr Ferlazzo of 67 Tallawong Road Rouse Hill to review acoustic issues with respect to proposed land zoning for the Riverstone East Precinct. The subject area to the north of Schofields Road is currently zoned rural and developed with rural/residential dwellings. The proposed rezoning for the area includes residential and commercial zones and the Sydney Metro Northwest Rapid Transit Rail Facility (RTRF).

We were advised that the property 67 Tallawong Road has been identified by NSW Department of Planning & Infrastructure to provide an acoustic buffer for residential zoning to the north of the RTRF.

Referring to the Transport NSW EIS, the RTRF site is approximately 36 hectares and bound by Tallawong Road, Schofields Road, First Ponds Creek and Oak Street. Trains would be stored in the stabling facility outside peak periods, between the last service and first service the next day. The stabling facility would accommodate upto 45 trains and operate 24 hours per day, 7 days a week.

The property 67 Tallawong Road is currently developed with a residential dwelling located towards the Tallawong Road frontage. The property shares a common boundary with the proposed RTRF. The RTRF noise assessment prepared by SLR Consulting (SLR) (2.4) confirms for existing sensitive noise receivers the Industrial Noise Policy (INP) intrusive, amenity and sleep disturbance noise criteria would apply to the RTRF. The intrusive and amenity criteria are to be satisfied (SLR 2.4) at the most-affected boundary of the property, or if this is more than 30m from the residence, at the most affected point within 30m of the residence.

Ambient background noise monitoring reported in the acoustic planning report (Renzo Tonin Consulting) prepared for the NSW Department of Planning & Infrastructure makes reference to 67 Tallawong Road and confirms Rated Background Levels of 35/35/25 (day/even/night). Referenced to INP assessment procedures, if the RBL is less than 30dBA, 30dBA is adopted for the purpose of establishing noise assessment criteria. Accordingly, for 67 Tallawong Road the noise assessment criteria for assessing intrusive noise from the RTRF in accordance with INP procedures are $L_{Aeq\ 15min}$ 40/40/35dBA (day/evening/night). In accordance with noise assessment procedures in NSW when an industrial development is proposed in an area that has existing residential development, it is the responsibility of the developer to satisfy noise criteria established in accordance with the INP.

Referring to the Department of Planning Indicative Layout Plan (ILP) for Riverstone East Precinct, 67 Tallawong Road is identified as 'local park' and 'sporting fields'. Land immediate to the east of the RTRF is zoned for low rise apartments. We have been advised that the proposed land rezoning to the north of the RTRF (local park/sporting fields) is to provide a noise buffer zoning for future residential development to the north.

SLR (2.10.1) states '*where possible, it is recommended that the area boarding the stabling facility to the north is rezoned for commercial or light industry use. This would provide a buffer (and noise shielding) between the stabling facility and residential uses*'. Reference to the RTRF Appendix C the land in the north-eastern corner shares a common boundary (*Figure 1*) with 67 Tallawong Road. The RTRF site layout (*Figure 1*) in the north eastern corner is shown with buildings identified as administration, training, workshops and stores. In our opinion the RTRF site layout incorporates the SLR recommendations. Further in our opinion the RTRF finished ground levels, onsite buildings would provide effective acoustic shielding and distance separation for existing and future residential development to the north, compared to the exposed land on the eastern side of Tallawong Road.

Approval for the RTRF was granted under Section 115ZB of the Environmental Planning and assessment Act 1979 dated 15 January 2014, Schedule C and Schedule F. refer to Noise and Vibration in sections C5, F1 and F2, as follows:

C5. *The Rapid Transit Rail Facility is a stationary facility and shall be designed and operated with the objective of meeting operational noise levels derived from the NSW Industrial Noise Policy (INP) (NSW Government, 2000).*

Specific consideration shall be given to the following matters:

- i) the limiting of truck movements during night time periods (10pm to 7am);*
- ii) the design of the sheds and equipment for the train wash and wheel lathe facilities would include noise mitigation as required in order to comply with the acceptable noise criteria at the nearest noise sensitive receivers;*
- iii) incorporation of silencers in the compressed air lines of the rolling stock to reduce noise associated with brake air release events; and*
- iv) investigate methods to minimise rolling stock auxiliary noise levels during procurement.*

- F1. Rail line components of the SSI shall be designed and operated with the objective of not exceeding the airborne and ground-borne noise trigger levels at existing development, at each stage of the SSI, as presented in the Rail Infrastructure Noise Guidelines (EPA, 2013).
- F2. Stationary components of the SSI shall be designed and operated with the objective of meeting operational noise levels derived from the NSW Industrial Noise Policy (EPA, 2000). Public announcement systems shall be designed and installed in accordance with best practice.

Operational noise levels shall be reviewed within two years of commencement of operations and at any subsequent time as required by the Director General. The review shall have regard to the status of land use planning, any land use changes and the background noise environment within areas adjacent to the fixed facilities at the time of the relevant review. The Proponent shall submit the results of the review to the Director General. Any proposed changes to the operational noise levels as a result of the review shall be included in a revised ONVR.

Referenced to the above Approval Conditions, it is our opinion that noise compliance is required to be satisfied for existing and future residential development, including 67 Tallawong Road.

Figure 1. Aerial Photomontages
(Ref: RTRF EIS Appendix C)



We now focus on Department of Planning Indicative Layout Plan proposal and two (2) reports prepared to support the RTRF, EIS and Riverstone East Precinct Land Rezoning.

- North West Rail Link Rapid Transit Rail Facility -Noise Assessment - SLR Consulting Australia Pty Ltd dated 20 June 2013.
- Riverstone East Precinct Noise and Odour Assessment - Renzo Tonin and Associates dated 24 March 2015

Further information relating to the RTRF is found on the Transport NSW web site at - Sydney Metro Northwest

To assist with understanding the RTRF proposal *Figure 2* provides an indicative site layout, *Figure 3* provides an aerial perspective view from the northwest.

Figure 2. RTRF Site Layout

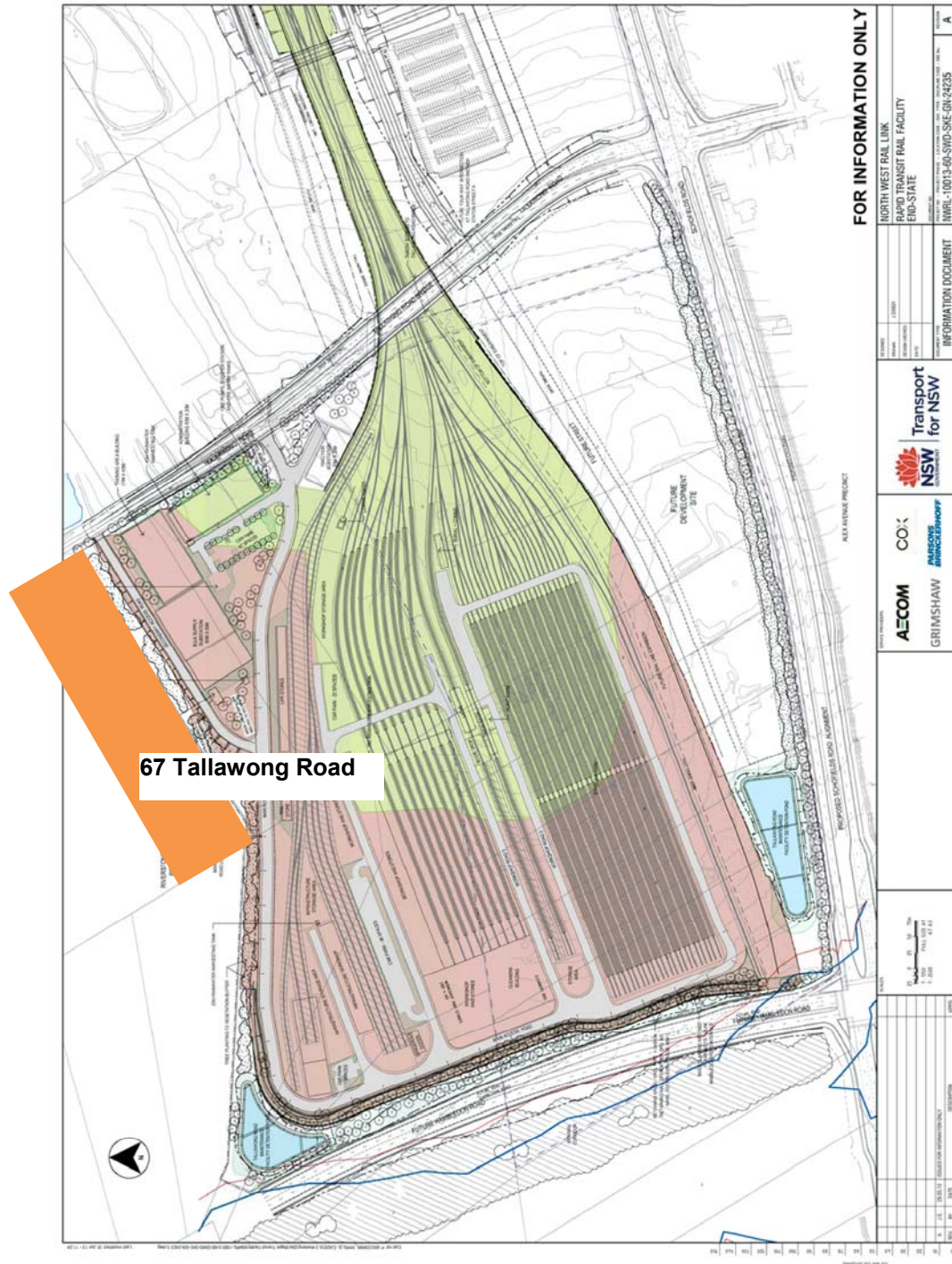


Figure 3. Aerial Photomontages
(Ref: RTRF EIS Appendix C)



SLR confirms that future land use surrounding the proposed RTRF was being determined at the time of preparing their report and recommended that immediate area boarding the RTRF is re-zoned for commercial or light industrial use. This would provide a buffer (and noise shielding) between the RTRF, residential or other sensitive land uses. In our opinion SLR has not addressed or assessed noise impacts from the RTRF for the existing residential properties or the acoustic benefit of the site layout with respect to finished site levels, Administration, Training and support buildings for existing and future land uses immediately to the north. SLR further recommends that the land north of the RTRF be rezoned for commercial/industrial uses. In our opinion the RTRF layout (*Figures 1 and 2*) provides commercial and light industrial buildings and distance separation between the site noise sources and 67 Tallawong Road.

SLR (2.10.2) Receiver Mitigation - Building Treatments refers to source and path controls being generally preferred for controlling noise, and confirms that some situations dictate that receiver controls are the most effective option. SLR further confirms that subject to land use decisions and detailed design, property treatments remain an option in particular at receivers to the east, as the layout of the RTRF means the path control options are not effective in this area. SLR further recommends that as development has not started in the area to the east, there may be scope to develop

internal subdivision designs that minimise noise impacts. As discussed above SLR has not addressed noise exposure for the existing residence at 67 Tallawong Road or as a result of the RTRF site layout, is more shielded in terms of noise exposure than land on the eastern side of Tallawong Road. In our opinion if the land to the east of the RTRF is acceptable for residential development, the land to the north including 67 Tallawong Road would also be suitable for residential use.

The State Environmental Planning Policy (Infrastructure) 2007 (SEPP) provisions apply to developments adjacent to rail infrastructure including rail infrastructure facilities (Clause 78). Clause 87 refers to noise sensitive development in or adjacent to rail infrastructure including residential buildings, places of public worship, hospitals, educational establishments and child care centres.

Where the development is for residential use and is located in or adjacent to a rail infrastructure, a consent authority must not grant consent unless it is satisfied that appropriate measures will be taken to ensure that the following L_{Aeq} internal levels are not exceeded:

- in any bedroom in the building –
35dB(A) at any time between 10.00 p.m. and 7.00 a.m.
- anywhere else in the building (other than a garage, kitchen, bathroom or hallway)
40dB(A) at any time.

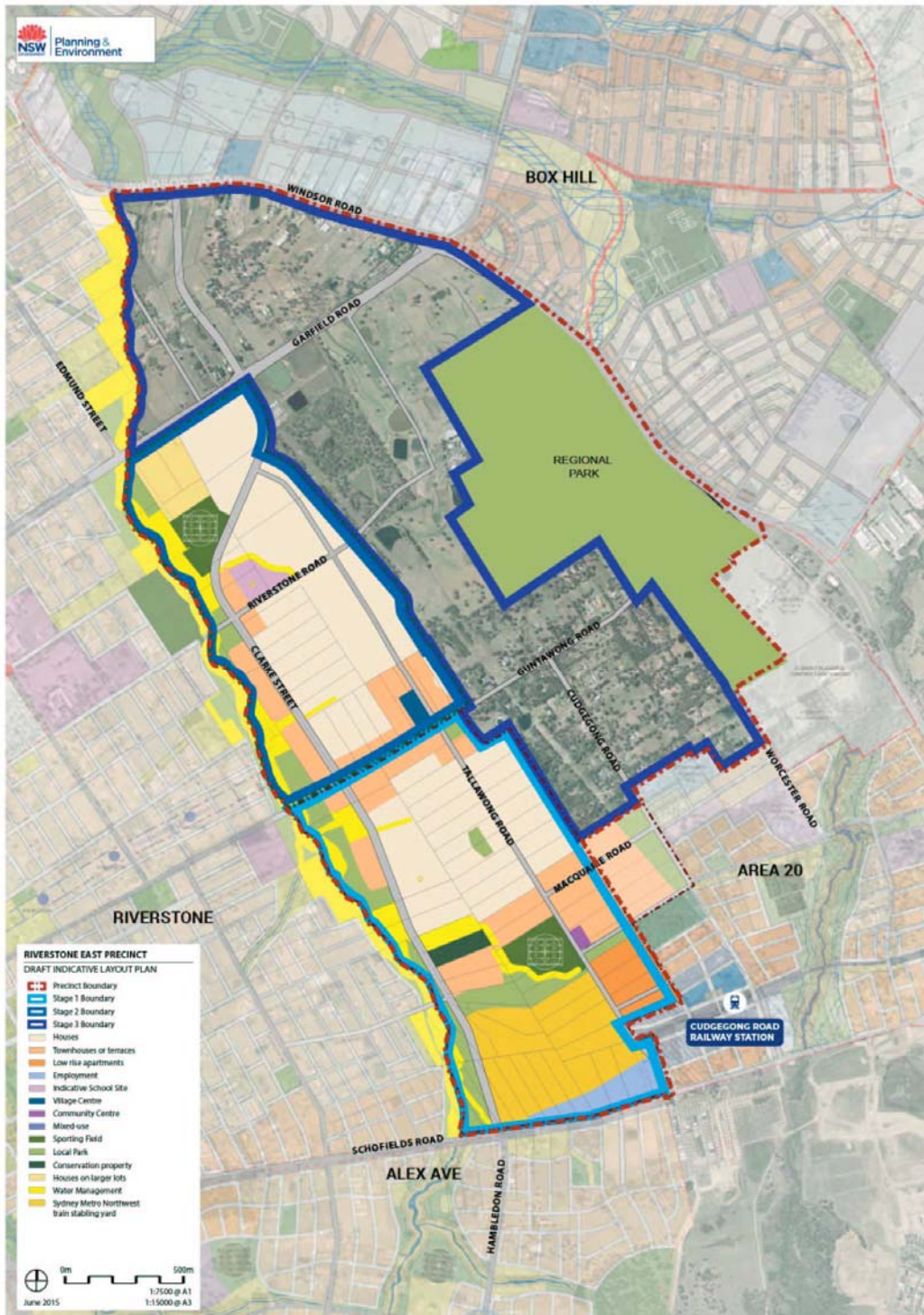
The SEPP noise requirements are commonly applied to new residential development adjacent to railway infrastructure and new infrastructure development exposed to existing residential development. Similar provisions are provided in the SEPP for noise sensitive development along road corridors.

The Renzo Tonin Report dated 24 March 2015 (Tonin) was prepared to address noise impacts referenced to an Indicative Layout Plan (ILP) for the Riverstone East Precinct. Tonin reports that the ILP was prepared with consideration of the potential noise impacts resulting from the proposed land use changes. *Figure 4* provides a copy of the ILP. Tonin (Section 1) reports that the aim of the noise assessment was to identify any potential constraints on future development resulting from existing land uses and surrounding the Precinct, as well as provide recommendations and controls for future development.

Tonin makes no reference to RTRF Approval Conditions (dated 15 January 2014) with respect to noise and vibration exposure for existing residential development and the consequences resulting from compliance with the Approval Conditions.

In our opinion Tonin has not addressed noise and vibration impacts from the RTRF and the North West Rail Line for existing residential development including 67 Tallawong Road.

Figure 4. Indicative Land Planning Map for Riverstone East



Tonin (Section 1) reports that the noise assessment was carried out in accordance with relevant NSW EPA policies and referenced standards including consideration of vibration. Tonin (Section 1) states that existing noise and vibration sources have been identified and assessed with regard to both existing and future land uses. In our opinion Tonin has not addressed or assessed noise impacts for the Ferlazzo property (67

Tallawong Road). Tonin (Section 1) reports that where relevant, guidance is provided with regard to necessary controls including buffer distances, physical mitigation measures or suitable adjacent land uses. In our opinion Tonin makes no reference to the RTRF Approval Conditions referenced to noise and vibration exposure for existing residential development to the north of the RTRF, including 67 Tallawong Road.

Tonin (Section 3) refers to the latest ILP (*Figure 4*) and reports that it has resulted in a reduction of potential land use conflicts, in particular through effective use of open space buffers and reduction of residential development interfacing with noise sources. In our opinion Tonin has not considered the RTRF Approval Conditions, noise and vibration emission from the RTRF and the North West Rail Line for existing residential development to the north of the RTRF, including 67 Tallawong Road.

Tonin (Section 3) reports that where conflicts cannot be overcome through reconfiguration of land uses, other noise mitigation measures may be considered during the detailed planning stages of the specific development, such as lot configuration, hours of operation and physical noise controls. With reference to physical noise controls it is assumed that these include compliance with the requirements of the Infrastructure SEPP Clause 87 (Tonin, Section 6.3).

With respect to the RTRF, Tonin presents a summary of findings and recommendations;

- zoning immediate surrounding the RTRF should consider less noise sensitive development such as commercial and light industrial zones; *The RTRF site layout incorporates this recommendation and land to the south of the RTRF is zoned as a business park;*
- land to the north and north-east does include residential development; *NSW DoP in part provides for residential development;*
- Conditions of Approval for the RTRF requires that all future land uses be considered in the assessment of operational noise from the fixed facilities; *Specific Noise Criteria is not referenced in Tonin or the specific residential land uses identified for its application. Condition C5 requires the RTRF to be designed and operated with the objective of meeting noise levels derived from the NSW Industrial Noise Policy. INP Section 6.1 requires 'all nearby receivers potentially affected by the development to be determined and clearly identified for noise impacts to be predicted adequately'. In my opinion SLR and Tonin have not addressed the INP reporting procedures and Tonin has not addressed the requirements of Condition C5.*
- Tonin recommends that consultation occur between the NSW DoP and NWRL consortium in order to establish the extent of noise emission from the RTRF following implementation of all reasonable and feasible mitigation measures; *This is open ended and of no assistance for Planning and future residential land developers.*

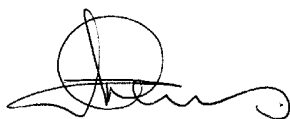
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- Tonin recommends that it may be appropriate to require residential development constructed in proximity to the RTRF to consider implementation of acoustic design measures so as to minimise potential adverse impacts. *If this recommendation is acceptable for other residential land uses, it would also be applicable for any residential development on 67 Tallawong Road.*

From our investigations and review of the ILP, if land zoned for residential use on the eastern side of Tallawong Road is more exposed to noise impacts from the RTRF than the property at 67 Tallawong Road, and noise at these properties can be managed to satisfy the Infrastructure SEPP noise requirements, residential development at 67 Tallawong Road could be conditioned to satisfy the same requirements and the land would not be required to provide an open 'noise buffer zone' for residential development to the north and would also be suitable for residential development. Further referenced to the RTRF Approval, the facility is a stationary facility and shall be designed and operated with the objective of meeting operational noise levels derived from the NSW Industrial Noise Policy (INP) (NSW Government, 2000). Compliance with this Condition in our opinion requires the noise from the RTRF to be assessed and satisfied at existing residential development, including the Ferlazzo property (67 Tallawong Road).

Please do not hesitate to contact our office if further information or clarification is required.

Yours sincerely,

ATKINS ACOUSTICS & ASSOCIATES PTY LTD.



Graham Atkins