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From: Paul King [<mailto:PaulK@mwaenviro.com.au>] **Sent:** Wednesday, November 23, 2016 3:53 PM **To:** Scott Payten **Subject:** Tringa Street, West Tweed - Aircraft Noise - Construction Costs Additions

Scott

Further to your request with respect to potential cost of acoustic upgrades to houses in the proposed development it is my experience with numerous subdivision within aircraft noise affected areas that additional costs of between \$10,000 and \$ 20,000 would be expected.

Under the current Building Code requirements, the thermal insulation requirements account, in part, for the acoustic requirements and thus the overall net cost is lower.

The above is based upon experience but would be assessed on a case by case basis depending upon house size, orientation, location and other factors.

Regards

Paul King
Senior Engineer

Max Winders & Associates Pty Ltd tas
MWA Environmental



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From: Paul King [<mailto:PaulK@mwaenviro.com.au>] **Sent:** Wednesday, November 23, 2016 3:32 PM **To:** Scott Payten **Subject:** Tringa Street, West Tweed - Airconditioning Running Costs

Scott

Further to your request I wish to provide the following to respond to the request from Council as to annual running costs of airconditioning on the basis that doors and windows are closed to exclude aircraft noise.

Firstly, the Gold Coast Airport operates under a night curfew 11pm to 6am.

In considering airconditioning requirements for a house it must be noted that on the basis of the construction materials/types to be used to achieve the necessary aircraft noise reductions the buildings will likely have a higher thermal efficiency than standard houses. This will assist in lessening the load on airconditioning/ventilation plant.

If we assume a house installs a 10kW cooling capacity airconditioner, this equates to around 3kW electrical load.

Adopting a cost per hour of \$0.25 per kWhr equates to \$0.75 per hour.

Allow an average annual usage of 9 hours per day in summer months equates to $9 \times \$0.75 = \$ 6.75$ per day.

Adopting that outside of summer, ventilation ie air supply, rather than cooling would be needed, assume at 30% capacity factor for 8 months.

The overall annual cost would be:

Summer 120 days x \$ 6.75 = \$ 810

Other months $240 \times \$ 6,75 \times 0.3 = \$ 486$

Total say \$ 1,200 per year power cost to run airconditioning for thermal and acoustic comfort.

However, many people install airconditioning as a matter of choice for thermal comfort so the extra costs to account for aircraft noise would not be \$ 1,200.

I expect the cost for airconditioner usage would be between \$ 500 and \$ 900 per annum to account for aircraft noise.

Note that people may only install mechanical ventilation ie fans and fresh air supply which would be far cheaper to run, rather than cooling function. Mechanical ventilation running costs are estimated at no more than \$ 300 per annum.

I trust the above assists.

Regards

Paul King
Senior Engineer

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23rd November 2016

The General Manager
Tweed Shire Council
PO Box 816
Murwillumbah NSW 2484

Attention: Louise Bennett

Dear Louise,

Re – Further Information – DA16/0355 – Lot 1 DP 77997633 – Tringa St, Tweed Heads West

Further to our discussion today in relation to the above development application, I thought it was worth adding some further information and highlighting information already provided.

As part of the application process we have done significant amount of analysis and work in relation to the cost of running, cost to construct and energy efficiency of the built form houses. This has been done from the perspective that affordability in the Tweed, as in all parts of the country, is a major issue. We have therefore been mindful that the development will deliver efficient and affordable housing product. We have spoken to many local agents about this and where demand lies in this market.

I have attached further specific information from Paul King of Max Winders and Associates in relation to both the running costs of a house in the location and the additional costs in relation to building a house in this location. Although the cost to construct the house is approximately \$10-\$20k more in this location the land value is reduced significantly more than this amount and thereby providing a more affordable new house and land package than comparable product. Both of these we think are reasonable and workable in the context of delivering affordable housing as part of this development.

If there is any further information you require or would like to receive please do not hesitate to contact me directly at the details below.

I look forward to working with you to achieve a positive outcome for the community on this project.

Regards



Mathew Morahan
Director
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