SECTION 4

Good afternoon. I'm Paula Bundell and I am giving you the lectures on Environmental Noise this term. Today we are going to look into the effects of noise on a planned housing estate in a particularly difficult part of the new Manchester Park area. This site is not as bad as some 1 have researched in the past. The Blacktown airport is closed from 6pm to 7am and this is a great advantage to the site. The only noise after dark

is from the highway and the traffic is somewhat reduced between 7.30pm and 5.30am. So, *Q31*
the people most affected by the noise will be, I expect, housewives. By the time most of the *Q32*
students and workers have arrived back home in the evening during the week the noise will have abated to a fairly large extent. The weekends are still a problem of course, but the traffic is certainly reduced on Saturdays to a large extent and even more so on Sundays. Of *Q33*
course modifications to houses will be necessary at a site like this and they come at a significant cost to the developer and home buyer. The modifications I am about to outline *Q34*
will add about $25,000 to the price of a newly-built house. That will still mean a cheaper house than in a less noisy and more desirable area. A bit of background would not go astray. I understand that you are all familiar with the proposed development site at Manchester Park. It's a particularly difficult one in terms of noise with the highway along the eastern perimeter and the Blacktown airport not 3 kilometres away to the north. Of course, those nearest the highway will be the worst hit, with heavy traffic noise as well as the noise from the light planes overhead. As you all know, the normal noise threshold for private housing is 55 decibels. At this site the levels have been recorded as high as 67 decibels. *Q35*

The construction of the houses has to be somewhat modified from houses in most areas. In the houses on the highway and in the noisiest areas of this site there will be a need for specialised double glazing and special acoustic seals will have to be fitted to the doors. All *Example*
exterior doors in this especially noisy pocket will have to be solid core wood doors with hinges. Every house built on this site, not just those adjacent to the highway or nearest to the airport, will require high density insulation materials in the roof. Not only will all the roofs need insulating, the exterior walls will be required to be double brick. All ceilings will *Q36*
require double thickness plaster board to be used in the construction. In the noisiest areas mechanical ventilation will have to be installed in the exterior walls. In those areas with sealed windows it will be necessary to fit fans with absorbers to cut out the noise in those particular houses. Air conditioning units could also be fitted in the ceilings of such houses *Q37*
but this is substantially more expensive than fans, and may not be needed on this site. Coming back now to the double glazing I mentioned before. Specialised double glazing requires a larger air gap between the inner and outer glass than normal double glazing. The gap must be at least 7 centimetres. The thickness of the glass is also a factor, 8 millimetres *Q3S*
on the outside and 6 on the inside pane. It is essential that the glass be thicker on the outside than on the inside and that the gap between the panes of glass be a minimum of 7 centimetres. Obviously, the noise factor will have to be taken into consideration with the layout of the houses. Living areas will have to be designed at the back of the houses away from the highway. Bedrooms and living rooms will have to be built towards the back, and *Q39*
for those houses closest to the highway two layers of plasterboard will be needed for the interior bedroom walls. Those rooms constructed at the front of the houses should be garages, laundries, kitchens, bathrooms and dining rooms. I have come to the conclusion *Q40*
that this development should go ahead, but with various acoustic modifications according to the position of the block in relation to the highway and intersection.