STEVE KING
CONSULTANT ARCHITECT
Appropriate design and alternative technologies for environmental control in buildings

4 December 2013

To whomever it may concern,

Re: DA.239/13: 144-154 Pacific Highway and 18 Berry Street North Sydney Assessment Report and Recommendation for JRPP 2013SYE061

I supply the attached comments with respect to issues of solar access, natural ventilation compliance, and general amenity and design quality of apartments.

The issues fall within my expertise, and were the subject of my advice and reports to the Applicant.

Yours sincerely,

Steve King
Attached: Comments

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SEPP 65 – Design Quality of Residential Flat Development

Principle 7 Amenity

Overall the amenity levels are poor, and taking into account the location and amenity of the area, the standard is less than desirable. The units in the lower floors in particular suffer from poor amenity, and are located where commercial uses would be more appropriate. It was noted that a large number of apartments in the Court approved plans were cross-over apartments that had north facing living areas and south facing bedrooms and reduced the number of single fronted south facing apartments and greatly improved solar access and cross ventilation. There are none of these apartments and the amenity of apartments in the proposal needs to be significantly improved.

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Comment:

1. The comments about poor amenity of the lower level units are simply not justified. At best, they reflect a naive equivalence of solar access plus cross ventilation with good amenity.
2. At the lowest levels, the DA scheme provides the following predominant unit types:
    a. South facing one bedroom units with a wide, two room frontage (Figure 1). These have superb daylight quality, and because of their design are likely to achieve very satisfactory natural ventilation performance;
    b. North facing studio units of an egg crate type (Figure 2), which because of their design will have superb amenity with well integrated private open space extending the effective living area. Equally importantly, placing these units in this particular location multiplies the number of such small units to extend the benefit to the greatest number of potential buyers/occupants;
    c. East facing studio and one bedroom units and one large two-bedroom,' triple fronted' unit making up the Pacific Highway façade (Figure 3 and Figure 4). In contrast to this advantageous use of the long East facing facade to provide six units of good amenity per floor, the Court approved scheme provides for two units with a lift shaft and lobby dominating the Highway facade.
3. Dispassionate examination of the general design of each of these types keeps to the conclusion that they are all at or above typical industry standard quality in space standards, and superior in detailed design. Certainly far from poor standard.
4. The Court approved scheme actually only has nine cross over units – far from a large number. They are all two-bedroom 'gunbarrel' apartments with single frontage on both North and South facades . While enjoying a similar solar access amenity as the much greater number of North facing studio apartments that they displace, the general daylight quality of these apartments would be poor. They also would produce a South facing egg crate of six stories of bedrooms, with individual balconies which would not produce the activated facade likely with the DA scheme. In my considered opinion a design with 18 bedrooms on Berry Street and 9 narrow living rooms facing Doohat Lane is difficult to justify in terms of design quality.

5. In short, the DA scheme could be said to provide a large number of apartments of significantly higher entity then the Court approved scheme, particularly at the lower levels of the building.

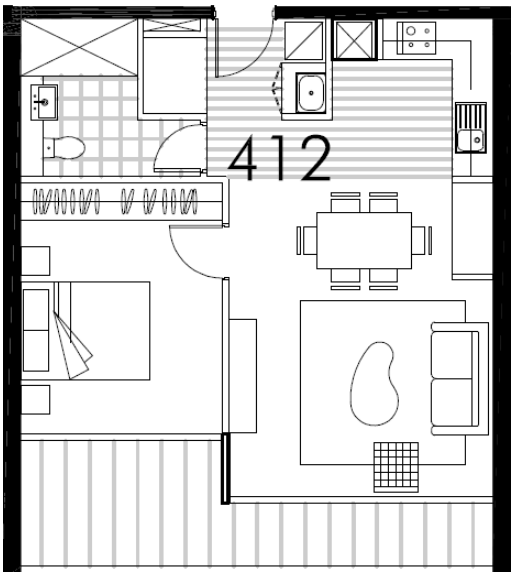

Figure 1: South facing one bedroom units with a wide, two room frontage

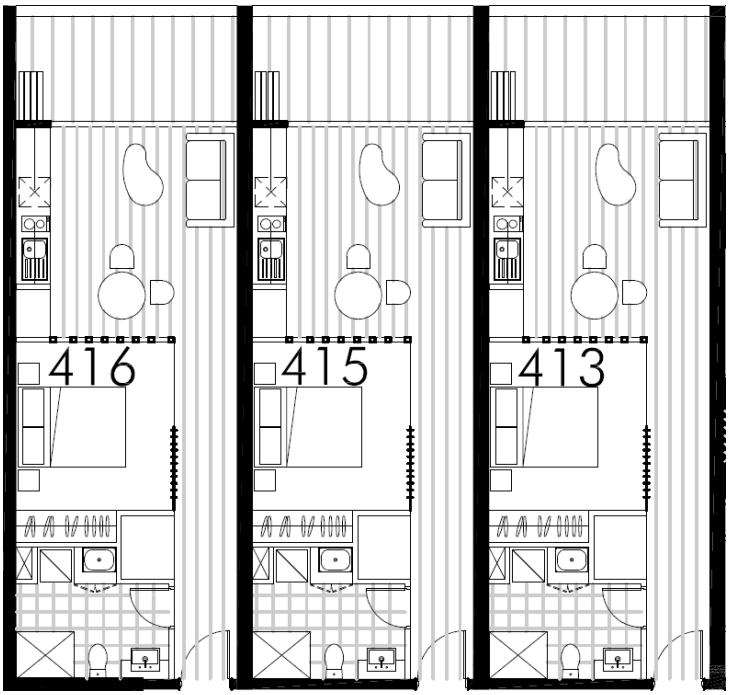

Figure 2: North facing studio units of an egg crate type

Figure 3: East facing studio and one bedroom units

Figure 4: large two-bedroom,' triple fronted' unit

Solar Access

> A redesign of the proposal to minimise the number of south facing apartments as was achieved with the design that the Court approved would vastly improve the solar access for the proposal.
> *(Page 42)*

Comment:

6. The comment is factually incorrect, and seriously misleading. A scrutiny of the comparison between typical floor levels of the Court approved scheme (Figure 5) and

the DA scheme (Figure 6) shows that the latter actually has less apartments with glazing and verandas on the south facade, and effectively provides approximately double the number of apartments on other facades with solar access potential.

7. The incorporation in the DA scheme of the property on the North provides for additional complying units on both East and West elevations.
8. The apparent drop in proportion of complying apartments is in fact an artefact of this seriously inefficient floor plan of the Court approved scheme yielding a lower overall number of apartments, and the Court's apparent acceptance of 'nominal' compliance figures for that scheme (not taking into account all of the overshadowing occurring on the lower portions of the East façade). In comparison the analysis quoted from a compliance report prepared by Steve King for the DA scheme scrupulously accounts for all overshadowing by other buildings, and self shading.

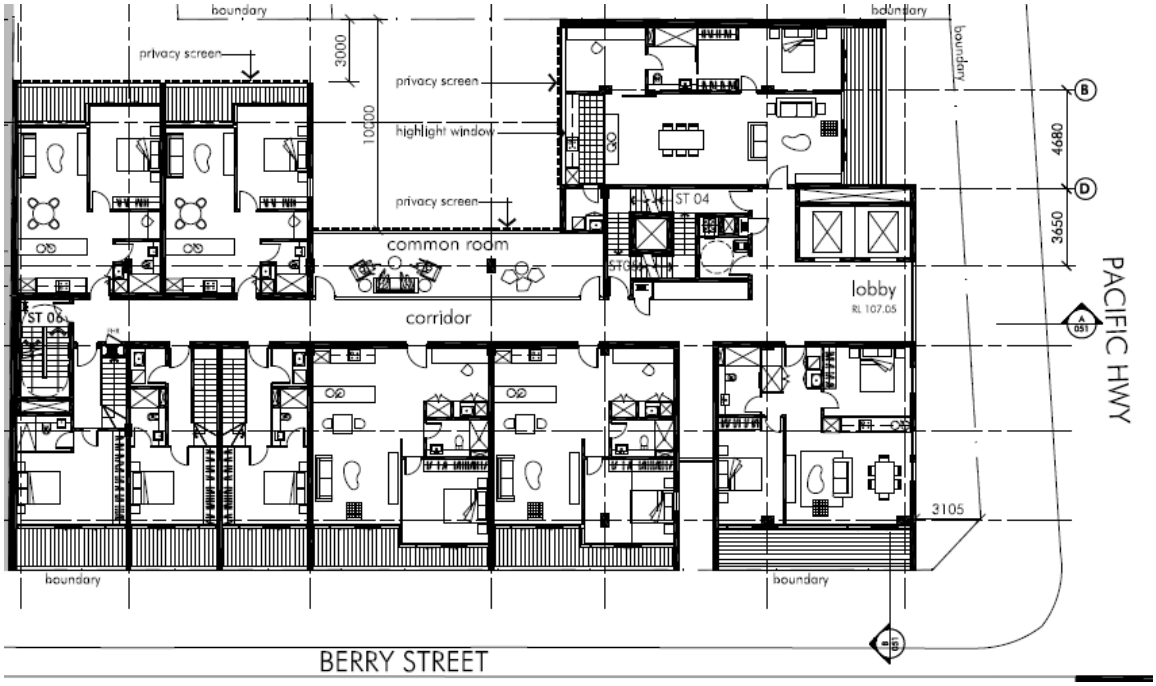

Figure 5: Court approved scheme Level 10

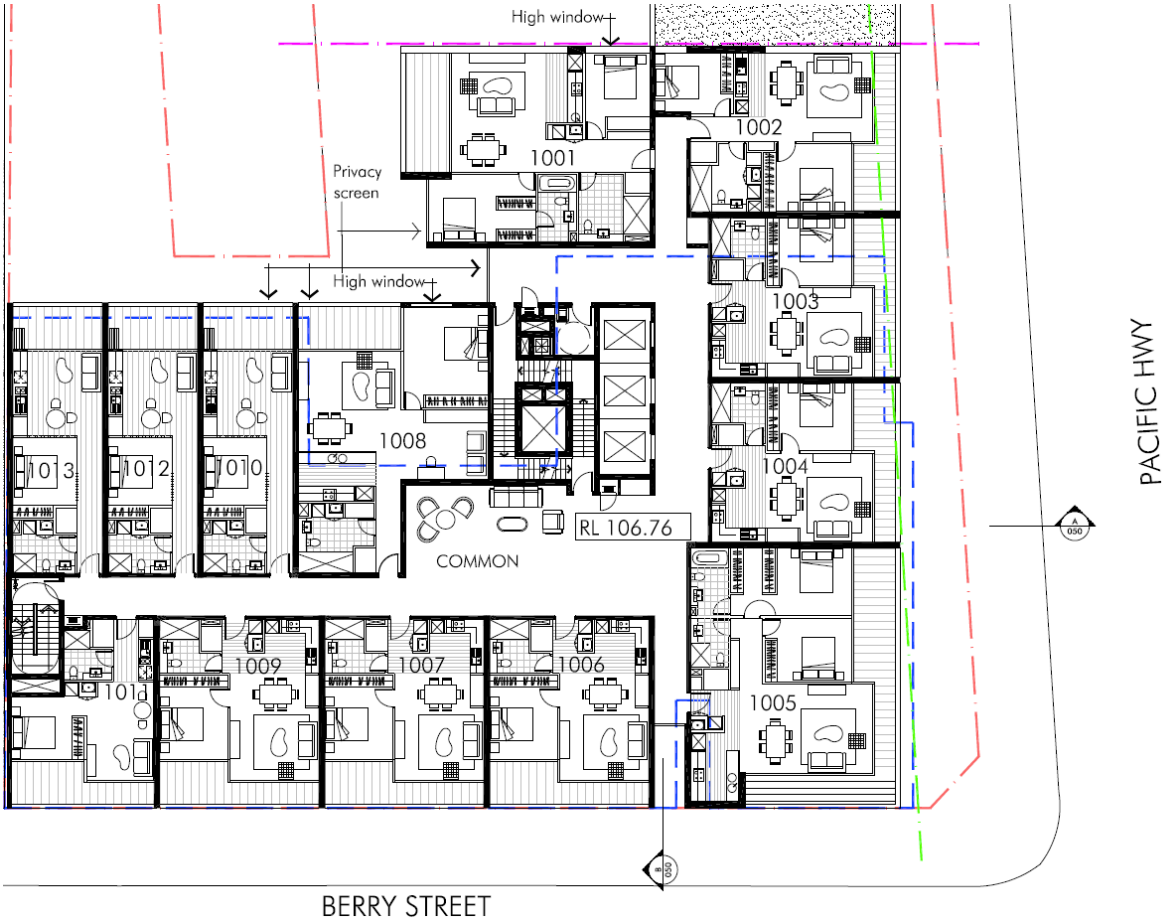

Figure 6: DA scheme Level 10

Ventilation

Natural ventilation compliance in this development is dominated by the proportion of apartments at higher floors where simple cross ventilation is not required to achieve the desired amenity. Simple cross ventilation by openings to two or more principal facades is extremely constrained at the lower storeys, by virtue of the double loaded planning, combined with the adjacent buildings built to zero lot lines.

Mr King considers 109 units (53.4%) comply with either elevated or simply cross ventilated AND a further 28 apartments (I3.7%) of units, being those higher than the podium (at Level 6 and above) as likely to exhibit enhanced single sided ventilation performance by virtue of suitable design, orientation to breezes and elevation in the building.

The proportion required by the RFDC is a minimum of 60%. There is doubt about acceptance of the 28 single sided apartments that require special design to be deemed as complying.

Once again, a redesign of the proposal to minimise the number of south facing single fronted small apartments as was achieved

with the design that the Court approved would vastly improve the cross ventilation for the proposal.
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Comment:

9. The DA scheme nominates 28 single aspect apartments on the East facade as likely to exhibit ventilation performance equivalent to cross ventilation. Council's business paper casts doubt on their likely performance with no specific technical reasoning, but gratuitously inferring that they are of 'special design'.
10. In fact the said apartments are of a suitable design to enhanced single sided ventilation more generally.
11. This double fronted design with appropriate facade relief is also repeated for the significant majority of the South and East facing apartments. The purpose is to also optimise natural ventilation performance of the 40% of apartments that would normally be accepted as not complying with the requirements for cross ventilation. A dispassionate assessment would conclude that this represents an unusual design effort applied to apartments that would normally be overlooked for the ventilation performance.

South facing apartments

The applicant is now proposing 22.3% being 44 out of 197 apartments. This is completely unacceptable. The number of south facing apartments should have remained the same number as the Court approval which would have resulted in a smaller overall percentage with the increase in density due to the amalgamation of No154 with the site.

The Court approved plans included nine x two bedroom cross over apartments. The Court design is far superior with regard to amenity of the apartments. The provision of 9 crossover apartments in the current proposal would result in the loss of about 8 to 9 small apartments and the apartment mix would also be improved with an increase in two bedroom apartments.
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Comment:

12. The unfavourable comparison of the Court approved scheme and the DA scheme rests on an artifice in the numbers game. The actual difference between the schemes is quite different.
13. Referring to the lower levels of the Berry Street facade, the Court approved scheme provides for a total of 27 units of which nine are North facing two-bedroom (albeit with 18 South facing bedrooms), six North facing one bedroom units and 12 South facing one bedroom units. In the same portion of the envelope, the DA scheme provides for a total of 48 units, of which 24 are North facing studio units and 24 are South facing one bedroom units.

14. On the upper floors above Level 11, the Court approved scheme provides for a single very large three-bedroom unit per floor on Berry Street, but which also has glazing to the West. In its place, the DA scheme provides a dual aspect two bedroom unit, but retains an additional South facing one bedroom unit per floor.
15. In brief, the DA scheme has more of single aspect South facing apartments on Berry Street, but in the same portion of the envelope it also has nine (9) more apartments which comply for solar access than does the Court approved scheme.

Apartment amenity and mix

The units in the lower floors in particular suffer from poor amenity, and are located where commercial uses would be more appropriate. It was noted that a large number of apartments in the Court approved plans were cross-over apartments that had north facing living areas and south facing bedrooms and reduced the number of single fronted south facing apartments and greatly improved solar access and cross ventilation. There are none of these apartments and the amenity of apartments in the proposal needs to be significantly improved. Trying to maximise the density within the building envelope has lead to non compliances with the basics of the RFDC (solar access, cross ventilation, minimise south facing units) and poor amenity. Council is confident that if the non compliances with the RFDC are addressed then apartment mix would not be an issue. Should the JRPP agree with the south facing apartments being kept to a minimum similar to that allowed by the Court, amended plans should be required prior to determination.
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Comment:

16. The apartments at the lower levels are of good design and reasonably good amenity.
17. There are not a large number of crossover of apartments in the Court approved plans, there are nine. They have a greater impact on the relative proportions of complying apartments because the total number of units in the development is so much lower.
18. Continuing to assert that the smaller apartments in the DA scheme are of poor amenity is misleading. On the whole, the one bedroom and studio apartments in the DA scheme are of exceptionally high quality, and of relatively good amenity.
19. Detailed consideration of thermal comfort and energy efficiency is the subject of BASIX assessment, and scrutiny under SEPP65 and the RFDC cannot go to controlling compliance on those grounds. Nevertheless, it should be considered that the likely lowest energy consumption dwellings on the site will be the compact studio and one bedroom units.
20. Natural ventilation performance in particular is not determined solely by nominal cross ventilation status. The design discipline fairly consistently applied on the whole in the DA scheme will assure or a relatively high level of general ventilation performance for amenity.