Australian Institute of Architects

ACT Chapter

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Submission to Environment and Planning Directorate ACT Government

DV 346 Residential Solar Access Provisions

SUBMISSION BY

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PURPOSE

- This submission is made by the ACT Chapter of the Australian Institute of Architects (Institute) to the ACT Government, Environment and Planning Directorate to provide comments on Draft Variation 346 Residential Solar Access Provisions

- Comments have been prepared with the assistance of the Act Chapter Sustainability Committee and the Planning Committee.

- At the time of this submission, the ACT Chapter President of the Institute is Rob Henry.

- The ACT Chapter Manager is Leanne Hardwicke.

INFORMATION

The institute is the peak body for the architectural profession in Australia. It is an independent, national member organisation with around 12,000 members across Australia and overseas.

The Institute works to improve our built environment by promoting quality, responsible, sustainable design.

The Institute exists to enhance the cultural, environmental and economic well-being of the community by:

- advancing contemporary practice and the professional capability of members, and
- advocating the value of architecture and architects

1. INTRODUCTION

The Institute supports the promotion of use of solar passive design to enhance the environmental performance of our buildings as part of the urgent need to address climate change.

The ACT Government has been addressing this matter with regard to residential development for a number of years, and the Institute has been active in liaising with and advising ACT Environment and Planning since 2009. In a submission to ACTPLA in that year, the Institute advised that the potential perverse outcomes of the solar access controls proposed are considerable, especially if applied to single detached developments of more than one storey in height.

These perverse outcomes included:

- Erosion of the streetscape character by distorted built form outcomes leading to the lack of definition of public places, including streets
- Reduction of potential development capacity in more intensely developed city areas
- Consequent reduction in capacity to provide dwellings close to public transport in walkable neighbourhoods that promote active healthy living (as illustrated in the Planning Instruments diagram)
- Consequent reduction in capacity to provide affordable housing
- Reduced open area for landscape or amenity due to the need to step the built form or restrict it to predominantly single storey
- Exacerbation of poor built form outcomes already generated by current setback guidelines
- Restriction of tree planting where deciduous trees could provide shade in summer, cooling of the urban area to reduce communal reliance on air conditioning, while allowing warmth in summer

ACTPLA has previously considered a number of these issues and as part of the Territory Plan Variation 306 in July 2013 that introduced the ‘solar fence’ concept. However, the Institute and other industry bodies immediately raised concerns about the impact and consequences of the proposed ‘solar fence’. A workshop and subsequent forums were held to consider and review the solar access on single residential blocks. Members of the Institute were active participants in this review process.

As a result of the review process, the Territory Plan Draft Variation 346 (DVP346) - Simplifying solar access, has been prepared by ACT Environment and Planning. It improves the application of the 'solar fence' and therefore is supported by the Institute.

2. MEETING THE OBJECTIVES

The forums mentioned above confirmed three primary objectives:

- Improve solar access to residential development
- Protect the solar amenity of neighbouring blocks in the future
- Encourage the design of houses and layout of new estates to achieve solar access

These are commented on in more detail below.

2.1 Improve solar access to residential development

The Institute supports the proposed changes in DVP 346 to the increased height of the 'solar fence' in both the primary building and rear zones.

Allowing for more flexibility to the design and the positioning of a house on a block will increase the opportunities for solar access to habitable rooms and north facing open spaces, on both the subject block and its southern neighbour.

2.2 Protect the solar amenity of neighbouring blocks in the future

The new glazing requirement is supported in principle as a means of maximizing solar access. However, the Institute queries how the minimum 4 sq. metre glazing requirement was determined; seeks clarification about if it must be applied to a single window or can it be achieved by the addition of a number of separate windows; and asks how the requirement will be regulated?

The Institute believes that the passive solar access benefits that are expected to be maintained within the amended 'solar fence' provisions may be neutralised by the application of current building tolerances, some exempt development components, and even the erection of Class 10 structures. For example, 340mm vertical and horizontal building tolerances, allowable by building regulations, can also impact significantly on solar access. Therefore, the Institute suggests that this simplification review be extended to consider the impact of these exemptions and the restriction of their use on properties where a 'solar fence' is applicable.

2.3 Encourage the design of houses and layout of new estates to achieve solar access.

The raising of the 'solar fence' will reduce the need to carry out costly excavation and earthworks, and allow a more flexible design approach to houses on sloping blocks. This improvement is very welcome, as more problematic topography is expected for future estates, such as in the Molonglo district. It is expected that this will also ease restrictive cost pressures on projects in established areas.

Solar access is important, but like all good planning outcomes it needs to have some level of balance with other planning principles. This is particularly relevant to denser urban forms. To achieve these qualities may require a departure from other rules.

The Institute has observed that since the introduction of the 'solar fence', new estate layouts have changed to include more blocks with north-south longitudinal axis, rather than east-west axis. An east-west axis brings into play the 'solar fence' on the long north and south boundaries, while a north-south axis faces either the narrow frontage or rear boundary of the block to the north.

The concern for the Institute is that half of the resulting houses on these blocks have their street frontage to the north. Within the usual width of these blocks, in the order of 12 metres, a significant part of the house plan loses northern orientation and beneficial solar access by the incorporation of non-habitable uses, such as double garages and entry porches that are expected to be readily accessible from the street.

Therefore, the Institute recommends that a review of the specific requirements of the Estate Development Code be carried out to address this unintended consequence resulting from the impact of the 'solar fence' in new estates.

3. CONCLUSION AND RECOMMENDATIONS

Sustainability is an evolving movement that needs iterative attempts to develop solutions to counteract foreseen problems. All proposals need to be properly implemented to create practical improvements to Canberra's level of sustainability.

Importantly, the issue of solar access should be considered as one of many tools for improving the sustainability of the city and the Institute remains clearly of the opinion that criteria should be performance based on the environmental outcomes, which can allow varied responses to suit the many varied local contexts.

Nevertheless, the Institute recognises and welcomes the improvements made to the 'solar fence' rules as contained in the Territory Plan Draft Variation 346 (DVP346) - Simplifying solar access. The Institutes supports its prompt application, along with the implementation of concurrent reviews into the application of exempting regulations and the Estate Development Code, as discussed above.

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