

Design and Consultations

Design Philosophy

- 3.1 DHA advised in its submission that a team of consultants was hired covering architecture, urban design, civil engineering and landscape architecture. The design team recommended the following design concepts¹:
- mix of courtyard houses, townhouses and detached houses. All to incorporate a double garage and a paved, covered pergola area;
 - designs to take advantage of the site's characteristics;
 - each house to have a distinctive character and sympathetic with existing houses in the immediate vicinity;
 - houses will be slab on ground, with brick veneer or cavity brick walls and tiled roofs;
 - design will be based on passive solar principles;
 - layout will take into account issues such as privacy, views, breezes, shading, building materials and landscaping design;
 - houses will be provided with covered entrance-way to improve streetscape appearance and provide amenity for residents;
 - all houses will include approximately 18 square metres of undercover outdoor living area; and

1 Submissions, p. 8.

- the design to encourage interaction and passive recreation through an appropriate central communal space.²

Zoning Approval

- 3.2 RMC Duntroon is described in the National Capital Plan as a 'Designated Area'. It is therefore subject to the control of the National Capital Authority (NCA) under the provisions of the *Australian Capital Territory (Planning and Land Management) Act 1988*.
- 3.3 DHA advised that the construction site comes within the area designated as a 'Residential Land Use Precinct on the RMC Duntroon Master Plan'. As such, DHA is required to submit the final working drawings and seek the written approval of the NCA prior to the commencement of the project.³
- 3.4 At the public hearing, Mr Lyon conformed that the plans had been discussed with the NCA and he understood that the plans had their support.⁴
- 3.5 In a submission to the Committee, the NCA described RMC Duntroon as 'National Land and forms part of the Central National Area – a Designated Area as set out in the National Capital Plan'. The NCA further advised that all works within a Designated Area require NCA approval under the legislation mentioned above. The NCA confirmed that DHA had submitted 'Sketch Plans' for the proposed development for NCA approval and that DHA was advised of the NCA's 'support in principle' for the proposal in February 2001.⁵

Energy Management

- 3.6 DHA noted in its submission that all houses would be constructed in such a way as to provide optimal passive solar performance. They would achieve a minimum four-star energy rating in accordance with government policy. In addition, the layout of the houses would take into account breezes and shading.

2 Submissions, pp. 10-11.

3 Submissions, p. 9.

4 Evidence, p. 2.

5 Submissions, pp. 39-40.

- 3.7 The Committee asked DHA to comment about passive solar principles they had adopted in the construction of the houses.
- 3.8 Mr Ross Cruttenden replied that the passive solar concept related to the orientation of the dwelling towards the northern quadrants. Mr Cruttenden, also advised that the use of deciduous trees would allow the sun in during the winter months and protect the houses from the summer heat in the living spaces. With regard the less important parts of the house, such as the laundries and the bathrooms, the southern boundaries and reduced window sizes to the south and west take advantage of passive solar factors.
- 3.9 The Committee asked DHA to comment about the use of solar energy panels for the purpose of power generation and whether a proposal had been put to the quantity surveyor for the purpose of determining its cost-effectiveness.
- 3.10 Mr Cruttenden replied that discussions have taken place with the architect on the question of energy management, and it was planned to undertake a detailed environmental analysis.⁶
- 3.11 The Committee asked whether they have discussed energy management with the Australian Greenhouse Office (AGO) and whether they were subject to any of their requirements.
- 3.12 Mr Bear replied that DHA would be complying on a voluntary basis to energy rate the houses, all of which would have an energy rating of four. Mr Bear also confirmed that a cost-effectiveness study of using solar energy in Canberra had not been undertaken. Mr Lyon added that it was not a community standard in Canberra to be dependent on solar heating, although some people have made that investment.⁷
- 3.13 In a subsequent reply, DHA advised that at the present stage of the solar energy technology, a typical photovoltaic cell cluster of around 8 square metres would cost the developer approximately \$14 000 net (after deducting the present AGO rebate).⁸ The savings to the tenant would be less than \$150 per annum. DHA further observed that apart from any aesthetic and maintenance considerations, the replace costs would be over a lengthy payback period and therefore not a viable commercial investment.⁹

6 Evidence, p. 10.

7 Evidence, p. 11.

8 Photovoltaic Cells is the technical term for the small (approx. 100mm x100mm) cells that are linked together into larger solar collection panels (eg as seen on the solar challenge cars) that generate electricity from solar rays. A physical example is the green power grid located on Yass Road in Queanbeyan, New South Wales.

9 Submissions, p. 85.

- 3.14 The Committee reminded DHA that the Government had announced a policy on greenhouse gases and established the AGO and asked whether DHA would be making a commitment to the aims of the AGO in order to ensure the project was energy efficient.
- 3.15 Mr Bear replied that discussions had taken place with the AGO and DHA would be complying with the requirement for energy rating.¹⁰
- 3.16 The Committee understands that an initial outlay of capital for the purpose of installing solar energy technology is expensive. The Committee is not convinced that the initial capital cost is prohibitive, particularly as the installation of various forms of heating and cooling systems currently on the market, plus their ongoing energy consumption costs, is unlikely to be an appreciably cheaper alternative.
- 3.17 More importantly, the Committee is of the view that dwellings constructed by Commonwealth departments and agencies should lead the way in effecting change in how energy is managed and consumption minimised in the community, in order to comply with Australia's commitment to greenhouse emissions. In future works proposals submitted for consideration, the Committee expects that agencies would provide a detailed comparative cost analysis between the various forms of energy management for the proposed development. The comparative cost analysis should be both qualitative and quantitative in nature.

Recommendation 2

- 3.18 **The Committee recommends that future housing and other building development proposals submitted by the Defence Housing Authority and other Commonwealth departments and agencies provide a detailed comparative cost analysis between the various forms of energy management, including solar energy. The comparative cost analysis should be both qualitative and quantitative in its analysis.**

10 Evidence, p. 11.

Recommendation 3

- 3.19 **The Committee recommends that the Defence Housing Authority and other Commonwealth departments and agencies that submit works proposals to the Committee for consideration ensure that consultations have taken place with the Australian Greenhouse Office about the most appropriate and effective methods of minimising energy consumption in their development proposal for the purpose of meeting Australia's commitment to Greenhouse emissions.**

Environmental Issues

- 3.20 According to DHA's submission, the proposed works' site is dominated by large canopied trees both native and exotic species. The proposed redevelopment would give priority to retaining approximately 90% of existing trees.¹¹
- 3.21 The Committee questioned the appropriateness of planting exotic species in the Australian environment. The Committee pointed out that the trees selected for landscaping, include Chinese elms and oaks. These species could do serious damage to pavements and foundations. In addition, their leaves in autumn and winter could block gutters.
- 3.22 Mr Bear replied that the new trees would involve root control processes. He also noted that the new trees would be sympathetic to the area.¹²
- 3.23 Brigadier McNarn added that the type of trees that can be planted within the heritage precinct was controlled. Brigadier McNarn also stated that given Canberra's altitude, a variety of native trees do not grow well and are known to kill the under growth. Brigadier McNarn indicated that in some areas, limbs off native trees have damaged property.¹³
- 3.24 In subsequent information to the Committee about problems with tree roots, Mr Bear advised that 'Tree root barriers are commonly used with street tree planting to prevent tree root systems from cracking and lifting [the] pavement.'¹⁴

11 Submissions, p. 7.

12 Evidence, p. 8.

13 Evidence, pp. 8-9.

14 Submissions, p. 85.

Issues raised by Environment Australia

- 3.25 Environment Australia informed the Committee that on the information provided in DHA's submission there were no major environmental impacts associated with the proposal.
- 3.26 Environment Australia also advised that should DHA consider the proposal likely to have a significant impact on a matter protected under the *Environment Protection and Biodiversity Conservation Act 1999*, it should refer the proposal to the Minister for the Environment and Heritage.¹⁵
- 3.27 The Committee expects that DHA would adhere to the conditions provided by the Environment Protection Act and ensure that an environmental impact study is conducted and any areas that pose significant environmental impact referred to the Minister.

Heritage Considerations

- 3.28 DHA advised in their original submission that the residential precinct did not have heritage significance. However, individual houses that have architectural and / or historical merit were already listed and would not be affected by the proposed development. DHA was of the view that the new dwellings would compliment the heritage value of the heritage buildings.¹⁶

Issues Raised by the Australian Heritage Commission

- 3.29 The Australian Heritage Commission (AHC) noted that the following heritage buildings located within the RMC Duntroon Conservation are entered on the Register of the National Estate:
- Duntroon House and Garden;
 - Gwynn House;
 - Sinclair-MacLagan House;
 - Barnard House; and
 - Hosking House.

15 Submissions, pp. 27-28.

16 Submissions, p. 7.

- 3.30 The AHC noted that a Conservation Plan prepared for 13 heritage-listed residences at Duntroon in 2000 included a conservation policy on design guidelines for new buildings proposed in the vicinity of these residences.
- 3.31 The AHC also advised that Section 11.5 of the *Royal Military College Duntroon – The Master Plan Report* prepared in 1992 by Australian Construction Services (Master Plan) recommended caution be exercised in relation to archaeological remains when new works are being undertaken. The AHC has recommended the establishment of a monitoring process during trenching or excavation.
- 3.32 In addition, the AHC recommended that work should cease on the site should archaeological material be located during construction and the AHC advised. A management process should be development in consultation with the ACT Heritage Unit and the representatives of relevant Indigenous people and that they be advised of any Indigenous artefacts located on the works site.
- 3.33 The AHC indicated that it would be satisfied that the national estate values of RMC Duntroon would be adequately considered and protected if the following conditions are applied:
- the AHC is provided with final design drawings for comment prior to any works being commenced;
 - all sub-surface works to be monitored by an archaeologist; and
 - the AHC, the ACT Heritage Unit and relevant representatives of the Indigenous people to be consulted in the event that Indigenous or historic artefacts are located.¹⁷
- 3.34 In a reply to issues raised by the Australian Heritage Commission, DHA emphasised that it was satisfied that the national estate values of the RMC Duntroon site ‘would be adequately considered and protected during the course of the proposed works.’ DHA confirmed their acceptance of the conditions proposed by the AHC.¹⁸
- 3.35 At the public hearing, Mr Bear advised that DHA had no problems fulfilling the recommendations of the AHC and noted that the architect would be talking to the AHC before the house designs are finalised.¹⁹

17 Submissions, pp. 23-24.

18 Submissions, p. 29.

19 Evidence, p. 19.

Recommendation 4

3.36 **The Committee recommends the following heritage matters be addressed by the Defence Housing Authority before commencing work on the proposed development:**

- **close consultation with the Australian Heritage Commission, particularly in relation to final design drawings prior to the commencement of the project;**
- **the establishment of a monitoring process during trenching or excavation;**
- **all sub-surface works to be monitored by an archaeologist; and**
- **consultations with the Australian Heritage Commission, the Australian Capital Territory Heritage Unit and representatives of the Indigenous people in relation to Indigenous and historic artefacts located on the site.**

External Consultations

3.37 The DHA's submission noted that advice from the NCA indicated that there was no requirement for community consultations prior to work commencing on the project. DHA noted that organisations that have either been 'contacted and/or consulted' have not raised 'additional issues'. The organisations were:

- the NCA;
- the following areas in the ACT Department of Urban Services:
 - ⇒ Planning and Land Management;
 - ⇒ ACT Roads and Stormwater;
 - ⇒ ACT Bureau of Sport & Recreation;
 - ⇒ ACT Integrated Omnibus Network (ACTION); and
 - ⇒ Environment ACT.
- ACT Department of Treasury and Infrastructure;
- the following areas in Actew AGL:
 - ⇒ Water Division;
 - ⇒ Gas Division; and
 - ⇒ Electricity Division; and

- Telstra Operations.²⁰

Internal Consultations

- 3.38 DHA advised that the community of Duntroon residents had been consulted extensively in developing the general design requirements, plans and amenities. In addition, consultations have taken place with the Defence and the National Consultative Group of Services Families.²¹
- 3.39 At the public hearing, Brigadier McNarn added that a series of surveys had been undertaken in order to determine people's preferences. Brigadier McNarn noted that the architect discussed the design with a range of spouses both male and female representing various ranks and family structures, and their responses were positive.²²
- 3.40 In a submission to the Committee from the National Delegate of the National Consultative Group of Service Families Mrs Catherine Trotter, made the following points in support of on base living:
- it allows military personnel to live close to their work, thereby minimising travelling time and increasing family time;
 - it provides a safer and more secure environment for both adults and children;
 - it offers immediate access to recreational facilities; and
 - it develops and supports the 'service ethic'.²³
- 3.41 At the public hearing, Mrs Trotter advised that the National Consultative Group of service Families was formed in 1987. It works with the Minister and the Chief of Defence Force to address areas of concern to Australian Defence Force families. It receives funds from Defence but is operated by volunteer Defence Force spouses across Australia.
- 3.42 The Committee asked Mrs Trotter whether the views she expressed in her submission received the support of other service families.
- 3.43 Mrs Trotter replied that she had developed a close relationship with many of the spouses who live at RMC Duntroon and those who would like to live there. It was her perception that they share her views about the benefits of living on base.

20 Submissions, pp. 11-12.

21 Submissions, p. 12.

22 Evidence, p. 16.

23 Submissions, pp. 36-37.

- 3.44 The Committee asked Mrs Trotter why living on base in Canberra was so popular given Canberra's size and its proximity to various facilities.
- 3.45 Mrs Trotter supported the benefits of on base living as listed in her submission. She advised, however, that at present some families have complained about sub-standard housing because they were badly heated for a Canberra winter.
- 3.46 The Committee questioned the level of security at RMC Duntroon given it is open for members of the public to drive through. Mrs Trotter replied that because the residents are all Australian Defence Force members, a secure network has been formed.
- 3.47 Mrs Trotter also advised that spouses had been invited to discuss the style of housing in which they would like to live. She noted that nine out of ten families would indicate a preference for either RMC Duntroon or the inner city.²⁴

24 Evidence, pp. 20-23.