



FOUR LEGS // FOUR WALLS

DESIGN GUIDELINES

A comprehensive guide to housing design with pets in mind



HARLOCK JACKSON PTY LTD



About PIAS

The Petcare Information and Advisory Service Australia Pty Ltd (PIAS) was established in 1966 as an autonomous, non-commercial organisation committed to promoting socially responsible pet ownership. Funding is provided by MARS Petcare as a community service and PIAS has as its charter:

- + To educate owners on the responsibilities of pet ownership.
- + To undertake original research on the relationship between humans and companion animals.
- + To ensure accurate and reliable information on pet related issues is available to all interested parties.
- + To encourage pet ownership in balance with society's needs, and to help owners enjoy their pets.
- + To provide information on and encourage the correct care of pets.

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Photo References

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p.31 : (Inset of Benjamin the cat perched on ledge) Photo courtesy of Burbank Homes
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p.39 : (Inset of Jock the Golden Retriever in doorway) Photo courtesy of Henley Properties Group

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foreword

Four Legs Four Walls is an innovative and progressive publication that supports and recognises the important role that pets play in our lives, and more importantly, the role they will play into our future. It provides well thought through and sensible planning measures, based on meaningful research and expertise.

Culturally, Australians are coming to terms with the move away from the quarter acre block with the Hills Hoist and the dog tearing around the backyard. The trend towards high density living is one that changes our perception of the way pets are integrated into our lives.

We are moving towards a more “European” model where our animal companions are cared for and managed responsibly inside multi-story buildings or townhouses located in the centre of vibrant and populated cities. We are following other trends seen in North America and Europe where transport, hotels and cafes are becoming more dog friendly in this country, at last. Our society is fast changing in this direction and it is critical that we embrace these trends proactively at a government and planning level. This handbook is just what we need!

Many times I have seen how critical the social support of a dog or a cat is to people. I have witnessed this as a veterinarian, I have dealt with it as a volunteer telephone crisis counsellor and I have seen it in some of the social programs with which I have been involved. Pets can not only save people's lives but they make them enjoyable by the companionship and support they give. They provide quality of life to people; we need to plan to provide quality of life to them. We need to be creative and not think that because the density of housing is high pets shouldn't be there. There are smart solutions and this handbook provides them.

In recent times we have become very skilled with the way we utilise living space, while recognising the value pets provide to people's lives. Importantly we are so much more aware of our companion animals' welfare and needs. We owe it to them to think smart and cleverly plan how we integrate them into our living. Governments have responded with many pet friendly initiatives recognising the benefit to our citizens of such steps.

Four Legs Four Walls will assure future success by helping pets and people live in harmony to their mutual benefit and that of the community at large.

Dr. Mark Lawrie

Australian Veterinary Association // National President // 2008 – 2010



foreword

The Planning Institute of Australia believes that homes of the future should be designed to support the well-being of families and individuals and importantly, designed to enhance a sense of community.

Whether the 'four walls' are those of a separate dwelling or an apartment or townhouse, homes should be designed to be sustainable and to support a variety of lifestyles. We design to reduce carbon, to provide privacy, to maximise sunlight and security and to build healthy places. Yet while we know how important pets are to so many people, we haven't always thought about how to incorporate their needs into our home designs.

This excellent publication tells us why we should think about this again!

Australia has some of the highest rates of pet ownership in the world. 63% of Australian households own pets (ACAC, 2006) with more than half owning either a cat or dog. Not all these owners live in a traditional single dwelling with a big back yard.

Australian households are undergoing many changes including a significant rise in single person households, and those without children. It is no wonder that pet companionship is becoming all the more important in many people's lives. Yet smaller homes and apartments, with or without back yards mean that less space is available for pets.

The community is demanding responsible pet ownership – including prevention of nuisance and providing pets with a safe and comfortable environment that is appropriate to their welfare.

PIA commends this publication to building designers and architects, and to the home building industry. It shows how small changes and thoughtful design can assist people to be responsible pet owners, and can make a huge difference to the amenity of our homes for future pet ownership.

Neil Savery

Planning Institute of Australia // National President // 2008 – current

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01 //

introduction



In 2006, 63% of Australia's 7.5 million households owned pets. Almost 16% of Australia's 37.1 million pets in 2007 were cats or dogs, in addition to approximately 20 million fish and 7.8 million birds (Australian Companion Animal Council, 2009). These are some of the highest rates of pet ownership in the world (RSPCA, 2008).

However pet ownership in Australia may be under threat. Changing lifestyles and housing type along with increasing community expectations about pet ownership are making it harder to own pets.

These Guidelines have been prepared to assist people to understand the role that design of the home environment can play in people's ability to own pets. They build on earlier work (Jackson, 1995, Jackson 1998).



What's different from earlier editions?

Earlier Guidelines were based on principles, which we now understand were an over-simplification of complex animal behaviour phenomena. These principles have been revised and are contained at Section 4.

A second key difference is a broadened focus. Earlier versions of the Guidelines took “successful pet ownership” to mean an absence of “trouble” (excessive barking, wandering at large and attacks on humans and other animals). Although this is important, we are now just as interested in the welfare of the dog or cat and how well a pet fits into the family unit.

The final difference is that the Guidelines pay more attention to designing homes with cats in mind. Earlier versions were more focused on dogs because dogs are generally bigger, noisier and have more potential for nuisance than cats. Cats were thought to be adaptable to just about any environment. This is true in part but our broadened interest in pet welfare, particularly of indoor cats, means the Guidelines now pay as much attention to the home environment of both dogs and cats.



Aims

The aims of the Guidelines are:

- + To identify aspects of housing design (including outdoor spaces) that might:
 - + promote pet welfare;
 - + reduce the incidence of unwanted pet behaviours;
 - + reduce the impact of unwanted behaviours that do occur; and
 - + help to integrate pets into a household in accordance with that household's particular needs.
- + To provide practical guidance on how design can be used to promote successful pet ownership.

Scope

The Guidelines apply to the design and development of new dwellings (apartments, town houses and houses on small or conventional sized lots) as well as to extensions and alterations to existing housing. In most cases we are talking about housing in cities, although the principles and guidelines are applicable to keeping pets in all residential environments.

In these Guidelines, pets are defined as owned dogs and cats.

Intended audience

The Guidelines have been prepared with a number of audiences in mind.

At one level, it is hoped that the Guidelines will encourage everyone to think about pets in decisions about residential development. This includes home owners, veterinarians, architects and developers as well as Councils and other authorities who approve housing and subdivision plans, develop housing strategies and who are interested in encouraging design that reflects the diverse housing needs of the population.

At another level, it is hoped that it will be used by local authorities as part of their approach to managing domestic pet ownership. Design is one way to encourage people to be socially responsible pet owners.

Structure of the Guidelines

Section // 02

looks at why we should consider pets in the design of new housing. In summary, the reasons include:

- + Socially responsible pet ownership
- + Higher urban densities
- + Benefits of pet ownership
- + Popularity of pet ownership
- + Keeping pets in environmentally sensitive areas

Section // 03

looks at the changing nature of housing in Australia. It identifies three broad housing trends that are having an impact on the ability of people to own pets. These include:

- + Smaller blocks, larger homes
- + Small lot housing
- + Multi-unit housing



Section // 04

explains the six principles on which designing with pets in mind should be based. These principles include:

- + Maximise the space available for pets
- + Ideally, provide pets with some outdoor space
- + Confinement of pets
- + A safe and comfortable environment for pets
- + Environmental enrichment
- + Noise Protection

Sections // 05 - 08

These sections look at the practical application of these principles in key areas of housing design including:

- + Dwelling entry and interior
- + Outdoor space
- + Car parking
- + Precinct design and planning





02 //

why consider pets in housing design?





To some people, it is almost inane to think about designing homes with pets in mind. This thinking needs to change. If it doesn't, pet ownership as we know it could become a marginalised activity enjoyed by a select few. The following discussion explains why.

Socially responsible pet ownership

The community has higher expectations than ever before about the way pet owners manage their pets. Owners need to comply with a range of controls and requirements including confining their dog (and in some cases their cat) to the home property and ensuring the dog or cat does not create a nuisance or attack humans, other animals or wildlife.

Pet owners also need to provide their pets with a home environment that achieves a satisfactory as well as a suitable level of welfare.

Housing design has the potential to help people enjoy their pet more and avoid unwanted behaviours.



Higher urban densities

All Australian governments are seeking to achieve higher urban densities. The reasons for this include improving housing affordability, reducing the cost of servicing low density suburbs, containing journey lengths and times, promoting walkability and use of public transport, better matching of housing with changing household type and protecting valued farming land.

Higher housing densities mean less space for everyone including pets. In these circumstances, the need for pet friendly housing has become a design imperative rather than a general notion that designing with pets in mind is a good idea.

Benefits of pet ownership

There is extensive evidence that demonstrates the benefits of pet ownership.

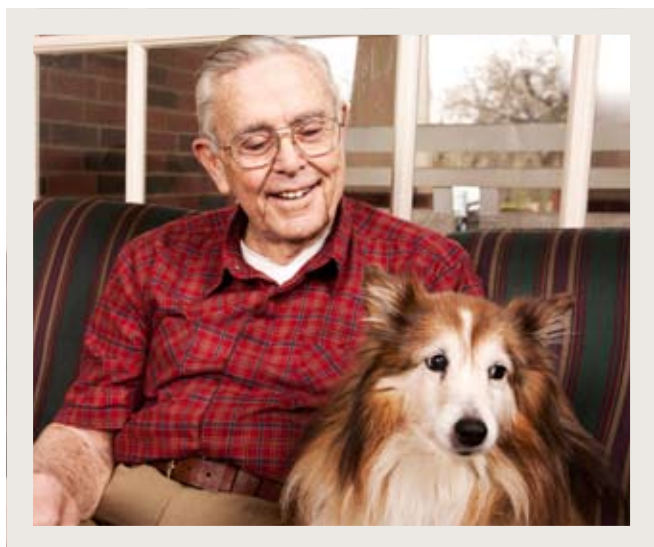
Pets are wonderful companions. They also provide significant psychological and physiological benefits to owners. Pets engender caring and responsibility in children, improve feelings of safety and help create social bridges in our communities (Wood, Giles-Corti & Bulsara, 2005).

The health benefits of pet ownership have been well documented including improved cardiovascular health, fewer visits to the doctor, a buffering against grief at times of bereavement, a lowering of stress and delaying of the ageing process in the elderly (Wells, 2009).

Children who own pets have been shown to have higher self esteem and are less likely to be overweight or obese compared to those who do not own a dog.

As family size drops, pets are also becoming a more important outlet for the human nurturing instinct. For those who are delaying or choosing not to have children, pets can be an integral part of the family unit that provide an essential outlet for this powerful instinct.

Because of these benefits, we believe serious attention should be paid to the issues limiting pet ownership. One of these issues is the appropriateness for pets of the housing we live in.



Popularity of pet ownership

Aside from the benefits of owning a pet is the sheer popularity of pet ownership, which on its own should be sufficient justification for these Guidelines to be adopted and used. One in two households own a pet – this is a significant proportion of the population. If pet owners have specific, identified housing needs, then it is only fair, logical and a sign of good planning that these needs be taken into account when new homes are being built.

Keeping pets in environmentally sensitive areas

Increasing interest in biodiversity has led to some people to call for cats to be confined for all or part of the day and in some cases for them to be banned from some new subdivisions. Whilst we welcome interest by pet owners in reducing possible impacts of their cats on wildlife, we oppose the introduction of blanket rules:

- + It is important to recognise that bans affect the majority of households because pets are an integral part of the family unit in Australia.
- + It is generally the loss of habitat from new subdivisions that does most damage, not the presence of cats. Or to put it another way, if the area in question is so sensitive, then one could question whether the area should be developed for housing at all.
- + Pet bans are problematic once housing is sold and new owners find they can't bring their cat to their new home.
- + In many existing urban areas, cats do little damage to wildlife populations, so require minimal confinement.

Nevertheless design can help owners to confine their cats if they choose to by providing a quality indoor environment and/or a confined outdoor space.

03 //

*changing housing
type in australia*





Three broad housing trends have the potential to affect pet ownership.

These include + smaller blocks, larger homes, + small lot housing and + multi-unit housing.





Smaller blocks, larger homes

The average size of newly created house lots in Australia is declining – down from the traditional quarter-acre block (1000 square metres) in 1950, to 600 square metres in the 1990s. By 2005, the average block was only 400 square metres (Elliot 2007). In Melton East, in Melbourne, the average block size of a new house fell from 716sqm in 1994/1995 to 571sqm in 2003/2004. In Western Australia in 1955, housing blocks were typically between 750-1008sqm. Today blocks of this size are described as “lifestyle blocks” more commonly found on the rural edge (Grose 2007).

Whilst lot sizes have declined, Australia still has one of the largest average house sizes in the world (McCarthy & Stolz 2009) and this size continues to grow. The average new Australian house has grown in floor size in the past decade from 170 to 270 square metres which is a doubling in average size since the 1950s (Kerin et al. 2007) and nearly three times the size of the average house in Britain today (Author Unknown 2006). In Western Australia, between 1985 and 2000, the average size of new houses increased by 22% from 188sqm to 230sqm (Grose 2007). In part, this is due to an increase in the number of bedrooms, bathrooms and living rooms and in part because children are living at home longer – often with their partners.

Where houses once covered 20% of a block up to a maximum of 40%, today they start at about 40% and rise as high as 70%, with the dwelling extending nearer to lot boundaries, and consequentially, closer to neighbouring dwellings (Hall 2007). This is having

a dramatic impact on the amount of outdoor space available to all members of the family including pets. It also brings neighbours closer together meaning greater potential to annoy and be annoyed.

Key features of this type of housing and its implications for pet ownership:

- + Smaller back yards (means less outdoor space for pets).
- + Greater indoor space (means more space for indoor pets).
- + Greater relative proximity to neighbours due to smaller back yards (means greater potential for nuisance).
- + Narrow side setbacks and boundary walls provide opportunities for small areas to be easily enclosed (e.g. with netting) to confine a cat if this is desired by the owner.
- + Common for homes to have no front fences (makes it more difficult to confine dogs).
- + Common for homes to be all or partly open plan (makes it more difficult to for owners to restrict pets to defined parts of the dwelling).
- + Common for homes to have outdoor living rooms (potential to provide shade and shelter for pets and a space that could be secured e.g. with pull down blinds or netting if the owner wishes to confine the pet).



Small lot housing

Another re-emerging feature of the Australian housing scene is the rise of small lot housing – typically two to three storey, attached or semi detached homes on separate lots, each with their own entry on to the street. They might be one off infill lots or part of a broader subdivision usually developed at higher densities because they are close to a railway station or activity centre (ABS 2006c). These homes typically have 3-4 bedrooms, two living rooms and one or more small courtyards, balconies or roof decks. Lots are typically 200-400sqm, sometimes less. They are predominantly located in the inner suburbs (ABS 2008b) although areas for this type of housing are now planned into developing suburbs as well.

Key features of this type of housing and its implications for pet ownership

- + Small to very small outdoor spaces (means less outdoor space for pets).
- + Narrow side setbacks and boundary walls provide opportunities for small areas to be easily enclosed (e.g. with netting) to confine a cat if this is desired by the owner.
- + Less solar penetration available to pets in outdoor space because the space is smaller and because adjacent buildings are 2-3 storeys with little space in between.
- + Little to no planting in outdoor spaces (less permeable surface for elimination or soft surfaces to lie on).
- + Common for homes to have no front fences (makes it more difficult for owners to confine dogs).
- + Very close proximity to the street which provides pets with a view of the outside world – this is good for most pets but can be a problem for some because being closer to the street means the pet has increased exposure to noise which in turn can increase its reactivity ie barking. Proximity to the street also provides a closer potential escape route when the front door is opened.
- + Very close proximity to neighbours (means greater potential for nuisance).
- + Acoustic protection provided by common walls.
- + Common for garages to be within the main dwelling envelope (for pets this can be an extension to the indoor space).
- + Common for homes to be all or partly open plan (makes it more difficult to restrict pets to defined parts of the dwellings).



Multi-unit housing

This includes the integrated development of more than one dwelling on one lot. It ranges from a small number of units or townhouses to high-rise housing developments.

High-rise living has traditionally been very uncommon in Australia and in 1996 accounted for only 5.3% of people living in private dwellings (ABS 1996). However, in recent years, the number of people living in high-rise housing has increased to 13%; a rate faster than the total population growth (ABS 2006).

Living in separate houses in suburbs remains the preference of people with children. However, changing family structures and lifestyles mean that more people are looking for alternative housing options. High-rise apartment blocks – often located close to employment, shops, restaurants and public amenities – offer a lifestyle attractive to many. The number of people living in high-rise units rose from approximately 129,000 in 1981 to around 334,000 in 2001 and has continued to increase since then. High-density housing is most common in capital cities, particularly in Sydney where approximately one in five households were living in flats, units or apartments in 2005/2006 (ABS 2008b).

Influencing the shift to high density living is the shake up in what constitutes the “typical” household. Traditionally this was a married couple with children. These households, however, have been declining in number since 1970, and now account for 46% of all households (ABS 2008). In their place is a growing number of non-traditional households which are more likely to choose multi-unit housing – childless couples, people who live alone, single parent families, and non family/non related households.

A final feature of the high rise housing market is its changing profile. Apartment dwellers are becoming older, more affluent and better educated as the market responds to demand for a higher quality product. They are looking for a hassle free lifestyle close to all amenities (ABS 2006b).



Multi-unit housing (cont.)

Key features of this type of housing and its implications for pet ownership:

- + Very small outdoor spaces (means less outdoor space for pets).
- + Small indoor spaces (means less indoor space for pets).
- + High balconies (potential for both cats and dogs to fall from multi-storey balconies).
- + Communal entries (positive or negative encounters with other residents when pets are taken through communal spaces, potential for inappropriate elimination in communal areas).
- + Easier confinement of pets as front door usually opens to communal passage way not the street.
- + Very close proximity to neighbours (means greater potential for nuisance).
- + Acoustic protection provided by common walls.
- + Garages and car spaces are either adjacent to the dwelling or in a separate communal car parking area. The latter provides no extension to the space potentially available to the pet.
- + Common for homes to be all or partly open plan (makes it more difficult to restrict pets to defined parts of the dwellings).
- + Pets are largely or completely kept as indoor pets in this type of housing (most pets will benefit from access to some outdoor space although this is not a mandatory requirement and many pets will happily enjoy their entire lives spent indoors).

04 //

design principles



A successful pet is one that meets the owner's needs and expectations, integrates well into the family and surrounding neighbourhood and is able to lead a healthy life, free of anxiety.

Successful pet ownership depends on three variables:

- + The pet (including its breed type, temperament and individual characteristics);
- + The owner; and
- + The quality of the home environment.

Unwanted behaviours include excessive vocalisation (barking, whining and caterwauling), aggression, wandering at large and other nuisance behaviours such as digging, chewing, scratching and spraying. A dog or cat that wanders at large can get lost, injured or killed or attack wildlife, other animals or humans.

Unwanted behaviours can be annoying or hazardous. Their effect can be isolated to the owner or they can affect others including neighbours and passers-by. Unwanted behaviours can also affect the welfare of the pet.

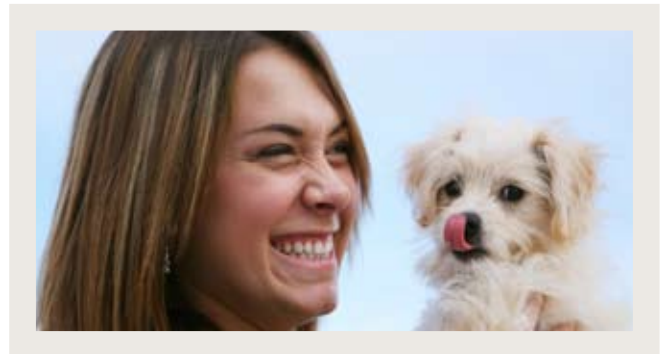
In most cases, a problem is a matter of degree e.g. most dogs bark. It is only when the barking becomes excessive that a problem emerges.

A discussion on breed and housing type is provided on p28.

In addition to breed type and individual characteristics, behavioural problems may be influenced by lack of mental stimulation, lack of physical stimulation, medical problems and psychological problems such as anxiety disorders.

Odour can be an issue – it can arise from unwashed dogs, pets with skin disease and animals that are not house trained or are prone to spraying.

Pet owners have a wealth of accessible information to consult on choosing the right pet, being a socially responsible pet owner and introducing simple



modifications (e.g. toys) into the home environment. However, there is a dearth of information on how the design of the home environment might also assist the pet, the owner and the community. These Guidelines are intended to fill that gap.

Because of the complexity of these variables, it is inappropriate to make 'blanket' rules for design of the home environment. What may interest one animal may frighten another leading to behavioural problems or a decline in its well-being. This is a key difference from earlier versions of these Guidelines.

For example, Companion Animals in the City advocated that all animals have access to a view of the outside world (Jackson 1998). It was seen as central to providing an enriching home environment for both dogs and cats. Whilst for many dogs and cats, a view of the outside world will be beneficial to their well-being and behaviour, for others it may lead to anxiety, frustration and unwanted behaviours such as excessive barking.

Similarly, one animal may show few problems being in a relatively barren, unstimulating environment whilst the welfare of another in those same conditions may be severely compromised.

Because of the fixed nature of the home environment, it is therefore important to be careful with prescriptive advice on housing design with pets in mind. There are however some common principles that are outlined on the following pages.



Maximise the space available for pets

It is important to understand that for pets, the quality of space is much more important than its quantity.

With this understood, pets should ideally have access to as much of the property as possible.

Every animal reacts differently to its environment. By maximising the space available to the pet, an owner can better respond to their pet's individual needs.

The more space there is, the more choice there is for the pet in where he or she wishes to be in the home, whether that be inside or outside, sharing space with other members of the family or being on their own. It will also maximise opportunities for the pet to access shade, shelter and sunshine/warmth and for owners to limit their pet's access to a part of the property if that location creates problem behaviours.

Earlier Guidelines encouraged people to provide dogs with access to the front yard of detached dwellings. We no longer advocate this as a blanket rule. This is because there is greater potential for dogs to i) escape (e.g. if gates are left open or if they can get under, over or through the fence), ii) get frustrated or anxious about passers by or iii) worry visitors entering the

property. Whilst many dogs will benefit from access to a confined front yard, many others won't, so it is no longer a specific recommendation of the Guidelines.

Placement of buildings and fences restrict movement through a property.

Inside, access to different parts of the dwelling depends on whether doors are left open.

For cats, access to the vertical environment is vital since most cats are climbers and will seek elevated spots within the home environment. An increased three dimensional environment will increase the space available to the cat.

Maximising the space available for pets is an especially important consideration for pets living in more compact forms of accommodation.



*Ideally, provide pets with
some outdoor space*

If it is available, dogs and cats will benefit from access to some outdoor space. However this is not a prerequisite for successful pet ownership nor is it a requirement for pets to lead a healthy life (although most dogs benefit when taken out on regular walks).

The success with which dogs and cats can be kept indoors for all or most of the time will vary depending on the individual animal (including its breed type), the owner and the quality of the home environment. Cats tend to be better indoor dwellers than dogs.

Outdoor space is only useable if it will confine a dog - or cat if that is required in your area (see discussion on confinement on the next page).



Confinement

Design can help owners to confine their dog to the property. In some parts of Australia, there is increased interest in confinement of cats for all or part of the day to protect wildlife, minimise nuisance and to enhance the cat's own welfare.

The ability of people to confine outdoor dogs depends on fence design and placement of buildings. It is never recommended that dogs be kept on a chain for long periods (and in fact it may be illegal in some jurisdictions).

Dogs can easily be kept indoors for all or most of the day providing care is paid to the other parts of the successful pet ownership equation including environmental enrichment, regular exercise and provision of a quality indoor environment.

If cats are to be confined, this usually means confinement indoors. However, there are ways that design can provide cats with access to secure outdoor space if that is required e.g. internal courtyards.

If a cat is to be confined to the house for most of the day, it is important that a wide variety of environmental options be provided to enhance their mental and physical well-being. Designing a space with an increased vertical environment will supply further climbing opportunities, extend their range of surveillance and allow for some cats to feel more secure.



A safe and comfortable environment

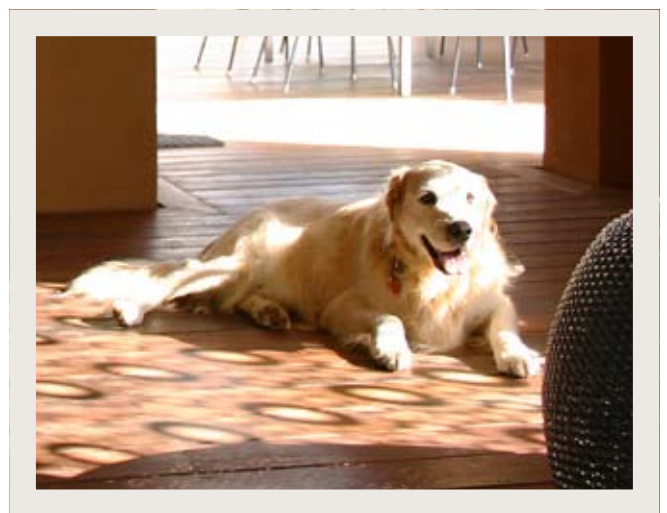
Design should aim to protect a pet from injury and provide adequate shelter and ventilation. Section 6 considers the risks associated with cats and dogs falling from balconies.

Most dogs and cats will seek warm and/or sunny spots to rest, especially in cool weather. In hot climates, pets will seek cooler and/or shady surfaces and spaces.

Cats seek elevated spots - often because they feel more secure and/or have better surveillance of their surroundings.

Cats also tend to seek out quiet spots to hide and/or be on their own.

Consideration should be given to the needs of old and infirm animals that may have difficulty negotiating stairs or slippery floors for example, and to aspects of the home environment that might frighten an animal e.g. open staircase.



Environmental enrichment

Environmental enrichment is often important in many pet behaviour modification programs. It includes exercise (physical and mental), play and “work”. It often includes predictability with complexity and change. Most of the information talks about providing pets with toys in a way that provides this stimulation.

The design of a home is largely fixed so it is difficult to “design in” environmental enrichment features. Companion Animals in the City recommended that pets be provided with a view of the outside world. This was seen as a key environmentally enriching design feature. However, it has proved problematic.

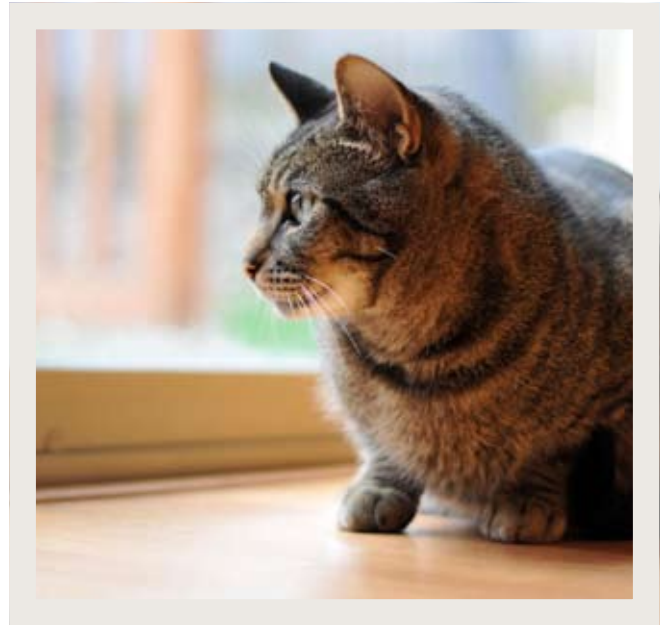
For many pets, a view of the outside world is a positive feature of a home environment. However, some animals will find it a source of anxiety and frustration, leading to a variety of unwanted behaviours including excessive barking. A view of the outside world is therefore no longer seen as a universal positive for all pets.

On balance, opportunities for a pet to view the outside world should be provided so long as there is scope for the owner to restrict the view if required (through window furnishings for example).

Noise protection

All dogs bark but excessive barking can adversely affect the neighbourhood and the dog’s well-being.

Design can reduce the triggers to some forms of excessive barking (e.g. visual stimulation from passers by, visitors arriving, presence of neighbours’ dogs) or sound stimulation from hearing noises from outside the property. There is also some potential to provide environmental enrichment through design of the home environment to distract a dog and/or keep it happier when the owner is away (a trigger for some excessive barking).



Cats will have a more enriching home environment if they have opportunities to climb and sit up high. Outdoors, this might be trees or a garage roof. Indoors it might include window sills, wall units or a partition dividing different parts of the dwelling. These can be designed to provide cats with a climbing opportunity. If climbing opportunities are built into the design, valuable space does not need to be taken up with purpose designed cat climbing trees or scratching posts that many people purchase for their cats.

Finally, whilst it is important to reduce the causes of barking, design can also reduce its impact through improved acoustic separation.

In the following sections, these design principles are translated into specific features of the home environment.

A WORD ON BREED AND HOUSING TYPE

When we talk about breed and housing type, we are talking in most cases about breed of dog.

There are fewer issues with different cat breeds because there is a closer similarity between most cat breeds compared to the wide range of shapes, sizes and temperaments of dogs. A prospective cat owner should however consider the main characteristics of their preferred breed and its appropriateness to apartment living.

In looking at the types of dog that do best in compact forms of housing – particularly apartments – it is important to consider the following principles.

First, breed is just one factor to take into account.

Other considerations include:

- + the individual characteristics of the animal (for example, one Labrador may be a livewire whilst another from the same litter may be the perfect house dog);
- + what training and early socialisation a dog has or will receive;
- + the lifestyle of the pet owner; and
- + the quality of the home environment – not just measured by its size.

It is therefore inappropriate to generalise about the appropriateness of different breeds for different housing type.

Whilst some breeds are in general less suitable than others for living in compact forms of accommodation, a committed owner will find a way to make it work. Its more about finding the breed that suits your lifestyle not your apartment.

Second, don't equate size of dog with the size of the space he or she requires. This is probably one of the most common misunderstandings in the relationship between breed and housing type.

Dogs that do well in compact forms of accommodation are usually low energy dogs. These include Basset Hounds and Afghan Hounds (amongst many others).

Toy dogs are a good choice because they can satisfy their exercise needs by simply running around the rooms.

Large size dogs can do well in apartments if there is room for them, since their large size means they get tired easily and need only regular walks to use up their excess energy. This group includes the St Bernard, the Newfoundland and Great Dane (amongst many others).

High energy dogs such as pointers, terriers and setters along with most hunting and sport dogs tend not to be good apartment dwellers. These dogs have a requirement for intense exercise that regular walks may not cover.

Noisy dogs (particularly the yappier breeds) also tend to be a poor choice for confined spaces. These include terriers, some toy breeds and many of the working breeds. The same is true of guardian breeds since their instinct is to protect the home. Noisy neighbours can set off barking. These include Dobermans and German Shepherds, Rottweilers and Boxers.

Finally, breeds of both dog and cat that shed a lot of hair may be less appropriate as house pets. However different owners have different tolerances of pet hair and there are ways to manage shedding.

Clearly, there are many parameters to consider. Some breeds may do well on one parameter and poorly on another. The most important criterion is that people choose carefully after considering the full range of characteristics of the breed and the individual dog as well as the lifestyle and dwelling type of the owner.

05 //

dwelling entry and interior





For the indoor pet, the design of the dwelling interior needs special attention.

It is best for pets to have access to all areas in a dwelling, however, where practicable, provision should be made for owners who wish to restrict their pet's access from parts of the dwelling (or to separate pets if required). Fully open plan interiors preclude this possibility.

Direct access to garages provides pets with additional space.

A security screen at the front door provides a second barrier to help owners confine their pet. A security screen also allows the front door to be left open to enhance natural ventilation of the dwelling interior.

Double glazing or thickened glass helps reduce the effect of noisy dogs.

Space for the cat's litter tray should be considered at the design stage especially for the indoor pet. Cats can be fussy about their toileting needs and owners can be equally fussy about where it is kept. In all cases, where cats toilet should be separate from where they eat. Good locations for litter trays include garages, laundries, bathrooms and space under open stairwells.

Dogs can be trained to use a litter tray. This will be important for dogs that are kept indoors for long periods.

Spiral and open tread staircases should be avoided where possible because some dogs will be fearful of using them.

Hard flooring is easy to clean and does not hold as many odours as carpet. It is also cooler in hot weather. The disadvantage, especially for older pets, is that many hard floors – such as polished boards or tiles can be slippery.



Climbing opportunities for cats

Cats look for access to elevated positions to sleep or view their surroundings.

They often like to view a scene. Climbing opportunities can be built into the design of a dwelling through built-in furniture, partition walls and window sills that are wide enough and accessible to a cat. This is all the more important when space is tight. Providing a cat with climbing opportunities may help discourage cats from getting on food preparation benches, especially when these elevated spaces are made more attractive to the cat.

If space is tight, climbing platforms can be placed around windows and doorways.

The height to which a cat can jump varies with the individual, with the width and stability of the destination and with the cat's desire to get there. Furniture can be strategically placed to allow a cat to access higher spots.

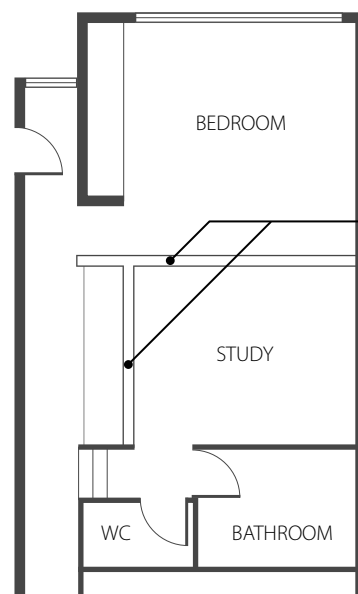
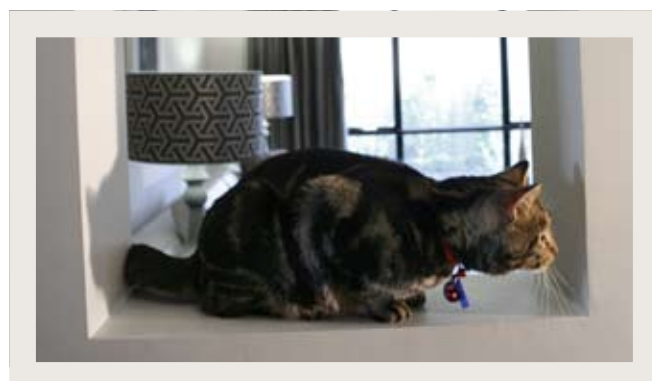


FIG. 1

Partitions (¾ wall height) in this studio apartment allow light into the study and provide cats with climbing opportunities.



Quiet spots for cats

Cats look for opportunities for quiet and isolated locations within the dwelling. This allows them to get away from other members of the household (including other pets) or from stressful activities occurring close to the home environment e.g. the sight of a neighbour's cat entering the home yard. If a household has more than one cat, they will need access to different parts of the dwelling. The state of being unseen when desired is essential for a cat to truly relax, particularly for the anxious cat or the multi-cat household.

Warm spots

Both dogs and cats often look for warm spots to rest. They will often sleep on or near ducted heating (which is preferred over overhead or wall mounted heating).

Internal courtyards

Internal light courts and courtyards provide pets with interest, daylight, sunlight and a small area of confined outdoor space. If secure they can be left open to provide additional natural ventilation.

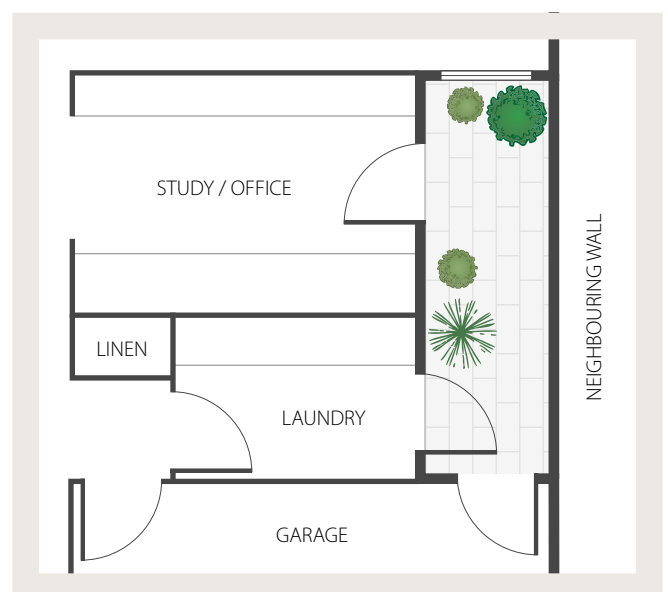
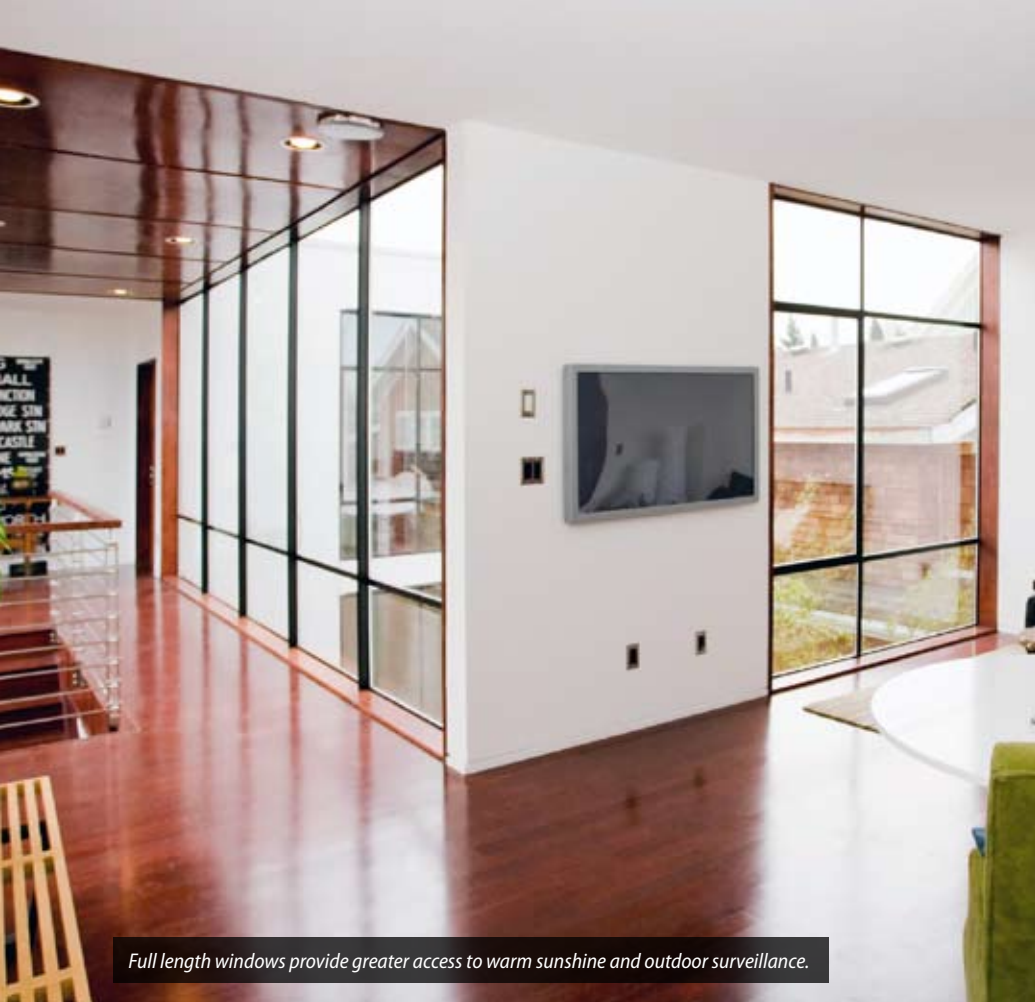


FIG. 2 Internal courtyards offer confinement and acoustic separation.



Windows

Well designed and located windows are important for environmental enrichment, especially for pets kept indoors for long periods. However some cats and dogs will become anxious if they have a view of the outside world. It is important therefore for an owner to be able to close off the view (e.g. with window furnishings or external shutters).

Windows overlooking the street provide a changing scene to observe.

Bay and upper storey windows increase the range of surveillance.

Full length windows or windows with low sill heights provide greater access to warm sunshine and outdoor surveillance.

Window sills that are wide enough for a cat to sit on should be provided inside. Alternatively, suitable furniture can be placed alongside a window to allow access to a view.

Special care is required with the design of windows in small apartments if the dwelling has only one or two windows in total.

Ventilation

Indoor pets need sufficient ventilation - for their own well-being and to reduce odours. Special locks are available to secure open windows so that the pet cannot escape yet fresh air can come in.

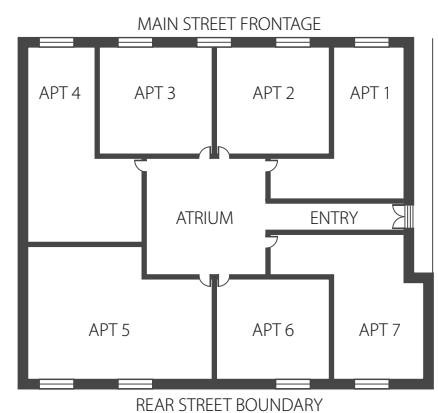


FIG. 3 Several of the apartments in this warehouse conversion only have one window. Special care would be required to optimise their benefits for pets.



06 //

outdoor space





Ideally both dogs and cats should have access to some outdoor space.

It is the quality of the outdoor space, not the quantity that is most important.

Appropriate fencing is required to confine a dog to the property or to part of the property.

Open space design

Internal fencing and placement of buildings will affect the amount of confined space available to a pet (although this can be a positive feature if owners wish to restrict their pet's access to specific parts of the property). Pet doors can overcome this.

In multi-dwelling developments, consideration should be given to areas of communal space in which people can relax with their pets.

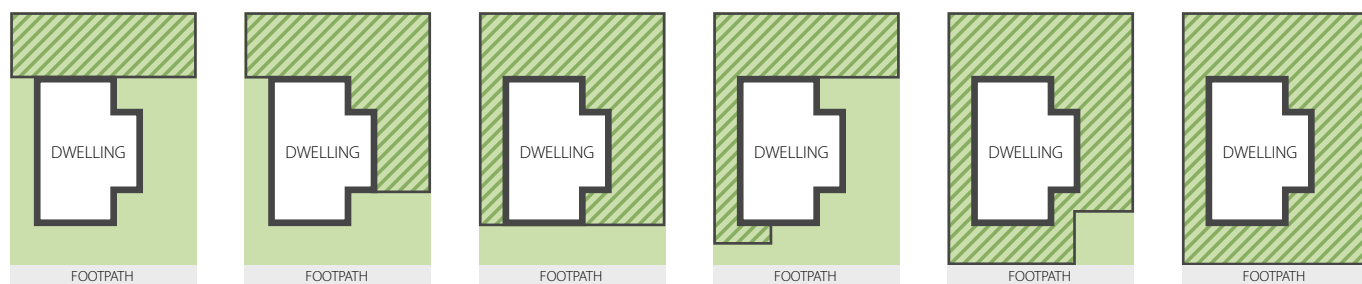


FIG. 4 Internal and perimeter fencing and placement of buildings can dramatically affect the amount of space available for dogs.

 **CONFINED SPACE**

Access to the front yard

An appropriately fenced front yard will provide additional space for a dog. We do not, however, recommend that dogs be kept in front yards as a universal principle because i) they may be able to jump or get through the fence, ii) it requires the landowner to ensure that the gates are securely closed at all times when the dog uses this space, iii) it may trigger excessive barking and/or anxiety for the dog and iv) it may result in dog bites or attacks on visitors to the dwelling (in many jurisdictions, visitors are legally entitled to safe access to the front door without being stopped by the dog).

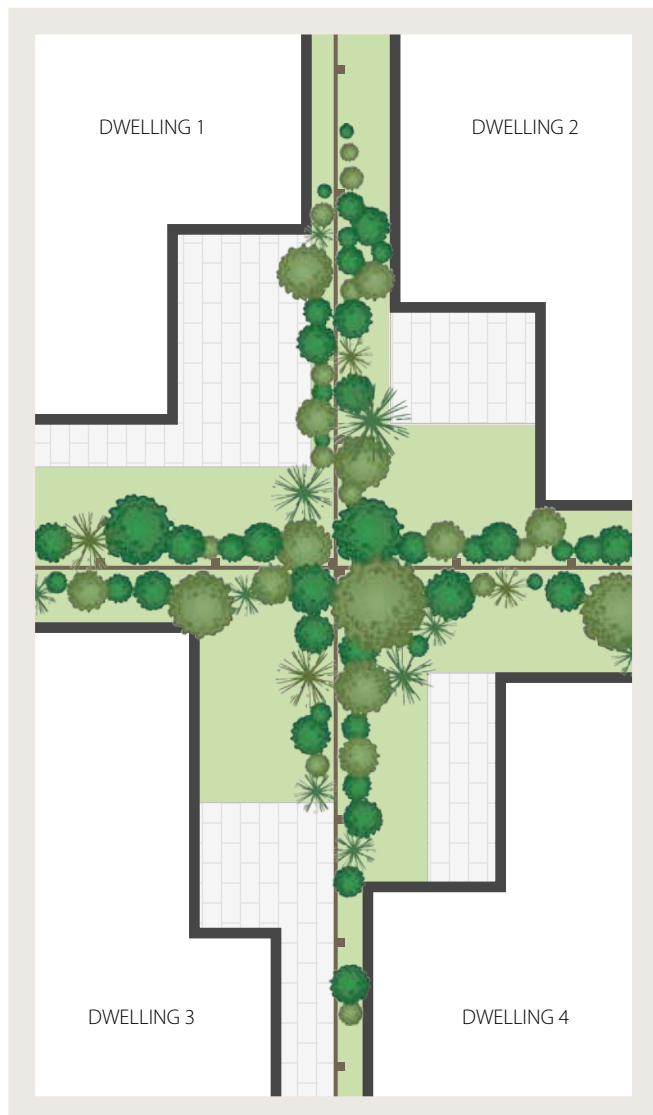


FIG. 5 Thick planting on boundaries can reduce the potential for boundary frustration between neighbouring dogs

Landscaping

For pets, landscaping should emphasise a rich and varied sensory experience incorporating diversity in form, movement, texture and smell.

Ideally, the outdoor space should have both paved and permeable surfaces. Permeable surfaces (lawns, garden beds) provide a cool space in which to lie in summer.

Raised planting beds on boundaries will provide separation between an outdoor space and the adjoining property which may assist with acoustic separation and triggers to barking. Raised garden beds also add enrichment to the outdoor environment.

Ledges on fences and walls provide cats with climbing opportunities.

A digging pit could be provided in a corner of the outdoor space.

A pond will add environmental enrichment - for the dog to play as well as keep cool.

Plant selection should emphasise durable plant materials and plants that are non toxic to pets. Advice on planting should be sought from veterinarians and other animal specialists.

Trees are beneficial for cats providing free-climbing, a post for scratching and increased surveillance.

Other climbing opportunities should be considered for cats in the design of the outdoor space.

Trees that move and rustle in the wind provide environmental enrichment, but may be a trigger to excessive barking in some dogs.

Tree species that attract possums should be avoided if possible because possums (and other animals) are a common trigger to excessive barking.

Some dogs experience boundary frustration. This can occur when there are dogs living on both sides of a fence. It can be at its worst when four properties come together in point to point contact. Landscaping and garden design can assist in reducing the incidence of boundary frustration.

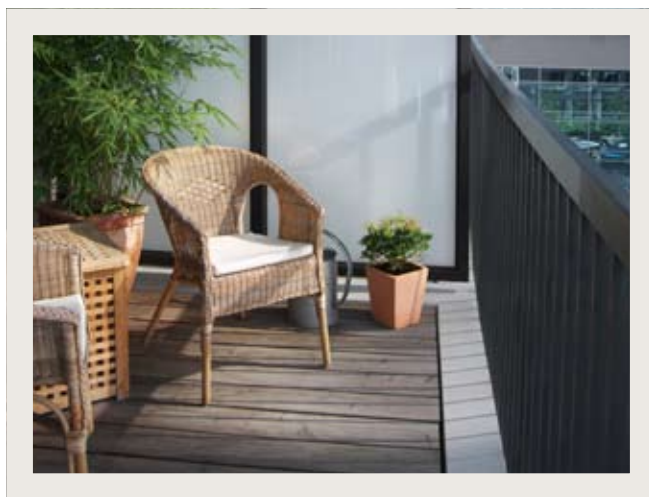
Balconies and roof decks

It is not known for certain what risks there are for pets – primarily cats – falling from balconies and roof decks. Certainly, it is known that cats can survive falls from many storeys above the ground however precautions should be taken to prevent a fall.

People need to assess the risks for themselves. However the risks may be reduced by providing:

- + A clear rather than solid balustrade.
- + A balustrade that is wide enough for a cat to sit on safely e.g. planter boxes.
- + A balcony that has a roof just below it.

A viewing platform beside the balustrade may discourage a cat from wanting to stand on a balcony balustrade.



If necessary a balcony could be enclosed with glass, grilles or netting to prevent a cat from falling. Many modern apartments are built with auto louvred windows to balconies which can be opened or closed.

Many apartments have two balconies. If required, one of these can be adapted to more safely confine a cat.

Fence design

It is important that a dog cannot get over, through or under a fence.

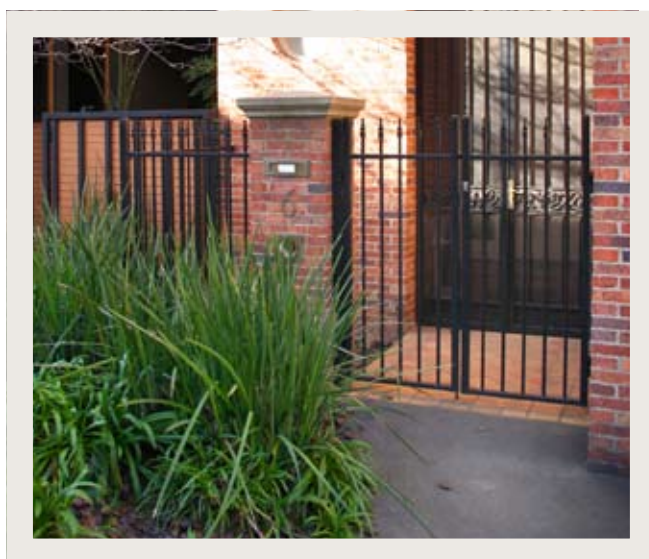
A standard 1.7m high paling fence along side and rear boundaries should restrain nearly all dogs.

Solid brick fences add acoustic separation.

Front fences are more problematic because urban design policies tend to discourage high front fences or prohibit front fences altogether.

A 1.2m high front fence should restrain most dogs. Dogs not confined by this height would need to be kept in the back or side yard.

Picket spacings should be no wider apart than 100mm. However, if a picket fence does not provide sufficient restraint, chicken wire or 100mm broad-weave wire fencing can be fixed to the inside of the fence to prevent a dog from escaping.

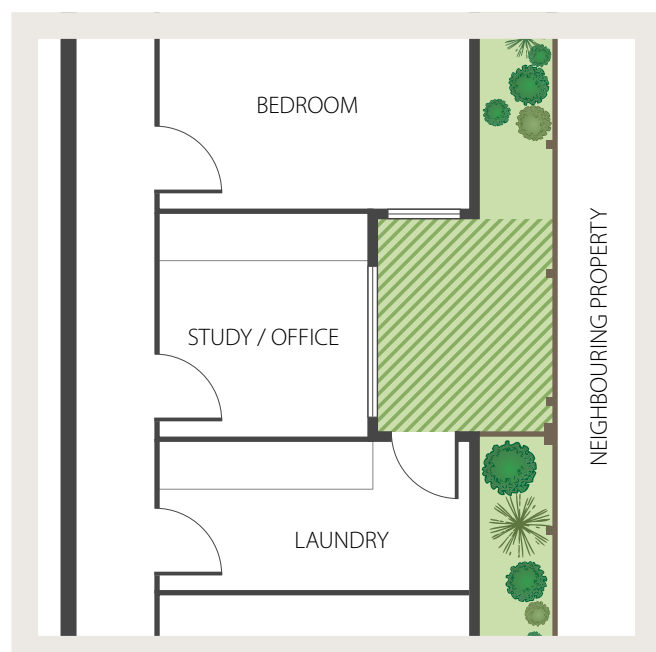


Gates should be fitted with a return spring self-closing lock to help owners, particularly children, to responsibly confine their dog.



Shade and shelter

Consideration should be given to shade and shelter for pets in all new developments e.g. large shade trees, a cool verandah or access to a garage or car port. If none of these options is available, relief from heat can be provided by covering some areas with shade cloth.



Confinement of cats

A secure indoor courtyard should confine a cat, provide for ventilation and can be adapted to provide further climbing opportunities.

Smaller outdoor areas (particularly narrow side setbacks) can easily be adapted to provide a confined outdoor space for cats with netting or pull down screens.

More elaborate cat parks and cat proof fences can also be installed. There are many products available, however it is also possible to “do it yourself”. The Victorian State Government’s *How to Build Cat Proof Fencing and Cat Enclosures* is a useful starting point.

FIG. 6

A narrow side setback combined with internal access provides the perfect place for a netted outdoor area for cats.

 NETTED AREA



07 //

car parking





A garage provides additional space that is potentially available for a pet because it is within the confined part of the property and has direct access to the dwelling.

Garages, car ports and car spaces have the potential to provide pets with extra space, shade and shelter. Pets should not be confined to garages for long periods unless the area is of sufficient size, provides natural light and has environmental enrichment.

- + It is better for car parking to be provided alongside a dwelling rather than in a separate or communal car parking area.
- + Car parking should be provided within the confined part of the property.
- + Garages with direct access to the dwelling provide additional space for the indoor pet.
- + Garages or car ports with mezzanines provide additional space for pets.
- + Garages are ideal for building in climbing opportunities for cats.
- + A garage needs to have sufficient fixed ventilation if pets are to be confined there for extended periods.

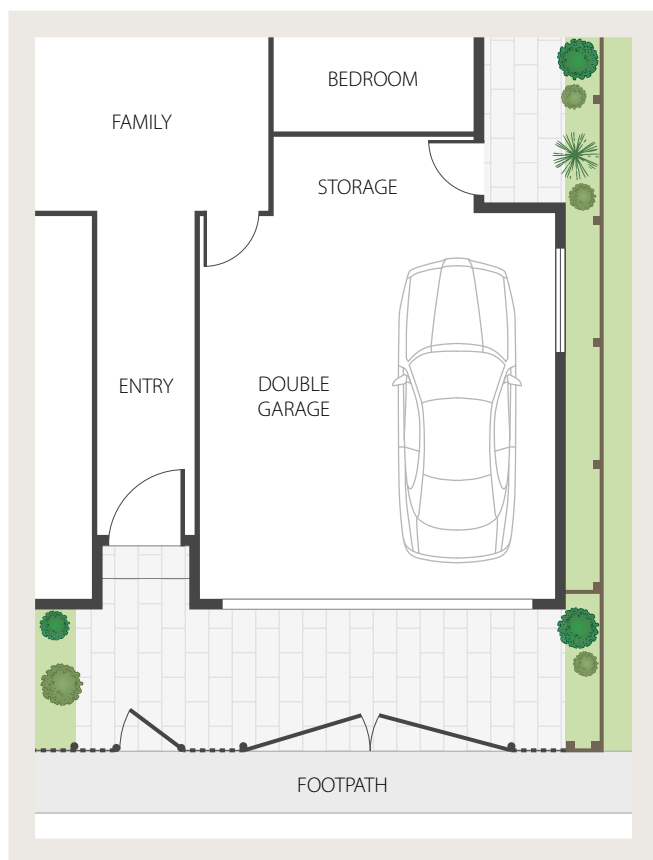


FIG. 7 Being within the confined part of the property, this garage provides additional space that is potentially available to a dog.

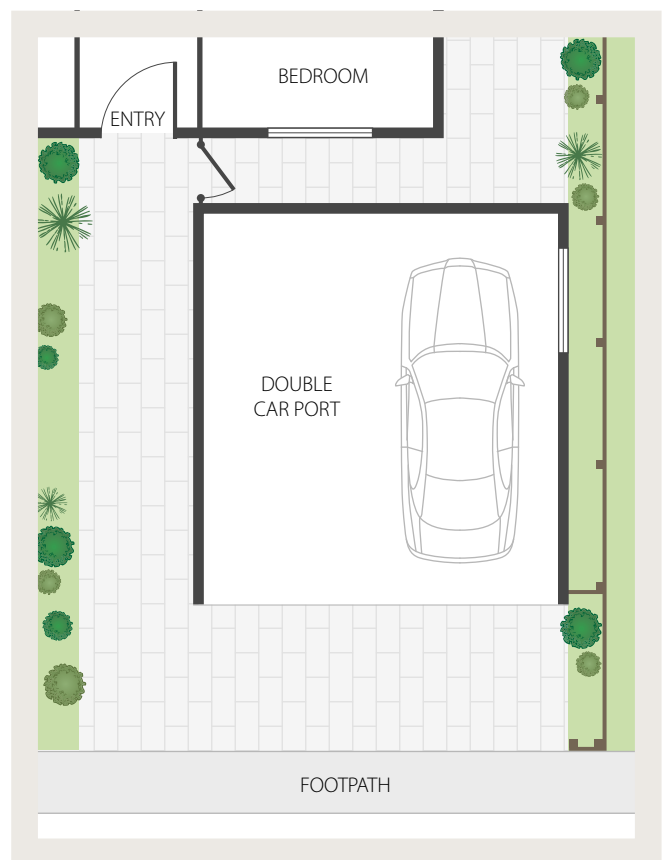
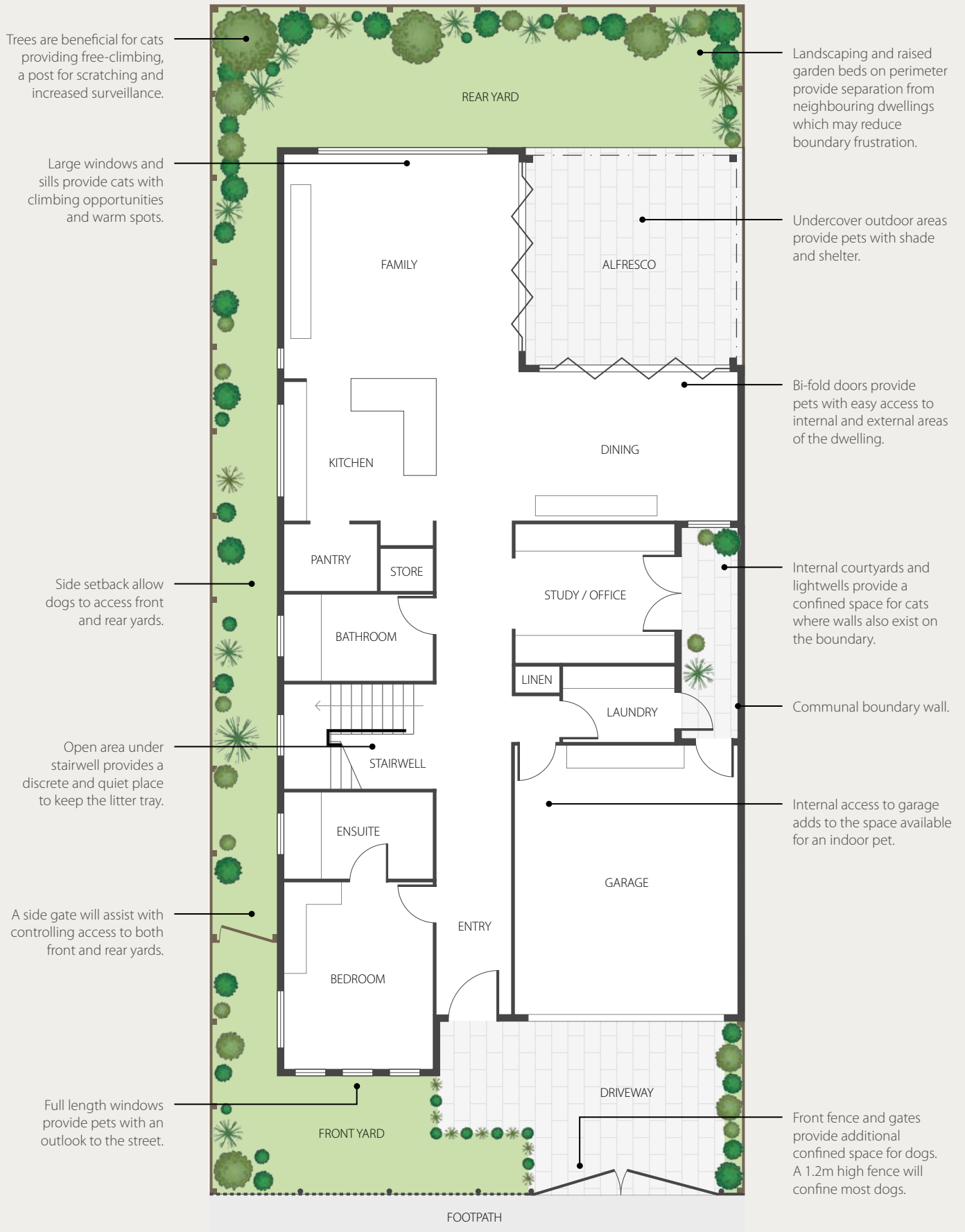


FIG. 8 An open car port with no front fence does not provide additional space for a dog.

OVERVIEW OF PET FRIENDLY HOUSING DESIGN

FIG. 9



08 //

*precinct design
and planning*





Precinct design involves the development of more than one dwelling at the same time. It includes medium and high density housing developments as well as the development of housing on some individual allotments.

Designing more than one dwelling at once provides further opportunities for designing with pets in mind.

For pets, a terrace-style precinct, where each dwelling fronts a street, is preferred to a courtyard style development where dwellings face a central driveway or path. Terrace style housing gives each dwelling an outlook to the street. It will also generally provide better acoustic insulation between neighbours and there is less potential for undesirable behaviours arising from neighbours' animals.

Two and three storey dwellings provide more opportunities for surveillance of the outside world.

Boundary walls (including zero lot lines) provide dwellings with added acoustic separation from their neighbours.

It is better if noise sensitive rooms and windows are not located very close to noise generating sources on adjoining properties, including where dogs spend most of their time.

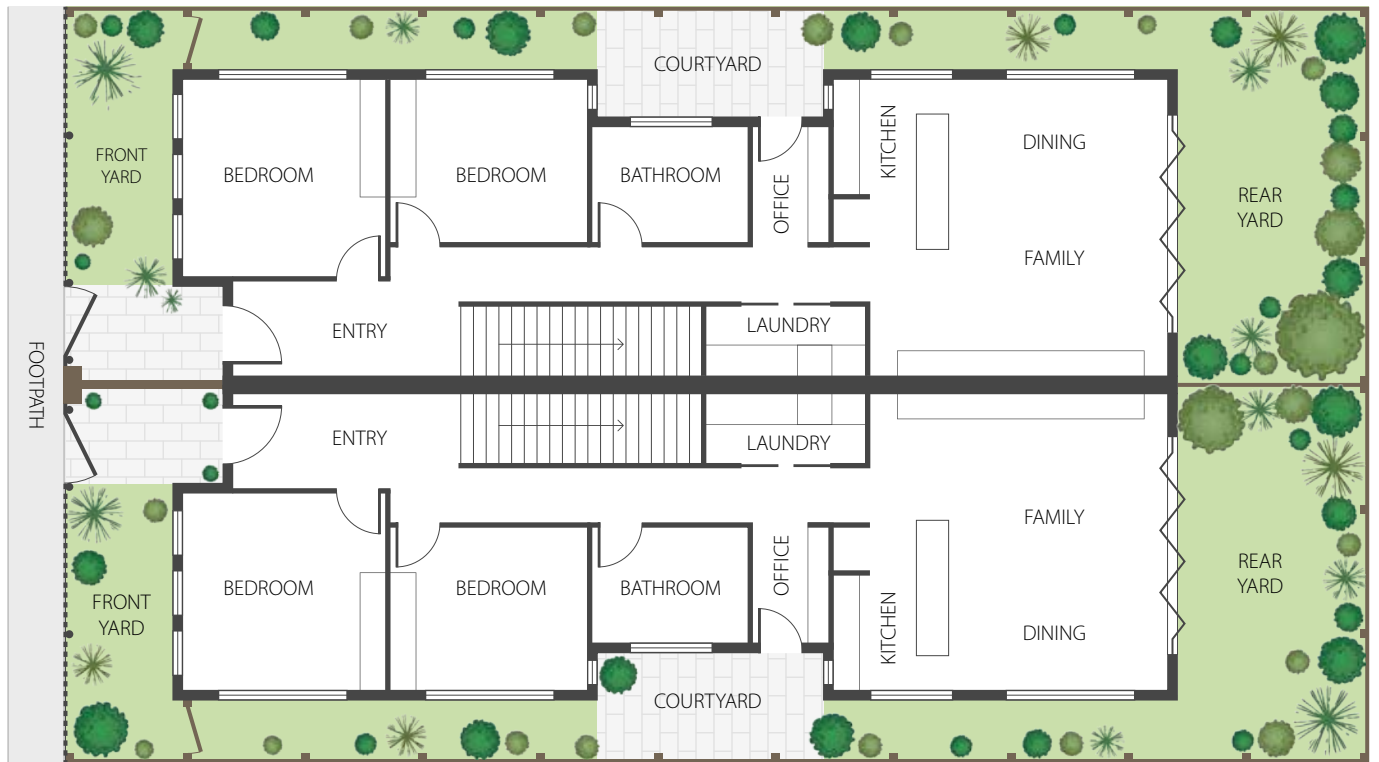


FIG. 10 Party walls and semi-detached housing can help to reduce both the triggers to and effects of excessive barking.

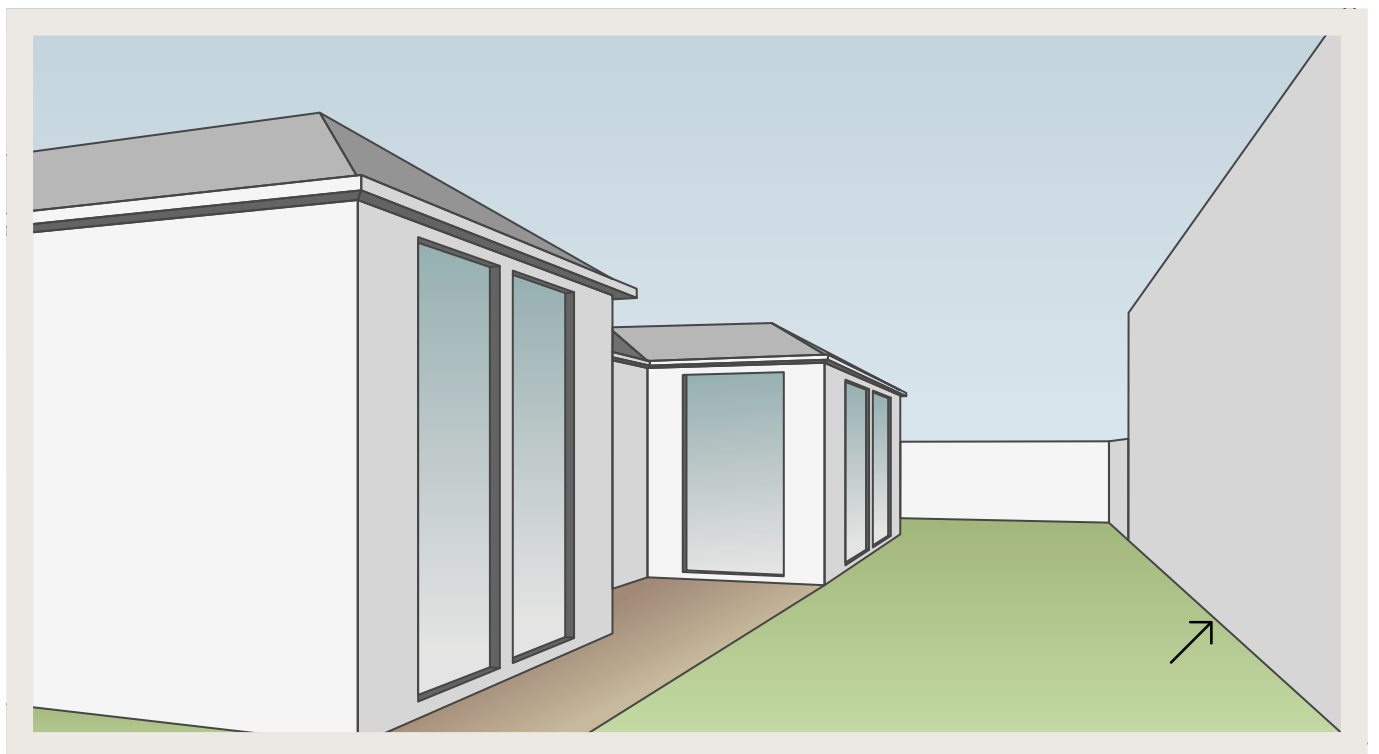


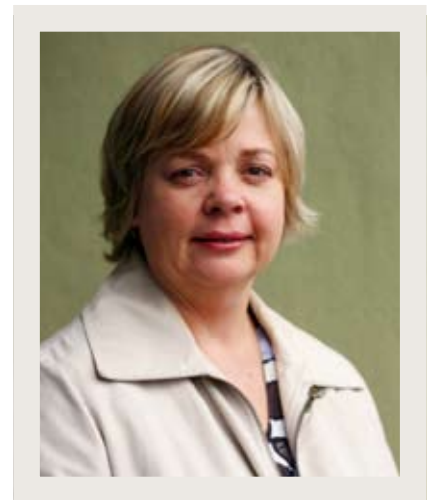
FIG. 11 Zero Lot Line dwellings provide acoustic separation between dwellings. Arrow indicates site boundary, and wall of adjacent house.



About the Author

Virginia Jackson is a leading world authority on the role and place of pets in urban areas. Her research has included a number of world firsts including earlier versions of the pet friendly housing design guidelines, guidelines for integrating dogs (and their owners) into public open space, the recreation value of dog walking and the applicability of compliance theory to responsible pet management. She regularly consults with communities around Australia on a range of animal management issues and has prepared numerous strategic animal management plans for local authorities.

Virginia is passionate about the ways in which pets enrich our lives and about improving policy responses to encourage responsible pet ownership. She firmly believes that we need to start planning for the four legged members of the community if pet ownership as we know it is to remain an integral part of the Australian way of life.



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These Guidelines are important – for the 12 million Australians having an association with pets and for the well documented health and social benefits of owning pets.

They provide guidance on designing new housing with pets in mind but they can also be used for adapting existing housing stock or for pet owners looking for a house that suits their needs.

We encourage all stakeholders in the building, design and policy making process to adopt and incorporate the recommendations into their work.

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