An Australian Government Initiative

Gardens that Care:

Planning Outdoor Environments for People with Dementia

Alzheimer's Australia SA
Living with dementia

Helping Australians with dementia, and their carers

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The Australian Government funds the South Australian Dementia Behaviour Management Advisory Services (SA DBMAS) which is one of eight centres nationally that provides information, advice and support to improve the quality of life of people with dementia and their carers where the behaviour of the person with dementia impacts on their care.

The Australian Government is committed to improving the health of all Australians, ensuring they have access to high quality health services and supportive care services. Through the Dementia Initiative, the Australian Government aims to strengthen the capacity of the health and aged care sectors to provide appropriate evidence-based prevention and early intervention, assessment, treatment and care for people with dementia.

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What is Dementia?

Dementia is the term used to describe the symptoms of a large group of illnesses which cause a progressive decline in a person's functioning. It is a broad term used to describe a loss of memory, intellect, rationality, social skills and normal emotional reactions that are often reflected in a person's behaviour.

Some of the most common types of dementia are:

- Alzheimer's disease
- AIDS related dementia
- Alcohol related dementia
- Dementia with Lewy bodies
- Down syndrome and Alzheimer's disease
- Fronto temporal lobar degeneration
- Vascular dementia

People with Dementia will exhibit a wide range of behavioural changes throughout the progression of their illness.

Some of the most common changes are:

- Depressed and withdrawn mood
- Wandering and intrusiveness
- Sleep disturbances
- Repetitive actions or questions
- Verbal disruptions
- Physical aggression
- Hallucinations and false ideas
- Socially inappropriate behaviours

Behaviour symptoms associated with dementia account for many negative health outcomes, such as decline in functional status, social engagement and physical activity. (Lyketsos 2007) They also increase the cost of care (Murman & Colenda 2005). The management of these behaviour symptoms associated with dementia is complex. Some strategies focus on prevention or management by medication while others focus on the environment. As we age our ability to adapt to less than optimal conditions becomes more difficult, making the role of the environment increasingly important, particularly for those who are experiencing cognitive difficulties and diminishing physical dexterity (Lawton, 1989). Provision of environmental support to maintain function as long as possible is increasingly being recognised as a way to address the psychosocial needs of individuals with dementia.

Dementia and Garden Environments

Why are gardens an important tool in the care of people with Dementia?

There is a recently resurrected body of knowledge that supports the long held view that our natural surroundings can have a profound effect on people's health, well-being and quality of life. Nature is restorative and has healing powers (Kaplan 1995, 2001). With this in mind, gardens and outdoor environments are increasingly being re-introduced as an important support tool in the care, behaviour management and contributor to the quality of life, of people with dementia.

Gardens designed specifically to support people with dementia provide therapeutic activities designed to maximise retained cognitive and physical abilities and lessen the confusion and agitation often associated with the condition.

Research indicates that physical as well as visual access to nature:

- helps people recover from illness quicker
- reduces stress and lowers blood pressure
- helps a person maintain circadian rhythms (the sleep/wake cycle)
- aids in the natural absorption of vitamin D when exposed to sunlight for brief periods of time, which is important for maintaining strong bones.

Therapeutic Benefits

Although unable to pin down a solid reason, studies have shown that human beings possess an innate attraction to nature. It is known that being outdoors creates feelings of appreciation, tranquillity, spirituality and peace and so it would seem, that just being in a garden setting is in itself restorative and active gardening heightens those feelings.

The activity of gardening has many particular advantages for those with dementia.

Gardening:

- Is an enjoyable form of exercise
- Increases levels of physical activity and maintains mobility and flexibility
- Encourages use of all motor skills – walking, reaching, bending and planting seeds and taking cuttings
- Improves endurance and strength
- Helps prevent diseases like osteoporosis
- Reduces stress levels and promotes relaxation
- Provides stimulation and interest in nature and the outdoors
- Improves sense of wellbeing due to the social interaction

One important benefit to using gardens in the therapy of those with dementia is that traditional forms of communication aren't always required. Gardening activities lend themselves easily to communicatively disabled individuals. This in turn builds teamwork, self-esteem and self-confidence, whilst encouraging social interaction.

There are also many mental benefits such as increased abilities in decision-making, self-control and increased confidence and self-esteem and hope are also common in dementia-specific garden environments.

Gardens That Heal

There are commonly two forms of garden with healing properties:
Healing, Sensory and Meditation Gardens
Horticultural Therapy and Therapeutic Landscapes

Healing Gardens are calming and peaceful garden settings where one can escape and emotionally regenerate. A place to meditate, to quietly chat or to just relax and get away from it all. By spending time in a healing garden users are healed in a passive way, through sensing nature.

Examples of a healing garden include:
- Sensory Gardens

A sensory garden is a garden that stimulates all five senses, sight, sound, smell, taste and touch. The plants and materials in the garden are specifically chosen for their scent, texture, colour and edibility.

- Meditation Gardens

Meditation gardens are quite often linked to specific religious or spiritual practices. They can take on many different forms, but their primary purpose is to provide a beautiful and therapeutic place for relaxation, rejuvenation and meditation.

> "A garden environment for people with dementia is best to be a combination of both a healing garden and a horticultural therapy/therapeutic landscape."

Horticultural Therapy and Therapeutic Landscapes are very different from healing gardens in that they promote active healing. The garden setting is specifically designed to be used by therapy professionals such as physiotherapists, psychologists, occupational therapists, diversional therapists and nurses as a tool for specific courses of therapy. Individuals are healed by actively participating in garden activities.

Horticultural Therapy is a recognised form of therapy and uses garden related activities to heal social, cognitive, physical and psychological issues as well as enhance general health and wellbeing.

Examples of horticultural therapy or therapeutic landscapes include:
- Dementia-specific gardens
- Mobility gardens
- Rehabilitation gardens
- Community gardens
- Raised garden beds

Garden Implementation Process

How to Implement a Dementia-Specific Garden into your Facility or Community

- Build a business case to put forward to facility management or community leaders that explains the benefits of a dementia-specific garden for your community and how the garden will meet organisational policies, strategic plans and mission statements. This will also be strongly influential in developing grant applications.
- Determine project goals. What do you want the garden to achieve?
- Set up a pre and post evaluation study that evaluates the benefits of the garden on the health and well-being of people with dementia. This will be a valuable resource to share with the aged care community and will support others implementing dementia-specific gardens into their facilities or communities. This doesn't have to be a huge task but a simple collection of data that evaluates how people used the outdoors before and once the garden is in full use, focusing on behavioural, medical and social improvements.
- Determine therapy goals. How will the garden be included in the daily therapy programs of your facility or community? E.g. physiotherapy, occupational therapy and horticultural therapy. "Developing a strong outdoor activity program before, not after the garden is designed and built is the foundation that determines how the design can best support activities and ultimately the residents. It is important to envision a clear and detailed picture of the experiences you want to create and the activities you want to accommodate before putting pen to paper to begin designing the garden. The most successful gardens are designed and built to accommodate robust activity programs." (Brawley 2007)
- Include staff and community participation in the planning and designing of the garden as they have a major influence on the successful use of the garden and the implementation of the activity programs.

Garden Implementation Process

- Include people with dementia in the planning of the garden. This will foster a sense of ownership and inclusion.
- Before you pick a location for your garden employ a landscape architect or designer to determine the best garden site opportunities. These will be based on climatic influences such as sun, shade, wind and noise; functional aspects such as accessibility, supervision, safety; and locality to internal activity spaces, bedrooms and conveniences.
- Invite your landscape architect/designer to participate with people with dementia in existing outdoor or garden related activity programs. This will give them a better understanding of how the design must adapt to special needs.
- Your landscape architect will then put together a conceptual design based on information collected during their initial consultation with staff, key stakeholders and end-users.
- Work with your landscape architect to refine the concept design based on priorities. Be aware that your budget may not be able to include everything on the wish-list, so prioritise. Often projects are designed for staged construction to be implemented as funding becomes available.
- Determine how the garden will be maintained. e.g. in-house gardener, community gardening group.
- Once you are happy with the conceptual design your landscape architect will develop a set of construction drawings that will be used to tender the construction. Landscape contractors will be invited to quote on the construction of your project.
- Develop a site disruption plan that manages how the community or facility and residents will be affected by the construction.
- Employ a project manager or retain your landscape architect to manage the construction phase and ensure your garden is built as designed.
- Grand opening. Make it special. Invite everyone involved. Include the families of those you are building the garden for.
- Commence the planned outdoor therapy and activity programs.
- Undertake a post occupancy evaluation. Evaluate how the garden is meeting its objectives. What were the project goals? Did the outdoor space meet the project goals? Is it being used the way it was intended? Do residents spend more time outside? Has the garden helped to increase mobility and exercise? Is it being properly maintained? By answering these questions and rectifying any issues up-front your garden will become sustainable and usable for many generations to come.

What to Consider When Planning a Dementia-Specific Garden

During the formation of this guide a committee of dementia experts from Alzheimer's Australia independently reviewed various examples of dementia related gardens looking for specific design elements that through research were reported to support the quality of life of people with dementia and were aids in their therapy programs. These design elements were then mapped to a matrix of underlying health and behavioural benefits. From this process a list of key design principles were determined.

The key design principles are:

- Sustainability
- Orientation
- Accessibility
- Socialisation
- Meaningful activity
- Reminiscence
- Sensory stimulation
- Safety

In the following pages each of these key design principles are explained and broken down into design instructions aimed at aiding organisations in the planning and designing of their dementia-specific garden.

Sustainability

The longevity of a dementia-specific garden is dependent on the understanding of its therapeutic value, activity programs and maintenance regime.

Su1 Use predominantly low maintenance plants except in interactive garden beds used for horticultural therapy activities.

Su2 Ensure the garden is self-sufficient by including a rainwater tank specifically for watering the garden.

Su3 The garden's success is very much dependent upon the staff's understanding of the design. By recognising the different elements and their functions and use, staff will feel more empowered to develop activities that encourage the use of the gardens.

Su4 Ensure that gardens are visible to staff. Staff should feel relaxed enough to allow people with dementia unrestricted access to the garden. If this is not possible then users will not gain the maximum benefit from the garden.

Su5 Organise a regular gardener or gardening group to maintain the garden. Locate a garden shed in or nearby the garden for ease of maintenance.

Su6 Collect garden and kitchen scraps for a compost bin. Use the compost to feed the garden.

Orientation

People with dementia often forget where they are going and from where they've come. This can be confining and inhibit them from exploring outdoors. By designing a garden that enables users to orientate themselves through visual cues they will gain a sense of control and in-turn self confidence.

01 Locate gardens where they can be easily viewed from inside to encourage people with dementia to venture out.

02 Incorporate a simple looped path system to lead users along a journey of interesting focal points and then return them to a where they began.

03 Ensure the entry/exit is obvious, clearly marked and open at all times to ensure that users feel in control of their garden journey and do not feel trapped.

Orientation

04 Locate garden elements where they can be seen from numerous vantage points to encourage users to explore and also to orientate themselves.

05 Edge paving and paths with a contrasting colour or raised edge. This will support way-finding and define the change from paving to garden.

06 Screen fences with plants to make them less obvious. This will minimise feelings of enclosure.

07 Use signs that lead users to entries and key locations.

Accessibility

Accessibility affects people with dementia on both a physical and mental level. Ensure your garden is accessible to people with dementia by removing the physical and mental barriers.

A1 Make gardens accessible all year round by incorporating conservatories, sunrooms, greenhouses and indoor planting.

A2 Ensure main paths are wide enough for two users either walking or in wheelchairs to pass easily.

A3 Choose garden furniture that is of a sturdy timber construction with armrests for ultimate comfort and accessibility.

Accessibility

A4 Offer a range of garden beds at differing heights for ease of access.

A5 Intermittently placed handrails or waist-height structures to enable users to rest or balance themselves as they move throughout the garden.

A6 Ensure there is plenty of shade for sunny days and warm sitting areas in the winter as people with dementia will not venture out if there is a large change in temperature.

A7 Locate seating at regular intervals for resting.

A8 Supply tools that are designed specifically for limited strength and mobility.

Socialisation

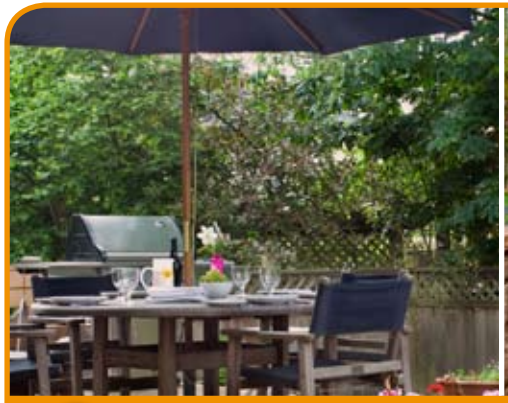
Enhance the quality of life of people with dementia by creating opportunities to socialise and interact with friends, family, children, pets and carers.

So1 Include interactive garden features that will bring people together such as men's shed, raised garden beds, flower gardens, bird feeders and bird baths.

So2 Include elements that encourage interaction between family members and people with dementia such as child-friendly elements, areas for pets and easy conversation pieces.

Socialisation

So3 Incorporate all-year sheltered and heated outdoor entertaining areas for celebrations, family visits and outdoor group activities.



So4 Include a range of seating styles in numerous locations which offer people with dementia an opportunity to choose how they use the garden.

So5 Include quieter, passive areas for refuge and large activity areas for groups.

Meaningful Activity

"People with dementia still have the energy and desire to remain active and involved in the world around them. Throughout our lives, we develop activities and interests, hobbies, likes and dislikes, skills and talents, that give our life structure and meaning and provide a sense of worth. These activities whether recreational or activities related to ordinary household tasks, establish a routine, provide opportunities for socialization, and help define who we are." (Brawley 2007).

M1 Design the main path to lead people with dementia along a journey of discovery, linking small and large garden spaces and focal elements of interest.

Meaningful Activity

M2 Include home-like activities in the garden to engage users in daily chores as they would have in their own homes such as posting a letter, making a telephone call, washing the car, gardening, sweeping, hanging out washing, watering the plants, feeding the birds and tinkering in the shed.

M3 A level and safe walking route will encourage people with dementia to exercise. Design the route so it loops both inside and outside for a more stimulating experience.

M4 Include garden features that require daily interaction such as a bird feeder, herb garden, bird aviary or fish pond.

M5 Incorporate raised vegetable gardens, herb gardens and fruit trees to engage people with dementia in the task of food production. Use the produce in activity programs, daily meals or social bbqs.

M6 Work with staff to develop horticultural therapy/outdoor activity programs that are supported by the garden and its design.

Reminiscence

For people with dementia encouraging the act of reminiscence can be highly beneficial to their inner wellbeing and their interpersonal skills. Reminiscence involves exchanging memories with others and the passing on of information, wisdom and skills. By incorporating reminiscence elements and activities, people with dementia are able to engage with the world around them and retain feelings of value, importance, belonging and peace.

R1 Incorporate elements that evoke memories of the users pasts such as bird baths, wheelbarrows, old cars, farming elements, pottery, old kitchen utensils and old gates.

R2 Plant the gardens with plants that are familiar to the age and culture of the users.

R3 Ensure garden elements are of an era, style and material familiar to the users.

R4 Work with the support staff to develop outdoor activity programs that evoke memories for people with dementia.

Sensory Stimulation

Sensory stimulation is important in the overall emotional wellbeing of people with dementia. It can convey emotional support, affection and respect and also play a major part in helping people with dementia communicate. Sensory stimulation is the engaging of any of our five senses – sight, sound, taste, touch and smell.

Se1 Develop a garden that stimulates the five senses through use of colour, scent, texture, sound, taste and seasonal change.

Sensory Stimulation

Se2 Include garden elements that are interactive and engaging to people with dementia.

Se3 Ensure that gardens can be viewed from inside so that watching the rain or wind in the trees can be enjoyed by people with dementia even when it's too cold to go outside.

Se4 Include gardens of differing heights to enable users to easily touch, smell and taste the plants.

Se5 Include nature attracting elements to attract native birds, animals and insects.

Se6 Incorporate lighting for night-time use or viewing from indoors.

Se7 Work with the support staff to develop outdoor activity programs that focus on stimulating the five senses.

Safety

Safety can be the defining factor in whether a garden is allowed to be used or not. Ensure that all potential safety issues are addressed in the planning process of the garden.

Sa1 Ensure paths and paving are level, smooth, slip resistant and low glare.

Sa2 Secure the garden with 1.8m high fencing. Locate posts on the outside so there are no footholds.

Sa3 Locate large trees at a distance from the fence to inhibit people with dementia using them as a climbing aid.

Sa4 Disguise entrances and exits that are not for people with dementia by making them unmarked panels in the fencing. Ensure there are no obvious locks or handles.

Sa5 Ensure that garden features are strong and sturdy. Secure features where necessary so they cannot be lifted or thrown.

Sa6 Ensure that there is ample shade.

Sa9 Follow safety instructions on potting mixes.

Sa7 Shelter building thresholds to allow resident's eyes time to adjust to the change in lighting levels.

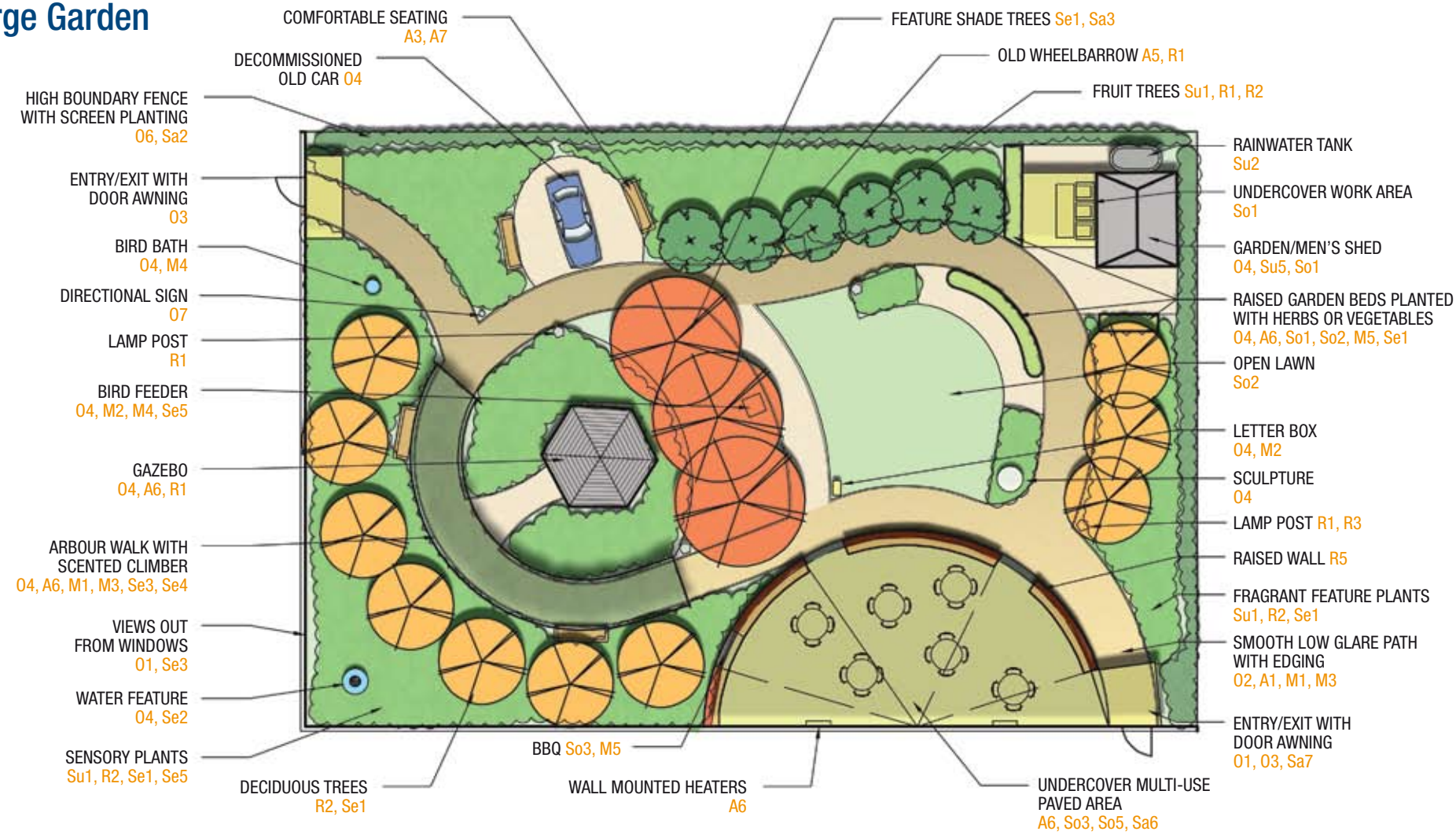
Sa10 Don't forget to slip, slop, slap.

Sa8 Ensure that all plants are non-toxic.

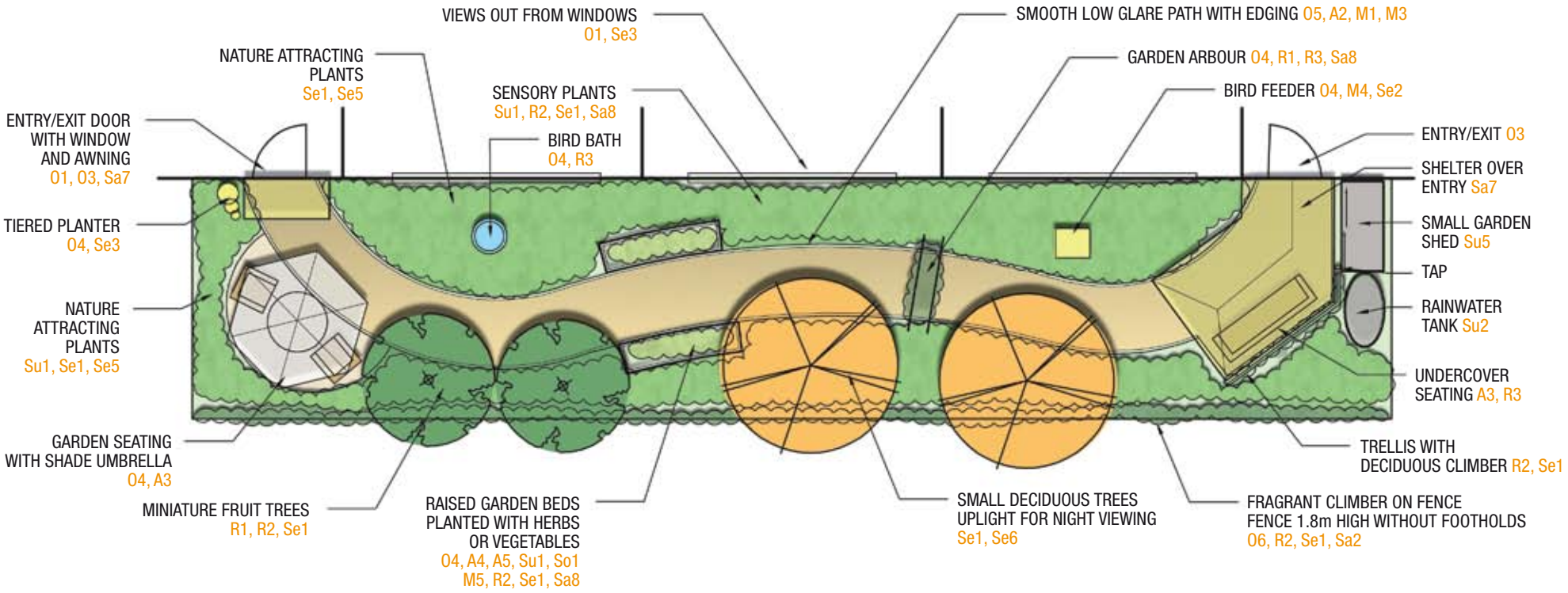
Basic Garden Design Ideas

Here are a few basic design ideas to show how the design instructions come together in the layout of a dementia-specific garden.

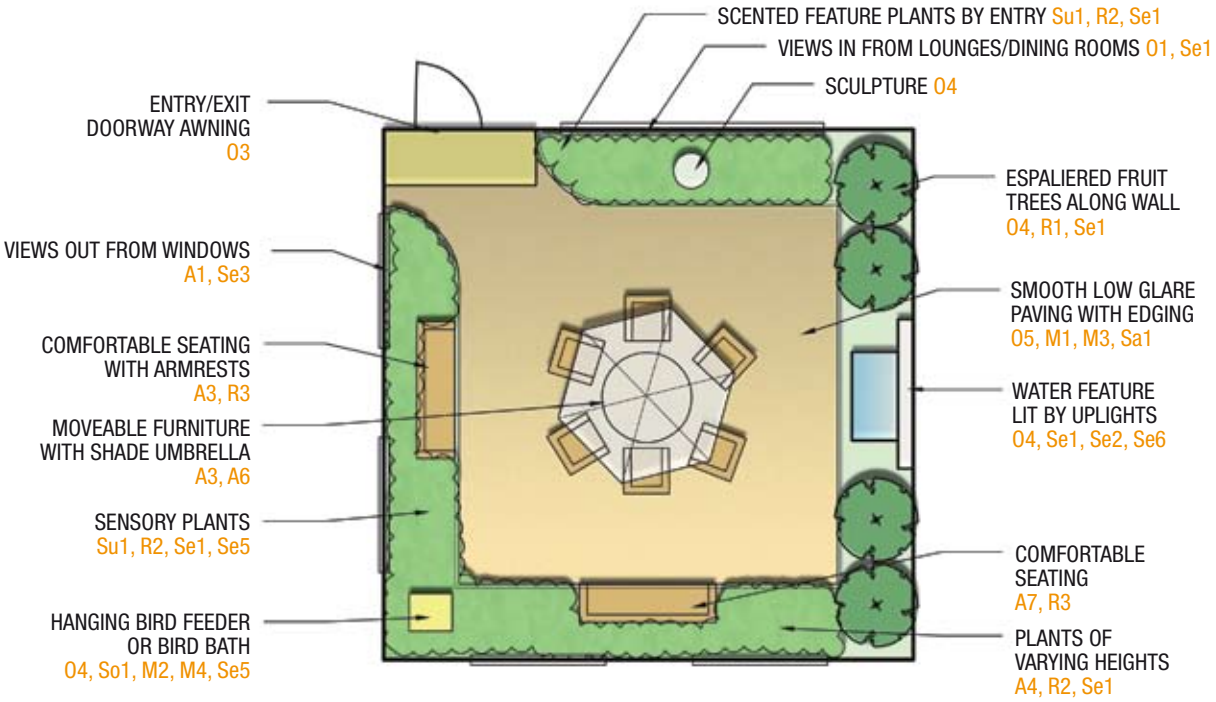
Large Garden



Narrow Garden



Small Inner Courtyard



Horticulture Therapy Program

Horticultural therapy is one of the many therapies that can be undertaken in a garden environment. Horticultural therapy programs use horticulture and garden related activities to enhance the social, emotional and physical well-being of people.

Here are a few dementia-specific horticultural therapy program activities.

Flower Arranging

Equipment:

- oasis block
- ribbon
- cellophane gift wrap
- flowers
- foliage
- scissors

Objective: Sensory stimulation through sight, touch and smell. Participants enjoy this activity as it is achievable for those with dementia, validating achievable skills. The activity promotes feelings of enhanced self esteem and fun. Reminiscence is generated by talking of gardening and flowers. Discussion is prompted by talking of events when one would receive flowers.

Description: Soak oasis block in water. Cut to smaller size or leave whole. Place cellophane wrap on table with oasis block in the centre, one for each resident. Arrange flowers and foliage in oasis block. Draw cellophane up around block and foliage/flowers tie with ribbon. Top up with water as required.

Pine Cone Bird Feeder Ornaments

Equipment:

- pine cones
- sturdy string
- plastic knives
- peanut butter
- bird seed

Objective: For participants to experience creativity and utilise fine motor skills.

Description: Distribute peanut butter on pine cone, and then sprinkle with bird seed. Attach string to pine cone, then assist participants in hanging their creations for the birds to enjoy! This activity is fun for any population, but can be especially valuable when working with Alzheimer's patients; they are sometimes prone to put non-edible things in their mouths, but this activity is safe for them in that aspect. This activity can also be used for Christmas ornaments by simply using glue, glitter, sequins, etc.

Decorating Empty Plastic Pots for Planting

Equipment:

- Empty plastic pots 5 to 10L size
- Coloured paint

Objective: Creativity through imaginative art in decorating empty plastic pots for the purpose of using them for planting flowers, vegetables, etc. The activity increases self esteem.

Description: Collect empty plastic pots. Wash them well. Drill holes in the bottom of pots if necessary. With paint (spray paint, oil base paint or acrylics) the resident uses their imagination to decorate the pot with hand painted pictures of favourite plants, flowers or vegetables. Let dry. Seal them with clear spray paint for a shiny coat. Fill them up with potting soil. Residents plant their favourite plant and watch them grow with love and tender care.

(Give participants ideas, but allow them to use their imagination) Works better with participants with low self esteem. Give praise for job well done. If vegetables are grown, allow participants to make salads. If flowers are grown, allow participants to photograph them.

Indoor Tropical Plants

Equipment:

- Assorted tropical plants – Bromeliads, Palms, Ferns
- Soil less mix
- Hand Tools
- Pots
- Watering Cans

Objective: To increase sensory awareness and to foster creative expression.

Description: Arrange tropical plants on table. Discuss how tropical plants become house plants. Demonstrate how to pot-up plants. Have group pot-up plants. Water plants. Date & label with participant's name.

Useful Plants

Horticultural Therapy Activities

- Nasturtium
- Lavender
- Cherry tomatoes
- All Herbs
- Zucchini flowers
- Banksia flowers and leaves
- Any plant that requires pruning or garden maintenance

Sensory Plants

Smell

- Rose
- Mint
- Thyme
- Jasmine
- Lavender
- Rosemary
- Lemongrass

Touch

- Lamb's ears
- Fountain grass (Pennisetum alopecuroides)
- Paperbark tree
- Banksia
- Kiwi fruit
- Any bark

Sound

- Sheoak trees
- Gum trees
- Fountain grass
- Mat rush

Taste

- Basil
- Passionfruit
- Strawberries
- Capsicum
- Peppermint
- Sage
- Chive
- Avocado

Seasonal Change

- Ornamental Pear
- Maple
- Ash
- Honey Locust
- Jacaranda
- Magnolia
- Camellia
- Gardenia

Butterfly and Bird Attracting

- Bottlebrush
- Grevillea
- Wattle
- Correa
- Mat rush
- Cut-leaf daisy
- Sweet bursaria
- Tufted bluebell
- Kangaroo grass
- Coastal rosemary

Plants listed here are only a guide.
Please refer to your local council for plants specific to your region.

Further Information

Websites

Australia

Alzheimer's Australia www.alzheimers.org.au
Horticultural Therapy Association of SA www.htsa.org.au
Horticultural Therapy Association of NSW
www.cultivate.org.au
Horticultural Therapy Association of Vic www.htav.org.au
Australian City Farms and Community Gardens Network
www.communitygarden.org.au
Connection2Nature: Enabling garden tools
www.connection2nature.com.au
Eden Alternative www.edeninoz.com.au

International

Thrive www.thrive.org.uk
American Horticultural Therapy Association www.ahta.org
Therapeutic Landscapes Network
www.healinglandscapes.org
Access to Nature: Planning Outdoor Space for Aging
www.accesstonature.org

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Tara is a Landscape Architect with over 9 years experience in landscape architecture and urban design within the private and public sectors of Adelaide, Melbourne and Sydney.

Tara has a passion for designing educational, healing and therapeutic landscapes for aged care, healthcare and educational facilities.

“The impact of a garden is much more than something attractive to look at. It is a therapeutic tool that can be used to revitalise health and to enhance emotional, social and physical wellbeing.”

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