

materials for building community gardens

RUSS GRAYSON



IN THIS PUBLICATION you will find recommendations for materials for building community gardens, including those for garden beds, paths and fences. Photo: James Street Reserve Community Garden, Redfern, Sydney.

Materials for community garden construction

THERE IS A SAYING that goes like this: community gardens that look good are usually community gardens that work well.

I've produced this publication to offer guidelines for choosing materials to use in community gardens. The gardens are sometimes located in city parks and it is important that community garden designers and teams maintain a high standard of appearance and ensure that construction presents no safety hazard to gardeners and visitors.

The public is protective of its public lands such as city parks, and poorly built and maintained community gardens are likely to trigger complaints to council.

Ground level or raised?

The focus in this document is on raised garden beds. Some councils prefer that community garden beds be of the raised type.

Some community gardeners, however, make their garden in the soil and do not raise it above ground level. This works well although ground level garden beds benefit from a barrier around them to retain soil and mulch and to keep weeds out. Keeping invasive grasses from the garden requires a solid, continuous barrier.

Where gardeners prefer to avoid making a barrier, perhaps the simplest means of delineating the

garden bed is to make a cut with a spade around it, creating a shallow trench and adding the excavated soil to the garden. This is suitable where gardeners will attend their garden regularly enough to remake the cut, otherwise aggressive grasses will soon colonise the garden.

Garden beds for less mobile gardeners

If there are aged, less mobile or disabled gardeners in your group, consider making garden beds raised to a height at which they can easily access them.

Information on making raised garden beds for the less mobile gardener can be found at:

Characteristics

The preferred materials are characterised by:

- durability—they are long lasting and strong
- low maintenance—they are not expensive or time consuming to maintain in good order
- aesthetics—they are materials the appearance of which complement public parks.

Choosing materials

The choice of materials for community gardens should be influenced by:

- the budget for purchasing materials
- the availability of skills in working with the materials and in construction
- the visual ambience of the public land on which the community garden is to be built; materials selection should complement the visual 'feel' of the park.

Recycled materials are acceptable and their use encouraged:

- reused sleepers and timber should be inspected to ensure it is free of termites
- reused galvanised iron should be free of rust and sharp edges
- materials should not have sharp edges left exposed
- old enamelled bathtubs can be used for water crops.

Raised, stained timber community garden bed for shallow-rooted vegetables and herbs (Eora Community Garden, Ashfield).



- Horticultural therapy Association NSW - http://www.cultivatensw.org.au/files/factsheets/2_RAISED_BED_GARDENING_AW.PDF
- Horticultural Therapy Association of Victoria: <http://www.horticulturaltherapy.com.au/edible/resources/factsheet/rgb.pdf>

Construction

If a soil test has not been done, if the land has been used for industrial purposes or if it is otherwise suspect, making raised garden beds to a minimum 45cm in height should lift the root zone of most annual vegetables and herbs above any undetected soil contamination.

If star pickets are used during construction, place a safety cap on top to avoid accidents.

Where construction expertise is lacking in the community garden team it should be sourced from outside the group.

Storing materials

Materials may have to be stored on site prior to and during construction of the community garden.

When storing soil or other materials on a site, especially where it is accessible to the public:

- surround it with a mesh safety fence to reduce the opportunity for accidents
- ensure that soil will not wash away if it rains
- stack materials safely with heavy materials lower down or on the ground.

Materials

Example

Hardwood

- durable, long lasting
- planks can be bolted or nailed to a supporting framework to make a raised garden bed
- can be painted or stained depending on the finish wanted.



Sleepers

- durable, long lasting
- can be bolted together to form a raised garden bed
- may be used edge-on-ground for lower beds
- ensure sleepers are free of termites
- wide enough to use as a seat.



Brick

- durable, long lasting
- use new or recycled brick cemented together to form a raised bed
- can be expensive
- needs skill in construction.



Materials

Example

Cement block

- durable, long lasting
- cemented together—can be painted or bagged with coloured cement render
- top with flat cap stone for seating
- a single course laid end-on is suitable for a low bed



Stone

- durable, expensive
- may be cemented together to add strength to garden bed
- single layer of large stones suitable for lower garden.



Concrete

- durable
- expensive
- can have high carbon emission in manufacture
- can be painted, rendered, mosaic applied as art work
- needs construction skills.



Materials

Example

Galvanised iron planters

- commercially available, good aesthetics
- no construction needed—add growing mix and plants for instant garden
- available in different heights, widths, colours
- narrow, low type for children; higher for less mobile gardeners
- available with rolled tops to reduce sharp edges; others have plastic edging.



Recycled plastic

- available as planks; bolt to supporting frame of recycled plastic or wood
- UV stabilised so as not to break down under sunlight
- stabilised against leaching of chemicals.



Recombinant materials

- combination of different materials—eg. galvanised iron in a hardwood frame
- construction makes expensive
- looks good.



Materials

Concrete pipe sections

- sections of concrete pipe about a metre wide cut to around a metre high maximum
- suitable as planters for growing fruit or nut trees
- suitable as small gardens especially for people with mobility difficulties
- can be painted or mosaic can be applied as art work.

Example



Size of garden beds

Gardeners should be able to reach all parts of a garden bed from the surrounding paths. This avoids difficult-to-reach areas that can become neglected and helps in planting, harvesting, weeding and maintenance.

Rectangular garden beds are easiest to build and should be no wider than 1.4 meters so that an adult can reach into the centre of the garden from either side. Scale down the dimensions for garden beds specifically for children or disabled gardeners.

If beds are made wider, construct narrow (around 400mm in width) paths into them or place stepping stones so that you can reach into all parts of the garden.

An alternative is to make short keyhole paths from which gardeners can crouch down to reach into the garden surrounding them.

Keyhole paths should be narrow so as to minimise the area of path compared to the area of garden.



Circular garden bed with keyhole path. All parts of the garden can be accessed from the keyhole and from the outer edge of the garden.

The garden is in a public place and features a low, edge of recycled brick. Cementing the bricks in place creates a solid edge and prevents the bricks becoming projectiles. Garden waste is composted in the adjacent compost bins for use on the garden.

Location: Randwick Sustainability Hub.



Raised, sturdy, galvanised iron garden beds suited to gardeners with limited mobility with all plants accessible from both sides.

This is an expensive but durable, low maintenance construction free of weed invasion and at a comfortable height for working. The planters are visually compatible with the multiple-use park.

Location: Manly Vale Community Garden.

The right size

Gardens for adults and children are designed differently.

Those for children are narrower and lower than those for adults.

- gardeners should be able to reach half way across the bed from either side; this makes all areas of the garden accessible
- where gardens are broader and build directly on the soil surface it is important to provide access paths into the garden.

Sizing

A broader garden bed that adults can reach into.

Narrow garden beds that are low enough for children to work in.

Example



This gardener-constructed community garden in Hobart, Tasmania, demonstrates the use of recycled construction materials. The garden is orderly and well maintained.

Grass paths require mowing to deter weed invasion of the raised garden plots—the lawn clippings go into the compost.

Grass has to be removed from the edges of the plots where mowing doesn't reach.

Paths

Locating pathways when designing community gardens needs careful thought so that all areas of the garden are accessible. This makes for easy access to the whole garden and simplifies maintenance. It may be best to build paths before starting the building of garden beds as they can be used to transport garden bed construction materials.

Try to link the garden entrance, shelter/social area, compost making facilities, plant propagation area, water supply and the garden beds with a single, main path wide enough to move a wheelbarrow along, a minimum 1.3 metres in width or wider.

If the garden is to be a venue for community education, wider paths may be needed and gathering points, where groups assemble to gather around some point of interest, will prove useful.

Paths in community gardens are one of the most intensively used components of design. When designing them, think about main paths providing access to the main activity areas and installations in the garden, then minor paths providing access into the garden beds. Being narrower, perhaps 400-500mm wide, minor paths are not designed for wheelbarrow access.

Paved paths can be an expensive part of the garden to build and community garden teams may have to apply for grants to fund them. Paved pathways also require expertise in construction.

Where broad garden beds are built, all areas of the bed should be accessible via narrow paths. This will avoid trampling the crop and the soil during maintenance and harvest.

Stepping stones can be used for access into larger garden beds. These are available commercially as concrete squares or recycled, smooth, materials such as bricks may be used. Cross-cut sections of tree trunk are suitable.

Narrow paths provide access into the broad beds of the Marrickville West Community Garden.



Safe gardening

Before starting work constructing your community garden, project coordinators are encouraged to:

Check the site

Walk around and inspect the site before work starts to identify potential hazards.

Plan to avoid injury

Think about how you will minimise the risk any hazards pose.

Inform the team

Brief those who will do the work on any hazards and how to avoid injury.

Before work starts, brief people planning to work in the garden:

- on how to lift heavy construction materials so they do not risk injuring themselves
- on the safe use of tools
- on protection from sun and how to avoid dehydration.

Have a first aid kit and a knowledge of first aid

Let people know where the first aid kit is located.

Load emergency numbers into your mobile phone.

During construction:

Assist people to use tools safely
Many people will not have used gardening tools before or will have limited experience with them.

Achieve a high quality finish

As construction of garden elements are completed, inspect each and fix:

- sharp edges
- rough or splintered wood—smooth it
- holes and dips in the pathways—make level
- soft soil where people will walk—compact it.

Paths work best when:

- the main paths link commonly used installations in the community garden such as tool storage, compost production facility, shelter/socialising area, allotments and shared garden areas
- main paths are wide enough for a wheelbarrow
- are made of durable, long life materials
- are not costly to maintain in terms of funds, time, specialist equipment and expertise
- are maintained so that they are free of weeds
- do not have depressions where water pools
- are well drained so that rills do not develop where water runs off or become boggy
- are made wider and with group gathering places for educational purposes or frequent tours.

Design paths for safe access:

- paths should have no protrusions that would create a trip hazard extending into them from adjacent garden beds or other installations
- paths should be smooth and level for easy passage
- ensure that branches of thorny or wiry shrubs and trees do not protrude over the path; plants with these features are best located well away from paths.

Path Materials

Example

Woodchip

- low cost, easily maintained
- not long lived—needs replenishing
- not smooth—more difficult for those in wheelchairs or using walking aids
- reuses waste materials
- when replacing woodchip the old material can be composted as it will have started to breakdown while in the path.



Paving

- new or recycled bricks, pavers
- expensive
- durable
- easy to maintain
- looks good
- low maintenance.



Crushed, compacted gravel

- expensive
- durable
- looks good
- smooth
- low maintenance—need to remove weeds that germinate in it.



Fences

An increasing number of councils prefer community gardens to be unfenced or to have only a low fence rather than have a high chainlink or similar fence around them.

Low, metal fences with childproof gates:

- delineate the community garden area
- retain gardeners' young children within the garden enclosure
- deter dogs entering the garden (some gardens may permit the dogs of gardeners).

Fences should be visually compatible with the area the community garden is located in. If located in a park, the fence should complement its overall visual design.

High fences send the wrong message

High fences and locked gates send the message that the public are not welcome in the garden and that it is for the exclusive use of the gardeners.

This can lead to resentment and accusations that community gardens are exclusive places and that this is wrong in public open space. A counter argument has it that other council-provided recreational facilities such as tennis courts and bowling greens in public open space are exclusive and are protected behind high fences and locked gates, and that these set a precedent for community gardens to be similarly fenced.

Increasing urban population densities and limited public open space, as well as avoiding being accused of alienating public open space, are driving the move towards unfenced or low-fenced but publicly accessible community gardens.

Because some community gardens occupy public open space such as areas within city parks, councils might not licence exclusive use of the area occupied by community gardens. Visitors may come into the gardens to look and to engage in activities that do not obstruct gardening and the activities associated with it.

Unfenced or low-fenced community gardens might experience some vandalism but experience suggests this is usually minor. Only in high-vandalism areas would community gardens require high fences and locked gates.



A low, metal fence keeps children in and dogs out.

Terracing—erecting retaining walls

Terracing is a proven means of turning the sloping land of a hillside into flat land for gardening.

It is because terraces are cut into the slope that they need retaining walls, however the construction of retaining walls requires specialised knowledge if they are of anything more than minimum height.

Terracing a slope requires protracted and careful thought rather than protracted and thoughtless action. Retaining walls of brick or other materials may require the marking of their path across the slope, drainage, a firm foundation, a degree of incline from base to top as well as solid construction.

All but the most minor terracing needs considered planning. Steepness of slope, width of the terraces, depth and type of soil, narrow path access along the terrace and materials suitable for the terrace retaining wall are some of the considerations.

Retaining walls above a certain height may need local government approval—check with your council.

If you have not built a retaining wall or terraced a slope for cultivation, seek the advice of community gardeners or people experienced in garden construction.

DIY community gardens

Many of the materials in this publication will be unaffordable to participants in underfunded community gardens.

Gardeners will need ingenuity to maintain construction quality with the sometimes plentiful supply of discarded materials found in our towns and cities. Here, the advice of experienced gardeners will prove valuable.

Ideas for funded community gardens

This publication was originally written as a guide for adequately funded and gardener-built community gardens in public places such as city parks.

The assumption was that community gardeners would receive a council grant as start-up capital and that this would fund the use of quality garden construction materials.

Alternatively, councils would fund construction so as to ensure that safety and visual qualities were maintained in public places.

The DIY approach

Community gardens sometimes receive minimum or no funding. These make use of found and recycled materials that have sometimes been used with skill and good design and sometimes not.

Even in this situation, however, councils will insist on a quality of construction and finish that is compatible with public safety and health.

using salvaged materials

Commonly, underfunded community gardens will be built from salvaged hardwood planks, bricks and sheets of metal roofing material. Old enamelled bathtubs might be turned into water crop gardens and

containers of various types and materials reused as raised gardens.

With the garden well designed and with a little artistry to decorate containers that look too industrial, a melange of materials can be made into a funky looking community garden. Without design, however, you have visual confusion.

What is important in using salvaged and recycled materials is that the garden beds and other constructions are assembled sturdily and that they are finished well, without the risk that people will get splinters from rough timber or cut

themselves on sharp metal edges.

It is important to properly join the corners of garden beds, where sides meet, and to avoid gaps in the sides so as to reduce weed invasion from paths left to grass.

Avoid storing large quantities of unused recyclable materials on site where they may become an eyesore,

The photos below show gardener-constructed community gardens.

The garden in the top photo, in Tasmania, makes use of materials that the gardeners have salvaged.

The garden in the lower image, in Perth, Western Australia, makes use of timber sleepers the acquisition of which would probably have been assisted by a grant.



Useful resources for community gardeners and councils

Resource

Location

Australian City Farms & Community Gardens Network

Useful information on community gardening for gardeners, researchers and local government.

<http://communitygarden.org.au>

Safety in the Garden fact sheet

<http://communitygarden.org.au/network-fact-sheets>

Template to develop a management and governance plan for community gardens

<http://communitygarden.org.au/management-plan-template>

Checklist for new community gardens

<http://communitygarden.org.au/network-fact-sheets>

Landshare Australia

Connects growers with people who have land to share.

www.landshareaustralia.com.au

Mulchnet

Connecting people needing mulch with people who have supplies to share.

<http://www.mulchnet.com/index.php>



The author, Russ Grayson, is media contact for the Australian City Farms & Community Gardens Network, an organisation that networks community gardeners, people working with educational gardens in school, local government staff working with community gardeners and people participating in community food systems.

He has produced policy to enable community gardening and has started community gardens for local government

and worked as community garden coordinator for the City of Sydney.

He believes that community gardens offer new opportunities for the creative interaction of citizens with public land and encourage community enterprise, helping to make our towns and cities places of opportunity.



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