

# open space design guidelines



For Landcom Projects



# open space



Victoria Park

We design communities with people in mind

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# setting the scene

A growing body of research from around the world is adding weight to what most of us have intuitively believed, that our parks and open spaces are good for us. But what is also emerging from this research is that the quality of design of our public open spaces has a direct bearing on how often we use these spaces, how safe we feel when we are there and what level of enjoyment and wellbeing we gain from the experience.

As a government agency with responsibility for delivering sustainable communities, Landcom is aware of the critical role that public open space plays in developing and nurturing those communities. We have developed these Design Guidelines to help us and our partners deliver the best outcomes for open space that we can; the results, we hope will be places that are much loved, well used and greatly enjoyed.

## Our Objectives

In the design and delivery of public open space in new and existing communities in which we play a key development role Landcom's objectives are:

- To demonstrate our commitment to best practice in open space planning and design.
- To engender shared values within Landcom as to what defines best practice in open space design and delivery.
- To demonstrate a consistent, accountable and transparent process for open space design, delivery, management, maintenance and handover to all of our partners and stakeholders in that process.
- To provide a framework upon which more detailed design and delivery processes can be built.



## The Target Audience for these Guidelines

We intend that these Guidelines be a valuable resource for use by a range of agencies and individuals with whom Landcom has any engagement in the design of open space. In particular we have written the Guidelines to assist the negotiations between the two principal partners in delivering high quality public open space, namely:

- **The End Owner;** usually this means the Local Council, but it could also include a State Government agency, a Trust, Community Title Management or other agency to which the space is transferred.
- **Landcom Development Staff;** principally this involves the Development Managers who carry the primary responsibility for project establishment and delivery, but other Landcom staff involved in the process such as the Builder Co-ordination Unit and Marketing Department will also find the Guidelines important in meeting their goals.

Other parties for whom the Guidelines may also prove a valuable design management tool include:

- Landcom's Joint Venture Partners, in assessing open space planning and funding requirements.
- Project Management Consultants in preparing design briefs for open space.
- Design Consultants in preparing the designs for open space.
- Other government departments and agencies involved in design policy and planning consent.
- The broader community in understanding how Landcom will deliver public open space.



## The Starting Point for these Guidelines

These Guidelines form a reference document for all of the parties to use at any stage in the development process, but they are primarily focused on the processes that follow preliminary subdivision or site development planning.

The Guidelines therefore start from the assumption that during preliminary subdivision or site

development planning, best practice principles in open space, recreation and urban planning have been applied to the siting, connectivity and integration of the open space to which these Design Guidelines apply. Sources of information and useful references for open space and recreation planning can be found in the Glossary and References section.

## The Planning and Policy Context

Landcom has developed a range of policy documents and guidelines that direct our approach to aspects of design, planning and social development for the many and varied residential projects that we deliver. Of particular relevance to these Guidelines are the following documents:

- Social Sustainability Policy 2007.
- Street Design Guidelines 2006.
- Water Sensitive Urban Design (WSUD) Policy 2004.
- Stakeholder Engagement Workbooks

Likewise Councils and other End Owners will usually have developed important planning and policy documents that will inform their own approach to open space development, planning and design.

Typically these might include:

- Recreation and Open Space Plans for the Local Government Area (LGA) or defined localities.
- Section 94 Contributions Plans for Open Space.
- Development Agreements.
- Design Guidelines such as Landscape Development Control Plans.
- Generic or Geographic Plans of Management.

Both Landcom and the End Owner should expect to share such information and seek to find mutually agreeable outcomes based on these documents and policies.



Social, financial and environmental sustainability are the core objectives of these guidelines, applying equally in inner urban, suburban and rural development contexts. Photo - Victoria Park



The policy approaches and detail requirements of those parties that will ultimately own the public open space that Landcom develops will vary from one organisation to the next. The purpose of these guidelines is therefore to provide the principles and delivery processes around which the parties can negotiate the best outcomes. Photo - Prince Henry

## What we mean by Public Open Space

Definitions of public open space can vary widely but for the purposes of these Guidelines we are focused on the typical forms of public open space for which Landcom is responsible for delivery through its development projects. Typically these would include:

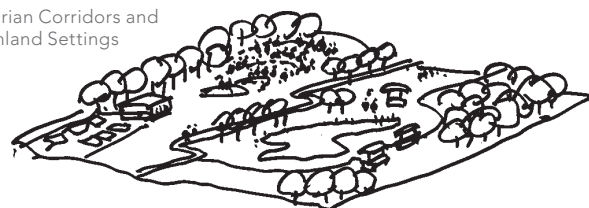
- **Parks** ranging in size from 0.5 hectares (Ha) to 2 Ha or more offering a range of recreation opportunities extending from a place to sit in the shade through playgrounds, circuit paths, water bodies, picnic and kickabout areas to larger parks with sports facilities. While new parks should ideally be no smaller than 0.5Ha this may vary in urban infill sites, where a minimum 0.3 Ha is generally considered the smallest viable size for most local informal recreation activities.
- **Corridor Open Spaces** often associated with creeks, rivers and harbour foreshores or bushland with a focus on pedestrian and cycle paths in a setting of linked open spaces (note that the Guidelines exclude the formal Riparian Corridor zone that is administered by the NSW Department of Environment and Climate Change (DECC). Design integration of the boundaries to these zones is however addressed).

Excluded from these Guidelines are other areas of the public domain, the design and delivery of which would be covered by other guidelines or other government agencies. These exclusions include:

- Streetscapes (see Landcom Street Design Guidelines 2006).

- Private open space on lots.
- Plazas, civic spaces and public buildings.
- Riparian Corridors

Riparian Corridors and Bushland Settings



Larger parks (up to several hectares) incorporating facilities such as sports fields and courts



Smaller parks from 0.5 up to 1 Ha mostly focused on passive recreation uses



Corner Parks or Playgrounds usually inner urban infill sites only



Figure 1.0 Some typical public open space settings.



Walking the dog provides encouragement to their owners to undertake regular daily activity and also fosters social engagement with other dog owners. The design of parks and open spaces should encourage such recreation and, where this does not compromise other park users, incorporate off-leash areas. Photo - Garden Gates



Public open spaces should provide opportunity for informal physical activity for children, especially within residential areas where private gardens are small or non-existent. Photo - Forest Glade

## Recognising the Challenges

Local Councils and other agencies responsible for the development and long term management of public open space often face a raft of challenges to their objectives of meeting community needs. Hurdles to be faced might range from budgetary strictures to safety management, vandalism and environmental constraints. Landcom recognises the

difficulties these constraints can impose on Councils and will always consult in good faith on these issues. Nonetheless we remain committed to delivering high quality outcomes for our communities, seeking compelling and enduring solutions that are as financially sustainable as they are environmentally and socially sound.

## A Commitment to Meaningful Consultation

Meaningful consultation leads to meaningful outcomes on the ground. We will always seek to consult transparently with the key stakeholders to all of our projects, be that with existing communities that could be affected by our developments or with Council and other agencies and approvals authorities concerned.

As the consistent stakeholder in most projects we are especially focused on the importance of consultation for the life of a project with the Local Council. While the processes will vary from one project to the next Table 1.1 illustrates a typical consultation process that we would seek to agree with Council for a medium to large project. Consultation at senior levels both within Landcom and Council at key strategic stages is essential.



Where a development is proposed for an area within an existing community, it is essential to consult them on their knowledge of the area and its existing recreational qualities. Where no community exists there is ample data on which to draw for the likely needs and aspirations of the expected demographic.

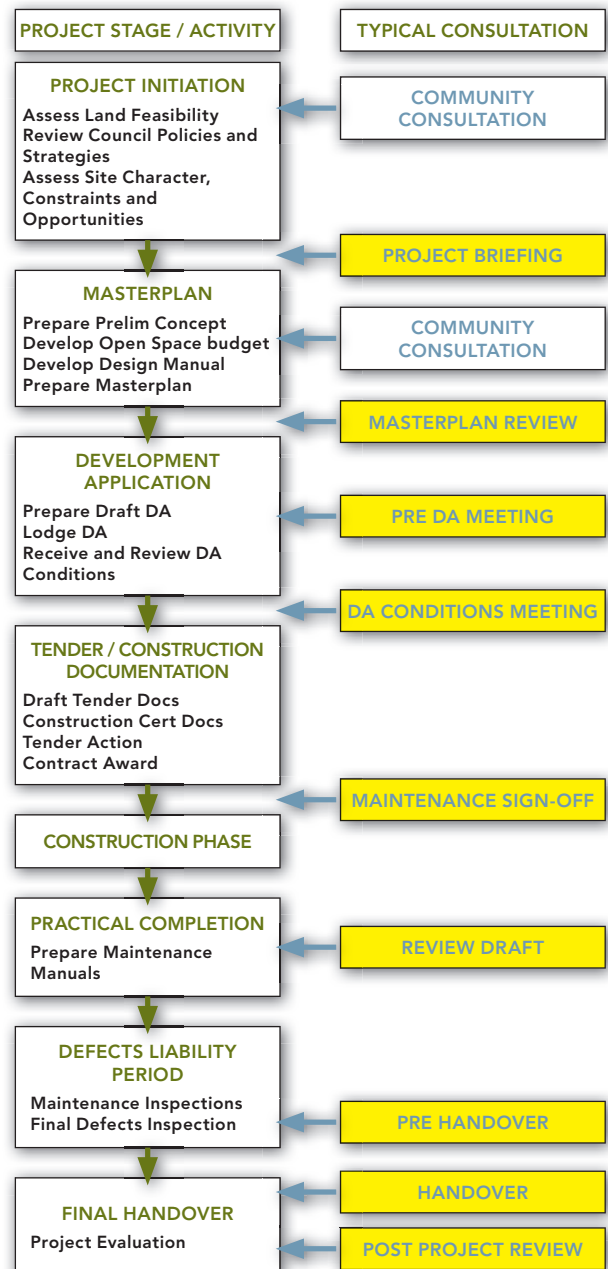


Table 1.1 Typical development consultation process for a medium to large project (yellow is Council consultation)



## The Importance of Formal Documentation

Timely, consistent and continuing communication between Landcom and Council concerning the design and delivery of any project is an important principle that underpins these Guidelines. It is also essential that any agreements between us be properly documented as the project evolves. To that end a simple Memorandum of Understanding (MoU) on the basic agreements is a sound starting point. This MoU would also compliment Section 94 and other plans for the project. Some matters that might typically form part of the MoU in the early stages could include:

- Agreed design standards.
- Consultation strategy for community stakeholders (eg method and timeline), if applicable.
- Lease and license requirements (including revenue raising opportunities for covering maintenance).

- Special marketing features that may be removed at handover.
- Ownership and transfer arrangements.
- Land classification requirements and implications.
- Maintenance service levels and anticipated annual costs after handover.
- Special recurrent funding arrangements for maintenance after handover (if any).

The MoU can be fleshed out progressively during the life of the project as the details evolve with the development's evolution. A checklist for key topics can be found in Part 4.



Special events in parks aid community development and can sometimes assist in cost recovery of park upkeep. Carefully considered park design will do much to ensure that impacts on other park uses and users are minimised before, during and after such events. Photo - Victoria Park



High design quality should not imply high maintenance costs. Integration of environmental sustainability - applied to site planning as well as materials - will usually result in lower maintenance and replacement costs. Photo - Victoria Park



Increasing attention to restoring riparian and bushland corridors is enhancing the natural and recreational values of our waterways; integrating approvals processes and delivery with the agencies concerned requires early planning and consultation. Photo - The Ponds



Landcom's Social Sustainability Policy places particular emphasis on community activity and events in new and developing communities; parks are an important focus for such activity. Photo - Victoria Park

## How To Use These Guidelines

While it is not intended that these Guidelines be used as a day-to-day operational manual they are expected to direct key aspects of the design process for our projects. Importantly they provide direct, hands-on features in their later sections where simple checklists enable the project team (and indeed the approvals authorities) to determine in what way the project has addressed the Design Principles at the heart of these Guidelines and what areas of design and delivery need to be agreed between the parties. The principal elements of the Guidelines are:

### Part 1 - Design Principles

This section forms the core of the Guidelines establishing the key Principles upon which open space is to be designed, delivered and managed. A common format is used to detail each of the 8 Principles and their associated design Guidelines:

- **Why this is Important:** A description of why the Principle is central to open space design.
- **Guidelines:** Detail how the Principle is demonstrated and realised.
- **Photographs:** These annotated photos illustrate best practice examples that demonstrate these Principles.

### Part 2 - Design and Delivery

This section defines the objectives for a successful delivery program from design and documentation to 'Final Handover' to Council.

### Part 3 - Ownership and Maintenance Handover

This section describes the objectives and some of the processes that will assist a smooth transition of handover of ownership and long term maintenance.

### Part 4 - The Guidelines Toolbox

This section provides some simple checklists to establish that delivery processes and Design Principles are being met as the project progresses.

### Parts 5 - Glossary, References and Acknowledgements

This section provides a description of terms and useful references and publications.



Parks and open spaces can perform varying functions beyond simply the recreational, as here where a carefully considered design subtly integrates stormwater detention during peak storm periods. Photo - Victoria Park



It is often the simple and most enduring features of our parks that are the most used. A well placed and comfortable seat from which to watch children play or simply observe the world go by is a valuable asset in any park. Photo - Newbury



The Design Principles in these guidelines seek to promote designs for open space that connect people with the natural environment in all development types and locations. Photo - Victoria Park



Adding value is as important as breaking new ground in parks and open space design, especially where new developments lie within degraded or over-mature natural environments. Photo - The Ponds

part 1

# design principles



Worrell Park

FOR LANDCOM PROJECTS

# 1.0 Principles

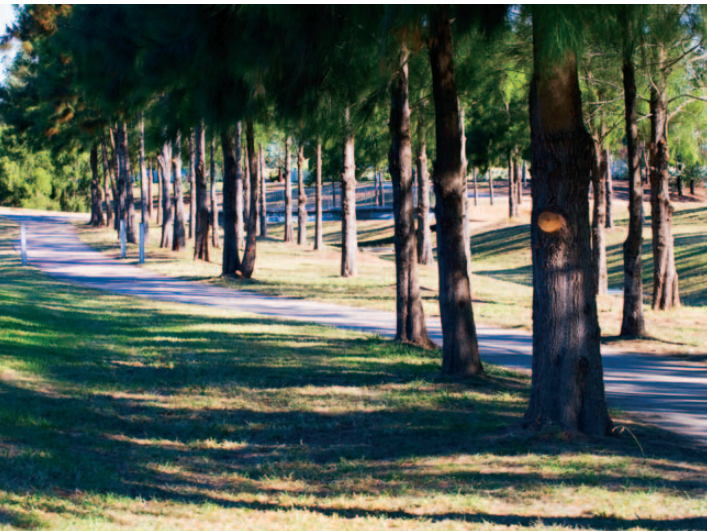
This section forms the core of the Guidelines establishing the eight key Principles upon which open space projects will be designed, delivered and managed. Inevitably there is some degree of overlap between the Principles, so it is important that they are read and understood in their totality.



Childrens' play experiences are often some of their most memorable and parks are often the setting for memories and stories that cross generations. Photo - Victoria Park



Increasingly the most frequently used public open spaces are those adjoining retail areas. Their design must meet the aspirations of a wide range of users if they are to be well-populated and safe spaces. Photo - Rouse Hill, Landcom, Lend Lease and GPT



Attractive paths with circuits of varying lengths and ample, safe connections into the urban setting encourage walking for fitness and leisure. Photo - Garden Gates



This simple and robust design feature exemplifies multifunctionality. The same element incorporates sheltered seating for sports spectators, a shaded place to supervise play and an ideal and durable edge for skateboarders. Photo - Mills Park Asquith

# 1.1 Be meaningful to place and community

## Why this is important

Successful and enduring parks and open spaces are those that remain relevant to people's day-to-day lives. Such success is not only a function of the available recreational facilities but more importantly for people, the connections that those places make with their community, their environment and their history.

## Guidelines

- Integrate physical geographic features of the place into new designs where these are central to the environmental values of the site (eg topographic features, trees, water bodies etc).
- Conserve and integrate historical and heritage features of both Aboriginal and Non-Aboriginal origin in a manner that enhances their values (i.e. protection that optimises access, provides an appropriate landscape setting to buildings, memorials and places to appreciate their former context and uses etc).
- Use landform, landscape, public art, and interpretive media (signs, brochures etc) to tell the story of the place.
- Stimulate imaginative play through the design of spaces that respond to the geography and history of the place (eg sculptural play, use of water etc).
- Optimise the sensory experience of the place through design. In particular offer opportunities for those with sensory or physical disabilities to use smell, sound and touch to enhance the user experience.
- Employ materials and designs that are local and particular to the place wherever practical.
- Design spaces that enable/accommodate community based events, celebrations, memorials, markets, etc.



The appropriate application of traditional elements in park design, such as picket fences for sportsfields, provide important cultural associations for new communities. Photo - Garden Gates



Providing access to the water's edge allows the community to reconnect to the riparian corridor, fostering an understanding of the values of local natural systems. Photo - Bicentennial Park.

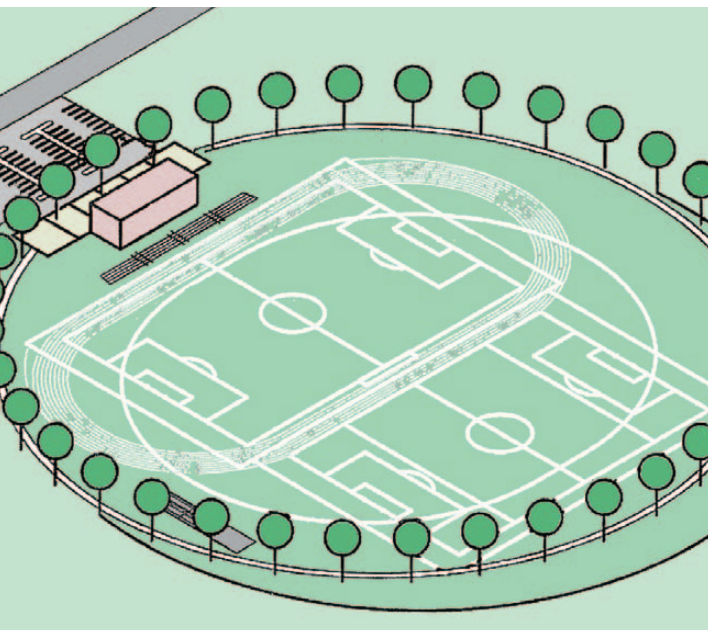
## 1.2 Be multi-functional and adaptable

### Why this is important

Communities and their recreational needs change over time. Multi-functional and flexible spaces adapt well to those changes, allowing for a range of users to enjoy the same space at different times and also for the space to evolve, mature and adapt over time to meet the changing needs and aspirations of the community it serves.

### Guidelines

- Identify physical and cultural features (topography, heritage etc) that might determine potential opportunities for multi-functionality and co-location of facilities (eg existing buildings as visitor centres or function spaces).
- Explore design opportunities to locate recreation facilities close to other compatible facilities (eg community facilities such as indoor sports venues, schools, community halls etc) to maximise joint use and minimise duplication of facilities and infrastructure.
- Identify design opportunities to create flexible spaces for community events (eg playing fields for community fairs, hard stand areas for community markets) and provide permanent infrastructure for spaces intended for special events (eg water, three phase power, sewer connections for temporary toilets, etc).
- Design sports facilities for the optimum practical range of multi-users (eg multi-court line markings, artificial surfaces, removable sporting infrastructure) and co-locate active sports and passive recreation facilities to maximise use during and outside training and competition periods (eg children's playground, picnic facilities, etc).
- Use amenity night lighting to encourage safe evening use and sport lighting to extend the usable hours and training/competition options (consider potential impacts on native fauna and residential amenity of any lighting strategy).
- Implement sustainable multi-functionality through the use of robust materials, design and management (to sustain intense sporting use of fields, consider the use of artificial surfaces, options to re-orientate fields to change direction of wear, using recycled water for irrigation, soil profile specification, effective drainage, etc).
- In early phases maintain a simple and adaptable design that will allow for future enhancement of the space as funds become available and as the community's recreation preferences become clearer.



In this example the sports field has been designed with multiple users in mind, including provision of an all weather surface, field markings that can be easily changed and removable goal posts. Image – CLOUSTON Associates



Adaptability and multi-functionality for sports facilities involves not only multi-use fields and courts for various codes across seasons, but also the integration of unstructured recreation facilities such as circuit paths, play and spectator viewing locations.

## 1.3 Provide diversity

### Why this is important

Every community is diverse in its character and needs, so landscapes and spaces that are equally diverse will meet a wide range of those needs, whilst also being unique in their particular character.

Planning and design of open spaces play a critical role in conserving and enhancing that uniqueness and diversity.

### Guidelines

- Apply universal design principles (i.e. consider the design's accessibility, functionality and useability for a diverse group of users) and provide basic facilities with the widest appeal to the maximum number of users (eg sun, shade, trees, lawn, paths, seats, picnic facilities, etc).
- Connect and relate to adjoining land uses and open spaces in the area, to maximise opportunities for a diversity of experiences.
- Provide facilities that cater to or are adaptable to a range of age groups and cultural backgrounds (eg playgrounds that cater for various age groups, pit barbecue areas for cultural celebrations, seating for elderly, graded paths suitable for wheelchair access, etc). Use demographic analysis of the area or future community to determine particular cultural requirements.
- Design for seasonal variation to provide a diversity of experience all year round (eg deciduous trees for variations in sun, shade, spring and autumn colour, etc).
- Ensure that sports focused facilities also provide for passive recreation opportunities that cater for spectators and those who have accompanied the sports participant (shade, play, seating, walking paths and the like). In family situations this encourages parent as well as grandparent involvement and sibling engagement.



One of Sydney's best loved water features is successful not simply because of its scale but in large part due to its universal appeal to a diverse community of users. Its sculptural qualities make it an engaging feature even when the water is not flowing. Photo - Darling Harbour, Sydney.



Diversity of recreation opportunity does not have to imply complexity of design; indeed, simple spaces that appeal for quiet reflection at certain times of the day can at other times be equally suitable to lively activity. Photo - Victoria Park



The picnic shelters and tables at "The Dairy" in Western Sydney Regional Park tell the story of the land's former uses as a dairy farm, providing a functional yet different experience from the typical barbecue and picnic setting.



The use of deciduous trees at Park Central offers variation in colour and texture through the changing seasons.

## 1.4 Encourage social interaction

### Why this is important

For many new communities and for residents joining existing communities the public domain is a focal meeting place for establishing new and enduring relationships. Whether it be individuals meeting while walking their dogs in the park, parents meeting other parents with toddlers at the playground or children and adults playing or watching sport, well planned spaces promote opportunities to interact socially; such healthy public spaces encourage healthy communities.

### Guidelines

- Design paths, crossing spaces and seat locations to encourage incidental social interaction (shaded seats within play spaces, sports spectator seating and shaded standing areas, kiosks, drinking taps for dogs and the like are all features and places that encourage incidental conversation and social interaction).
- Provide opportunities in the design for spaces that are adaptable to local cultural activities throughout the year (eg level spaces for temporary market stalls, marquees, etc). Incorporate infrastructure and facilities that are suitable for - or adaptable to - community events (eg stage/amphitheatre, external power connections, water connections, suitable lighting etc).
- Ensure park design structure will allow for future enhancement of the space as the community's appreciation of the space evolves with time and use.
- Plan and designate appropriate future locations for community-generated memorials and icons (eg memorial plaques, interpretation, tree plantings, sculpture and public art).
- Plan and design spaces to minimise user conflicts (common conflict issues include off-leash dog behaviour, cycle and pedestrian clashes, noise generating activities adjoining quieter areas or local residences, 'hogging' barbeques by occupying the space for hours at a time etc).
- Involve the new community, where possible, in the design, maintenance and progressive enhancement of the space through consultation and participation (eg meet the neighbour barbeques, planting days, adopt-a-park programs, social events, volunteer rangers etc).
- Identify opportunities to integrate open space into existing community and social plans and programs (eg Bushcare, youth programs, Streamwatch, etc).
- Provide information to new residents on recreation opportunities and special events in parks through their Welcome Package.



Large scale cultural events have risen in popularity providing opportunities for celebration and community building. Photo - Hyde Park, Sydney.



Simple and inexpensive features such as chessboards provide a focus for regular social interaction. It is important however that a clear management system be in place to maintain and operate such facilities. In some cases this may require that an adjoining community facility, cafe or kiosk be given this responsibility as part of their operating conditions. Photo - Hyde Park, Sydney.



## 1.5 Promote health and wellbeing

### Why this is important

Ongoing research around the world demonstrates a direct relationship between our quality of life and our access to open space and nature. With 90% of Australia's population now living in urban environments in which the quantum of private open space is also decreasing, community access to high quality, safe public open space plays an increasingly critical role in the community's health and wellbeing.

### Guidelines

- Provide on and off-road pedestrian and cycle connections to open space to encourage walking and cycling access and incidental physical activity, to promote environmentally friendly transport options and to cater for independent mobility, especially for adolescents needing access to sports facilities.
- Integrate circuit or boundary paths wherever possible to provide for walkers, joggers, cyclists, dog walkers, etc (boundary paths around sports fields can often also act as a maintenance boundary and a controlled drainage collection point where sports facilities adjoin bushland or waterways).
- Provide space for rest and relaxation where interaction with the natural environment can best be experienced (contact with nature - trees and birds - is one of the principal reasons cited for visiting parks).
- Create a comfortable microclimate throughout the year and through variations in weather. Design to maximise seasonal opportunities for summer shade and cooling breezes (includes shade structures over larger play facilities, until such time as trees can provide the same shade), winter sun and protection from cold winds (use of deciduous trees and planting as wind barriers) and shelter from rain (trees, picnic shelters, etc).
- Design, specify and maintain sports surfaces to minimise the potential for sports injury (eg cross falls to standards, design of soil profiles to avoid compaction and maintain drainage etc).
- Incorporate amenity lighting wherever practical to encourage evening use and an enhanced sense of safety.
- Orientate and design the space to maximise the impact of local and distant views. A sense of space and one's place in the landscape are important to personal wellbeing, especially in dense urban areas, where middle and distant views provide these valuable connections.
- Maximise the visibility of open spaces from within the development. The aesthetic value of parks and open spaces and the knowledge of them 'just being there' enhance wellbeing, even for those who rarely visit them.
- Enhance the sense of safety and personal security through the application of 'Crime Prevention Through Environmental Design' (CPTED) principles. See 'Safety, Security and Risk Management' in Section 2 for further details. This will encourage greater use and thereby increase a sense of security.



With demand for sports facilities growing in many areas, the use of all weather surfaces ensures that more people can participate in healthy and regular sports activity.



Provision of linked pedestrian and cycle networks to key destinations encourages use for both transport and recreation. Photo - Bicentennial Park.

## 1.6 Provide equity and accessibility

### Why this is important

There is strong evidence from research in Europe and the USA that residents and workers with easy access to parks tend to exercise more; furthermore there are also direct correlations between park access for young people and their mental health and socialisation. It is therefore not surprising that well used and much loved public open spaces are invariably those that are easily accessible to all members of the community.

### Guidelines

- Ensure designs cater for people who have sensory or mobility impairments and also for those with prams (ramps, even pedestrian surfaces, handrails, tactile hazard warning etc should all conform with Australian Standard 1428). Other facilities and design features such as drinking bubblers that allow wheelchair access, seats with armrests and companion spaces for wheelchairs beside seats should be common features.
- Ensure that the layout and design offers recreation opportunities that are inclusive of all members of the community, whatever the age, gender, socio-economic or cultural background.
- Maximise all connections to the space, especially for pedestrians, cyclists, and users of public transport.
- Use riparian and bushland corridors to enhance accessibility within the open space network (where use will not compromise the biodiversity functions of the corridor) and as an access route to and from other day-to-day destinations such as schools, shops, public transport and work.
- Ensure that all public spaces are visibly and evidently public in nature to encourage use by all members of the community wherever environmental robustness permits (gates, fences and other barriers should be limited in use except for playgrounds or where they ensure public safety or secure highly sensitive environments).
- Provide facilities that are responsive to the cultural as well as the recreational needs of the community that the space will serve (eg traditional picnic shelters and barbecues may not adequately respond to cultures that socialise in large extended family groups or that have special food preparation requirements).
- Design access to sensitive landscapes to manage impacts and enhance wider appreciation of the values and sensitivity of these locations (eg boardwalks are equally as effective in controlling access in sensitive bushland environments as they are in wetlands; interpretative information panels also express the importance of place and sensitivity to access).
- Design safe access to the edge of waterways or to elevated viewpoints wherever possible and practical. Safety elements such as railings and safety barriers should be designed to minimise their visual impact on the landscape while maximising the visitor experience. Level changes can often be used to achieve the same effect with limited visual impact.
- Design paths and wayfinding signage to improve accessibility, orientation and connectivity of spaces and functions (i.e. recognise desire lines and provide direct path routes or controls that preclude worn tracks across planting or turf).



Boardwalks at Victoria Park add interest to the landscape and provide access over urban stormwater swales.



Simple built elements, such as handrails, ramps, sealed paths and tactile ground surface indicators can improve the accessibility of open space to people who have sensory or mobility disabilities. Photo - Koala Bay

## 1.7 Embody environmental sustainability

### Why this is important

We often describe our parks as the 'green lungs' of our towns and cities, supporting mental and physical health and wellbeing and the diversity of recreation experiences. So at a time when development within urban catchments is intensifying, when climate change is a recognised phenomenon and when drought cycles are impacting the health of open space areas, the role of our public spaces in conserving and enhancing the natural environment and returning ecological values to our environment becomes ever more critical.

### Guidelines

- Retain and extend the existing natural values of the space wherever practical, including enhancement of biodiversity, flora and fauna habitat value, energy conservation, and microclimate.
  - Locate, orientate and design the open space network to maximise wildlife connectivity and reduce habitat fragmentation.
  - Protect conservation areas and manage parklands as buffers to such environments, providing controlled access between the managed parklands and natural or rehabilitated areas where this will not compromise the environmental values of the conservation area.
  - Provide opportunities for the environmental values of the place to be interpreted and used as an educational and research resource.
- Locate open spaces for maximum walkable and public transport access by as many in the community as possible to reduce car dependent access.
  - Design and plan the open space and facilities for energy and water conservation, optimised lifecycle and selection of materials with low embodied energy.

Such initiatives might include:

- Managing stormwater to improve water quality and integrate with Water Sensitive Urban Design.
- Harvesting of water for reuse in irrigation and toilets.
- Rehabilitating waterways.
- Low water low maintenance demand planting.
- Use of mulch to retain soil moisture and composting leaf litter and grass clippings.
- Use of recycled materials in construction including materials salvaged from site and reused.
- Use of solar energy for lighting and low voltage electrical facilities (barbeques etc).
- Minimised mowing requirements.
- Minimised and balanced cut and fill in earthworks design.



Interpretation of natural systems provides an educational tool for promoting environmentally sustainable initiatives. Photo - Bicentennial Park.



Water Sensitive Urban Design (WSUD) in practice at Victoria Park. Intermittent kerbing allows water to flow into vegetated swales assisting filtration of the urban water run-off. Strategically placed boardwalks maintain access through the space.

## 1.8 Ensure financial sustainability

### Why this is important

An understanding of the long term financial sustainability of the open spaces we create is essential if community aspirations are to be realised and the quality of those spaces is to endure. In reality many of the most important and basic elements in our public spaces are not expensive to construct and have low ongoing maintenance costs.

For example, paths, trees, grass, and seats are the simple features of our parks that have endured for centuries and generally hold the widest appeal. Careful design and planning of the more significant and expensive facilities that are required can also ensure sustainable ongoing maintenance costs and achieve long lifecycles.

### Guidelines

- Establish realistic budgets for open space at the outset of the project budgeting (there is a tendency to underestimate the real cost of landscape works amongst those not familiar with landscape construction). Use of industry standard m2 rates for different generic landscape treatments can provide a useful budget estimate in the initial budget phase.
- Design open space with minimisation of maintenance costs in mind, wherever practical. This often goes hand in glove with environmental sustainability (eg use of native species, low water demand planting, minimal mowing requirements, use of recycled materials).
- Consider the life cycle costs of materials in constructing and managing the open space including, operating, maintaining, replacing, and de-commissioning facilities and services.
- Use robust and enduring materials and products that are affordable to replace and where practical focus one-off items and features that are not readily replaceable to landmark locations and features.
- Incorporate revenue raising opportunities where appropriate (eg cafes, kiosks, events, bike hire, film licensing, etc) where these meet the criteria of:
  - Being leisure and recreation oriented;
  - Compatibility with adjoining land uses and being actively integrated into the open space;
  - Being effectively and financially operated; and
  - Directly contributing revenue to the cost of maintaining and upgrading the open space or facilities.
- Consider long term financial sustainability in the design processes, particularly with relation to Council's maintenance after handover. Matters to consider include:
  - Maintenance requirements (staff and equipment).
  - Required expertise of the maintenance team.
  - Service levels and community expectations.
  - Maintenance and replacement budgets.
  - Preference for the use of certain materials, finishes, furniture and fixtures.
  - Vandal resistance of materials, finishes, furniture and fixtures.



The opportunity to sit and have a meal or a drink in a park setting has wide appeal, encourages greater use of the space and can generate revenue towards park up keep. Photo - Hyde Park, Sydney.



Outdoor community events in parkland settings have gained broader community appeal and include events from local community celebrations to large outdoor concerts. Provision of facilities and services to accommodate events offers opportunities for alternative sources of income. Photo - Cockatoo Island, Sydney. Harbour Federation Trust

part 2

# design & delivery



Victoria Park

FOR LANDCOM PROJECTS

## 2.0 Design and delivery

Popular, engaging and enduring landscapes are most frequently those where design excellence has been matched by an equally robust project delivery process. Conversely, many great design ideas are lost in translation through poorly structured implementation phases in a project. A shared understanding of the objectives and expectations of all of the parties achieved through clear communication, consultation and written agreements from the outset of the project (refer 'Setting The Scene' page 2) will avoid later disappointment and under-performance.

This section provides guidance on the objectives and relevant issues, opportunities and constraints that will inform successful project delivery processes from Design Development to Final Handover to the long term managing agency.



Major public open spaces set the social and recreational framework for new communities. Their design and delivery must receive the widest support if they are to be successful places. Photo - Park Central.

## 2.1 Objectives

From Design Development to Final Handover there are three key objectives that guide and direct the project delivery process. These are:

### 1) To retain continuity of design intent.

The Design Objectives and Principles established at the beginning of the project and during concept development should be maintained in all facets of the project outcomes, maintaining continuity in:

- Stakeholder consultation outcomes.
- The marketed vision for the project.
- The authority approved concept/Masterplan.
- The authority approved construction documentation package.

### 2) To achieve a timely sign-off by concurrent authorities / agencies.

While most projects will require Council sign-off, more complex projects may be subject to concurrent approval from one or more State and/or Federal government agencies. Achieving these sign-offs by maintaining regular contact with those agencies throughout the project and being party to their communications and co-ordination with Council will be critical to achieving delivery targets.

### 3) To maintain open and continuing communications with Council and Stakeholders

The context and circumstances surrounding a project may vary greatly as the program evolves. Maintaining open and ongoing communications with Council and stakeholders ensures that any necessary changes can be effected in a timely manner during the project without loss of design intent and while also maintaining budget.



Increasingly, communities, clubs and associations are realising that they need to share facilities. One building within a park can be designed and managed to meet the needs of a wide range of users. Photo - Prince Henry



The ability to combine off-the-shelf features with customised elements ensures the uniqueness sought in early consultation phases is continued through practical delivery on the ground.



Maintaining good communication with Council and stakeholders will ensure success through the masterplanning phase. Photo - Prince Henry Masterplan, Little Bay.



Stakeholder consultation early in the project helps to determine the project vision and objectives. Photo - Willoughby Paddocks

## 2.2 Issues, constraints and opportunities

Set out below is a brief overview of the major issues that commonly arise in project design and delivery and the constraints and opportunities they generate across a range of project types and scales for which Landcom has responsibility.

### Establishing and Co-ordinating Project Teams

At the heart of delivering successful design outcomes on projects of any scale is the level of integration achieved across the consultant disciplines involved (eg landscape design, ecological sciences, civil, services and hydraulic engineering etc), as also with all of the stakeholders. While the Project Manager or Development Manager's role in that process is clearly crucial, it is equally critical that the design leader in the team understands how the technical outputs can best be integrated to achieve the project's overall objectives.

The design leader must actively and regularly bring the team back to the Design Objectives and Principles as the project develops and evolves, especially where legislation, budgets or specific technical requirements may challenge those goals. Commonly, but not exclusively this design lead is the role of a Landscape Architect or Urban Designer, depending on project type or context.

In the same vein, the rigours of Project Agreements or a Memorandum of Understanding (MoU) between Landcom and Council as well as the comprehensiveness and clarity of the Project Brief will be determinants of successful design outcomes. Landcom's Social Needs Analysis will also set the parameters and focus for any open space facilities.

### Landcom's Approach to Consultation

'Early and often' is a successful basis for any form of stakeholder consultation. Landcom is committed to early engagement with all of its project stakeholders, be it with Council, existing communities or other government agencies. Information flow and feedback on results and outcomes to community stakeholders is important, so Landcom is committed to agreeing a community consultation and communication strategy with Council at the outset of a project, where this is applicable (i.e. where the project relates to an existing community).

When consulting with Council on open space it is beneficial to involve the consultant Project Landscape Architect or Urban Designer at the earliest possible juncture; ideally this should be when the initial concepts are being discussed. The consultant should be able to assist in describing and discussing the rationale behind the landscape concept as well as the finer design detail that will follow.

Where a number of government stakeholders and agencies may have a direct involvement in planning approvals for a project (eg DECC, Department of Planning, Sydney Water etc), it is advisable to consider a workshop format for consultation at key stages in the project to ensure integrated outcomes and to assist with achieving timely sign-offs.

For further details on consultation refer to Landcom's Stakeholder Consultation Policy

Illustrated below on this page and the next are three examples of WSUD with definitions from Water Sensitive Urban Design - Technical Guidelines for Western Sydney 2004.



Being able to carry out consultation on site where early ideas can be explained provides opportunities to understand how a concept will work on the ground. Photo - Willoughby Paddocks, Sydney



**Vegetated swales:** are constructed vegetated depressions that collect and direct stormwater runoff from impervious hard surfaces such as roadways, car parks and paving to areas that will benefit from irrigation. Photo – Vegetated swales, Victoria Park



## Environmental Policy

Environmental legislation is changing rapidly and is likely to evolve profoundly in the near future with factors such as climate change driving new perspectives on environmental and landscape management.

In many cases legislative change will occur during the life of a project with potential consequences for design and management outcomes; for example bushfire legislation introduced in 2002 significantly changed the subsequent aesthetics and maintenance requirements for bushland boundaries to new urban development areas in NSW.

While the following list is not exhaustive, set out below are some of the project delivery issues that are generated by the more commonly encountered environmental policy and legislative requirements:

### Water Sensitive Urban Design (WSUD) Policy:

Landcom already has a well developed and comprehensive policy in place that addresses design requirements for Water Sensitive Urban Design (WSUD Policy 2004). This policy and the related "Blue Book" – Managing Urban Stormwater (MUS) should be essential design references in all design projects. For an overview on WSUD refer to page 46.

The challenges of managing water in Australia's predominantly dry climate and cycle of droughts has driven technological advances in irrigation and water harvesting products and techniques as well as changes to government policy on water conservation.

Consequently, a critical consideration of any development in trying to meet best practice in WSUD will be the opportunities to capture, hold and reuse urban water and in how to economise on

the water available for use (eg the type of irrigation system that can be used to achieve a healthy landscape while limiting water usage).

From a design and management perspective considerations in the development of a project design brief should therefore include:

- Local catchment and operational/economic viability of water harvesting and reuse.
- Priority for water use requirements (eg sportsfields, high profile/high use landscapes, sales and marketing areas etc).
- Characteristics of alternative sources of water (eg bore water or recycled water) and suitability to managed landscapes.
- Plant and turf species selection.

While energy and water conservation rating systems such as BASIX and Australian Building Greenhouse Rating (ABGR) relate primarily to buildings it can be expected that similar systems will be introduced for public landscapes in the foreseeable future.

### Bushland and Conservation Area Management:

Environmentally sensitive landscapes adjoining residential areas pose a series of major design and maintenance challenges, including integration, accessibility and the activities that may be permissible within these zones. Specific design considerations may include:

- Guided access (fences, gates and paths/boardwalks).
- Practical means of protection for threatened species/habitats.
- Weed prevention/eradication.
- Groundwater control and drainage design.
- Appropriate interpretation.



**Bioretention Systems:** are a surface and sub-surface water filtration system incorporating both plants and underlying filter soils for removal of contaminants. The vegetation enhances the filtration process as well as maintaining the porosity of the filter media. The filter media is usually the plant growing material, which may comprise soil, gravel, sand and peat mixtures. Photo - Bioretention System at Victoria Park.



**Vegetated Filter Strips (or buffers):** are broad, sloped open vegetated areas that accept shallow runoff from impermeable areas as distributed or sheet flow. Photo - Revegetation works at Smeaton Grange.

Similar parameters will prevail for significant Aboriginal and Non-Aboriginal cultural heritage sites, especially those with low robustness. Negotiations with the agencies with specific responsibility for their legislative protection and with the party that will assume management in the long term will be crucial from the outset.

**Bushfire Management:** Bushfire protection legislation in NSW requires that Asset Protection Zones (APZ) be provided in bushland environments to ensure that there is a sufficient fire break between vegetation and development.

These zones generate particular design and maintenance implications for development boundaries, for example in requiring sparse unlinked canopy in locations where a strong bushland edge may be desirable from an aesthetic perspective. These zones are also required to provide sparse shrub/ground layer treatments, raising issues of the most suitable planting selection and design that will retain ecological value and still be practically maintainable.

The ability to use roads, paths and managed turf as part of the APZ buffer and the co-location of barbecues and playgrounds in these zones can reduce maintenance, aesthetic and recreational impacts. All APZs should be designed in accordance with 'Planning for Bushfire' (NSW Rural Fire Service, 2006).

**Riparian Corridors:** Riparian corridor legislation provides for specific environmental outcomes centred on habitat connectivity and integrity. While a lesser corridor width can sometimes be agreed with the State Government, the standard minimum requirement for a riparian corridor width of 40 metres from top of bank can have significant design

and maintenance implications through a number of factors such as:

- Species selection within the corridor being prescribed by the relevant approval agency.
- Requirements for project plant stock to be grown from seeds collected from locally existing plant species (provenance species) with potential program implications (refer Program and Staging on page 34).
- Control of physical and visual access to waterway edges limiting public accessibility in some areas.
- Avoiding obstructions to water flow in the corridor affecting the design of bridges and weirs as well as plant type selection, location and densities.
- Design for flood damage resistance affecting path materials (non-erodable materials or even requirements for boardwalks).

The design and integration of the landscape immediately adjoining the Riparian Corridor also requires careful attention if the transition is not to appear artificial or lacking in structure. This boundary area will often incorporate native plantings similar to those within the Riparian Corridor, but a more structured planting design approach to this transition zone can provide higher amenity values through strategies such as:

- designing planting groups in patterns.
- using larger plants and higher densities at planting time.
- using more colourful flowering species.

See illustration on page 25 for a typical example. For an overview of Riparian Corridors refer to page 48.



Selection of materials, finishes, furniture and fixtures is important in establishing and reinforcing the character of the place. Selection should consider environmental sustainability through the evaluation of the embodied energy of products, also ensuring financial sustainability through consideration of durability, vandal resistance and ease of replacement. Photo - Park Central

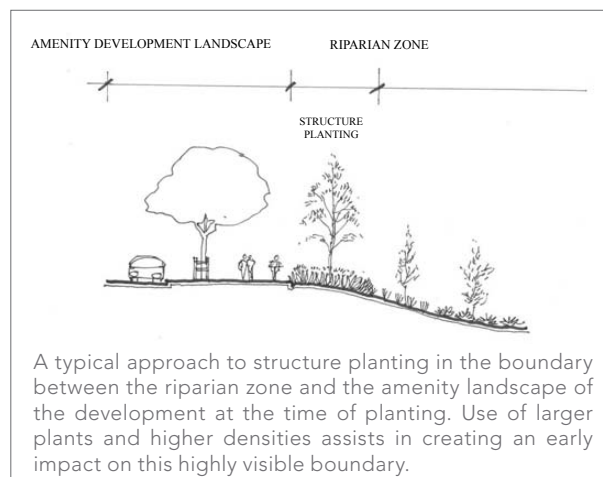


Selection of plant material should consider both the environmental and climatic conditions, the desired design outcomes and management of the landscape over the long term. Species selection should consider environmental and climatic suitability, drought and pest resistance (as here with drought resistant turf), the level of maintenance required and amount of green waste produced. Photo - Discovery Point., Landcom and Australand

## Landscape Materials and Finishes

The selection of materials for landscape works will have a significant impact on both the level of community use of open space and the durability and longevity of the design. While contextual design should be responsive to the particular qualities that are unique to that landscape, some specific design considerations should be common to all projects. These include:

- **Equivalence:** determining design criteria for acceptable substitutions if the preferred item is not available.
- **Long term availability:** ensuring the materials will be readily available over the long term where possible.
- **Durability:** assessing the durability of an item/material and how this bears on life cycle costs.
- **Play Equipment, Furniture and Fixtures:** selecting items that meet both users' and End Owner aspirations.
- **Sports Fields:** ensuring soil profile is free draining, non-compacting materials and turf selection is hard wearing and as drought tolerant as possible.
- **Planting:** selecting size and quality of plant material to optimise coverage and reduce weed competition.
- **Public Art:** a clear process for selecting the artist and the nature of the public art (refer to Landcom's Public Art Guidelines for more details).
- **Maintenance:** including cleaning and graffiti management.
- **Safety and Public Liability:** assessing fall heights, softfall, trip hazards etc.



A typical approach to structure planting in the boundary between the riparian zone and the amenity landscape of the development at the time of planting. Use of larger plants and higher densities assists in creating an early impact on this highly visible boundary.

## Play and Playgrounds

Swings and spring animals continue to provide much fun for children, but our collective understanding of the play environment and what stimulates children has expanded greatly beyond the simple provision of play equipment. However, designing for imaginative play and providing opportunities for adventure and physical challenge are often circumscribed by community concerns for children's safety and security. Design and delivery considerations for play and playgrounds should include:

- **Age range:** is the expected age range properly catered for in the design? In many cases the needs of preadolescent children is poorly addressed.
- **Safety and liability:** the understandable fear of child injury and resultant litigation often encourages play design that is uninspiring or unchallenging. Opting for standard equipment and softfalls will reduce those risks and provide acceptable solutions in many cases, but the opportunity to provide site specific responses should always be considered and integrated where possible.



Selection of play equipment should take into consideration both the requirements of the user (i.e. targeted age groups, safety, accessibility, variety, challenge, learning development, opportunities for imaginative play etc.) as well as the Council's ability to maintain and replace items. Photo - Newbury



Working with context: this Flying Fox play equipment has been specifically designed to replicate the structures associated with coalmining that are common in the locality. Photo - Queens Park Ipswich

- **Imaginative play and sensory stimuli:** providing opportunities for children to create their own play scenarios usually encourages more enduring participation. The role of art and the integration of nature (bushland paths, water, textures, scents etc) can greatly expand the play realm.
- **Proprietary equipment:** many Councils have specific requirements with respect to the style of equipment preferred and approved suppliers to ensure some consistency in maintenance and replacement. This needs to be understood and consulted on at the outset of the project, particularly where Landcom may wish to vary from this requirement.
- **Fencing:** in environments away from dangers such as roads, cyclepaths and large crowds playground fences may not be needed and indeed their omission can create a greater degree of integration in the landscape. Parents may sometimes leave children unattended in fenced playgrounds near cafes. Where fencing is required the space should be generous enough to include shaded seating for supervising adults.
- **Softfalls:** the technology of synthetic softfalls has improved greatly in recent years and has wide application, particularly where the problems of needles, broken glass and dog faeces may be prevalent. However, playground designers are also reverting to the use of sand in play areas as an interactive medium universally popular with children; all parties must understand and agree to the maintenance, safety and health implications and concur on how these will be addressed.

Design of play environments has become a specialised discipline in recent years and for some projects, particularly where art, imaginative play and one-off play features are proposed this may require the appointment of a specialist play consultant. In particular the various Australian Standards that govern playgrounds must be well understood by the designer.



The water cascade at Victoria Park provides an interesting, interactive sculptural focus to the park, whilst also performing an important water aeration function. Photo - Victoria Park

## Water Features

At a time when climate change is encouraging us to think more wisely about the use of water, its role in the landscape - combining aesthetic and environmental functions - has taken on a closer focus.

Factors to consider in the provision and design of water features include :

### Ponds, Creeks and Wetlands

- **Purpose:** can the water body fulfill a range of functions? aesthetic, environmental, microclimatic etc.
- **Water management:** will water depth and/or movement and aeration prevent algal blooms and turbidity?
- **Safety:** will fencing be essential or can the water depth and design safely preclude this requirement?
- **Animal interaction:** will the water body cause bird problems (eg Ibis management) and can aquatic birdlife be protected from domestic and feral animal predation (eg by incorporation of nesting islands)?
- **Flooding:** what are the environmental, safety, maintenance and aesthetic implications of periodic flooding?
- **Maintenance:** have the long term maintenance implications and costs been properly evaluated and agreed?

### Fountains and Water Sculptures:

- **Hydraulic design:** under-specification of pumps and filters is one of the most common causes of medium to long term failure as is poor water quality (salt content etc).
- **Aesthetics:** the feature should still be appealing or interactive even when the water element is not functioning.



Water quality in shallow ponds is a critical issue for public safety and environmental health. Fountains assist in aeration while also provide striking design features; but the cost of operation and maintenance must be factored into long term management. Photo - Newbury

## Planting Design, Plant Selection and Maintenance

While designers often place emphasis on artistic and distinctive recreational features in parks, the broader community - when asked what gives them the greatest pleasure in parks - time and again place priority on trees, planting and birds; these are the elements that bring them closest to nature, particularly in urban environments. Planting design and plant selection is therefore a critical and sometimes undervalued dimension of enduring and popular parks.

Many Councils have specific policies on preferred planting character for their LGA's; however, as each site and project will be different it will be important to establish between Council and Landcom at the project outset how those specific qualities will be addressed from design to delivery, including factors such as:

- **Context:** planting designs should be contextual in every dimension, responding to factors such as local landscape character, ecology, history, soil type, microclimate and community preferences.
- **Formal/informal, native/ornamental:** most projects will benefit from some combination of these approaches and the balance should be dependent on the contextual factors outlined above and not generic policy.
- **Plant sourcing:** working with local suppliers where possible and ensuring that the selected species will be readily available for replacement if required over the long term. In some cases, to secure the species and numbers required, this

may necessitate a contract with a nursery to grow the plants to order. For native trees and shrubs timing is particularly critical here as these generally have a limit on potting-on sizes.

- **Sizes and densities:** ensuring that the sizes and densities at which plants are supplied and planted will promote healthy growth from the word go is essential (while providing instant impact, advanced stock trees - especially natives - can often encounter establishment problems). Careful specification and inspection of tree supply and soil preparation is crucial and is well covered by the Australian Standards for both elements.
- **Lead times:** in riparian zones and other sensitive environments authorities such as the NSW Department of Water and Energy (DWE) are likely to require material to be grown from locally sourced seed. Depending on the season this may require up to 12 months lead time in organisation and careful project program integration.
- **Drought tolerance and irrigation:** minimising water demand wherever possible through species selection and determining at the outset whether irrigation will be required or available over the longer term.
- **Maintenance:** ensuring that the planting design intent is met through maintenance (pruning, thinning etc) and establishing that the design has considered the available maintenance expertise and the long term funding.



The most sustainable providers of shade are large trees. While structures perform important roles in shade provision during the period in which trees are growing or where planting opportunities are limited, large trees in open space provide more enduring and extensive shade over time, enhanced by high aesthetic and natural values. Ensuring adequate space and soil capacity for healthy mature growth are key design considerations. Photo - Centennial Parklands, Sydney



Provision for play does not have to be expensive. Photo - Rouse Hill, Landcom, Lend Lease and GPT Group.

## Developing Sporting Facilities

Sporting facilities perform a crucial function in communities, providing opportunities for social interaction and community building, offering diversity in sporting, recreation and leisure activities and supporting the community’s health and wellbeing. Well-designed and located facilities are an essential component in achieving growth in sport and recreation participation. The following guidelines outline items for consideration in designing active spaces for sport and recreation purposes.

### Design Considerations

#### Location

- The co-location of parks with other community facilities - which may include indoor facilities, schools, retail and offices - promotes integration, multiple use and sharing of infrastructure and economies of scale in management, as well as maximising convenience for the user.
- Sports grounds should be accessible by foot through walkways and footpaths, by cycleways, and by public transport.
- Adjoining land uses need to be considered if grounds are to be used for competition and training. Consider traffic and parking issues particularly on weekends, as well as noise and lighting spillover to residential areas. Planting design has an important role to play in minimising the visual impact of sports grounds.

## Land Capability

- Consider all aspects that affect the quality of the final surface, including topography, ground water table, temporary water table, low permeability, compaction and land contamination. Indicative remediation costs if any should be identified at the planning stage to ensure inclusion in the construction budget.
- Provide a free draining soil profile (eg high porous soil mixes 80/20 sand).
- Grade fields to allow proper surface drainage (eg maximum grades of 1:80 and minimum 1:100) and provide adequate subsoil drainage.
- Cost effective irrigation, the use of drought resistant turf and synthetic surfaces should be considered to minimise the use of mains water for sports grounds.

ADVANTAGE	DISADVANTAGES
Usable in all weather conditions	More expensive than grass to install and repair if damaged
Can withstand higher usage patterns	Higher incidence of friction, burns or stress related injuries
Usually requires less routine maintenance and re-marking	May not be suitable for competitions – need to refer to sport governing body guidelines
Gives a truer and faster playing surface with more consistent bounce	Aesthetically natural grass tends to be more appealing
Complements grassed playing surfaces especially for training	
Provides continuity of business for ancillary services eg catering, competitions	

Table 2.1  
The advantages and disadvantages of Synthetic Turf Pitches (STP).



Paths and fences around major sporting fields provide clear controls and circuits for dog walkers and joggers whilst also minimising wear on the sports surface itself. Photo - Garden Gates



### Multi-purpose Artificial Surfaces

The selection of a multi-purpose artificial surface for a range of sports including tennis, basketball, netball and hockey can increase year round usage for training and competition as well as decrease demand on grassed playing surfaces. The advantages and disadvantages of Synthetic Turf Pitches are summarised in Table 2.1. Photo - Garden Gates

## Adaptability

- Flexibility of design and long term adaptability to suit changing needs and preferences is crucial. In growth areas setting aside sufficient land for staged developments is critical in avoiding duplication of smaller sports grounds.
- Where sufficient space is available, design for the maximum field size possible so that other future uses are not designed out (eg current demand may be for senior soccer which requires a field size of 110m x 75m, but future demand for AFL would require a field of 185m x 155m).
- Orientate fields and courts to maximise the number of multiple configurations in the available area (optimum field/court orientation for most sports is 15 degrees northwest-north-northeast).
- An important factor in the design is the mix of sports to be accommodated and the scale and level of competition proposed i.e. junior sport, training ground or regional standard competitions. These considerations should be guided and informed by Council Recreation Plans.
- Where there is local demand for specialised facilities, consultation with sports governing bodies may provide opportunities for joint venture capital or recovery of maintenance costs.
- A storage facility for sporting equipment has a significant impact on the frequency of use of grounds for sporting teams. This is often the determining factor for the quantum and diversity of activity on multi-use grounds (eg goal posts can be relocated and/or stored to enable flexible use).

- Anticipate and mitigate the effects of vandalism: locate lighting out of reach, use tough plants, vandal proof furniture and cleanable or paint-resistant finishes wherever practical.
- Exploit changes of land level for tiered seating/cascades for cost effective spectator accommodation.
- When designing for competition venues ensure support facilities are budgeted for adequately (eg spectator facilities, number of team changing rooms, number of individual changing spaces, referee and umpire changing spaces, number of showers and toilets, first-aid facilities, security in changing/locker rooms etc).

## User Amenity and Comfort

- Empirical research on the factors that make successful parks illustrate the importance of user safety and comfort. Seats, shade, water bubblers, shelter and toilets rate highly in determining user satisfaction. They are not optional extras for well used parks.
- Feelings of increased safety result from passing pedestrian activity and surveillance from neighbours overlooking the park.
- The inclusion of a cafe/kiosk area within amenity buildings allow for revenue generation opportunities for Council or sporting associations.
- With an increase in female participation in sport it is important to consider facilities/play areas for children who may be there whilst parents play, coach or referee (eg a meeting room included in an amenity building may be used for child-minding young children).



### Multi-use Games Areas

Where space is a premium, consideration should be given to Multi Use Games Areas (MUGAs). These are a cost effective way of providing for a range of sport and recreational activities on a site which is often too small to warrant other multi-sport facilities or a full size grass pitch. Sport England defines, a MUGA as: "A fenced, non-turf surfaced area, marked out and an adequate size for at least two of the following sports: tennis, netball, basketball and 5-a-side football." Whilst these areas do not comply with sporting codes competition standards they are important for encouraging active communities especially for young people who have outgrown traditional play areas. A standard court is (40mx18m) and can accommodate tennis, mini tennis, netball, basketball and 5-a-side soccer.

## A Park for All Seasons

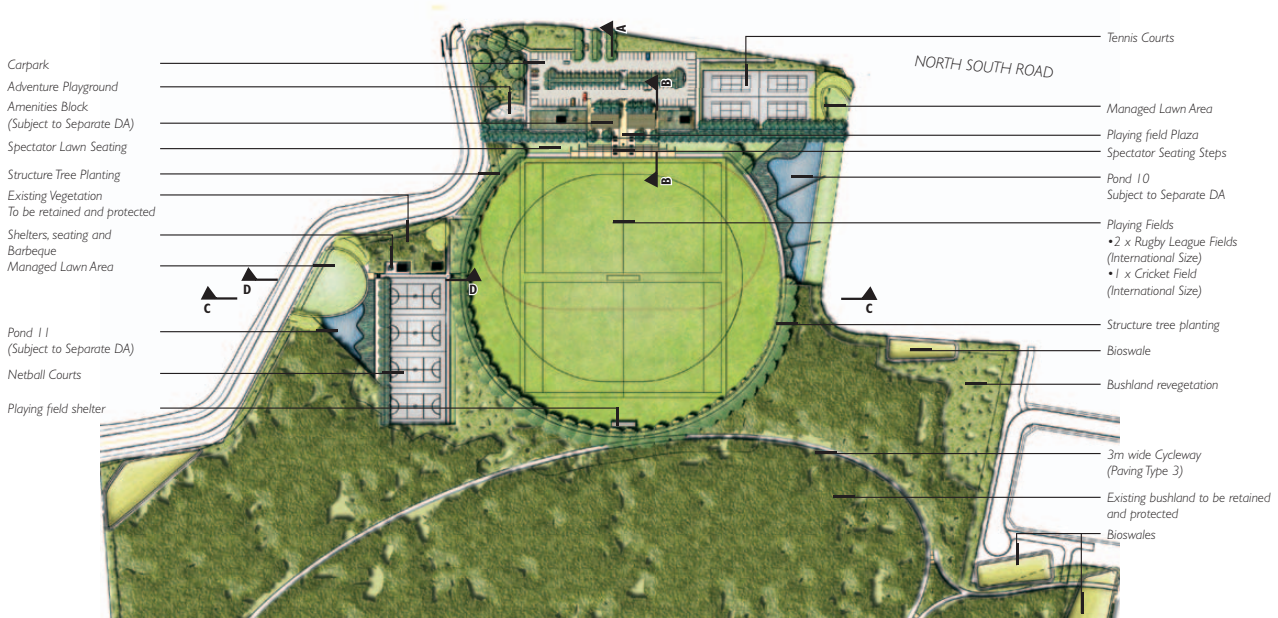
The benefits of multi-purpose grounds are that the co-location of facilities provides economies of scale, reduces infrastructure costs and minimises staffing, marketing and operational costs. It also allows families and groups to undertake a range of activities at the same destination, thereby reducing the amount of travel time spent transporting siblings to different venues for activities. Co-location is also advantageous for clubs and associations as it provides an opportunity for them to share resources (eg meeting and administration space and equipment).

Table 2.2 identifies typical areas required to accommodate a range of users and age groups for formal and informal activities.

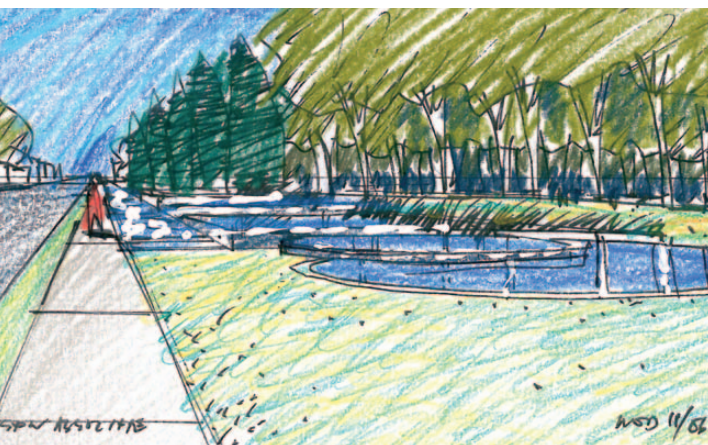
Table 2.2 - Typical Open Space Facility Sizes

OPEN SPACE FACILITY	SIZE (HECTARES)
Sample District Standard Park	6Ha
Playspace for 0-5yr olds	0.2Ha
Parking	0.6Ha
BBQ picnic area	0.6Ha
Clubroom	0.25Ha
Amenities	0.16Ha
STP Hockey fields x2	1.20Ha
Picnic shelters x 2	0.14Ha
Lawn bowls x(2 greens)	0.32Ha
Rugby fields x2 (1 cricket/AFL)	1.26Ha
Hard Courts tennis/netball x4	1.27Ha

Source: Tangent Leisure Consultants (2006)



This multi-purpose sporting precinct co-locates facilities such as playgrounds, grass sports with multiple configurations of sports codes and hard court sports. (Eastern Playing Fields at The Ponds - CLOUSTON / Landcom)



The proposed water features at The Ponds are relatively formal and architectural in style, but will perform a critical stormwater quality control and recycling function.



While sportsfields themselves require regular maintenance the surrounding areas can provide diversity through native plantings. The quality of design, specification and supervision of planting and soils for these areas are key factors in ensuring they are genuinely low maintenance while providing the desired aesthetic quality and appeal. Photo - Mt Annan.



## Integrating Public Art

When integrated with sound urban design, public art and ‘placemaking practice’ can help to create distinctive and memorable places with high levels of community use and interaction. Meaningful and inspiring places strengthen cultural identity, encourage a sense of community wellbeing and contribute to quality of life and the environmental, social and economic goals of a community.

Public art refers to any artwork in the public domain, designed and created by professional arts practitioners and can take many forms including:

- Sculpture, earthworks, painted murals and ceramic mosaics, billboard art, aerosol art, street banners, performance art, computer-generated art and projected art.
- Public art may be integrated into built form or be free-standing.
- It may be functional, such as street furniture, play-scapes and gardens, bollards, paving inserts, drinking fountains, bridge railings, lighting and signage.
- It may be permanent or temporary.

The key qualities of public art works are that they are accessible and they respond to place. Public art has various functions including:

- A placemaking function – helping to create meaningful places.
- A community cultural development function – through the community’s involvement in the creation of the art or through their continuing

response to it, or interaction with it, in the public domain.

- An economic development function – through the employment of artists and craftspersons and sometimes because the art becomes an attraction in itself.
- An aesthetic function.

New art commissions should be based on the objectives defined for a particular project. Landcom’s Public Art Guidelines set out the key values which should underpin project-specific arts masterplans.

Many local Councils also have public art policies or other strategies within their cultural plans or social plans. They often include criteria for the assessment of public art proposals, such as:

- Relevance and appropriateness of the work to the context of its site, and to the specific local government area.
- Integrity of the work.
- Standards of excellence and innovation.
- Consideration of public safety.
- Durability and maintenance requirements, including sources of funding for ongoing maintenance.
- Community support or involvement in the design and/or delivery process.

Proposals for public art works or art masterplans need to take into account the requirements of the particular Local Council, as well as the Landcom Guidelines. See Public Art examples page 42.



“The Cows” at Stanhope Gardens provide both a cultural link to the area’s former dairy farm use and act as a landmark and orientation point at the entry to the estate.



Sculptural elements can also provide opportunities for imaginative play. Photo - Worrell Park

## Specific Council Design and Maintenance Policies

While there will be much common ground between Councils on design objectives for open space, the approach to design outcomes may vary widely. A clear understanding of those parameters at the outset and their 'negotiability' is essential to achieving a smooth approvals process. Some of the design based policies will centre on Council's position on matters such as:

- Recurrent maintenance funding and maintenance staff skill levels.
- Operational Health and Safety (OH and S) and public liability responsibilities.
- Responses to vandalism and graffiti.
- ESD and other environmental policies.
- Outcomes from community consultation.

Areas where these considerations can commonly raise design limitations can include:

- Hardworks materials selection (eg limitations on paving types based on ease of repair and replaceability).
- Plant selection and design (eg opposition to use of non-native species on grounds of perceived water use).

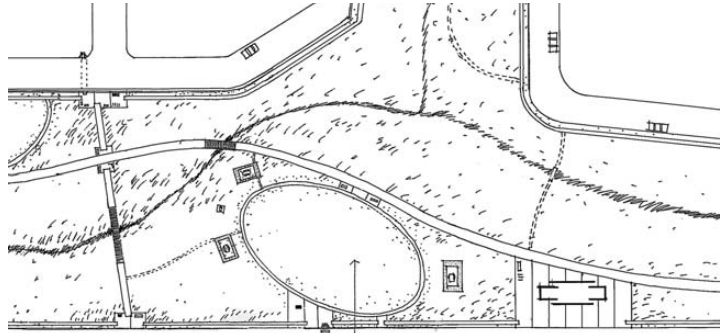
- Fixtures and fittings selection (eg preferred supplier of play equipment, fencing, furniture, lighting etc).
- Limits on non-proprietary items (eg opposition to custom designed play features on grounds of liability, cost or ease of replacement).
- Selection and timing of implementation of public art to avoid vandalism.

Other agencies can limit design opportunities for both Council and Landcom by their replacement policies. For instance electricity authorities frequently limit the type of approved light pole in the public domain to a small selection if they are to be responsible for long term maintenance. Where an alternative is preferred by the designer, that agency may require Council to take on long term maintenance, a responsibility that Council may be reluctant to accept.

As Landcom seeks to maintain a high standard of design outcomes for open space, any design negotiations around these constraints need to be commenced as early as is possible in the project and certainly before concepts are developed to DA level.



Care should be taken when excavating for new footpaths in existing bushland not to significantly damage tree roots. Photo - Forest Glade



Networks of pedestrian and cycle paths through and along riparian corridors encourage and focus activity. (The Ponds Design Manual -CLOUSTON/Landcom)



Selection of materials, such as for bridges and pathways, can often require significant negotiation where the perspectives of Landcom and Councils on aesthetics, functionality and maintenance may differ. Ironing out these issues early in the project will minimise impacts on the program. Photo - Garden Gates



The provision of barbeques can be the subject of much negotiation with Councils, who must periodically manage anti-social uses of these facilities. Nonetheless, they are a crucial focus for community activity and where well located, designed and lit, their frequency of use by the broader community should assist in reducing anti-social activity.

## Safety, Security and Risk Management

The principles that underpin Crime Prevention Through Environmental Design (CPTED) are accepted and promoted by many public open space management agencies across Australia and internationally. For many Councils CPTED is codified through policy and development controls. Of particular importance from a design perspective in translating the three CPTED principles of Natural Surveillance, Natural Access Control and Territorial Reinforcement is a clear understanding of how specific design outcomes are to be delivered on the ground. These include:

- Lighting design and codes.
- Planting heights and species selection.
- Visual permeability, including wall and fence locations and heights.

Risk Management in delivering open space must be based on acceptable levels of risk for the developer, user and Council. Typical factors will include:

- Fall heights and controls such as walls and fences (less easily prescribed in areas of naturally steep topography such as escarpments).
- Play equipment design and selection; the balance between adventurous play and child safety.
- Susceptibility of the design for given features to vandalism and graffiti or difficulty of repair.
- Water body and water feature design (depths, water quality and public health and safety etc).



An appropriate level of lighting improves safety and encourages night time use of the park with passive surveillance of the space provided by adjoining residential development. Lighting design should however preclude impact on adjoining residential amenity. Photo - Victoria Park

## Integrating Marketing Strategies

The integration of marketing strategies into the design process at the beginning of the project will ensure that design-based marketing opportunities are identified early. This will also ensure that a consistent vision for the development is maintained between the marketing team and design team throughout the project and will be delivered on the ground.

This early approach to an integrated marketing strategy also needs to be considered in joint venture projects where Landcom is partnering with a private developer that may have the responsibility for developing and delivering the marketing strategy.

It is important that the design concept is marketable and responsive to focused market research, but the marketing approach must also promote and support the urban design, social and environmental sustainability objectives established at the beginning of the design process.

Typical design considerations for marketing features and strategies include:

- Integrating promotional and advertising signage design and placement into the overall landscape design scheme.
- Developing a strategy for the placement of marketing features at the project site, such as banners and large marketing signs. This will ensure opportunities for highly visible advertising sites are identified and strategically located to promote certain features of the project, whilst avoiding issues such as obscuring the site or feature that is being marketed or covering up high quality design features.



Where the safety of children, especially younger children may be at risk from the proximity of a playground to roads or where large crowds gather, fencing should be integrated into the design as seamlessly as possible. Photo - Hills Centenary Reserve, Sydney

- Balancing budgets for permanent landscape elements and short term landscape features for sales launches. It is important to ensure that the landscape budgets include funds for temporary landscape works associated with marketing (eg flora displays at public openings). Budgets should include design, installation, maintenance, decommissioning and remodelling areas post the marketing period.
- Establishing at the outset the specific maintenance requirements of short or long term marketing features (eg water features, irrigated turf, higher maintenance planting etc).
- Integrating temporary design elements into the long term landscape and gaining an understanding from the community that these are indeed temporary.
- Including a strategy for the design elements that will replace temporary features in the long term. While temporary features can assist sales, their later removal may result in backlash from the new community, even when the community are informed of the design elements' temporary nature prior to purchasing.

### Program and Staging

In larger projects where the staging of development is required, there needs to be a clear understanding between all parties involved in the project from the start as to whether/how the open space will be staged correspondingly. Such staging may range from physical development of entire sections of the open space or the timing of construction of key elements within the landscape (eg play equipment).

Factors to be considered from a design and management perspective include:

- Determining the appropriate population growth level at which open spaces and features will be well used. This involves targeting the development of open space facilities to match the proposed population of the development at each stage (eg the first stage of the development may generate a small population increase in the area requiring access to a local size park with basic playground equipment; however, as more stages of the development are finished and the population increases either more or larger facilities such as sports fields will be required to meet demand).
- Creating an early sense of an established landscape.
- Establishing susceptibility to vandalism in early stages where natural surveillance may be more limited by virtue of low resident population.
- Determining the degree to which the developing population can influence the ongoing development of the open space as the community's uses and needs evolve.
- Timing of handover of maintenance and management to the End Owner.
- Early implementation of key design features (eg water features) to assist with marketing.

The context and circumstances surrounding a project may vary greatly as the program evolves; maintaining open and ongoing communications with the Council ensures that necessary changes can be effected in a timely manner during the project.



Well integrated marketing signage allows opportunities to promote the advantages of open space within the development. Photo - Park Central.



These shaded picnic structures were installed well in advance of the growing population that is now enjoying them in increasing numbers. Photo - Victoria Park

part 3

# ownership & maintenance handover



Macarthur Gardens

FOR LANDCOM PROJECTS

# 3.0 Ownership and Maintenance Handover

The handover period from Landcom to Council is a critical phase in a project. A smooth handover will be achieved by agreeing and refining details on maintenance standards and management parameters from the beginning of the project, as has been detailed in Parts 1 and 2. This section sets out the objectives for a smooth handover and also identifies the common issues, opportunities and constraints that arise from ownership and maintenance transfer under different models of ownership and management.



Feature water bodies that also have a hydraulic function in managing stormwater are common and popular elements in new residential developments. They bring with them numerous management issues that must be addressed with the End Owner from the outset. Photo - Park Central

## 3.1 Objectives

There are two basic objectives that will enhance a successful transfer of ownership and maintenance:

### 1) To maintain continuity of design intent through maintenance and handover.

It is often as a landscape matures that the original design intent is fully achieved; this may eventuate long after handover. Careful definition and agreement with Council on the nature of that design intent in the initial phases of design will ensure continuity for the full life-cycle of that landscape.

### 2) To attain a smooth transition of maintenance during transfer.

Even where earlier agreements with Council cover the design intent there can often be a marked change in the nature and extent of maintenance after the project is handed over. The objective should be to achieve a situation where there is no observable change for the user in the periods before and after ownership handover.

## 3.2 Issues, constraints and opportunities

The issues that arise from the ownership transfer process and the opportunities and constraints they generate are described below.

### Ownership Models

Various ownership models for public open space exist across Australia, ranging from conventional ownership under Local or State Government to Community Title and Trusts.

Landcom most commonly transfers ownership to the Local Council for the area in which the project lies (with variations on transfer timing and funding arrangements that include setting up of Trust Funds,

levies and special rates). Other ownership models encountered in NSW include Community Title (part or all of the development) and Trusts. Each ownership model will have its attendant advantages and disadvantages and these should be considered by Landcom when determining the preferred model for transfer.

### Some Common Handover Conditions and Requirements

Under any model of ownership the long term owner/manager will commonly be seeking the following outcomes in accepting ownership:



Wherever possible and practical proposed trails within new developments should link into and form part of the local pathway network strategy promoted by the local Council. Photo - Victoria Park



Deciduous trees are often considered by Councils to be undesirable on environmental or maintenance grounds. Used with care such trees add seasonal variety and solar access in the winter months. Photo - Hunterford

- Maintenance and management commitments that match the long term owner’s recurrent funding pool and available expertise.
- A long design life cycle (eg selection of robust and enduring materials and hardy plants).
- An outcome that reflects existing or anticipated community needs and aspirations.
- Materials and design that can be readily repaired and replaced.
- Revenue raising opportunities where these are directly related to the recreation objectives and which feed back into the ongoing maintenance of that open space.

Some of the common handover and ownership issues for Councils (and other End Owners) that require addressing in the early phases include:

- **Service Levels:** Before a design process commences there should be an understanding of Councils’ general service levels for maintenance and replacement. In the early design concept phases these Service Levels should then be fully evaluated and agreed variations to these levels should be clearly recorded. As the design evolves further review of these levels should be accompanied by an assessment of annual maintenance costs before handover.
- **Staging of Works and Handovers:** In larger projects where the open space works need to be staged in concert with development, the nature of the staging (part or all of the works) should coincide with original agreements with Council. There may be requirements for staging handover of some specific elements of the works

(such as large trees) where Council may require an extended establishment period before accepting handover; again this needs to be agreed in the early phases of the project. (Refer Table 3.1 below)

- **Vandalism:** Specific elements and features that may be prone to vandalism or graffiti in the absence of a large enough residential community to ensure natural surveillance and regular use (eg play equipment and public art) may need to be phased in later as the population grows. This construction work may need to be identified as a Separable Portion from the main landscape works.

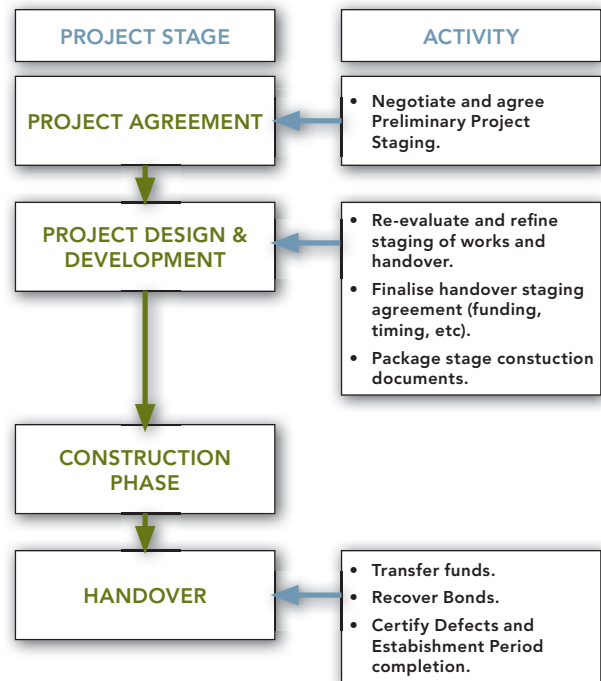


Table 3.1 - Staging of Works & Handover.



Asked what elements are most important to them in a park, many park users that are surveyed will mention trees and birds first and foremost. Ensuring that birds are appropriately protected from being preyed on whilst also managing bird waste is both a design and management challenge. Photo - Victoria Park



To establish a sense of place Landcom may often seek to install key landscape features, such as playgrounds, ahead of the new population arriving. This may be particularly necessary in larger staged developments. In such circumstances agreement should be reached with Council on a reasonable handover timing, given that the space will be in public use from an early stage. Photo - Worrell Park



- **Pre-handover Program and Joint Inspections:**

The need to achieve an integrated handover requires that all defects have been completed under the original construction contract and that the relevant departments of Council and other approvals agencies and authorities are represented at the handover. Issues over which handovers can commonly be delayed include:

- Irrigation and service reticulation (especially on water supply and pressure at the property boundary or metering issues).
- Maintenance condition of hard and soft landscape at handover time (paving, paintwork, power and lighting, weeds, plant health etc).
- Drainage issues.

- **Maintenance and Operations Manuals:** The preparation of a Design Intent and Maintenance Manual can provide guidance as to how the design objectives can be realised through appropriate maintenance over the long term. This is particularly important with respect to special maintenance requirements for maturing vegetation (eg hedge profiles, plant thinning etc).

Ideally these should be handed over well in advance of ownership handover. On staged handovers the Manuals should be submitted after completion of the first stage and updated for each stage thereafter.

Incorporating a schedule of the details of suppliers of materials and fixtures used in the design is more likely to result in a like-for-like replacement. This Manual should be handed over

to Council at the same time as any Operations Manuals required for plant and equipment as well as Works as Executed documents.

- **Irrigation:** While the goal of minimising permanent irrigation needs is an important sustainability objective, there are certain landscapes that will require some level of irrigation either temporarily or over the long term preferably from harvested or recycled water.

Underground irrigation for turf is becoming more common (if still relatively expensive) and overcomes legislative constraints and water loss associated with spray irrigation; however not all Councils will accept ownership and commitment to its continued use after handover. Some native landscape plantings require only short term irrigation in the first year or so of establishment (Greening Australia commonly use temporary irrigation systems for native plantings). The nature of irrigation requirements and Council constraints need to be considered and agreed upon early in the project.

- **Water Features:** When well designed a water feature is a major contributor to the enjoyment of a park or open space. Nonetheless they are often perceived as problematic by Councils on a number of grounds including public health (water quality), safety (drowning hazard) and maintenance (water quality, pump and filter failure). These constraints should not rule out the incorporation of water features in appropriate locations but their inclusion should be carefully considered and negotiated with Council at the concept stage. Close attention to hydraulic design can often preclude later problems.



Riparian Corridors and environmentally protected lands pose particular challenges in ownership transfer to Councils, which may be required by other government agencies to maintain those areas to specific standards whilst limiting public recreational access. Photo - Park Central



Advanced plantings to restore riparian corridors, such as those undertaken by Greening Australia at The Ponds, may require temporary irrigation that can be removed before handover to Council. Photo - The Ponds, Landcom

### Third Party Approvals and Sign-Offs

In some cases the ownership handover may require sign off by third party approvals agencies that the works as completed and maintained have met approvals conditions. Frequently this requires significant forward notice to those agencies, especially where their staff resources are limited. Keeping those agencies informed and engaged during the project can accelerate the sign-offs. Examples of such special agreements might relate to:

- Land to be protected for conservation purposes (e.g. land identified as significant through the Environment Protection and Biodiversity Act or Threatened Species Act).
- Riparian Corridors (creeks and river vegetation corridors).
- Heritage and Conservation items and sites.

These approvals should result in the return of any special bonds to Landcom or their joint venture partner.

**Leases and Licenses:** The opportunity to assign leases and licenses to Council needs to be established in the original lease agreement when Landcom is the originator of the lease or license (eg for cafes, kiosks, bike hire etc). Clearly there needs to be an agreement from the beginning that Council will accept and continue that lease or license and that an agreed quantum or portion of funds generated by that facility should be used to directly maintain that open space asset.

**Transitioning out of the Marketing Phase:** As a development achieves full occupancy special marketing design features may need to be removed on larger projects with staged handovers. The marketing period is not always easily assessed as it will be subject to the sales environment as development stages are completed. Up-front project agreements with Council should incorporate criteria for this phase-out of such elements (eg

based on sales thresholds etc) and reinstatement design for the post-marketing phase should be agreed upfront.

**Classification of Land after Handover:** The classification of land will depend on the anticipated end use and the nature of the long term owner. Under the Local Government Act 1993 (amended 1998) most public open space is classified Community Land and this places restrictions on use. Where the open space comprises or incorporates a major facility, particularly built elements (eg pool, sports hall, cafe/restaurant etc) the classification may be more appropriately designated as Operational Land. This will need agreement in the early consultation with Council.

**Public Liability Issues:** The degree of risk aversion varies greatly between public open space owners and can have considerable bearing on design outcomes. An early understanding of the Council's parameters on these issues will determine the design response or the degree of negotiation required. Typical issues include:

- Limits on non-proprietary play equipment.
- Controlled edges to water (railings etc).
- Potential fall hazard control on steep topography (access limits and railings etc).

**Bonds:** At the completion of the project it is important to review and collect Bonds. To ensure the timely release of any Bonds on the project it will be essential that Landcom and/or their joint venture partner provide evidence that the Bond conditions have been fully met. This may require certification by another party such as the Landscape Architect or Urban Designer. In this circumstance it is essential that the certifier has been involved in the inspection of the works where the result may not be visually assessed (eg soil depths, underground drainage, mulch depths etc).



Feature planting for marketing does not need to be expensive or difficult to maintain and - as with these Day Lilies - can be reused in the scheme when the Sales Office is removed. Photo - Discovery Point, Sydney

## Maintenance and Management:

The potential implications of the design intent on the long term maintenance and management controls for the future owner are numerous and most of these have been addressed or referenced in the previous sections. There are a few additional considerations that are worthy of particular mention and these include:

**Plans of Management:** As required under the Local Government Act Councils have developed generic or geographic Plans of Management for their reserves that may well apply to new open space acquisitions. In many cases these Plans may contain specific clauses and conditions that might constrain use and design features. It will be essential that these constraints be addressed by all parties prior to project commencement.

**Replacement / Non Replacement:** Where a particular design element requires replacement due to damage or having reached the end of its life cycle it will be essential that there is a like-for-like replacement (or at minimum a comparable substitute) if the design intent is to be retained. Occasionally the department responsible for

replacement or in some cases a third party agency (eg a service authority) will carry out an expedient replacement that is not to the same specification as the original. This can involve features such as:

- Paving (eg replacing unit pavers with asphalt).
- Light fittings (changed fitting types).
- Plant species substitutions.

While Landcom cannot control this process an understanding of the potential for this to happen may inform design decisions and materials selection early in the design phase.

### Appropriate management of ordinance issues:

Different landowners have different perspectives on how ordinance issues are to be managed (eg litter, skateboards, anti-social behaviour etc). There can be a tendency for such management to result in a proliferation of signage or poorly integrated design outcomes intended to reduce the incidence of anti-social behaviour. Actively designing from a positive rather than an overtly negative perspective may require design negotiations with the End Owner to prevent unsightly later additions after handover.



With permanent water restrictions a stark reality, the use of recycled water for irrigation must take into account the expected residential growth if the water volumes required for healthy plant growth are to match staged planting. Use of low water demand and drought tolerant plants and temporary irrigation for initial establishment become key strategies in these circumstances. Photo - The Ponds



Larger off-line water bodies require specific management strategies to maintain water quality and particularly in addressing algal blooms during the warmer months. Photo - Prince Henry



Exposed coastal environments can present particular challenges with respect to achieving adequate shade. Coastal scrub species can provide aesthetic and environmental values, but in some cases physical shade structures may prove the most practical solution. Photo - Prince Henry



State Government agencies responsible for riparian corridors may impose specific design constraints for structures within the corridor, to minimise obstruction of water flows in flood events. Photo - Victoria Park

## Public Art Examples



Public Art usually has a strong interpretive dimension and promotes the greatest meaning to a community when it reflects some cultural aspect of the place. Photo – Koala Bay



Scale is a key consideration in public artwork. Being able to see and appreciate the artwork at distance is particularly important where it performs a gateway or orientation function adjoining roads. Photo - Newbury



Artwork does not have to be serious; indeed whimsy is often an appealing characteristic. It can also provide a directional function well beyond that of signage. "Turn left at the umbrellas" might be as useful an instruction as naming the road to a visitor unfamiliar with this area. Photo - The Ponds, Landcom



Public art is frequently at its most effective as an integrated, functional design element in an open space. Photo – Rouse Hill, Landcom, Lend Lease and GPT

part 4

# guidelines toolbox



Hunterford

FOR LANDCOM PROJECTS

# 4.0 Guidelines Toolbox

This section provides some hands-on 'tools' for applying these Guidelines to real project situations in the form of checklists and design audit formats.

## 4.1 Design Audit Template

At any time in the design life of a project it is important to be able to measure the degree of conformity of the design with the Principles that underpin these Design Guidelines. The following simple audit template can be used to establish or gauge the level of concurrence with the Principles outlined in Part 1.

This audit process might be used by Landcom at any point in the project from Masterplan to detailed design, its joint venture partners and consultants. Some typical applications might include;

- At draft Masterplan stage by the design team leader for Landcom's internal design review.
- At DA stage to accompany the DA documents submission to Council or other approvals agencies.
- At detailed design stage and prior to tender documentation by the design team as a final checkpoint for Landcom.
- As part of the post construction design evaluation by Landcom.

The process would simply involve a short written response to each of the following questions, based on the each of the Principles:

- In what way does the design respond to its specific **Place and Community?**
- How does the design integrate **Multi-functionality and Adaptability?**
- What are the means by which the design achieves **Diversity?**
- How does the design encourage **Social Interaction?**
- In what way does the design promote community **Health and Wellbeing?**
- How does the design provide for **Equity and Accessibility?**
- What initiatives does the design incorporate to promote **Environmental Sustainability?**
- How will the design be **Financially Sustainable** over the life of the open space?

The specific Guidelines detailed under each Principle in Part 1 can be used as a prompt where these are applicable.



The measure of how well these Design Guidelines will succeed in practice will be evident in the long term use and popularity of the spaces to which they are applied. Photo - Victoria Park



In terms of value for money over time few elements in a park can beat the newly planted tree. Natives in particular tend to succeed best when planted as smaller stock. Photo - The Ponds

## 4.2 Project Agreement Checklist

The possible range of design issues that may need to be agreed between Landcom and Council as part of a Project Agreement or Memorandum Of Understanding (MoU) will vary greatly from one project to the next and from Council to Council (or other End Owner).

By way of a prompt the following is a brief checklist of some typical design issues that may require consultation and negotiation between Landcom and Council at the various stages of a project:

### Project Feasibility and Start Up Stage

- Stakeholder Consultation and Communication Strategy.
- Nature of Project Agreement or MoU between Landcom and Council.
- Local planning limitations if any (LEPs or DCPs).
- Concurrent approval authorities and their linked processes with Council.
- Ownership and transfer arrangements.
- Existing Section 94 and other planning requirements (Recreation Plans and Plans of Management etc).
- Land classification and categorisation after handover and any limitations that may incur.
- Council maintenance service levels and maintenance staff capacity and expertise.
- Council's annual maintenance budget allowances.
- Council's leasing and licensing policy.
- Council's ESD and Social Sustainability strategies.
- Council's risk management policies and strategies.

- Special strategies and policies such as WSUD, Play, Public Art, irrigation etc.
- Project staging and handover timetable (including thresholds for early handovers).
- Bonds required.
- Council's ordinance policies for open space and signage requirements (litter, cycling, etc).

### Concept and Masterplan

- Design standards (i.e. Council Standards and Codes on materials, finishes and planting).
- Integration of Council and Landcom WSUD strategies.
- Integration of Landcom's Public Art, Street Design and Street Tree Guidelines.
- Vandalism and graffiti policy.
- Other approval authority design requirements (eg Riparian Corridor, Bushfire, Heritage items etc).
- Council's irrigation, water harvesting and lighting standards.
- Maintenance budget (preliminary).
- Design implications of Landcom marketing strategy for the project.
- Extent of Maintenance and Operations Manuals required.
- Design parameters for special design features eg water features, public art etc.

### Construction to Handover

- Finalise ownership handover details and timing.
- Handover manuals to Council in advance of ownership transfer.
- Handover inspections timing.



The design style and character of parks is set in the early consultation and planning stages, the management of which requires early agreement by all parties. Photo - Park Central



Lighting standards and requirements often require the involvement of a number of agencies and managers in early consultation, especially where fittings are proposed that are non-standard for the energy supply agency. Photo - Victoria Park

# Water Sensitive Urban Design Overview

## What is it?

Water Sensitive Urban Design (WSUD) strives to minimise the impact of the urban built form on the natural water cycle through integrated urban water cycle management solutions linked to an ESD focus. This can be effected through:

- The appropriate management of stormwater, wastewater, and potable water with particular emphasis on reducing potable water demand.
- Minimising wastewater generation.
- Treating urban stormwater to meet water quality objectives for reuse and/or discharge to surface waters.
- Using stormwater in the urban landscape to maximise the visual and recreational amenity of developments.

## Why is it important?

Appropriate water management is essential to the environmental sustainability of urban landscapes. Urban areas generate more stormwater run-off due to increased catchment imperviousness and efficient stormwater drainage infrastructure. This leads to the continued physical degradation of natural water courses in urban environments as evident by creek erosion and siltation.

Activities in urban areas also cause urban contaminants to be deposited and subsequently

conveyed by stormwater to surrounding natural water systems, leading to stormwater pollution in these environments. The majority of potable water imported into an urban area is used to transport waste through the sewerage system, with less than 10% of its use requiring the water quality standards that it has been treated to. Treated stormwater and wastewater can be used to reduce demands on potable water supply.



Where space permits, vegetated creek beds can perform an important water quality improvement role for receiving water bodies. Photo – Sydney Park



Wetlands often become a focal point for public open spaces and interpretation and education. Water in the wetland can often be used for irrigation of nearby green spaces. Photo - Garden Gates



## Design implications

Water sensitive urban design can create functional landscapes that filter and attenuate flows while responding to all of the design principles outlined for public open spaces.

WSUD elements can perform many functions and these are best realised through collaboration between designers and WSUD specialists. Thus, it is important to include a water sensitive urban design specialist in any project team early in the planning stages to identify opportunities in the landscape that may accommodate water sensitive urban design features into the masterplan.

WSUD elements can be used to create diversity and form in public open spaces and can be used to control the way the public moves through the space. Similarly, WSUD elements can be used to

create buffers between urban areas and parks, and between public space and areas of high conservation value.

Vegetated elements such as wetlands and bioretention systems can be used to create a focus of social interaction and can be constructed to provide an experience for people of all ages and abilities by providing views, fostering certain types of interaction, and encouraging education and learning through interpretation.

Well designed WSUD elements can be constructed at low cost and to have low maintenance requirements. Stormwater harvesting can be used to supply water for irrigation, or for use in water features that highlight the scarcity and abundance of water.



Ephemeral water bodies have enduring appeal to the people who use and visit public open space. In the appropriate location well-designed geometric forms and structures can create visual appeal in both wet and dry periods. Photo - Tullimbar Village



Maximising permeable surfaces reduces the volume of water entering creeks in storm periods. This can be particularly important in car park areas.



Reuse or redesign of existing waterbodies for water quality control and stormwater detention within new open spaces- as here in a former brickworks quarry – extends the community's association with the site's history. Photo – Holroyd Estate, Sydney



Even in the most urbanized environments there will be plant materials available that can perform water quality functions with visual appeal. Photo – Melbourne Docklands

# Riparian Corridors Overview

## What are they?

Riparian corridors include the waterway as well as the land and vegetation alongside that is influenced by the waterway. A riparian corridor (as defined

under the New South Wales Foreshore and Rivers Improvement Act 1948) may include all of the land up to 40m from the top of the stream bank.

## Why are they important?

Riparian corridors are important because they:

- Provide important habitat and resources for flora and fauna.
- Provide connectivity and facilitate the movement of riparian species through the catchment.
- Stabilise the stream bed and banks.
- Protect the water quality of the stream.
- Protect the waterway against the effects of salinity.

## Design implications

Riparian corridors are often found near public space in the lower reaches of the catchment. These corridors can substantially enhance the diversity of experiences available in public open space by providing:

- A nature experience and opportunities for interpretation.
- Microclimate modification (protection from sun, wind and heat).
- Diversity in topography, visual textures and sounds.
- Transport corridors that provide alternative pedestrian and cycling links.
- Pleasant rest areas and opportunities to socialise.

- Opportunities for community groups to be involved in maintenance and learning (Streamwatch, Bushcare).

The advice of a riparian rehabilitation specialist should be sought early in the project planning to ensure that the natural values of the stream are appropriately integrated with the desires of the landscape planners and designers.

Where riparian corridors require rehabilitation, these should be based on a template of form and vegetation that would naturally occur in the area (when possible). The stream form should incorporate sufficient diversity to support a wide variety of in-stream habitats.



The buffer zone surrounding the riparian corridor creates a pleasant temperate zone for play, activity and socialising. Photo - Bagnalls Beach



Paths provide opportunities for walking and cycling within and outside the area of the riparian corridor.

part 5

# glossary & references



Victoria Park

FOR LANDCOM PROJECTS

## 5.1 Glossary

This section contains descriptions of the meanings of terms and phrases used in the Guidelines.

### End Owner

The body or agency to whom the ownership of the open space will ultimately be transferred. While the End Owner may also be a Trust or similar, for the purposes of these Guidelines the End Owner has mostly been substituted with the word 'Council', local Councils being the most common End Owner for Landcom projects.

### Open Space

Open area of land either in a natural setting or developed to support sporting and leisure activities.

### Recreation Settings

The recreational characteristics created by the space's environment, design and/or facilities (eg sports, bushland, playground etc).

### Service Level/Service Level Agreement (SLA)

Part of a service contract where the level of service is formally defined. An SLA forms part of Council's maintenance contract and requires areas of open space to be maintained to a certain standard.

### Universal Access

Designing to promote equal opportunity and access for all people to open spaces and open space facilities from which they can benefit, regardless of their age, gender, social class, ethnicity, background and/or sensory or physical disabilities (*synonymous with universal design*).

### Universal Design

An approach to the design of products, services and environments to be useable by as many people as possible regardless of age, gender, social class, ethnicity, background and/or sensory or physical disabilities.



Woodlands

## 5.2 References

This section provides details of a small selection of references used in the development of these Guidelines and some useful relevant publications and other sources of information.

### Publications

Department of Planning (1992)  
*Outdoor Recreation and Open Space Planning Guidelines for Local Government.*

Harnik, P (2006)  
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What Makes it Great and How to Get There.*

Scottish Executive Development Department (2003)  
*Planning and Open Space.*

Sherer, P (2003)  
*The Benefits of Parks: Why America Needs  
More City Parks and Open Space.*

Sport and Recreation Queensland (1998)  
*Open Space for Sport and Recreation  
Planning Principles and Implementation Notes.*

### Landcom Publications

Landcom Water Sensitive Urban Design  
Guidelines (2004)

Landcom Street Design Guidelines (2006)

Landcom Blue Book (2004)

Landcom Social Sustainability Policy (2007)  
Landcom Public Art Guidelines (2008)  
Landcom Stakeholder Engagement Workbook  
Landcom Street Tree Guidelines (2008)

### Websites

CABE Space ('Commission for Architecture and the  
Built Environment'), United Kingdom  
[www.cabe.org.uk](http://www.cabe.org.uk)

Crime Prevention Through Environmental Design  
[www.aic.gov.au/publications/crimprev/cpted/](http://www.aic.gov.au/publications/crimprev/cpted/)

Greenspace, UK  
[www.green-space.org.uk](http://www.green-space.org.uk)

Kidsafe NSW  
[www.kidsafensw.org](http://www.kidsafensw.org)

Parks and Leisure Australia  
[www.parks-leisure.com.au/](http://www.parks-leisure.com.au/)

Project for Public Spaces, U.S.A.  
[www.pps.org](http://www.pps.org)

Sydney Park Group  
[www.cp.nsw.gov.au/about\\_us/super\\_group](http://www.cp.nsw.gov.au/about_us/super_group)

Sport England, UK  
[www.sportengland.org](http://www.sportengland.org)

The Trust for Public Land, U.S.A.  
[www.tpl.org](http://www.tpl.org)



Jacaranda Rise

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