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MUNICIPAL INFRASTRUCTURE STANDARDS

Part 16 Urban Open Space

TCCS
Transport Canberra City Services

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CONTENTS

1	URBAN OPEN SPACE	5
1.1	General	5
1.1.1	Responsibilities	5
1.1.2	Cross references	7
1.1.3	Referenced documents	10
1.1.4	Interpretations	10
1.2	Planning and design principles	13
1.2.1	General	13
1.2.2	Site investigation	13
1.2.3	Stakeholder and community engagement	14
1.2.4	Strategic planning and design framework	14
1.3	Urban open space typologies and facilities	15
1.3.1	Town parks	15
1.3.2	District parks	15
1.3.3	Neighbourhood parks	16
1.3.4	Micro parks	16
1.3.5	Community recreation parklands	16
1.3.6	Sportsgrounds	17
1.3.7	Pedestrian parklands	17
1.3.8	Laneways	17
1.3.9	Informal use ovals	17
1.3.10	Natural open space	17
1.3.11	Semi-natural open space	18
1.3.12	Special purpose areas	18
1.3.13	Broadacre open spaces	19
1.3.14	Heritage parks	19
1.3.15	Verges and medians	19
1.3.16	Open space typology references	20
1.4	Environmental considerations	21
1.4.1	General	21
1.4.2	Climate change	21
1.4.3	Biodiversity and nature conservation	22
1.4.4	Heritage	24
1.4.5	Water sensitive urban design (WSUD)	25
1.4.6	Sustainable design	25
1.5	Active living	27
1.5.1	General	27
1.5.2	Design principles	27
1.5.3	Paths	27

1.5.4	Accessibility.....	30
1.5.5	Connectivity.....	31
1.6	Community safety.....	32
1.6.1	General.....	32
1.6.2	Crime prevention through environmental design (CPTED).....	32
1.6.3	Fire management.....	32
1.7	Other design considerations.....	33
1.7.1	Topography and gradients.....	33
1.7.2	Signage and wayfinding.....	33
1.7.3	Play spaces.....	34
1.7.4	Controlled access.....	34
1.7.5	Utilities infrastructure and easements.....	35
1.7.6	Street and park furniture and barbecues.....	35
1.7.7	Design and materials.....	35
1.8	Documentation.....	35
ANNEXURE A – Urban Open Space Facilities.....		36
ANNEXURE B – Ecological Assessment Checklist for Urban Open Space.....		38
ANNEXURE C – Cultural and Heritage Assessment Checklist for Urban Open Space.....		42
LIST OF TABLES		
Table 16-1	Open Space Typology.....	20
Table 16-2	Minimum clearances from powerlines and other electricity infrastructure.....	29
LIST OF FIGURES		
Figure 16-1	Indicative Path Open Space Path Planning.....	29

1 URBAN OPENSOURCE

1.1 General

General: Urban open spaces are typically public unleased land that is used as parks, playing fields, pedestrian/cycle pathways, equestrian trails and landscape buffers. Open spaces ensure that the enhancement and protection of a high quality public realm are pursued as an integral part of the development of Canberra and its environs.

The urban open space network is the foundation of Canberra's Garden City identity. It provides opportunities for recreation, active living and social interaction, enables protection of natural features and ecological systems, and performs a utilitarian function for active travel movement and stormwater drainage. Some open spaces also hold heritage and cultural significance, or are used for tourism and events. The urban open space hierarchy reflects characteristics including size of space, level of amenity and types of usage, from formal town parks and sporting grounds to informal natural and rural open spaces. Urban open spaces form a comprehensive network of civic spaces, green corridors, play spaces and community space.

This Municipal Infrastructure Standard (MIS) provides objectives for the design and construction of urban open spaces and outlines how these can be achieved through planning considerations and the implementation of design guidelines and standards.

1.1.1 Responsibilities

1.1.1.1 Objectives

General: Design of Urban Open Space to provide high quality, accessible, convenient, and maintainable spaces which meets requirements for public recreation, responds to environmental conditions and other responsibilities as required by the *Territory Plan*.

Scope: This Design Standard applies to Municipal open space, community zone blocks intended for publicly accessible recreational use (such as CRP) and road verges in the ACT and does not apply to privately owned and managed open space (on private lease land).

The planning and design of urban open spaces shall:

- > Integrate buildings and engineering infrastructure with natural landscape elements to create a unified and visually appealing environment;
- > Provide a greater sense of meaningful connection between people and their local environment through visual and physical access to open space;
- > Improve open space networks and avoid fragmentation;
- > Conserve and enhance cultural heritage;
- > Provide ecosystem services including microclimate modification, air quality improvement and noise attenuation;
- > Provide inclusive recreational and social space;
- > Minimise energy consumption, waste and greenhouse gas production during construction and across the life of the asset;
- > Improve stormwater quality through the protection of stream flows and adjacent environments and the application of water sensitive urban design (WSUD) principles;
- > Provide assets which meets the asset owner's expectations of maintenance;
- > Provides separate spaces for active and passive recreation;

- > Maximise ecological and biodiversity values through the protection and enhancement of existing habitat and wildlife corridors including the incorporation of remnant trees and other existing native vegetation into urban open space;
- > Contribute to the economic vitality of Canberra and its environs by encouraging opportunities for ecologically sustainable development and tourism, including events and attractions in open spaces;
- > Minimise social problems by applying principals of crime prevention through environmental design (CPTED);
- > Encourage active living through the provision of facilities for active and passive recreation and outdoor activities, for example cycling and pedestrian paths, equestrian trails, play spaces, picnic areas and fitness equipment;
- > Maximise soil conservation by designing with consideration to the existing ground levels and minimising impact, reuse of site soil within the site and reducing soil erosion;
- > Meet fire management regimes and requirements;
- > Respond to character and visual amenity (views, vistas and landmarks);
- > Contribute to wildlife movement and habitat connection across the urban landscape; and
- > Mitigate and adapt to climate changes.

1.1.1.2 Designer's qualifications

Requirement: The design of all urban open space shall be by an Australian Institute of Landscape Architects (AILA) Registered Landscape Architect. The designer shall submit evidence of designer's AILA Registration to TCCS.

1.1.1.3 Precedence

Requirement: Where any document issued, except legislation or the *Territory Plan*, referenced in this Municipal Infrastructure Standard (MIS) includes technical requirements that conflict with this MIS, consult with the service authority and TCCS for clarification.

1.1.2 Cross references

1.1.2.1 Commonwealth Legislation

The following Commonwealth Legislation is relevant to this Standard:

Aboriginal and Torres Strait Islander Heritage Protection Act

Australian Capital Territory (Planning and Land Management) Act

Disability Discrimination Act

Environment Protection and Biodiversity Conservation Act

Work Health and Safety Act

1.1.2.2 ACT Legislation

The following ACT Legislation is relevant to this Standard:

Clinical Waste Act

Climate Change and Greenhouse Gas Reduction Act

Dangerous Substances Act

Discrimination Act

Emergencies Act

Environment Protection Act

Environment Protection Regulation

Heritage Act

Human Rights Commission Act

Lakes Act

Legislation Act

Major Events Act

Nature Conservation Act

Pest Plants and Animals Act

Planning and Development Act

Planning and Development Regulation

Public Roads Act

Public Unleased Land Act

Tree Protection Act

Utility Networks (Public Safety) Regulation

Water Resources Act

Water Resources Regulation

Waste Management and Resource Recovery Act; and

Work Health and Safety Act

1.1.2.3 ACT Government Strategic Documents

The following strategic documents prepared by various Directorates of the ACT Government are relevant to this Standard:

ACT Pest Animals Management Strategy 2012 – 2022

ACT Weed Strategy 2009-2019

Active 2020: A Strategic Plan for Sport and Active Recreation in the ACT & Region 2011-2020

AP2 - A new climate change strategy and action plan for the Australian Capital Territory

ACT Climate Change Adaptation Strategy: Living with a Warming Climate

ACT Movement and Place Framework

Living Infrastructure Strategy (to be finalised by 2018)

The ACT Planning Strategy – Planning for a sustainable city

The City Plan

The Canberra Spatial Plan

Canberra Plan: Towards Our Second Century

Transport for Canberra: Transport for a sustainable city 2012-2031

Building an Integrated Transport Network: Active Travel

Towards Zero Growth – Healthy Weight Action Plan

Nature Conservation Strategy 2013 – 2023

Guide to Community Gardens in the ACT: Policy and Site Selection Criteria

The ACT Strategic Bushfire Management Plan 2014-2019

Heritage Assessment Policy

Five Year ACT Heritage Strategy 2016-2021

1.1.2.4 Plans of Management

Responsibility: It is a requirement of the *Planning and Development Act 2007* that an area of Public Land must be managed in accordance with both the management objectives applying to the area (*Schedule 3 of the Act*) and a management plan prepared by the custodian of the land.

The following Plans of Management for urban open spaces are available on the *ACT Legislation Register* (under the *Planning and Development Act – Disallowable instruments*):

Woden and Weston Creek's Urban Parks and Sportsgrounds;

Belconnen's Urban Parks, Sportsgrounds and Lake Ginninderra;

Inner Canberra's Urban Parks and Sportsgrounds;

Tuggeranong's Urban Parks and Sportsgrounds;

Urban Open Space and Public Access Sportsgrounds in the Gungahlin Region; and

Canberra's Urban Lakes and Ponds

1.1.2.5 Design Standards

This Design Standard references the following component standards:

MIS 01	Street planning and design
MIS 05	Active travel facilities design
MIS 08	Stormwater
MIS 10	Fences, guardrails and barriers
MIS 14	Public lighting
MIS 15	Urban Edges Management Zone
MIS 17	Shopping centres and other public urban spaces
MIS 18	Irrigation
MIS 19	Sportsground design
MIS 20	Street and park furniture
MIS 21	Recreational Facilities
MIS 22	Signage for Urban Parks and Open Space
MIS 23	Public toilets
MIS 24	Soft landscape design
MIS 25	Plant species for urban landscape projects

1.1.2.6 Specifications

The following Specifications are related to this standard:

MITS 09	Landscape
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1.1.2.7 TCCS Reference Documents

General: The following TCCS reference document is related to this standard:

Reference document 6 Requirements for Design Acceptance submissions

1.1.2.8 Design Guides

The following design guides are related to this Standard:

TCCS codes and design guides for designing and constructing assets

ACT Crime Prevention and Urban Design Resource Manual, ACT Government

1.1.2.9 Further reading

Advisory Notes on Access to Premises, Human Rights and Equal Opportunity Commission

Sharps Policy, ACT Government

Memorandum of Understanding between the ACT Government and the ACT Equestrian Association

Memorandum of Understanding between TAMS, ACTEA and BNT Ltd

National Construction Code

1.1.3 Referenced documents

1.1.3.1 Standards

AS 1428	Design for access and mobility set (Parts 1-5)
AS 1742	Manual of uniform traffic control devices set (Parts 1-15), particularly:
AS 1742.9	Part 9: Bicycle facilities
AS 1742.10	Part 10: Pedestrian control protection
AS 1742.13	Part 13: Local area traffic management
AS/NZS 2416	Water safety signs and beach safety flags set (Parts 1-3)
AS/NZS 4486.1	Playgrounds and playground equipment – Development, installation, inspection, maintenance and operation
AS 4422	Playground surfacing – Specifications, requirements and test method
AS 4685	Playground equipment and surfacing set (Parts 1-6)
AS 4685.11	Part 11: Additional specific safety requirements and test methods for spatial networks
ISO 7001	Graphical symbols – Public information symbols
ISO 17049	Accessible design – Application of braille on signage, equipment and appliances

1.1.3.2 Other Publications

Active Travel Infrastructure Practitioner Tool Environment protection policies (ACT Government), including:

Active Living Impact Checklist – A tool for developments in the Australian Capital Territory (National Heart Foundation of Australia)

ACT Government Public Art Guidelines

ACT Heritage Register

Australia's Strategy for Protecting Crowded Places from Terrorism

Proprietary products: To *TCCS Products previously considered for use list*

1.1.4 Interpretations

1.1.4.1 Abbreviations

General: For the purposes of this Municipal Infrastructure Standard the following abbreviations apply:

ACT RFS:	ACT Rural Fire Service
AILA:	Australian Institute of Landscape Architects
APR:	Accessible Pedestrian Route
ATN:	Active Travel Network
ATRA:	Active Travel Route Alignments
ATIPT:	Active Travel Infrastructure Practitioner Tool
BSU:	Basic Sports Unit
CMTEDD:	Chief Minister, Treasury and Economic Development Directorate, ACT Government and its successors

CPTED:	Crime Prevention Through Environmental Design
CRP:	Community Recreation Park
DDA:	Disability Discrimination Act
EPA:	Environment Protection Authority, ACT Government and its successors
EPBC Act:	Environment Protection and Biodiversity Conservation Act
EPSDD:	Environment, Planning and Sustainable Development Directorate, ACT Government and its successors
ESA:	Emergency Services Authority, ACT Government and its successors
Ha:	Hectares
IPCC:	Intergovernmental Panel on Climate Change
MOU:	Memorandum of Understanding
NCA:	National Capital Authority
PACS:	Parks and Conservation Services, ACT Government and its successors
P&D Act:	Planning and Development Act
TCCS:	Transport Canberra and City Services Directorate, ACT Government and its successors
TGSI:	Tactile Ground Surface Indicator
WSUD:	Water Sensitive Urban Design
UHI:	Urban Heat Island

1.1.4.2 Definitions

Active living: A way of life that integrates physical activity into daily routines.

Active Recreation: Recreation activities that involve physical input or interactions. Examples include running, ball games, climbing and riding.

Active Travel Route Alignments (ATRA): The spatial alignments of the five ATN route types as detailed in this Design Standard. Routes include both planned future routes where the alignment remains unfixed and existing routes where the alignment is defined.

Active Travel Infrastructure Practitioner Tool (ATIPT): A web-based user interface that provides access to spatial mapping of the route alignments for walking, cycling and equestrian routes (ATRA) as well as access to planning and design policies, guides and other information relevant to the planning and design of active travel infrastructure in the ACT. The tool is available for use by all stakeholders including government agencies, developers and consultants.

Biodiversity: The variety of life on earth, comprising countless species living in different but inter-dependent ecosystems. Variability among living organisms in terrestrial, marine and other aquatic environments (and the ecological systems of which they are part) includes:

- > Diversity within species and between species; and
- > Diversity of ecosystems.

Climate change: The Intergovernmental Panel on Climate Change defines climate change as “a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity.”

Climate Change Adaptation: Actions by individuals or systems to avoid, withstand or benefit from current and projected climate changes and their impacts. Adaptation reduces a system's vulnerability or increases its resilience to the effects of climate change. Various types of adaptation can be distinguished, including anticipatory (proactive), autonomous (spontaneous) and planned (deliberate) adaptation (IPCC).

Crime Prevention Through Environmental Design (CPTED): Aims to prevent crime by designing spaces and buildings that foster human activity and interaction using four key principles: natural (or passive) surveillance to limit the opportunity for crime; natural access to encourage the movement of people into spaces that are open and inviting; territorial reinforcement to maintain a sense of ownership by the local community; and target hardening to make it difficult to steal or vandalise property.

Evapotranspiration: The process of transferring moisture from the earth to the atmosphere by evaporation of water from land and water surfaces and by transpiration of vegetation.

Natural landscapes: Areas that have had limited human impact or intervention.

Natural Play Spaces: Play spaces which engage with natural, non-manufactured items such as logs, boulders, plant materials, paths and surfaces, changes of level and other landscape elements.

Passive Recreation: Recreation activities that are not about physical movement or activity. Examples of passive recreation include nature gazing, reading, having a picnic and talking.

Path: A paved off-road facility of varying width and surfacing for shared use by pedestrians and cyclists. All paths, including paths adjacent to streets, are shared by pedestrians and cyclists in the ACT, differing from NSW and Victoria where cyclists over 12 years of age are not permitted to ride on paths unless appropriately designated.

Playground or Play Space: An area designed for children's play, including the site, natural features, built landscape, and any manufactured equipment and surfacing.

Potable Water: Water suitable on the basis of both health and aesthetic considerations for drinking and culinary purposes.

Trail: An off-road facility for walking and/or cycling or horse riding with a surfacing to suit the general recreational purpose and its intended user group(s). May be coincident with, and share the same facilities as, a Community Route.

Urban Open Space: Unleased Territory Land within the urban area set aside for public and recreational use.

Urban heat island (UHI) effect: Localised warming in urban areas due to energy created by people, transport, buildings and activities, and by the storage and emission of heat from large amounts of paved and darker coloured surfaces.

Water sensitive urban design (WSUD): An approach to urban planning and design that aims to integrate the management of the urban water cycle into the urban development process.

Wayfinding: The National Heart Foundation Australia refers to wayfinding as the manner in which people orientate themselves in their physical environment and navigate from one place to another. It incorporates the processes of knowing where you are, where you are going, the best way to get there, recognising when you have arrived at your destination and knowing how to leave the area. It can also include indications of where people should not go.

1.2 Planning and design principles

1.2.1 General

General: The ACT Government provides a variety of open space types and environments in each district or local area. Open space performs a range functions. For example, it provides the community with recreational opportunities (passive and active), contributes to community health, connects key destinations, provides pedestrian/cyclist/equestrian access, increases the amenity of a location and acts as a buffer between different land uses (e.g. road delineation and separation).

The public open space system is unleased Territory Land, administered by TCCS and consists of:

- > Street verges and planted medians;
- > Parks of all sizes and types;
- > Walkways and linear spaces; and
- > Undeveloped natural and semi-natural areas.

Sportsgrounds are another type of urban open space; these are managed by CMTEDD (Active Canberra, formerly Sport and Recreation).

Landscaped areas and open spaces in shopping centres are addressed in *MIS 17 Shopping centres and commercial areas*.

1.2.2 Site investigation

Requirement: Undertaking pre-design planning is critical to sustainable development of urban open spaces. The initial site investigation will require various types of assessment and analysis, depending on the location, type, scope and scale of the project, such as the following (where relevant to the study or site):

- > Site topographical survey;
- > Tree assessment (e.g. identification of remnant or significant trees that need to be retained or protected, types of tree species suitable to site and local conditions that can be planted);
- > Surrounding land-use zoning and interface conditions (i.e. how the zoning affects the proposed open space and if there are any development controls imposed by the zoning);
- > Environmental, geotechnical and/or contamination studies;
- > Heritage and archaeological studies;
- > Hydrological study (e.g. overland flow, sub-surface drainage, etc.);
- > Soil assessment and soil mapping (i.e. soil conditions are important for identifying appropriate use of site, species selection for landscaping and whether soil remediation is required);
- > Bush-fire risk assessment;
- > Civil infrastructure (e.g. sewer, stormwater, electrical, gas, communications);
- > Access to public transport;
- > Vehicular access and car parking demand (e.g. requirements per ha or per user);
- > Non-vehicular access and connectivity with adjacent areas and the broader Active Travel Network (ATN) - Refer *MIS 05 Active travel facilities design*; and
- > Demographics (e.g. who will use or benefit from the proposed open space, how it will be used and likely times of use, possible impacts of use on surrounding area such as noise, etc).

1.2.3 Stakeholder and community engagement

Requirement: Liaise with stakeholders prior to, and during, the preparation of urban open space design, including the following:

- > EPSDD;
- > TCCS;
- > NCA, as required;
- > Project planning and landscape consultants;
- > Public stakeholders including local interest groups;
- > Service utility organisations; and
- > Other relevant authorities, as required.

Consultation: Engage the community in the planning and design of both new open space facilities and the upgrade or alteration to existing open space facilities. Seek advice from the ACT Government Agency responsible for the delivery of works, as to the representative groups to be consulted in an area.

1.2.4 Strategic planning and design framework

Objective: To meet the requirements for the provision of open space as detailed in the *Territory Plan*, under the *P&D Act*.

Territory Plan: The *Territory Plan* outlines the objectives of the Open Space Zone (PRZ1) and the types of development that are permissible in that zone. EPSDD development approvals may be required.

Planning studies: Obtain strategic planning and design direction for Urban Open Space in new and developing residential areas from EPSDD and the Suburban Land Agency. This includes strategic plans and documents such as:

- > Preliminary Assessments;
- > Structure Planning;
- > Concept Planning;
- > Site Investigation Reports;
- > Implementation, Estate Development and Development Approval Plans; and
- > Refer to the Active travel route alignments in the project area and existing facilities such as paths and trails to appreciate the current connectivity to destinations and possible desire lines.

1.3 Urban open space typologies and facilities

General: A hierarchy of open space typologies has been established in the ACT to guide the planning, distribution and functional allocation of open space across the Territory. The detailed design and provision of facilities for urban open spaces should reflect the designated hierarchy of the space. The general hierarchy and elements that are found in the various levels of open space are described below.

Typology: The types and location of the main community open spaces are determined at various stages of the planning of urban areas. Structure Plans, Concept Plans, Plans of Management or Estate Development Plans generally identify the location of:

- > Town parks;
- > District parks;
- > Neighbourhood parks (central, local and pocket);
- > Micro parks;
- > Community Recreation Parks (CRP);
- > Sportsgrounds;
- > Pedestrian parklands;
- > Laneways;
- > Informal use ovals;
- > Natural open space (Grasslands or woodland sites);
- > Semi-natural open space;
- > Heritage Parks;
- > Verges and Medians (nature strips);
- > Special purpose areas; and broadacre open space.

Town parks, district parks and neighbourhood parks are the main types of urban parks in Canberra. Other types of open spaces comprise landscaped components of the urban park system.

Annexure A provides a table of the types of facilities and uses that are likely to be found in each urban open space.

1.3.1 Town parks

General: Town parks are formal parks adjacent to, and serving, the main town centres. They are managed to a high standard, usually with trees, street furniture, mown and irrigated grass, paving, lighting, artworks and planting beds. These parks may also contain amenities such as toilets, play spaces, picnic tables, pedestrian/cycle paths and wheelchair access. Town parks are subject to intensive use and may host special events.

Examples: Glebe Park, Tuggeranong Town Park, Edison Park, Margaret Timpson Town Park in Belconnen and Gungahlin Linear Park.

1.3.2 District parks

General: District parks are extensive informal parks ranging in size from 4 to 10ha. They include irrigated and non-irrigated grass, amenities such as car parking, toilets and lighting in some instances, and a diversity of recreation facilities such as picnic areas with tables, seating, barbecues and shelters, play spaces, fitness equipment and water features for swimming and other water sports. Skate parks or other sport facilities (e.g. courts, BMX track) may also be available. District parks may be near water features, active travel facilities, pedestrian parkland and district sportsgrounds.

Examples: Acton Park, Black Mountain Peninsula, Haig Park, Telopea Park, John Knight Memorial Park, Point Hut Pond District Park, Lennox Gardens, Weston Park, Fadden Pines District Park, Eddison Park and Yerrabi Pond District Park.

1.3.3 Neighbourhood parks

General: Neighbourhood parks are small, usually 0.25 to 2 ha in area, and reflect the character of the land and the neighbourhood. These parks are typically used for recreation; they include irrigated and non-irrigated grass, play spaces and are the primary recreational space of the suburbs. Parents, grandparents or carers with young children are the main users. Neighbourhood parks are linked to surrounding areas by active travel routes through the street network, pedestrian parkland and laneways.

Hierarchy: Neighbourhood parks include the following:

- > A central neighbourhood park (usually 0.5 to 2ha), may be located adjacent to or surrounding a neighbourhood sportsground, informal use oval, school or shops. The park shall contain an accessible area of flat space and an area for informal ball games;
- > A local neighbourhood park (usually 0.25 to 1ha) may be integral to the design of a residential neighbourhood where its smaller size provides a site for safe play by children under surveillance by adults; and
- > Pocket parks are small incidental parks (less than 0.25ha) within suburban residential areas. Many pocket parks are formed during the estate planning phase to retain and protect an existing natural element on the site such as a tree, group of trees or a geological feature.

Examples: Corroboree Park, Remembrance Park, Captain Cook Park.

1.3.4 Micro parks

General: A micro park is a small, human-scale, intimate place of high amenity. It contains physical elements to support multiple passive recreation activities such as reading, eating, sitting, socialising. A micro park is designed to create usable public space in locations that have been identified as underutilised, under realised and/ or limited in the activities that are supported by the existing infrastructure.

Micro park designs will provide visual cues regarding their intended use. Each micro park will need to be individually designed to cater to the uniqueness of the site and will feature seating, shade and high-quality landscaping to create greater natural amenity within urban environments. A micro park may contain components such as interactive elements, access to wifi and power, lighting and be visually interesting and inviting to use.

1.3.5 Community recreation parklands

General: Community Recreation Parklands (CRPs) are parklands with a tight grouping of recreational facilities that provide for a wide range of ages. They generally include a sports space, play space and various active sports facilities such as a whole or half basketball or netball court, tennis hit-up wall, mini-skate park, cricket pitch, etc. Barbecues, table settings, seating, shelters and toilets may be located close to the facilities.

Examples: Crace CRP, Franklin CRP and Moncrieff CRP.

1.3.6 Sportsgrounds

General: Sportsgrounds include ACT Government School Ovals, District Playing Fields and Enclosed Ovals. Sportsgrounds contain fields that accommodate organised sports, such as rugby, football, hockey, athletics or cricket, and usually comprise irrigated playing surfaces with surrounds that may not be irrigated. Field layout and sporting options depend on markings and the size of the sportsgrounds, based on basic sports units (BSUs). Sportsgrounds are managed and maintained by Active Canberra within CMTEDD.

ACT Government school ovals, usually one basic sport unit in size, are located in public schools so they can be utilised by schools during school hours and for organised sports (training and matches) by sporting clubs or for informal use by local residents out of school hours. School ovals may contain toilet blocks and lighting.

District playing fields service several suburbs and comprise a number of fields (three or more BSUs) with at least one pavilion that provides toilets, changing rooms and seating. These fields can be used concurrently for senior and junior competition matches and training. Lighting is provided for night time games and training.

Enclosed ovals are fenced for security and usually require purchased admission tickets for entry to watch a high level competition game. These ovals contain a large pavilion with double change rooms/toilets, grandstand seating and floodlighting. Training is not permitted on these ovals to ensure the turf surface is kept to the high standard required for competition games.

Cricket pitches (grass or synthetic grass) and practice nets may be provided on school ovals or alongside playing fields.

Examples: Harrison District Playing Fields, Gungahlin Enclosed Oval, Kambah District Playing Fields.

1.3.7 Pedestrian parklands

General: Pedestrian parklands form active travel corridors of open space serving multiple purposes within and between suburbs. They typically include active travel routes to link destinations with peoples' homes. They may serve dual purposes where located in natural drainage lines to provide for urban overland flow, stormwater drainage and other services or as environmental links. Pedestrian parkland may contain facilities such as seating and fitness tracks/stations and link with play spaces or other open spaces.

1.3.8 Laneways

General: Laneways are narrow active travel corridors between buildings and residential properties. They typically include active travel routes to link destinations with peoples' homes. They may serve dual purposes where located in natural drainage lines to provide for urban overland flow, stormwater drainage and other services.

1.3.9 Informal use ovals

General: Informal use ovals are generally located adjacent to schools, active travel routes and shopping centres. They are large flat areas of non-irrigated open dryland grass used for informal sport and recreation. Limited facilities are provided.

1.3.10 Natural open space

General: Natural open spaces comprise remnant native grassland or woodland sites, which are important for nature conservation purposes. Several proclaimed sites contain endangered plant species and may be subject to action plans for their conservation prepared under provisions of the *Nature Conservation Act* and/or the *EPBC Act*. Natural open spaces have walking tracks that are primarily used for recreational activities such as bushwalking, cycling and horse riding. Limited facilities are provided.

Examples: Urambi Hills Nature Reserve, Mount Taylor Nature Reserve, Kama Nature Reserve, Black Mountain Nature Reserve.

1.3.11 Semi-natural open space

General: Semi-natural open spaces are areas of remnant grazing land or native vegetation including hill-top areas, creek corridors, ridges and buffer areas between suburbs. These areas provide a bushland setting for Canberra, habitat for wildlife and help maintain biological diversity. Such areas have walking tracks that are used for recreational activities such as bushwalking, cycling and horse riding. Semi-natural open spaces may provide sites for community activity by urban Landcare or bushland regeneration groups. Limited facilities are provided.

Examples: Mt Rogers, Fisher Parkland, Narrabundah Hill and Simpson Hill.

1.3.12 Special purpose areas

General: Special purpose areas are open spaces (including lakes) that are dedicated for particular specialised recreational activities or sporting events. Examples include:

- > **Skate parks:** Skate parks are generally located at a Town Park, District Park or CRP and they benefit the community by providing safe, dedicated areas for skateboard riders to practice the sport. Examples include Erindale Skate Park, Weston Creek Skate Park and Belconnen Skate Park;
- > **Exercise Parks, fitness stations and exercise trails:** Exercise parks, fitness stations and exercise trails are located at Town Parks, District Park, CRP, or Central Neighbourhood Park to provide active recreation facilities that encourage active living. Exercise trails can also be located in pedestrian parklands, laneways and connect through verges. Examples include John Knight Memorial Park, Crace Recreation Park, Theodore oval, Lindsay Pryor Street pedestrian Parkland (Wright) and Tuggeranong Town Park.
- > **Dog parks:** Fenced areas for socialising and exercising pet dogs under owner supervision. Examples include Inner North Dog Park, Yarralumla Dog Park, Springbank Rise Dog Park and Lake Ginninderra Dog Park. Refer to *MIS 21 Recreational Facilities*;
- > **Community gardens and Urban Orchards:** Places where people come together to grow fresh produce. The benefits of community gardens are numerous. They provide opportunities for social interaction, enable the community to grow their own food and access locally grown produce, and facilitate and promote active living. Examples include Gungaharra Community Garden and Lyneham Commons. Community Gardens are managed under licence.
- > **BMX tracks:** Purpose built tracks for off-road bicycles. Some BMX tracks are suitable for BMX racing such as the Tuggeranong BMX track. The BMX tracks are for people of all ages, skill levels and gender. It provides family-based fun and fitness. BMX tracks are managed under licence;
- > **Learn to Ride Centre:** Purpose built centres for children to learn to ride. The look and feel of a real road environment and are a safe space for young cyclists to learn riding skills. They include everything you would expect to see out in our suburbs, such as footpaths, roundabouts, pedestrian crossings, line markings and road signs;
- > **Equestrian areas:** An example is Equestrian Park Yarralumla (48.9ha). There are also five pony club grounds within Canberra, including Canberra Lakes in Yarralumla, Canberra Riding Club in Lyneham and Hall Pony Club;
- > **Water Skiing areas:** An example is the Molonglo Reach Water Ski Area; and
- > **Showground:** An example is the Hall Showground.

1.3.13 Broadacre open spaces

General: Broadacre open space is open space on the periphery of urban areas that is used for a range of purposes, including semi-rural activities (e.g. Government horse paddocks) and outdoor recreation (e.g. Bicentennial National Trail), education, research and defence establishments, municipal services, technological facilities, commercial, entertainment, recreation developments and community and tourist facilities. Requirements and methods of management of broadacre land that is not leased will vary depending on the location, environmental issues and other influences. Broadacre open spaces can be used for some recreational activities such as walking, horse riding and community gardens. Limited facilities are provided.

Visual amenity: The intention in visual terms is to maintain a clear distinction between city and countryside, providing land for non-urban uses with a predominantly rural setting on the urban fringe so that broadacre open spaces do not hasten the breakdown of the scale and appearance of the rural countryside or lead to the loss of the essential visual character of the ACT.

Land use: Broadacre areas may provide a land bank for future urban development. Consequently it is important that non-urban development does not adversely impact on the future use of land which may be required for urban purposes. It is also important that the development does not adversely impact on the environmental quality of the location.

1.3.14 Heritage parks

General: Heritage parks are managed to conserve, protect and enhance heritage including natural and cultural values. Heritage parks may be located in any category of open space (Neighbourhood Park, Town Park, Broadacre open space etc) where the authority responsible for Heritage Places identifies heritage value.

Requirement: The design and development of a heritage park must be undertaken in consultation with the authority responsible for Heritage Places and in accordance with the *Heritage Act*.

Examples: Quist Place, Nicholls Neighbourhood Park and Girrawah Park Ngunnawal.

1.3.15 Verges and medians

General: Verges and medians are the most numerous, used and visible element of Canberra's open space network. Verges and medians are valued spaces for establishing neighbourhood character, providing active travel routes and addressing sustainability. Street trees are important in establishing rhythm, shade, aesthetic appeal and forming connection to place. Street trees play a vital role in climate change mitigation and adaptation. Streets and verges may be utilised to maintain patches of native vegetation providing connections (habitat corridors) between larger areas where nature conservation values are to be protected.

Consider the ACT Movement and Place Framework in the design of street verge, median and landscaping.

1.3.16 Open space typology references

The following table lists the MIS documents most commonly relevant to each open space typology. It is the proponents' responsibility to ensure that all relevant standards and regulations are met.

Table 16-1 Open Space Typology

Open Space Typology	MIS 01 Street planning and design	MIS 03 Pavement design	MIS 05 Active travel facilities design	MIS 06 Verges	MIS 14 Public Lighting	MIS 18 Irrigation	MIS 19 Sportsground Design	MIS 20 Street and park furniture	MIS 21 Recreational Facilities	MIS 22 Signage for urban parks and open space	MIS 23 Public toilets	MIS 24 Soft Landscape design	MIS 25 Plant Species for urban landscape projects
Town Parks		Y	Y		Y	Y		Y	Y	Y	Y	Y	Y
District Parks		Y	Y		Y	Y		Y	Y	Y	Y	Y	Y
Neighbourhood Parks			Y		Y			Y	Y	Y		Y	Y
Micro Parks			Y		Y			Y	Y	Y		Y	Y
Community Recreation Parks		Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y
Sportsgrounds			Y		Y	Y	Y			Y	Y	Y	Y
Pedestrian Parklands		Y	Y		Y			Y	Y	Y		Y	Y
Laneways		Y	Y		Y							Y	Y
Informal Use Ovals			Y		Y		Y					Y	Y
Natural Open Space			Y							Y		Y	Y
Semi-natural Open Space			Y							Y		Y	Y
Special Purpose Areas		Y	Y		Y			Y	Y	Y	Y	Y	Y
Broadacre Open Space		Y	Y							Y		Y	Y
Heritage Parks			Y							Y		Y	Y
Verges and Medians	Y	Y	Y	Y	Y					Y		Y	Y

1.4 Environmental considerations

1.4.1 General

Scope: To provide urban open space ranging from highly maintained playing field environments to natural landscapes, taking the environmental context into consideration. The location, environmental values, relevant protection legislation, surrounding landscape setting, and condition of the site, as well as the typology and role of the urban open space, will influence the character and degree of naturalness that is desirable and appropriate for each urban open space area. Such considerations align with the objectives of the *Environment Protection Act*, administered by the Environment Protection Authority (EPA), including: protect and enhance the quality of the environment; prevent environmental degradation and risk to human health; and facilitate implementation of national environment protection measures (e.g. *EPBC Act*).

Objective: To incorporate environmental protection, biodiversity and climate change considerations into urban open space design.

1.4.2 Climate change

General: The design of urban open space shall consider the effects of climate change and incorporate features that address climate change through mitigation and adaptation strategies, consistent with other ACT government policy documents, including the *ACT Planning Strategy*, *AP2: A new climate change strategy and action plan for the ACT* and the *ACT Climate Change Adaptation Strategy*.

Climate change modelling for the NSW and ACT region indicate that in the future the Territory's climate is likely to be characterised by:

- > Warmer temperatures and a change in seasonal rainfall distribution leading to a hotter, drier environment and more severe heatwave, drought and bushfire events; and
- > More frequent intense storms.

In regard to the ACT's urban open spaces, the longer term effects of climate change are likely to be:

- > Changes in ecosystems, plant species and the animal species that they support;
- > Plant growth and health (including weeds) will be affected by changes in rainfall and temperature, impacting the visual amenity and maintenance regimes of open spaces; and
- > Increase in the volume of stormwater during storm events that will require changes to the way stormwater is managed.

All of these issues need to be considered as part of the design process for urban open space to ensure that the ACT community can continue to enjoy quality public areas in a changing climate.

Objective: Design urban open space to mitigate and adapt to climate changes, including:

- > Planting suitable tree species that help to cool the urban environment by reducing the Urban Heat Island (UHI) effect. Trees can have a direct effect on the regulation of local temperatures through evapotranspiration and shading;
- > Planting drought tolerant trees and plants and selecting species that are adaptable to predicted climate changes;
- > Planting tree species that handle reflective heat from pavements;
- > Planting suitable tree and plant species that will provide appropriate habitat to shelter and protect local animal species during extreme weather events;
- > Providing shade structures to protect users from exposure to extreme weather conditions, particularly on hot days;

- > For hard surfaces, consider the use of light coloured materials where appropriate to minimise heat absorption, glare and radiated heat;
- > Maximise the amount of permeable surfaces to reduce the levels of radiated heat and provide a greater surface area for stormwater to permeate the soil;
- > Integrating Water Sensitive Urban Design (WSUD) treatments to manage stormwater; and
- > Select tree and plant species suitable for rainwater interception and the inundation conditions of the site. Vegetation, in particular tree canopies, can slow and reduce stormwater flows by intercepting rainfall and allowing some absorption of rainfall into the soil.

Standards: The following design standards are relevant to climate change considerations:

- > *MIS 03 Pavement Design;*
- > *MIS 05 Active travel facilities design;*
- > *MIS 08 Stormwater; and*
- > *MIS 24 Soft landscape design*

Design references:

- > *AP2 - A new climate change strategy and action plan for the ACT;*
- > *ACT Climate Change Adaptation Strategy: Living with a Warming Climate;*
- > *The ACT Planning Strategy – Planning for a sustainable city;*
- > *Living Infrastructure Strategy and*
- > *Climate Change and Greenhouse Gas Reduction Act.*

1.4.3 Biodiversity and nature conservation

General: Some urban spaces may have vulnerable, endangered or protected species or habitat that is of national significance identified for biodiversity conservation through the *EPBC Act*. Refer to the Conservation Planning and Research section of EPSDD for the presence and status of significant species and ecological communities in order to comply with statutory requirements. The location of much of the known habitat of ACT's threatened vegetation, plants and animals can be obtained on *ACTmapi*.

Objective: Provide urban open spaces that support biologically diverse ecosystems that are resilient to drought and other climate changes and cost effective to maintain.

Scope: Maintenance of biodiversity involves:

- > Protecting, managing and enhancing the existing valued habitat and the rehabilitation of degraded environments;
- > Providing consideration for local genetic diversity, risk species, targeted species, competitors and predators, and using a diversity of indigenous plant species that are adapted to the local environment to recreate habitat suitable for a range of local species;
- > Encouraging natural regeneration and prevention of land degradation and site pollution, including the responsible use of fertilisers and implementing sediment control runoff management using filter ponds, swales and erosion management;
- > Provision of effective design and management of the interface between natural and urban areas;
- > Management of vehicle, pedestrian and bicycle movement and any associated wear and surface erosion, including limiting access through design and installing appropriate stock and vehicular restraints where appropriate, to prevent loss of habitat quality through damage to understorey and ground cover species, protect remnant vegetation;

- > Considering access for wildlife and controlled access for pedestrians and bicycles as well as maintenance and emergency vehicles, minimising the impact of domestic and feral dogs, cats and other vertebrate pests;
- > Control of illegal dumping and domestic garden encroachment; and
- > Removing unsafe tree limbs in select access areas (the method of tree surgery should also consider continued access of wildlife to hollows where possible).

Planning: The planning and design of urban open space should include:

- > Identifying remnant trees to be retained in accordance with the *ACT Tree Protection Act*, which applies to:
 - Proposed new urban open space in areas identified as Future Urban Areas; and
 - Urban Open Space land with Registered or Regulated trees that have Tree Protection Zones within Urban Open Space (for example where trees on leased land are close to boundaries or where canopies overhang boundaries of Urban Open Space).
- > Collating existing ecological studies, surveys, reports and mapping for the project area;
- > Carrying out site analysis and assessment, and additional ecological surveys if required;
- > Identifying species and habitats to be retained and protected / enhanced in accordance with the *EPBC Act* and *Nature Conservation Act*, in particular endangered or threatened species;
- > Identifying existing native vegetation and other habitat features that have the potential to be retained and managed in proposed or existing urban open space;
- > Listing the opportunities to create, incorporate or retain native plant/animal habitats identified above into the different categories of open space;
- > Identifying potential wildlife corridors linking the urban open spaces and surrounding habitats, taking into account existing features, opportunities to create links, and the needs of the species likely to be present and able to use corridors;
- > Considering design and management requirements of habitats and corridors; and
- > Considering adding key habitat elements such as logs, artificial hollow or shelter structures.

Wildlife Corridors: Key habitat and linkages have been mapped across the ACT. The relative significance of an open space area for wildlife connectivity can be determined by viewing the wildlife connectivity map layers within the ACT Government interactive online web mapping tool, *ACTmapi*.

Objective: Provide wildlife corridors to link habitat and allow wildlife to move across the landscape, where required by the *Territory Plan* or the design brief, by providing:

- > Breaks in tree canopy less than 100m;
- > Habitat areas of at least 10ha; and
- > Habitat areas not further than 1.1km apart.

Standards: The following design standards are relevant to biodiversity and nature conservation:

- > *MIS 15 Urban Edges Management Zone*; and
- > *MIS 24 Soft landscape design*.

Design checklist: Refer to **Annexure B - Ecological assessment checklist for Urban Open Space**.

Design references:

- > *ACT Nature Conservation Strategy 2013-2023 and Action Plans 27-29;*
- > *ACT Pest Animals Management Strategy 2012-2022;*
- > *ACT Weed Strategy 2009-2019;*
- > *Living Infrastructure Strategy;*
- > *The ACT Strategic Bushfire Management Plan 2014-2019;* and
- > Relevant legislation (see Cross References).

1.4.4 Heritage

General: Under the *Heritage Act*, there are many places and objects of cultural and heritage significance on the *ACT Heritage Register*. The Heritage Council works with ACT Heritage in EPSDD to recognise protect and conserve these heritage items.

Objective: To establish the heritage status of sites with the Heritage Unit of EPSDD before commencing design of urban open spaces. Consider the following:

- > Identify cultural and heritage elements to be retained in accordance with heritage legislation;
- > Identify existing cultural and heritage features that have the potential to be retained and managed in proposed or existing urban open space;
- > Check the *ACT Heritage Register* for cultural and heritage items, including Aboriginal, rural, historic and iconic places and objects;
- > List the opportunities to create, incorporate or retain the heritage features identified above into the different categories of open space;
- > Consider the design and management requirements of heritage elements and their setting, including consultation with local groups as deemed necessary;
- > Consider the need for a procedure to identify unanticipated heritage finds, such as Aboriginal artefacts;
- > Hire a heritage consultant to conduct a site assessment for identifying items of cultural and heritage significance that need to be protected and integrated into the urban open space design; and
- > Refer to the *Heritage Assessment Policy* for the process of nominating and assessing heritage places and objects.

Design checklist: Refer to **Annexure C – Cultural and Heritage Assessment Checklist for Urban Open Space**

Design references:

- > *Heritage Act;*
- > *Heritage Assessment Policy;*
- > *ACT Heritage Strategy 2016-2021 (draft);* and
- > *ACT Heritage Register.*

1.4.5 Water sensitive urban design (WSUD)

General: WSUD is a way of planning our cities to minimise water runoff and reduce the amount of damage caused by runoff. WSUD also encourages wise use of water to improve the urban environment, in line with the objectives of the *Water Resources Act*, administered by the EPA. The Act aims to ensure the use and management of the Territory's water resources are sustainable, whilst protecting the ecosystems that depend on the waterways.

Objective: Provide WSUD that supports healthy ecosystems and lifestyles through smart management of water.

Scope: Integrate water quality treatment, wildlife habitat and an attractive environment for people to enjoy. Provide access for maintenance as necessary.

WSUD involves:

- > Retention of natural water courses and swales in urban areas where possible;
- > Reducing peak flows and runoff from the urban environment, simultaneously providing for infiltration and groundwater recharge. Refer *MIS 08 Stormwater*;
- > Use of vegetation for filtering stormwater and wastewater, and treating the water to improve its quality to an acceptable standard for re-use and/or discharge;
- > Use stormwater in urban landscape to improve the visual and recreational amenity of developments;
- > Harvesting water for reuse in the urban landscape;
- > Water efficient landscaping to reduce potable water consumption;
- > Bioretention systems and swales;
- > Constructed wetlands; and
- > Ponds and lakes.

Water safety: WSUD must comply with water safety, including grades of slopes at water edges and/or fencing.

Standards: The following design standards are relevant to WSUD principles:

- > *MIS 08 Stormwater*;
- > *MIS 18 Irrigation*; and
- > *MIS 24 Soft landscape design*.

Design references: *AS/NZS 2416 Set*.

1.4.6 Sustainable design

General: Implementation of sustainable design principles underpins the urban planning and development goals of the *ACT Planning Strategy* and other policy documents, to deliver spatial planning and urban design outcomes that contribute to a sustainable Canberra.

Objective: Adopt sustainable design principles in the planning and design of high quality urban open spaces so they can provide long-term benefits to the community, including:

- > Provide safe, effective active travel networks and nearby public transport options to promote active travel and reduce greenhouse emissions through the reduction in car dependency;
- > Promote use of renewable energy resources and select fittings with low energy consumption to improve energy efficiency, such as LED lighting;

- > Protect and enhance natural landscapes, including revegetation of degraded areas and preservation of environmental values of grasslands, bushlands, wetlands, etc;
- > Select or protect trees and plants that enhance habitat connectivity and promote biodiversity;
- > Provide sufficient public open spaces near high density housing to reduce the UHI effect and provide opportunities for active living and social interaction;
- > Provide accessible community gardens to enhance social cohesion and food security in urban areas;
- > Implement WSUD principles and sediment and erosion controls to protect water quality in creeks and rivers;
- > Ensure the efficient use and protection of water resources through the use of water efficient landscaping, grey water in toilets and recycled water in irrigation practices;
- > Promote local materials and products where appropriate to reduce transport miles for construction and ongoing maintenance;
- > Reduce waste production through the re-use and recycling of materials where possible, such as soil, rocks, mulching of removed trees, etc; and
- > Ensure species selection does not include species or cultivars that have the potential to become weed species. Refer *MIS 25 Plant species for urban landscape projects*

Standards: The following design standards are relevant to sustainable design:

- > *MIS 05 Active travel facilities design;*
- > *MIS 08 Stormwater;*
- > *MIS 14 Public lighting;*
- > *MIS 15 Urban Edges Management Zone;*
- > *MIS 18 Irrigation;*
- > *MIS 23 Public toilets; and*
- > *MIS 24 Soft landscape design.*

Design references:

- > *The ACT Planning Strategy – Planning for a sustainable city;*
- > *Canberra Plan: Towards our Second Century;*
- > *The Canberra Spatial Plan;*
- > *Transport for Canberra: Transport for a sustainable city 2012-2031;*
- > *Environment Protection Policies on Wastewater reuse for irrigation, Contaminated sites and Water quality;*
- > *ACT Nature Conservation Strategy 2013-2023 and Action Plans 27-29;*
- > *Active Living Impact Checklist – A tool for developments in the ACT;*
- > *Guide to Community Gardens in the ACT: Policy and Site Selection Criteria;*
- > *Relevant legislation (see Cross References); and*
- > *AS 1428 Set Design for access and mobility set (Parts 1-5).*

1.5 Active living

1.5.1 General

Active living is a way of life that values and integrates physical activity into our everyday routines, helping people lead healthier, more active lives.

Active living is a fundamental part of improving the physical health and general wellbeing of the community. The urban and built environment can have a significant impact on our health. The physical environment influences opportunities for active living. Good design and people-friendly spaces and places can promote active lifestyles by encouraging walking, cycling, public transport usage and recreational activities.

1.5.2 Design principles

General: Parks and open spaces can have the highest direct benefits to active living. Urban open spaces should provide opportunities for both passive and active recreation. To encourage active living, urban open spaces should be pleasant and welcoming spaces that provide linkages to shops, schools, public transport and the broader open space network and designed for safe use and social inclusiveness. Activity in open spaces brings the urban realm to life and encourages further activity and interaction.

Objectives: To promote active living through well-designed urban open spaces that encourage people of all ages and abilities to be physically active, provide consideration for the following:

- > Opportunities for passive and active recreation;
- > Safe pedestrian and cycle pathways;
- > Accessibility for all;
- > Safe places to play;
- > Connectivity and continuous networks of pathways;
- > Pleasant, appealing environments;
- > Social inclusiveness;
- > Ease of wayfinding for all;
- > Walkability;
- > Opportunities to stop, rest and enjoy;
- > Adequate lighting where appropriate;
- > Provision of drinking water and seating where appropriate;
- > Picnic tables; and
- > Equestrian trails and facilities.

1.5.3 Paths

Objectives: To ensure access to, through and within urban open space places and facilities are convenient and encourage use of the urban open space. Paths in Urban Open Space facilitate a range of uses and experiences from local recreational experiences within the open space setting to broad active travel through connections.

There are two categories of Urban Open space paths Experience and Amenity. Experience paths facilitate pedestrian use within the open space such as a garden walk or minor link between facilities within the same open space. Amenity paths link with the active travel network and facilitate through travel and access to destinations within the urban open space.

Requirement: Route planning shall be undertaken to determine path categories and design within any open space. Route planning shall address cyclist and pedestrian movements at three scales;

- > Suburb/estate, primarily integration with the active travel network facilitating connections to destinations and public transport stops;
- > Site context, through connections, such as cross section links and laneways;
- > Local context, within the open space block, internal links to destinations and facilities such as play space, skatepark, picnic shelter etc.

Route planning shall respond to desire lines and the potential impact of shortcutting. Through paths must be as direct and convenient as possible noting the requirement for preservation of existing features (for example registered trees) and accessibility requirements.

All amenity paths shall be sealed (hard pavement), where amenity paths form part of the active travel network refer *MIS 05 Active travel facilities design* for further details.

Experience paths may be either sealed or unsealed (gravel). If an experience path is unsealed it shall be stabilised. Where gravel paths are greater than 2% slope the stabilisation shall be with a polymer binder.

The design of paths and interface between path categories shall prioritise active travel routes and signal transition to lower order paths. This may be achieved by one or more of the following depending on the design context:

- > material or colour change;
- > threshold pattern or material;
- > change in path width; and
- > angle of path connection.

Where paths terminate at a destination the design shall provide appropriate end of trip facilities. These will depend on use, as a minimum shall include a bike rack and a seat. Additional facilities such as drink fountains or shade shelters should be provided where user volume and spatial hierarchy justifies.

Entries to experience paths shall imply pedestrian only environment through design cues including:

- > material changes;
- > thresholds;
- > soft landscape design; and
- > nodes including bike racks and seating.

Soft landscape planting adjacent Experience paths is not required to meet the standard path offsets but plant species shall consider impact on the path (shallow growing roots, low branches etc).

Path widths for each category of open space path are identified in **Table 16-2 Minimum clearances from powerlines and other electricity infrastructure**.

Table 16-2 Minimum clearances from powerlines and other electricity infrastructure

Path Category	Path Use/ Typology	Minimum Path Width	Typical Width
Amenity Path	Active Travel Route	Refer to <i>MIS 05</i>	Refer to <i>MIS 05</i>
	Access to destination	1.5 m	2.0 m
	Access to destination for bicycles/ wheeled activity	2.0 m	2.0 m
	Link between destinations within the open space	1.5 m	2.0 m
Experience Path	Walking / strolling	1.2m	1.2 m

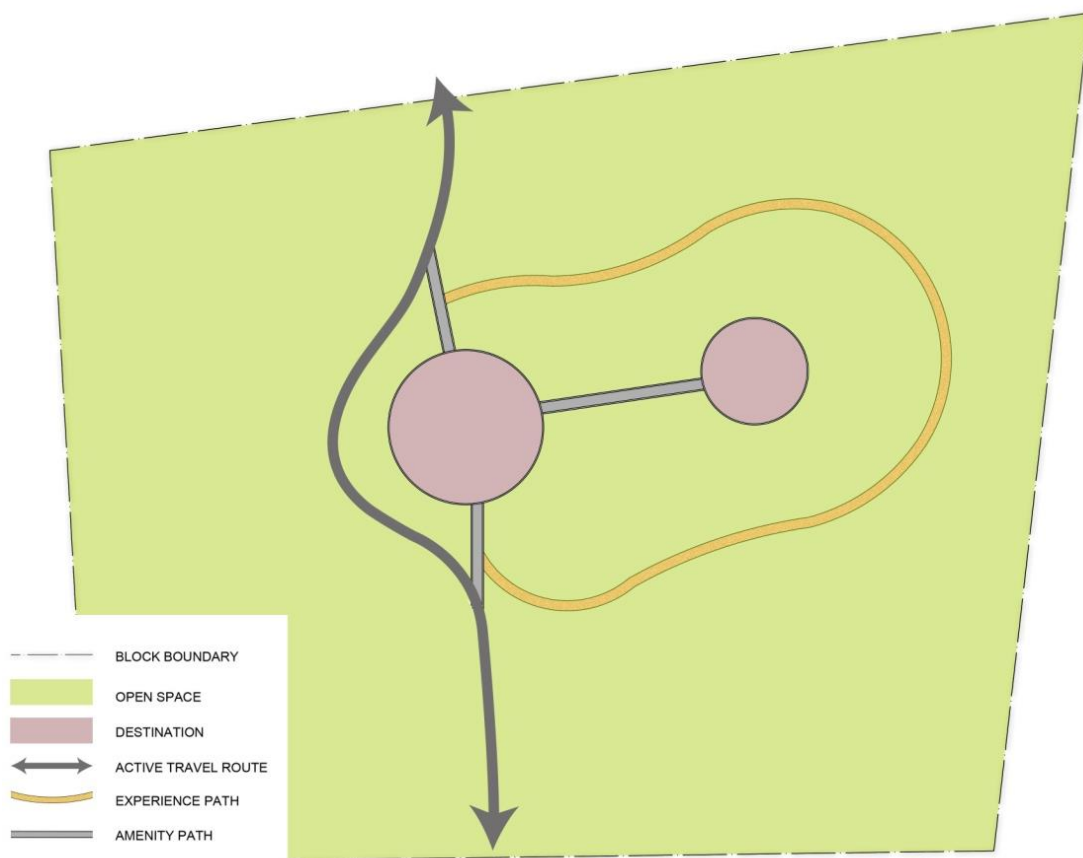


Figure 16-1 Indicative Path Open Space Path Planning

1.5.4 Accessibility

Objectives: To ensure urban open space is accessible to people of all ages, backgrounds and abilities, including children, the elderly and mobility impaired. Open spaces that respond to local community needs and are easily accessible to all members of the community provide physical and mental health benefits and encourage social interaction. This includes ensuring that open space layout, design and facilities (e.g. drinking fountains, seating, public toilets) cater for people who have sensory or mobility impairments.

Facilitating accessibility of urban open spaces should consider the following:

- > Design of paths, landscaping and signage that maximises all connections to the open space, road and public transport networks;
- > Provision of facilities that are responsive to the cultural and recreational needs of the local community;
- > Gradient of pathways no steeper than 1 in 20 and cross fall no steeper than 1 in 40. Crossing facilities and kerb ramps at roadways and car parks that are no steeper than a gradient of 1 in 8, with dimensions that adhere to accessibility standards. For kerb ramp details refer to *ACTSD-0515* and *0516*;
- > Width of path is influenced by the type, location and purpose of the pathway. Refer to *MIS 05 Active travel facilities design*;
- > Provide infrastructure to respond to the Active Travel Route Alignments (ATRA) requirements. This could include improved safety through adequate lighting, signage and line marking, priority over vehicles at active travel crossing points, railings and safety barriers for elevated viewpoints or along waterways, vertical clearance from overhanging obstacles such as vegetation and signage, and tactile ground surface indicators (TGSIs) along Accessible Pedestrian Routes (APRs);
- > Fixtures such as bus shelters, seating, bins, water fountains and lighting situated to ensure an obstacle free footpath and designed to meet accessibility standards; and
- > Provision of directional and wayfinding signage that adheres to relevant standards and is visible and legible.

Requirement: Accessibility shall comply with the *Territory Plan* including the *Access and Mobility General Code* and the DDA.

Standards: The following design standards are relevant to accessibility:

- > MIS 01 Street planning and design;
- > MIS 03 Pavement design;
- > MIS 05 Active travel facilities design;
- > MIS 06 Verges;
- > MIS 10 Fences, guardrails and barriers;
- > MIS 13 Traffic control devices;
- > MIS 14 Public lighting;
- > MIS 20 Street and park furniture;
- > MIS 22 Signage for urban parks and open space; and
- > MIS 23 Public toilets.

Design references: Human Rights Commission website; *Territory Plan – Estate Development Code*; and *AS 1428*), including *AS 1428.1* and *AS 1428.4*.

1.5.5 Connectivity

Objectives: Provide a network of active travel paths linking homes and places of work to public transport and other services such as shops and schools, to reduce the community's reliance on the car and promote active living. In the context of urban open spaces this includes:

- > Paths and community routes that, as far as possible, allow for a continuous, accessible path of travel in pedestrians and cyclists so that people with a range of access and mobility needs are able to use them without encountering barriers. See points on facilitating accessibility in Accessibility;
- > With reference to ATRA, design and provide a continuous attractive, interesting and safe network of equestrian trails linking Government horse paddocks, agistment centres, pony clubs, the Bicentennial National Trail and significant riding areas such as the Arboretum, Stromlo Forest Park, Canberra Nature Park and Equestrian Park (as per the MOU between the ACT Government and the ACT Equestrian Association);
- > Identifying existing and planned active travel routes in and around the development area, and responding with appropriate facilities. Refer to *MIS 05 Active travel facilities design*;
- > Pavement design which:
 - marks arrival at destinations;
 - notifies users of potential conflicts/other users; and
 - responds to the route typology and speed of travel (slowing down near other uses or separating higher speed active travel paths).

Standards: The following design standards are relevant to connectivity:

- > *MIS 01 Street planning and design*;
- > *MIS 03 Pavement design*;
- > *MIS 05 Active travel facilities design*;
- > *MIS 06 Verges*;
- > *MIS 13 Traffic control devices*;
- > *MIS 14 Public lighting*;
- > *MIS 20 Street and park furniture*; and
- > *MIS 22 Signage for urban parks and open space*

Design checklists: *Active Living Impact Checklist – A tool for developments in the Australian Capital Territory (National Heart Foundation of Australia)*.

Design references:

- > *Active 2020: A Strategic Plan for Sport and Active Recreation in the ACT & Region 2011-2020*; and
- > *Towards Zero Growth – Healthy Weight Action Plan*.

1.6 Community safety

1.6.1 General

Perceptions of safety influence the nature and extent that people use spaces and places. Design that aims to reduce crime (i.e. CPTED, see Crime Prevention Through Environmental Design (CPTED)) can enhance the physical, mental and social wellbeing of a community. Parks and open spaces that are designed for safe use can improve perceptions of safety, encouraging people to use them and be more physically active. Spaces that are socially inclusive also encourage people of all ages and abilities to participate in active living.

Requirement: Provide a safe community through design of urban open space that incorporates safety principles, to an extent reasonably practicable, and minimise risks to health and safety throughout the life of the assets used in the urban open space.

1.6.2 Crime prevention through environmental design (CPTED)

Objectives: Provide open spaces that are designed for safe use to improve perceptions of safety and opportunities for social interaction.

Codes: Comply with the *Crime Prevention Through Environmental Design General Code (Territory Plan)*.

Guidelines: For crowded places refer to Australia's Strategy for Protecting Crowded Places from Terrorism.

Standards: The following design standards are relevant to Crime Prevention through Environmental Design.

- > *MIS 01 Street planning and design;*
- > *MIS 14 Public lighting;*
- > *MIS 17 Shopping centres and commercial areas;*
- > *MIS 23 Public toilets; and*
- > *MIS 24 Soft landscape design*

1.6.3 Fire management

Requirement: Comply with the *Strategic Bushfire Management Plan* and any site specific fire management plans. Consider bushfire risk factors including aspect (predominant wind direction), slope, fuel loads, vegetation type, management and relationship to urban areas. Consider topography in the provision of suitable grading for functional and maintenance aspects of the design.

Objectives: For urban open space within areas that require asset protection zoning, the design should consider:

- > Inner asset protection and outer asset protection zone requirements;
- > Access to fire fighting infrastructure such as hydrants;
- > Access to fire trails on the urban edge;
- > Emergency vehicle and maintenance vehicle access;
- > Emergency escape routes; and
- > Landscape treatments must comply with the management regimes and incorporate signage for fire bans and bushfire risk.

Endorsement: Provide endorsement from the following authorities:

- > ACT Emergency Services Agency (ESA);
- > ACT Rural Fire Service (ACT RFS); and
- > ACT Parks and Conservation Services (PACS within EPSDD).

Codes: Planning for *Bush Fire Risk Mitigation General Code*.

Standards: The following design standards are relevant to fire management:

- > *MIS 10 Fences, guardrails and barriers;*
- > *MIS 15 Urban Edges Management Zone; and*
- > *MIS 25 Plant species for urban landscape projects*

Design references: *The ACT Strategic Bushfire Management Plan 2014-2019*.

1.7 Other design considerations

1.7.1 Topography and gradients

Objective: Consider topography in the provision of suitable grading for functional, safety and maintenance aspects of the urban open space design.

Standards: The following design standards are relevant to topography and gradients:

- > *MIS 02 Earthworks and site grading;*
- > *MIS 05 Active travel facilities design;*
- > *MIS 15 Urban Edges Management Zone; and*
- > *MIS 19 Sportsground design*

1.7.2 Signage and wayfinding

Objective: Signage and wayfinding is an important aspect of urban open space.

Way finding for pedestrians and cyclists aims to use landmarks to help people know where they are, recognise when they have arrived at their destination and know how to leave the area. Refer to Interpretations for a more detailed definition of wayfinding.

Requirement: Signage shall:

- > Incorporate landform and landmarks; and
- > Identify Place Names at destinations such as park entries.

Consider the use of landmarks to assist wayfinding, such as:

- > Built elements;
- > Landform;
- > Paths;
- > Entry features;
- > Planting;
- > Artwork (Requires input from ArtsACT);
- > Architectural features and design elements; and
- > Street furniture.

Consider the use of a series of hierarchical signs:

- > Detailed maps – detail provides assurance and confidence;
- > Broader contextual maps – help with bearings and future knowledge;
- > Pictograms – can be cross-referenced with location and help to establish when destination is reached; and
- > Directional signage.

Standards: The following design standards are relevant for wayfinding:

- > *MIS 05 Active travel facilities design;*
- > *MIS 12 Guide signs;*
- > *MIS 20 Street and park furniture; and*
- > *MIS 22 Signage for urban parks and open space*
- > *MIS 24 Soft landscape design.*

Design references: *ACT Government Public Art Guidelines; ISO 7001 and ISO 17049.*

1.7.3 Play spaces

Objective: To provide play spaces in accordance with typology of parkland and project brief. The playground equipment and environment should provide a balance and variety of recreation opportunities to suit the physical, social and intellectual play needs of the children for whom the play space has been designed. Natural play spaces typically consist of logs, rocks, water features and other natural elements that encourage children to explore and play in natural spaces.

Standard: The following design standards are relevant to playgrounds and play spaces:

- > *MIS 21 Recreational Facilities*

Design references: *ACT Play Spaces Strategy 2016-2020 (in draft); AS/NZS 4486.1; AS 4422; AS 4685 Set; AS 4685.11.*

1.7.4 Controlled access

Objective: To protect open space areas and provide controlled access for emergency and maintenance vehicles. This includes fencing, guardrails, barriers and traffic control devices to prevent unauthorised vehicle access and provide access tracks for TCCS maintenance staff, land and fire management authorities and ambulance services. The installation of vehicle restriction devices, such as bollards on paths, represents a hazard and should only be installed when warranted never as a default without a demonstrated need (Refer to *MIS 05 Active travel facilities design*). Consider the interface at the edge of open spaces adjacent to other urban or non-urban land uses and the control of parking around sportsgrounds and adjacent to high density housing, including verges and medians.

Standards: The following design standards are relevant to the provision of controlled access:

- > *MIS 05 Active travel facilities design;*
- > *MIS 10 Fences, guardrails and barriers;*
- > *MIS 13 Traffic control devices; and*
- > *MIS 15 Urban Edges Management Zone*

Design references: *Emergencies Act; AS 1742 Set; AS 1742.10; AS 1742.13; ISO 7001.*

1.7.5 Utilities infrastructure and easements

Objective: To provide unimpeded access routes, tracks, gates, security (locking/fences) arrangements, including the location and height of structures, encumbrances, cable routes, communications, telemetry, maintenance/replacement provisions, tree planting exclusion zones, etc for infrastructure associated with utilities, through the management of unauthorised verge development/landscaping.

These will include but not be limited to water, sewer, stormwater and electrical trunk mains, reservoirs, pump-stations, large access structures, ventilation shafts, headwalls, substations and overhead/underground power, mini-pillars and lighting.

Standards: The following design standards are relevant to civil infrastructure and easements:

- > *MIS 08 Stormwater; and*
- > *MIS 10 Fences, guardrails and barriers*

Design references: *Utility Networks (Public Safety) Regulation; AS 1742 Set.*

1.7.6 Street and park furniture and barbeques

Objective: To provide street and park furniture and barbeques to urban open space as appropriate. Well designed and located furniture and facilities help to create functional and appealing outdoor spaces for recreational use by the public.

Street and park furniture includes seating, picnic tables, bins, bicycle racks, drinking fountains and tree guards/grates. Barbecues are usually provided in district parks and should be electric where possible.

Standard: The following design standards are relevant to street and park furniture and barbeques:

- > *MIS 20 Street and park furniture*

1.7.7 Design and materials

Objective: To encourage contemporary interpretation of the Municipal Infrastructure Standards and Standard drawing details where appropriate, and where it is in accordance with requirements for safety, low maintenance and high durability of materials and function. Liaison with the relevant approval section during design, to seek support for deviations in design or materials, is required.

1.8 Documentation

Requirements: Comply with *Reference document 6 Design Acceptance submissions.*

ANNEXUREA – Urban Open Space Facilities

The following table provides an overview of the types of facilities that are typically located in each urban open space typology. This table is intended to be used as a guide only – permission to install facilities must be approved by TCCS prior to construction. Refer to the code below for a key.

Facility	Town Park	District Park	Neighbourhood Park	Micro Park	CRP	Sportsground	Pedestrian & Cycle Corridor	Informal Use Oval	Natural Open Space	Semi-Natural Open Space	Special Purpose Area	Broad Scale Open Space
Architectural features and design elements												
Barbecues												
Drinking water stations												
Dog on-leash areas												
Dog exercise parks												
Community garden												
Events												
Fitness equipment												
Garden beds												
Grassed areas – mown & irrigated for active or passive sport & recreation												
Grassed areas – mown & non-irrigated or unmown for informal sport & recreation												
Heritage sites												
Horse riding												
Lighting												
Major sporting venue												
Paving												
Pedestrian/cycle paths for Recreational Routes												
Pedestrian/cycle paths for Community Route												
Picnic tables												
Playground												
Rubbish bins												
Seating												

Facility	Town Park	District Park	Neighbourhood Park	Micro Park	CRP	Sportsground	Pedestrian & Cycle Corridor	Informal Use Oval	Natural Open Space	Semi-Natural Open Space	Special Purpose Area	Broad Scale Open Space
Sculptures/artwork	Moderate/Sometimes	Moderate/Sometimes		Moderate/Sometimes	Moderate/Sometimes						Low/Rarely	
Shelters	High/Always	High/Always			High/Always							
Showground											Low/Rarely	
Signage	High/Always	High/Always	Moderate/Sometimes	Moderate/Sometimes	High/Always	Moderate/Sometimes	Moderate/Sometimes	Low/Rarely	Low/Rarely	Low/Rarely	High/Always	
Skate park	Low/Rarely	Moderate/Sometimes			Moderate/Sometimes						Moderate/Sometimes	
Sport & recreation facilities e.g. oval, courts (squash, tennis, basketball, netball), cricket pitch, BMX track, etc		Moderate/Sometimes			High/Always	High/Always		High/Always			Moderate/Sometimes	
Stage	Moderate/Sometimes	Low/Rarely									Low/Rarely	
Street furniture*	High/Always			High/Always	Moderate/Sometimes		Moderate/Sometimes					
Water sports e.g. fishing, swimming, boating, water skiing, wading beach, etc	Low/Rarely	Moderate/Sometimes									Moderate/Sometimes	
Toilets	High/Always	High/Always			High/Always						Low/Rarely	
Trees	High/Always	High/Always	High/Always	High/Always	High/Always		High/Always	Moderate/Sometimes			Moderate/Sometimes	
Walking tracks	Moderate/Sometimes	High/Always					Moderate/Sometimes					Moderate/Sometimes
Water feature e.g. wetland, lake, creek/channel, pond	Moderate/Sometimes	Moderate/Sometimes			Moderate/Sometimes				Moderate/Sometimes	Moderate/Sometimes	Moderate/Sometimes	
Wheelchair access and/or facilities	Moderate/Sometimes	Low/Rarely		Moderate/Sometimes	Moderate/Sometimes	Low/Rarely						
WSUD infrastructure	Moderate/Sometimes	Moderate/Sometimes			High/Always		Low/Rarely					

Key: Level of service/ Provision

- High/ Always
- Moderate/ Sometimes
- Low/ Rarely
- Not Provided

Note: The level of service/provision indicates that some high amenity or high use parks contain more facilities to meet demand.

*Street furniture includes seats, bins, bicycle racks, etc that is typically situated in high use open spaces adjacent to transport corridors (including road and active travel), connecting spaces such as pedestrian parkland, shopping precincts and road reserves. Refer to MIS 20 Street and Park Furniture for more information.

ANNEXURE B – Ecological Assessment Checklist for Urban Open Space

An ecological assessment may be required for the site at which the urban open space is proposed, to determine whether there are any species, communities or ecosystems that need to be conserved and integrated into the open space design. Prior to the site assessment, collate existing ecological studies/surveys/reports/mapping for the project area. Following a review of these documents, carry out the site analysis and assessment, and obtain additional specialist surveys if required. Outcomes of the ecological assessment should be incorporated into the urban open space design and management.

Assessment Criteria	Yes	No	N/A	Comments
a) General ecological				
Have existing ecological studies/surveys/reports/mapping for the project area been collated and reviewed?				
b) Vegetation				
Does the vegetation mapping available on ACTmapi indicate the likely presence of endangered vegetation, such as: <ul style="list-style-type: none"> > Yellow Box – Blakely’s Red Gum woodland > Natural temperate grassland 				
Does the habitat and point data mapping available through ACTmapi indicate the likely presence of rare and threatened plant species, such as: <ul style="list-style-type: none"> > Button wrinklewort > Hoary sunray > Other threatened plants > Any rare plants 				
Are there any Regulated or Registered trees present (as per the Tree Register, under the Tree Protection Act)? What level of protection is required?				
What vegetation occurring on the site is worthy of retention? <ul style="list-style-type: none"> > remnant trees > shrubs and groundcover > native grasslands > wetland or periodic inundation zones 				
Is there any endangered, vulnerable or otherwise significant flora on site?				

Assessment Criteria	Yes	No	N/A	Comments
What other key habitat features are present on site? <ul style="list-style-type: none"> > nesting sites, roosts or breeding hollows > fallen logs > vegetation strata and/or other shelter > rock outcrops/crevices > heavy leaf litter > others 				
Are a range of vegetation layers or strata present on site?				
Does the site support a high diversity of native plants?				
If appropriate to the site, can wetlands be increased or created?				
Is a specialist vegetation survey required?				
c) Fauna				
Does the habitat and point data mapping of threatened animals available through ACTmapi indicate the likely presence of fauna such as: <ul style="list-style-type: none"> > Golden sun moth > Striped legless lizard > Pink-tailed worm lizard > Perunga grasshopper > Other threatened animal 				
Is the site within a key habitat or linkage area recognised within wildlife connectivity mapping available through ACTmapi?				
Is the existing site likely to be regularly used by: <ul style="list-style-type: none"> > birdlife > reptiles > animals > fish and amphibians 				
Is the site part of a recognised wildlife movement corridor?				
Is a wildlife survey required?				
Does or will the site have any specialist design or maintenance requirements in order to protect fauna?				

Assessment Criteria	Yes	No	N/A	Comments
d) Site Disturbance				
Is the site stable, based on slopes, soils and surface cover?				
Has the area been disturbed by: <ul style="list-style-type: none"> > erosion > fire > grazing > clearing 				
Are siltation, erodability, surface flows, or ground water regimes an issue?				
Are there weeds present? Is their impact significant? Can they be readily managed and controlled?				
Is the site susceptible to potential weed infestation?				
Are there feral animals present? Is their impact significant? Can they be readily managed and controlled?				
Is an Environmental Impact Assessment required?				
e) Bushfire Issues				
Is the site in a designated fire protection zone? If so, what specialised fire management requirements and regimes need to be met?				
Can effective fire management be incorporated into the design?				
Is discussion with Emergency Services Authority required?				
Are further specialist studies or recommendations required?				

Assessment Criteria	Yes	No	N/A	Comments
f) Natural regeneration potential				
Is there evidence of regeneration on site?				
Is there potential for regeneration using: <ul style="list-style-type: none"> > seed or cuttings collected on site > topsoil stripping > vegetation mulching > weed control > prescription burn 				
g) Other issues				
Will remnant vegetation or other nature conservation values on the site be affected by: <ul style="list-style-type: none"> > existing movement patterns, e.g., human desire lines, service easements and vehicle access > potential movement patterns > installation of infrastructure, services and other construction activity > site construction management and environmental controls > future maintenance Are there procedures in place to minimise the impact?				

ANNEXURE C – Cultural and Heritage Assessment Checklist for Urban Open Space

A cultural and heritage assessment may be required for the site at which the urban open space is proposed, to determine whether there are any heritage items of significance that need to be retained and/or protected when designing and developing the open space. Prior to the site assessment, collate existing cultural and heritage studies/surveys/reports/ mapping for the project area. Following a review of documents, carry out the site analysis and assessment, and obtain additional specialist surveys if required. The following checklist was adapted from the ACT Heritage Council’s Heritage Assessment Policy). Outcomes of the cultural and heritage assessment should be incorporated into the urban open space design and management.

Assessment Criteria	Yes	No	N/A	Comments
a) Research				
Are existing Cultural and Heritage studies, surveys, reports or mapping for the project area already collated and reviewed?				
> Are there any cultural or heritage elements on site that are registered on heritage listings, e.g. ACT Heritage Register?				
Is specialist advice, e.g. from a registered Aboriginal and Torres Strait Islander organisation or heritage consultant, required or desirable?				
Are there any cultural or heritage items on site not already identified that should be nominated for assessment?				
> Does the place or object have value in relation to a criterion (criteria a-h below)?				
> Apply threshold indicators to test the degree to which the place or object is significant.				
> Identify if necessary to integrate with tree protection and nature conservation legislation (significant trees).				

Assessment Criteria	Yes	No	N/A	Comments
b) Assessment				
Do the threshold indicators demonstrate that nominated item/s should be registered for cultural or heritage significance, based on the following criteria:				
a) Importance to the course or pattern of the ACT's cultural or natural history.				
b) Has uncommon, rare or endangered aspects of the ACT's cultural or natural history.				
c) Potential to yield information that will contribute to an understanding of the ACT's cultural or natural history.				
d) Importance in demonstrating the principal characteristics of a class of cultural or natural places or objects.				
e) Important in exhibiting particular aesthetic characteristics valued by the ACT community or a cultural group in the ACT.				
f) Importance in demonstrating a high degree of creative or technical achievement for a particular period.				
g) Has a strong or special association with the ACT community or a cultural group in the ACT for social, cultural or spiritual reasons.				
h) Has a special association with the life or work of a person, or people, important to the history of the ACT.				



TCCS
Transport Canberra City Services
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