

## Attachment 5 – Desired standards of service

- (1) The desired standard of service (DSS) details the standards that comprise an infrastructure network most suitable for the local context.
- (2) The desired standard of service is supported by the more detailed network design standards included in planning scheme policies.
- (3) The Local Government aims to deliver the DSS for trunk infrastructure, however an entity does not have the right to expect or demand the standard<sup>1</sup>.
- (4) DSS are expressed for each network in terms of planning and design criteria based on quantitative and qualitative standards.

## Water supply network desired standards of service

Planning Standard	Community Outcome
Ensure drinking water complies with the NHMRC Australian Drinking water guidelines for colour, turbidity and microbiology. >95% water test compliance.	<ul style="list-style-type: none"> <li>• Provides uniform quality of water monitored in relation to recognised standards.</li> <li>• Provide a safe and reliable water supply.</li> <li>• Safeguards community health.</li> </ul>
Comply with Integrated Environmental Management Strategy and associated Environmental Management Plans and (former) Department of Environment and Resource Management planning guidelines for water supply and sewerage.	<ul style="list-style-type: none"> <li>• Provides for system operation and monitoring in accordance with recognised standards.</li> <li>• Ensures environmental controls maintained.</li> <li>• Ensures potable water is provided in a manner consistent with environmental standards.</li> </ul>
Reduce Non-Revenue Water (water that has been produced and is 'lost' before it reaches the customer, including physical losses or leakages, commercial losses such as water meter inaccuracies, unauthorised consumption, and data handling errors, and unbilled authorised consumption such as water used for firefighting)..	<ul style="list-style-type: none"> <li>• Extend asset life</li> <li>• Defer system augmentation</li> <li>• Improve environmental flows</li> <li>• Reduced greenhouse gas emissions</li> <li>• Reduce extraction of water from source</li> <li>• Defer requirement for new water source</li> </ul>
Provide infrastructure which minimises power usage.	<ul style="list-style-type: none"> <li>• Reduced cost of energy</li> <li>• Cost effective service for community</li> <li>• Reduced greenhouse gas emission</li> </ul>
Develop and maintain excellence in appropriate new technologies.	<ul style="list-style-type: none"> <li>• Reduced cost of energy and chemicals</li> <li>• Cost effective service for community</li> <li>• Reduced greenhouse gas emissions</li> <li>• Improve water quality.</li> <li>• Reduced environmental effects from chemical production</li> </ul>
Provide infrastructure which minimises whole of life costs.	<ul style="list-style-type: none"> <li>• Cost effective service for community</li> <li>• Reduced energy cost</li> <li>• Reduced maintenance costs</li> <li>• Reduced overall operation costs</li> <li>• Reduced replacement costs</li> <li>• Reduction in disposal of waste</li> <li>• Reduced environmental effects from chemical production.</li> </ul>
Design Standard	Community Outcome
Design water supply infrastructure to comply with: <ul style="list-style-type: none"> <li>• The CHRC planning scheme; and</li> <li>• CMDG; and</li> </ul>	<ul style="list-style-type: none"> <li>• Provides uniform quality of water monitored in relation to recognised standards.</li> <li>• Provide a safe and reliable water supply.</li> </ul>

<sup>1</sup> In accordance section 78 (2) of SPA.

<ul style="list-style-type: none"> <li>• IPEWA; and</li> <li>• Plans for Trunk Infrastructure – Water Supply; and</li> <li>• Water Act; and</li> <li>• Department of Energy and Water Supply planning guidelines for water supply and sewerage.</li> </ul>	<ul style="list-style-type: none"> <li>• Safeguards community health.</li> </ul>
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## Sewerage network desired standards of service

Planning Standard	Community Outcome
Ensure wastewater collection, transportation and treatment system remains effective.	<ul style="list-style-type: none"> <li>• Reduced impact from blockages, overflows and spills.</li> <li>• Reduced impact on residents</li> <li>• Minimises release of nitrogen and phosphorous to the environment</li> <li>• Improved community health</li> <li>• Reduced greenhouse gas emissions</li> </ul>
Provide infrastructure which minimises power usage.	<ul style="list-style-type: none"> <li>• Reduced cost of energy</li> <li>• Cost effective service for community</li> <li>• Greenhouse gas reduction</li> </ul>
Provide infrastructure which minimises whole of life costs.	<ul style="list-style-type: none"> <li>• Cost effective service for community</li> <li>• Reduced energy cost</li> <li>• Reduced maintenance costs</li> <li>• Reduced overall operation costs</li> <li>• Reduced replacement costs</li> <li>• Reduction in disposal of waste</li> <li>• Reduced greenhouse gas emissions</li> <li>• Reduced environmental effects from chemical production.</li> </ul>
Achieve excellence in appropriate new technologies.	<ul style="list-style-type: none"> <li>• Reduced cost of energy and chemicals</li> <li>• Cost effective service for community</li> <li>• Minimise work, health and safety risks</li> <li>• Reduced greenhouse gases</li> <li>• Ensure optimal odour control</li> <li>• Reduced environmental effects from chemical production</li> <li>• Rapid response to breakages</li> </ul>
Reuse effluent where possible.	<ul style="list-style-type: none"> <li>• Beneficial use of reclaimed water and biosolids</li> <li>• Opportunity for cost recovery for reclaimed water treatment</li> <li>• Reduction in use of potable water supply and treatment</li> <li>• Reduction in release of nitrogen and phosphorous to the environment</li> <li>• Reduction of raw water extraction from source</li> </ul>
Design Standard	Community Outcome
Design sewerage infrastructure to comply with: <ul style="list-style-type: none"> <li>• The CHRC planning scheme; and</li> <li>• CMDG; and</li> <li>• Environmental Protection Act 2009 and Environmental Protection (Water) Policy 2009 requirements and guidelines; and</li> <li>• Plan for Trunk Infrastructure – Wastewater; and</li> <li>• Department of Energy and Water Supply planning guidelines for water supply and sewerage; and</li> <li>• The Water Act and Standard Sewerage Law.</li> </ul>	<ul style="list-style-type: none"> <li>• Noise control</li> <li>• No adverse visual effect</li> <li>• Control of overflows from system</li> <li>• Improves community health</li> <li>• Ensure odour control</li> <li>• Minimise environmental effects</li> <li>• Reduction in contaminated discharges</li> </ul>
Ensure infiltration and inflow in the sewerage collection and transportation system remains within industry acceptable limits (compliance with Environmental licences, IEMS and associated EMPs).	<ul style="list-style-type: none"> <li>• Reduced cost of energy for effluent transport, treatment and disposal</li> <li>• Minimise customer overflow issues</li> <li>• Maximise life of system</li> <li>• Reduced overflows to local waterways</li> </ul>

## Transport network desired standards of service

Planning Standard	Community Outcome
<b>Road Network</b>	
<p>Define the road network as a functional Urban and Rural hierarchy and freight routes which supports the urban and rural settlement patterns and commercial and economic activities.</p>	<ul style="list-style-type: none"> <li>• Protects the amenity of residential communities by removing non-local traffic</li> <li>• Improves local safety by removing “through” traffic</li> <li>• Maintains reliability of connectivity.</li> <li>• Reduces fuel consumption and emission levels by sustaining efficient operating speeds</li> <li>• Maintains travel speeds in off-peak periods</li> <li>• Reduces vehicle operating costs.</li> <li>• Improves public transport operation by improving travel speeds.</li> <li>• Supports economic growth by developing efficient and integrated transport networks</li> <li>• Minimises through traffic and heavy vehicles in residential areas</li> <li>• Limits community severance.</li> </ul>
<b>Cycleway and Footpath Network</b>	
<p>Provide safe and convenient pedestrian pathways and cycleways network in accordance with CMDG.</p>	<ul style="list-style-type: none"> <li>• Reduces fuel consumption and emission levels through the use of efficient transport modes</li> <li>• Encouragement of cycling and walking has positive health outcomes</li> <li>• Promotes health benefits</li> <li>• Improves transport opportunities for local trips</li> <li>• Ensures an acceptable level of amenity for users</li> </ul>
<p>Lot reconfiguration layouts provides for a highly connected and permeable path network between home and key activity nodes.</p>	<ul style="list-style-type: none"> <li>• Allows for high propensity to use walk and cycle options when convenient connections are provided;</li> <li>• Reduces the need for motor vehicle based trip making to daily needs;</li> <li>• Provides better connection to PT systems on major collector street and higher order roads</li> </ul>
Design Standard	Community Outcome
<b>Road Network</b>	
<p>Road network system is designed and provided in accordance with;</p> <ul style="list-style-type: none"> <li>• CMDG; and</li> <li>• (Former) Department of Main Roads ‘Planning and Design Manual’.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce delays during peak periods.</li> <li>• Improve safety by reducing vehicle speed differentials.</li> <li>• Supports efficient and integrated freight movement network.</li> </ul>
<p>Design bridges and culverts with appropriate flood immunity and capacity to convey floodwater, taking into account the Council’s road hierarchy and CMDG.</p> <p>Construction of bridges and culverts must not adversely impact on the natural environment, such as through the loss of vegetation and undesirable impacts on bio-diversity.</p> <p>Design bridges and culverts to maintain fauna and recreational links.</p>	<ul style="list-style-type: none"> <li>• Ensures road crossings operate safely in times of inundation</li> <li>• Reduces the risk of flooding for upstream properties</li> <li>• Provides opportunities for extended pedestrian and bicycle links</li> <li>• Enhances ecological links</li> </ul>
<b>Cycleway and Footpath Network</b>	
<p>Cycleway network is designed and provided in accordance with:</p> <ul style="list-style-type: none"> <li>• Plans for Trunk Infrastructure – Cycleway and Footpaths, and</li> <li>• the CMDG adopted by Council by resolution.</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage cycling and walking as acceptable alternatives.</li> <li>• Infrastructure provided meets recognised standards.</li> </ul>

## Stormwater network desired standards of service

Planning Standard	Community Outcome
Provide system of shared stormwater infrastructure allowing free and safe drainage of urban land while maintaining or improving the quality of run-off.	<ul style="list-style-type: none"> <li>• Minimises inundation of habitable areas.</li> <li>• Minimises the damage and risk associated with flooding.</li> <li>• Minimises the impact of development on the ecological health and water quality within waterway corridor.</li> <li>• Minimises impact on the community of mosquitoes and biting midges.</li> </ul>
Ensure the use of Water Sensitive Urban Design and other types of on-site infrastructure to minimise impact on trunk infrastructure	<ul style="list-style-type: none"> <li>• Provides waterways infrastructure at least life cycle cost.</li> <li>• Reduces the scale of shared infrastructure by optimising on site solutions.</li> <li>• Improves water quality at the point of discharge to benefit the waterway corridor's health.</li> </ul>
Ensure sufficient buffers from urban development along waterway corridors for ecological links (including rehabilitation of degraded waterway corridor banks, where required).	<ul style="list-style-type: none"> <li>• Maintain or improves environment amenity such as scenic values and natural construction.</li> <li>• Erosion and sedimentation is minimised.</li> <li>• Negative impacts on adjoining and downstream properties are minimised.</li> <li>• Protects environmentally sensitive areas from development.</li> </ul>
Ensure natural stream processes are maintained within waterway corridors.	<ul style="list-style-type: none"> <li>• Reduces the need for costly structural treatments of waterway corridor banks.</li> <li>• Provides for natural processes of accretion, erosion and sedimentation and reduces environmental effects from pollution.</li> <li>• Increases regional water quality.</li> </ul>
Design Standard	Community Outcome
Design stormwater infrastructure to comply with; <ul style="list-style-type: none"> <li>• CMDG; and</li> <li>• Queensland Urban Drainage Manual, and</li> <li>• Department of Environment and Heritage Protection requirements and guidelines; and</li> <li>• Plans for Trunk Infrastructure – Stormwater.</li> </ul>	<ul style="list-style-type: none"> <li>• Free and safe drainage of urban land.</li> <li>• Provision of infrastructure that is fit for purpose and has a viable whole of life cycle cost to the community.</li> <li>• Meets the performance requirements of the infrastructure to ensure water quantity and quality is appropriately managed.</li> <li>• Negative impacts on adjoining and downstream properties are minimised.</li> </ul>
Implement Water Sensitive Urban Design principles (including use of bio-retention, trash racks and GPTs) to achieve maximum on site quantity and quality treatment and minimise offsite discharge.	<ul style="list-style-type: none"> <li>• Maximise the water quality within the system.</li> <li>• Maintain or improve water quality and ecological health.</li> <li>• Reduces pollution of waterways.</li> <li>• Provides for combined improvement of the riparian habitat as major ecological corridors within the urban context.</li> </ul>
<p>Implement regional and on-site detention facilities to minimise the impact of peak run-off for the full range of events (Q1 to Q100) from developments, taking into account safety and risk.</p> <p>Design detention basins to maintain pre-development peak flow levels from the development site for all flood events (Q1 to Q100) in accordance with Council's CMDG.</p> <p>Design Detention Basins in the same catchment to ensure that the coincident peak discharge at downstream control points is not increased.</p>	<ul style="list-style-type: none"> <li>• Reduces the cumulative impact from existing and future developments on peak flow levels.</li> <li>• Reduces the need to increase the size of waterway corridors and underground drainage.</li> <li>• Increases active and passive recreation opportunities.</li> <li>• Minimises the impact on the environmental values of downstream waterway corridors by maintaining pre-development flows and velocities.</li> <li>• Reduces downstream sedimentation by slowing flow velocities.</li> <li>• Ensures that cumulative discharge of attenuation systems do not adversely affect parts of the natural catchments.</li> <li>• Reduces pollution to waterways.</li> </ul>

## Public Parks and Community Land network desired standards of service

Planning Standard	Community Outcome
Provide a connected and accessible network of parks, open space, and community facilities that meets the needs of the local government's residents and visitors.	<ul style="list-style-type: none"> <li>• Provides opportunities for access and increased usage of open space, recreational and community facilities.</li> <li>• Provides for an appropriate balance of land uses and ensures high levels of amenity in the urban form.</li> <li>• Provides a basis for a healthy and active community.</li> </ul>
Ensure strong linkages and where possible co-location of existing and future parks, open space and community facilities.	<ul style="list-style-type: none"> <li>• Ensures utilisation of existing and future assets while maintaining maximum access.</li> <li>• Makes economic efficiency of land owned by the Community.</li> </ul>
Provide a preferred level of development or embellishments to public parks, commensurate with the range of activities envisaged.	<ul style="list-style-type: none"> <li>• Provides safe open space embellishments that meet the needs of the community by providing a range of facilities for social activities and/or fitness/recreational pursuits.</li> <li>• Ensures activities are met and contained within designated areas - reducing potential off site impacts to other more sensitive areas in the Local government area.</li> <li>• Maximises the use of the land and provides the basis for a healthy community.</li> </ul>
Ensure that existing and future parks, open space and community facilities with significant environmental, waterway or cultural heritage value are managed appropriately.	<ul style="list-style-type: none"> <li>• Protects and enhances items of cultural interest in the Local government for the benefit of current and future communities in the area.</li> <li>• Provides a basis for tourism opportunities.</li> <li>• Protection of the natural landscape ensures maintenance of quality of air, water and land resources reducing negative impacts requiring amelioration.</li> </ul>
Design Standard	Community Outcome
Public parks and community land areas are provided in accordance with standard of provision (minimum park size) defined in Table 1 – Public parks and land for community facilities design criteria, and where identified in accordance with the Plans for Trunk Infrastructure – Public Parks and Community Land.	<ul style="list-style-type: none"> <li>• Provides a standard of service for the Local government's communities as identified in the Central Highlands Regional Council Open Space and Recreation Plan 2014.</li> <li>• Land and facilities are developed to optimise layout and use.</li> <li>• Facilities are provided in close proximity to the residents of the Local government and provide for a range of active and passive pursuits.</li> </ul>
Access to public parks and community facilities are to be in accordance with Table 1 – Public parks and community land design criteria.	<ul style="list-style-type: none"> <li>• Provides community access to a range of park, open space and community facilities.</li> </ul>
Land characteristics including shape, road frontage and gradient are in accordance with the desired land characteristics defined in with Table 1 – Public parks and community land design criteria.	<ul style="list-style-type: none"> <li>• Topography does not reduce or interfere with amenity and recreation use.</li> </ul>
Flood immunity for parks and community lands are achieved in accordance with the provisions defined in Table 1 – Public parks and community land design criteria.	<ul style="list-style-type: none"> <li>• Ensure adequate provision of safe, accessible and usable facilities.</li> </ul>
Public park embellishments are provided in accordance with: <ul style="list-style-type: none"> <li>• the type and purpose of public park as identified in Table 2;</li> <li>• Plans for Trunk Infrastructure – Public Parks and Community Land.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides a range of park types that are suitability embellished to meeting their purpose within the park hierarchy.</li> </ul>

**Table 1 – Public parks and community land design criteria**

Park Type	Hierarchy	Min Park Size	Accessibility (catchment)	Land Characteristics
Recreation	Local	0.5Ha of usable space	400m (Tier 1 Places) 500m (Tier 2 Places)	<p><i>Shape:</i> Square to rectangular with sides no greater than 2:1</p> <p><i>Gradient:</i> Max 1:10 for 80% of park area</p> <p><i>Road frontage:</i> 30-50% of perimeter to have direct frontage</p> <p><i>Flood immunity:</i> 15% of area above Q105 and free of hazards.</p>
	District	2Ha of usable space (Tier 1 & 2 Places) 4Ha of usable space (Tier 3 & 4)	1000m (Tier 1 & 2 Places) Central Location (Tier 3 Places)	<p><i>Shape:</i> Square to rectangular with sides no greater than 2:1</p> <p><i>Gradient:</i> Max 1:10 for 80% of park area</p> <p><i>Road frontage:</i> 30-50% of perimeter to have direct frontage on a collector road</p> <p><i>Flood immunity:</i> At least 25% of total area to be above Q50 with main activity areas above Q105.</p>
	Regional	6Ha of usable space	Central Highlands Region (LGA)	<p><i>Shape:</i> Square to rectangular with sides no greater than 2:1</p> <p><i>Gradient:</i> Average 1:20 for main use areas, 1:50 for kick-about area, and variable for remainder</p> <p><i>Road frontage:</i> 30-50% of perimeter to have direct frontage on a collector road</p> <p><i>Flood immunity:</i> At least 50% of total area to be above Q50 with main activity areas above Q100.</p>
Sportsgrounds and Courts	District	3Ha	5 minutes drive	<p><i>Shape:</i> Square or rectangular</p> <p><i>Gradient:</i> Average 1:80 for all playing surfaces</p> <p><i>Road frontage:</i> approx. 25% of perimeter to have direct road frontage</p> <p><i>Flood immunity:</i> At least 20% of land above Q20, with fields and courts above Q50. Built facilities to be above Q105.</p>
Sportsgrounds and Courts	Regional	6Ha (10Ha+ desirable)		<p><i>Shape:</i> Square or rectangular</p> <p><i>Gradient:</i> Max. 1:100</p> <p><i>Road frontage:</i> approx. 25% of perimeter to have direct road frontage</p> <p><i>Flood immunity:</i> At least 90% of land above Q20, with fields and courts above Q50. Built facilities to be above Q105.</p>
Recreation Corridors		Average 6m wide	NA	<p><i>Shape:</i> Linear</p> <p><i>Gradient:</i> As flat as possible to encourage walking and cycling.</p> <p><i>Road frontage:</i> road frontage where possible for safety and access reasons.</p>

Park Type	Hierarchy	Min Park Size	Accessibility (catchment)	Land Characteristics
				<i>Flood immunity: Minimal, to be assessed on a case-by-case basis.</i>

**Table 2 – Standard embellishments for public parks**

Embellishment type	Recreation			Sportsgrounds and Courts		Recreation Corridors
	Local	District	Regional	District	Regional	
Recreation activity area	✓	✓	✓			
Bollard fencing	✓	✓				✓
Post and rail fencing			✓	✓	✓	
Park trees	✓	✓	✓			✓
Bike rack	✓	✓	✓	✓	✓	
Small park sign	✓	✓	✓	✓	✓	✓
Large park sign		✓	✓		✓	✓
Water bubbler	✓	✓	✓		✓	
Bench seats	✓	✓	✓		✓	✓
Picnic table	✓	✓	✓			
Picnic shelter (with table/chairs)		✓	✓			
Bins	✓		✓	✓	✓	✓
Park lighting		✓	✓	✓	✓	
Barbecues		✓	✓			
Shade structure		✓	✓		✓	
Irrigation		✓	✓	✓		
Amenity Block		✓	✓	✓	✓	
Spectator seating				✓	✓	
Pathway		✓	✓	✓	✓	✓
Carparking		✓	✓	✓	✓	