WET TROPICS MANAGEMENT AUTHORITY | WORLD HERITAGE IS OUR PROMISE TO THE FUTURE

Wet Tropics Management Plan 1998 Guideline

Section 62—Guideline for deciding permit applications Limited and developed visitor infrastructure

Section 33(1)(f) and Section 34(a) respectively

Purpose of guidelines

Decisions made under the Wet Tropics Management Plan 1998 are fair, transparent, consistent and contribute to achieving the objectives of the Wet Tropics World Heritage Protection and Management Act 1993, and the Primary Goal for the Wet Tropics of Queensland World Heritage Area.

The Primary Goal is the Authority's obligation to ensure the protection, conservation, presentation, rehabilitation, and transmission to future generations, of the natural heritage of the World Heritage Area.

Target audience

Primary: Wet Tropics Management Authority (the Authority) staff and others administering the Wet Tropics Management Plan 1998[1] (the Management Plan).

Secondary: Permit applicants, permit holders, Rainforest Aboriginal Peoples and the public—particularly those who are considering undertaking activities in the Wet Tropics of Queensland World Heritage Area (the Area), or are interested in pre-lodgement discussions about potential visitor infrastructure development in the Area.

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[1] www.legislation.qld.gov.au/view/html/inforce/current/sl-1998-0161

1. Objective of this guideline

To provide guidance about the application and interpretation of the Management Plan for assessing and deciding a Wet Tropics permit for:

- building limited visitor infrastructure (s.33(1)(f)) and
- building developed visitor infrastructure (s.34(a)).

This guideline:

- supports interpretation of Schedule 3 of the Management Plan for the purpose of permit assessment and to support applicants in preparing their permit applications
- provides the context and rationale around how decisions will be made.

2. Context

This document is a guideline made under s.62 of the Management Plan. The Authority must make this guideline available and must have regard to the guideline in its permit assessments.

There are existing provisions in the Management Plan to permit limited visitor infrastructure (LVI) and developed visitor infrastructure (DVI) in the Area:

- Part 3, Division 4 (Activities allowed under permit)
- Part 4, Division 2 (Principles and criteria for deciding permit applications)

Schedule 3 of the Management Plan (Dictionary) provides definitions and examples of limited and developed visitor infrastructure to guide the application of these principles and criteria.

Relevant extracts from the Management Plan are outlined in Table 1 below, and further descriptors and examples are provided in Appendix A of this guideline.

Table 1: LVI and DVI provisions as per the Wet Tropics Management Plan 1998

Limited visitor infrastructure	**Developed visitor infrastructure**
Part 3, Division 4: Activities allowed under permit	**Part 3, Division 4: Activities allowed under permit**
s.33 Activities permitted in all zones	**s.34 Certain activities in zone C**
(1) A permit may be issued to a person to carry out any of the following activities on land in the wet tropics area— (f) building limited visitor infrastructure	A permit may be issued to a person to carry out any of the following activities in zone C— (a) building community services infrastructure, developed visitor infrastructure or another structure (c) dismantling community services infrastructure or developed visitor infrastructure[2]
Schedule 3: Dictionary	**Schedule 3: Dictionary**
limited visitor infrastructure means infrastructure, other than a road, designed and constructed— (a) for any of the following purposes— (i) providing access for visitors to the area; Example— a walking or cycling track	***developed visitor infrastructure—*** (a) means infrastructure designed and constructed mainly for— (i) presenting the area to visitors or informing visitors about the area; Examples— information shelter, lookout

[2] 'Dismantling' is subject to assessment and not considered further in this guideline

Limited visitor infrastructure	Developed visitor infrastructure
(ii) presenting the area to visitors or informing visitors about the area; Examples— information board, small-scale viewing platform (iii) assisting the hygiene, safety or shelter of visitors in the area; Examples— small-scale toilet facility, visitors' shelter (b) to ensure the infrastructure and its use by visitors have a low impact on the world heritage values and integrity of land in the area. Examples of the operation of paragraph (b)— 1 A walking or cycling track includes a boardwalk to minimise the impact of visitors walking or cycling on parts of the track that may otherwise be subject to erosion. 2 A walking or cycling track includes a footbridge crossing a gully containing native plants that might otherwise be damaged by visitors walking or cycling on the track. 3 A camping platform is established in a camping area to limit the places where visitors may camp and minimise the impact of disturbance to the camping area.	(ii) assisting the hygiene, safety or shelter of visitors in the area; Examples— public toilet facility, waste disposal area (iii) allowing visitors to enjoy, and stay temporarily in, the area; Examples— • camp ground • tourist accommodation built and maintained consistently with the management purposes of zone C (iv) otherwise—the use of visitors in the area; Examples— barbecue facility, picnic facility (b) does not include— (i) community services infrastructure; or (ii) limited visitor infrastructure; or (iii) a road.

3. Considerations

Management purpose of zones

The management purpose for each of the three zones in the Area is outlined in Part 2 of the Management Plan—this details the intent for protection and conservation, access, restoration and enhancement, and accommodation of infrastructure (for community services or visitors).

The management purpose of zones A and B includes "to enable visitors to access parts of the land in the zone to appreciate and enjoy the area".

The management purpose of zone C includes "to accommodate community services infrastructure[3] and visitor infrastructure" and "to ensure, so far as is reasonably practicable, that any visitor infrastructure on land in the zone is built and maintained in a way that—

a) is ecologically sustainable; and
b) is sensitively integrated into the surrounding landscape; and
c) enhances visitors' understanding and appreciation of the natural and cultural heritage of the area."

In accordance with s.33 of the Management Plan, LVI can be permitted in any zone; as per s.34, DVI can only be permitted in zone C. If road access is required to access the proposed visitor infrastructure, it should be noted that the building of a road is not considered to be LVI or DVI and is not an activity that can be permitted in zones A or B.

[3] Community services infrastructure is defined in Schedule 3 of the Management Plan

Assessment of proposal

Part 4, Division 2 of the Management Plan provides for the principles and criteria that apply to the Authority when deciding an application for a permit to carry out a proposed activity including, if it is decided to issue a permit, the conditions of the permit. These principles and criteria assist in assessing potential impacts and proposed mitigation measures.

Where proposed visitor infrastructure is a component of a larger project, a single permit application for the overall project may apply—this enables a comprehensive assessment of potential cumulative impacts on World Heritage values.

One of the primary guiding principles is that of prudent and feasible alternatives: the proponent must review all prudent and feasible alternatives when considering a proposal in the Area. These may include:

- Can it be built outside of the Area?
- Can it be built in another zone (e.g. zone C)?
- Can it be built in a more appropriate location in the zone?
- Can it be reduced in scale so there is less impact?
- Can it be designed and constructed using materials that reduce impacts?

Any visitor infrastructure would typically require consideration of factors such as:

- The zoning at the proposed site and the management purpose of the zone
- The scale and number of components proposed
- The potential level of impact on World Heritage values and integrity of the Area caused by the construction of the infrastructure, and ongoing impacts because of the existence of the infrastructure (including servicing and ongoing maintenance requirements)
- Grade (size, complexity and intrusiveness) of the proposed infrastructure
- Estimated visitation rate, and the carrying capacity of the site
- Site specific characteristics of the proposed location of the infrastructure, including the nature of the ecological community within which it is situated (e.g. biodiversity values and management such as fire); the geomorphology and topography of the site (e.g. geomorphological characteristics); and the relative remoteness of the site
- Aesthetic characteristics and scenic value of the site (is the proposed infrastructure design sensitive to the surrounding landscape?)
- Roads—does the visitor infrastructure require road access? Does the Management Plan zone allow for building of a road (only allowed under permit in zone C)?
- Cumulative impacts
- Any potential disturbance or disruption to Aboriginal tradition or impacts on community amenity
- Any increased risk of weed or pest infestation or distribution as a result of disturbance and human assisted distribution.

The principles and criteria used for assessment are further explained in Section 9A of the Wet Tropics Permit application form, found on permit system page[4] of the Authority's website[5] Meeting with the Authority to discuss potential applications prior to lodgement ensures the correct information is provided to support applications. Contact details can be found in this guideline, or on the Authority's website[5].

[4] www.wettropics.gov.au/permit-system
[5] www.wettropics.gov.au

What is considered to be 'limited' or 'developed' visitor infrastructure

Table 2 (below) provides guidance around a variety of infrastructure types that may be considered LVI or DVI and therefore may be allowed under permit ('permitted') under s.33 or s.34 of the Management Plan.

While Table 2 lists a variety of infrastructure types and some thresholds, it is not an exhaustive list, nor is it exact and prescriptive—the grade of infrastructure would require an assessment against the principles and criteria for deciding permit applications under Part 4, Division 2 of the Management Plan.

Community services infrastructure and other infrastructure limited to zone C (not considered LVI or DVI) are presented in Table 3.

Table 2 was developed through expert consultation and by drawing upon existing guidance as applied to visitor infrastructure on the Queensland protected area estate (e.g. the QPWS&P Site Facilities and Design Manual).

Table 2: Examples, general guidance and thresholds for LVI and DVI

Infrastructure type	Examples of limited visitor infrastructure	Examples of developed visitor infrastructure
Buildings	Small-scale toilet facility (further defined in Appendix A): • Composting or hybrid toilet systems with holding tanks	• Administration offices • Amenities blocks • Fire bunkers if required for emergency or safety purposes • Kiosks, retail outlets, function centres • Permanent accommodation such as cabins, demountables, dongas • Plant nursery • Public toilet facility (further defined in Appendix A): ○ Toilets with septic or sewerage systems • Residences

Camping facilities	• Camping area (further defined in Appendix A):
	A general guide for the maximum thresholds[6] applied to camping areas would include:
	  ○ visitation—up to 30 people at any one time
	  ○ camp sites—up to 8 sites or camping platforms/ha
	  ○ small-scale toilet facility (composting or hybrid)—1 pedestal
	Visitors' shelter (further defined in Appendix A) may be permitted subject to assessment, which will consider the cumulative impacts of all infrastructure in the site.
		• Camp ground (further defined in Appendix A):
		A general guide for the maximum thresholds[6] applied to camp grounds would include:
		  ○ visitation—up to 72 people at any one time
		  ○ camp sites—up to 12 sites/ha
		  ○ public toilet facility—up to 3 toilet pedestals
		May include other buildings (e.g. amenities block) or visitor structures (e.g. barbecue facility, picnic facility, shelter shed).

[6] These figures provide an indicative threshold, but the final number would be subject to assessment

Infrastructure type	Examples of limited visitor infrastructure	Examples of developed visitor infrastructure
	Building of roads to access a camping area would not be permitted in zone A or B. • Camping platform (further defined in Appendix A): There are no thresholds for a camping platform structure, however the siting and construction must be suitable for the location, minimising the footprint of the platform.	
Day-use areas	A general guide for the maximum thresholds[6] applied to day-use areas would include: • visitation—up to 30 people at any one time • picnic sites—up to 8/ha • small-scale toilet facility (composting or hybrid)—1 pedestal Visitors' shelter (further defined in Appendix A) may be permitted subject to assessment, which will consider the cumulative impacts of all infrastructure in the site. Building of roads to access a day-use area would not be permitted in zone A or B.	A general guide for the maximum thresholds[6] applied to day-use areas in the Area would include: • visitation—up to 72 people at any one time • picnic facilities (further defined in Appendix A)—up to 12/ha • public toilet facility—up to 3 pedestals May include other visitor structures (e.g. barbecue facility, shelter shed).
Energy and gas	• Gas bottles: ○ May be permitted if they are not permanent fixtures • Solar panels: ○ Limited and small-scale solar panels may be considered as part of an application for LVI, e.g. solar panel on the roof of a hybrid or composting toilet cubicle to provide light for safety of users at night	• Battery banks • Gas: ○ Bulk gas storage tank • Generator systems • Solar panels: ○ Stand-alone solar structures
Management structures	Retaining walls: There are no thresholds identified for retaining walls, however the overall size and materials will be carefully considered as part of the permit assessment to minimise impacts on World Heritage values.	
Maritime and river	Canoe launches and slipways: • There may be some opportunity to consider small-scale infrastructure that facilitates access to water for recreational purposes. Any sealing (concrete, asphalt) of this infrastructure may not be permitted due to visual impacts.	• Boat ramps • Moorings • Protection walls and bunding • Recreational jetties and pontoons • Any new access such as a driveway allowing vehicles (e.g. unloading a boat from a car trailer) that would be considered a road may only be permitted under s.34(a) in zone C.

Infrastructure type	Examples of limited visitor infrastructure	Examples of developed visitor infrastructure
Road and access	Maintenance of an existing road or building of a new road of any type is not considered to be LVI or DVI. Roads are regulated under s.33 and s.34 of the Management Plan. Refer to Table 3.	
Signage	• Directional (orientation) • Information board[7] (further defined in Appendix A) • Interpretive • Management (advisory and enforceable) and safety Signage should be the minimum required for its specified purpose and should also meet the requirements for World Heritage presentation.	Information shelter[77] (further defined in Appendix A)
Tourist accommodation	Not considered LVI.	Tourist accommodation is further defined in Appendix A (under 'Camping facilities').
Tracks and trails	Walking or cycling track (further defined in Appendix A): May be permitted in all management zones subject to assessment, which will look at prudent and feasible alternatives that are appropriate for that site, e.g. a concrete path in a highly natural and undisturbed area may not be considered appropriate, whereas a small gravel path may be considered prudent and feasible. • Walking track class 1–6 (as defined and applied by QPWS&P on the Queensland protected area estate) • Multi-use trails • Cycling trails • Horse riding trails (in national park, where permitted)	Mountain-biking infrastructure: • Mountain bike parks • Technical mountain-biking infrastructure (further defined in Appendix A)
Track structures	• Causeway and water crossing • Ladders—prudent and feasible options should be investigated to reduce impacts on visual amenity. • Pedestrian boardwalks and bridges—prudent and feasible options should be investigated to reduce impacts on visual amenity. • Steps • Track entrance structures including entry control gates and stiles	Where track structures are assessed as not being LVI, they may constitute DVI. For example, a boardwalk that interrupts a scenic view in an undisturbed location that is not considered to be LVI may be considered DVI and limited to zone C.

[7] The difference between LVI ('information board') and DVI ('information shelter') is defined by the physical size of the signage/structure and whether a form of shelter is provided around the information board

Infrastructure type	Examples of limited visitor infrastructure	Examples of developed visitor infrastructure
Visitor structures	• Bird hides • Seating • Small-scale viewing platform[8] (further defined in Appendix A) • Specialist recreation facility (abseiling and rock-climbing anchor points) • Visitors' shelter (further defined in Appendix A)	• Barbecue facility (further defined in Appendix A) • Lookout[8] (further defined in Appendix A) • Outdoor showers • Picnic facility (further defined in Appendix A) • Shelter shed
Waste disposal	Not permitted as LVI. Grey water disposal, under certain circumstances, may be considered LVI.	Waste disposal area (further defined in Appendix A).
Waste treatment systems	Small-scale toilet facility (composting and hybrid toilet systems)—see 'buildings' above in this table.	Public toilet facility (toilets with septic or sewerage systems)—see 'buildings' above in this table.
Water supply	Storage tanks may be permitted subject to assessment—key considerations would be size and siting.	• Bores • Water pipeline to supply a camp ground or tourist accommodation may be considered DVI subject to assessment

[8] The difference between LVI ('small-scale viewing platform') and DVI ('lookout') relates to the size and scale of the structure, materials and siting considerations

Table 3: Community services infrastructure or other infrastructure limited to zone C (not LVI or DVI)

<table>
<tr><th>Infrastructure type</th><th colspan="2">Examples of community services infrastructure or other infrastructure</th></tr>
<tr><td>Aviation</td><td colspan="2">• Airstrips
• Emergency helipads
• Helipad (non-emergency e.g. for construction or servicing)</td></tr>
<tr><td>Communications</td><td colspan="2">• Communication towers
• Transmitters/repeaters
• Solar panels
• Other associated infrastructure (sheds)</td></tr>
<tr><td>Energy and gas</td><td colspan="2">• Transmission lines
• Permanent gas storage</td></tr>
<tr><td rowspan="2">Roads</td><td>All zones</td><td>Zone C</td></tr>
<tr><td>The Management Plan s.33 allows for maintenance of roads in any zone under permit.

Maintaining a road means that the works:

• Will not cause more than 15% widening of the road or bridge (part of road) above its original lawful width
• Will not include sealing of an unsealed road
• Will not extend the road.</td><td>Building of a road in zone C can be permitted under s.34(a) or s.34(b) of the Management Plan. This would include:

• Widening a road > 15%
• Sealing of a road
• Extending a road

Other examples:

• Carpark—natural, gravel or other
• Entrance stations and gateways
• Livestock controls/grids
• Palleting to road (corded, timber, plastic)
• Vehicle bridges
• Culverts, causeways and crossings
• Lock rail
• Vehicle barriers, bollards and wheel stops
• Vehicle loading ramps</td></tr>
<tr><td>Water supply</td><td colspan="2">• Water pipeline/reservoir for community use</td></tr>
</table>

Other permit considerations under the Management Plan

The Management Plan also requires consideration of other aspects of any proposed visitor development within the Area, including:

With respect to all zones:

- **s.33(1)(c) maintaining community services infrastructure, visitor infrastructure or another structure.**
  Maintenance over the life of the structure is required to ensure the protection of World Heritage values and integrity.
- **s.33(1)(d) maintaining a road, other than a road that is community services infrastructure.**
  A road, in this context, is a lawful access road, which means a road or track that is situated on the land or provides access to the land and existed immediately before 1 September 1998 or was lawfully built under the Management Plan. This will apply to existing roads or tracks required to service or construct the LVI or DVI.
- **s.33(1)(p) using a motorised aircraft, for commercial purposes.**
  A helicopter may be required for construction or servicing requirements (e.g. lifting in and out gas bottles or toilet waste if required).
- **s.33(1)(r) operating a motor vehicle on a lawful access road for the land.**
  A motor vehicle may be operated on a lawful access road for construction or servicing requirements (e.g. carrying in and out gas bottles or toilet waste if required).

With respect to zone C:

- **s.34(b) building a road, other than a road that is community services infrastructure.**
  A road may be required to be built for construction or servicing requirements (e.g. lifting in and out gas bottles or toilet waste if required) in zone C only.
- **s.34(c) dismantling community services infrastructure or developed visitor infrastructure.**
  DVI may need to be dismantled following completion of its life cycle.
- **s.34(e) excavating, grading, quarrying or otherwise interfering with earth.**
  This may apply to any excavation for infrastructure (e.g. underground water tanks or septic systems) of for slabs or footings.
- **s.34(f) interfering with a watercourse by extracting or diverting water, damming the watercourse or carrying out another activity that interferes with its natural flow.**
  Any taking of water for camping area/camp ground/tourist accommodation requirements can only be permitted within zone C if there are minimal impacts on World Heritage values and integrity. Extracting water in zones A and B can only occur if it is deemed to have a minor and inconsequential impact[9] on World Heritage values and integrity. This may require hydrological and ecological studies to prove that there are minimal impacts on water quantity and quality, and that aquatic habitats are not impacted.

[9] *Minor and inconsequential impact* is defined under s.28 of the Management Plan

4. Roles and responsibilities under the guideline

Responsibilities of the Authority:

The Authority will use the guideline to assist in determining if the nature and scope of the proposal are consistent with the intent of the Management Plan and meet the statutory assessment criteria.

Responsibilities of the prospective permit applicant:

The prospective permit applicant will be advised to apply the guideline to ensure that their proposal is consistent with the intent of the Management Plan and meets the statutory assessment criteria.

5. Related legislation/policy/standards

Wet Tropics Management Plan 1998 Guidelines

The Authority's other Wet Tropics Management Plan Guidelines[10] should be considered, particularly:

- Community consultation
- Consulting Rainforest Aboriginal Peoples
- Roads in Rainforest—Road maintenance code of practice for the Wet Tropics World Heritage Area.

Other legislation

The applicant or proponent must apply due diligence to ensure all other legislative or statutory requirements are met. Specific relevant legislation includes:

- *Environment Protection and Biodiversity Conservation Act 1999*[11] (Cth), particularly relating to—
    - the National Heritage-listed Indigenous heritage values of the Wet Tropics of Queensland
    - matters of National Environmental Significance (MNES).
- *Nature Conservation Act 1992*[12](Qld) for proposals within the Queensland protected area estate.

Native Title

The issuing of a permit under the Management Plan is considered a Future Act if Native Title has not been extinguished. The Authority must comply with provisions under the *Native Title Act 1993*[13] (Cth) in accordance with the Queensland Government Native Title Work Procedures.

If an Indigenous Land Use Agreement (ILUA) has been negotiated for the project, the Authority will comply with requirements of the ILUA to satisfy the *Native Title Act 1993*.

[10] https://www.wettropics.gov.au/wtmp-guidelines
[11] https://www.legislation.gov.au/C2004A00485/latest/text
[12] https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-1992-020
[13] https://www.legislation.gov.au/C2004A04665/latest/text

Best practice principles

'The best practice principles to be considered when designing ecotourism facilities' as per the Queensland Ecotourism Development Toolkit[14] include:

- energy—installation of photovoltaic cells rather than diesel generators for power generation.
- water supply—rainwater harvesting, low flow devices and use of recycled water.
- architectural design—buildings should be located and designed to optimise visitors' experience of the setting, while integrating with the landscaped context. They should generally have colour palettes that respond to the colours of the surrounding landscapes to allow the buildings to blend and not stand out in their natural surroundings.
- Landscaping—incorporate the use of local endemic species for site landscaping.
- wastewater treatment—sewage treatment should be capable of treating effluent to Class A or Class A+ quality standards.
- waste management—a waste management plan should be prepared based on the hierarchy of 'Avoidance, Reuse, Recycling and Disposal'.
- stormwater management—best practice stormwater and drainage design is critical to ensuring the natural hydrology is not adversely impacted.
- construction materials—sustainable construction materials should be used where possible.
- Access—access should, where possible, follow existing dedicated roads and/or cleared trails/roads.

The above principles should be considered when assessing proposals for any visitor infrastructure.

Other associated strategies, policies, resources and documents

- Best Practice Development Guidelines - Ecotourism Facilities on National Parks: Queensland Government 2020
- Destination 2045: Delivering Queensland's Tourism Future
- Ecotourism Plan for Queensland's Protected Areas 2023–2028: Department of Environment and Science 2023
- Implementation Framework - Ecotourism Facilities on National Parks: Queensland Government 2020
- Nature-based Tourism Strategy 2021–2024: Tourism and Events Queensland 2021
- Queensland's Protected Area Strategy 2020–2030: Department of Environment and Science 2020
- QPWS&P Sign Manual: Department of Environment, Science and Innovation 2020
- QPWS&P Site and Facilities Design Manual: Department of Environment, Science and Innovation 2020
- Values Based Management Framework: Department of Environment, Science and Innovation
- Wet Tropics Sustainable Tourism Plan 2021–2031: Wet Tropics Management Authority 2021

[14] https://www.publications.qld.gov.au/dataset/queensland-ecotourism-development-toolkit/resource/848cbcc2-044d-453d-928b-c3c619bbd303

6. Further information

Contact:

Manager—Planning and Conservation
Wet Tropics Management Authority

Ground floor, Ports North building
Cnr Grafton and Hartley streets
Cairns Queensland

PO Box 2050
Cairns, QLD 4870
(07) 4241 0500

wettropics@wtma.qld.gov.au

7. Approval

Signed: 
Scott Buchanan
Executive Director
Wet Tropics Management Authority
Date: 28 November 2025

8. Version history

Date commenced	Version	Version description	Description / comments	Approval
17/03/2025	1.0	First Guideline	Approved by Board	Board meeting no. 130 17/03/2025
21/11/2025	1.1	Final editorial version for publication	Approved by Board	Board meeting no. 133 21/11/25

Appendix A

Descriptions for examples of limited visitor infrastructure (LVI) and developed visitor infrastructure (DVI) provided in Schedule 3 of the Wet Tropics Management Plan 1998

Buildings

Small-scale toilet facility (LVI)

A small-scale toilet facility will typically be installed, where appropriate, in remote locations with fewer visitors, and will usually be associated with a camping area (see below).

Generally, visitation rates determine the type and/or size of toilet facility constructed. Other factors include soils (for septic systems), local sensitive receptors (waterways, wetlands), construction limitations and servicing requirements. For a maximum camping area capacity of 30 persons, a single unisex toilet is preferred. This is consistent with the objective of LVI where the focus should be on minimal footprint.

A single-stall unisex toilet using a hybrid or composting treatment system best fits the definition of LVI as these systems do not require a septic absorption trench to be dug, thus minimising impacts. However, site conditions and number of users will influence the decision.



Photo: Example of small-scale toilet facility—Department of the Environment, Tourism, Science and Innovation



Photo: Example of small-scale toilet facility—Peter McLean Architect

Public toilet facility (DVI)

As opposed to a small-scale toilet facility, a public toilet facility may be required to service a larger number of visitors where an attraction is very popular and readily accessible by vehicle.

The QPWS&P Site and Facilities Design Manual (2020) specifies the number of toilet pedestals for each Landscape Class for camp grounds. The greater the capacity of the camp ground (and hence potential number of users), the more pedestals will be required with a concomitant increase in the size and/or number of buildings. A similar principle will apply to sites other than camp grounds where high visitor numbers need to be catered for.

The QPWS&P Site Facilities and Design Manual considers a variety of wastewater treatment systems. Each style is discussed within the manual with reference to advantages and disadvantages. Within the Area, as for LVI, minimising the footprint is imperative. However, visitation rates generally determine the type of toilet facility constructed. Other factors include soils (for septic systems), local sensitive receptors (waterways, wetlands) and construction and servicing requirements.

Camping facilities

Camping area (LVI)

A general guide for the maximum thresholds* applied to camping areas would include:

- visitation—up to 30 people at any one time
- camp sites—up to 8 sites or camping platforms/ha
- small-scale toilet facility (composting or hybrid)—1 pedestal

*These thresholds are based on the way that QPWS&P plan and manage camping areas across the Queensland protected area estate. This is based on considerations relating to naturalness and values of the site (level of disturbance) and visitor capacity. These thresholds provide a preferred maximum number. All proposals will be considered on a case-by-case basis subject to site assessment and will be dependent on potential impacts on World Heritage values and integrity or amenity.

Visitors' shelter (including picnic table) may be permitted subject to assessment, which will consider the cumulative impacts of all infrastructure in the site.

Building of a road to access a camping area would not be permitted in zone A or B.

Camping platform (LVI)

A camping platform is generally a platform raised off the ground to offer some greater comfort to campers. This is a consideration in wetter parts of the country such as the Wet Tropics. A camping platform will reduce impacts to the ground layer as less trampling will occur. However, it may be feasible in some places to provide a cleared area on the ground (or on a formed pad) in lieu of a raised platform for camping.

The site constraints may dictate the approach taken—a platform may be a better option on a slope to reduce impacts; a cleared area may be a better option on flat ground where erosion and other impacts are less of an issue. The platform may be circular, square or rectangular in shape, although circular and square platforms are more common. Based on contemporary QPWS&P designs, a camping platform 4m in diameter or $4m^2$ should suffice. Minor excavation to allow for footings may be permitted.

Note: as per the Management Plan, the camping platform must meet the criteria of limiting where campers can set up and to minimise disturbance to the camping area.

Camp grounds and tourist accommodation built and maintained consistently with the management purposes of zone C (DVI)

The concept of a camp ground in terms of developed visitor infrastructure implies a greater level of development and number of facilities than an LVI camping area.

Tourist accommodation is a broad concept that could include options that provide accommodation services, including:

- cabins
- semi-permanent or permanent safari/glamping tents
- any other type of accommodation that does not require a visitor to bring and erect a camping structure e.g., tent or hammock.

Any proposal must comply with the management purpose of zone C and the provisions of the Management Plan. With respect to DVI, the relevant management purpose of zone C is to ensure, so far as is reasonably practicable, that any visitor infrastructure on land in the zone is built and maintained in a way that—

a) is ecologically sustainable; and
b) is sensitively integrated into the surrounding landscape; and
c) enhances visitors' understanding and appreciation of the natural and cultural heritage of the area.

While these provide guidance as to some general concepts on how DVI should be considered, they do not provide any guidance as to the nature and scale of any development. However, it follows that if a certain level of development at a site is acceptable for LVI, then DVI would demonstrate a greater level of development. For example, if a hypothetical 8-platform camping area with visitors' shelter and small-scale toilet is permissible as LVI, then DVI could conceivably comprise a greater number of camping platforms

and/or other tourist accommodation and/or a larger shelter shed and/or other buildings or visitor structures, providing the proposal complies with the management purpose of zone C.

To enable an objective assessment of a camp ground or tourist accommodation, the landscape context must firstly be taken into account. Zone C denotes the presence of community services infrastructure or visitor infrastructure, or in a few cases, potential sites for future visitor infrastructure. Most zone C areas are limited in size and are generally adjacent to existing infrastructure.

A general guide to the maximum thresholds* applied to camp grounds would include:

- visitation—up to 72 people at any one time
- camp sites—up to 12 sites or camping platforms/ha
- public toilet facility—up to 3 pedestals

*These thresholds are based on the way that QPWS&P plan and manage camping areas across the Queensland protected area estate. This is based on considerations relating to naturalness and values of the site (level of disturbance) and visitor capacity.

A camp ground may also include other buildings (e.g. amenities block) or visitor structures (e.g. barbecue facility, picnic facility, shelter shed). Amenities such as shower and laundry facilities and/or picnic tables could also be acceptable in zone C camp grounds.

Signage

Information board (LVI)

An information board generally provides information relating to and interpretation of the values of the area, including flora, fauna, cultural significance and/or maps. Information boards are often associated with a walking track or attraction in more accessible areas subject to greater visitation rates. The QPWS&P Sign Manual (Section 7) provides specifications for signs and guidance on sign content.



Photo: An example of an information board—Magnetic Island National Park, Department of the Environment, Tourism, Science and Innovation.

Information shelter (DVI)

An information shelter provides a similar function to an information board. However, due to the greater amount of interpretive material that might be present, a shelter is provided to allow visitors to linger in comfort to read and digest the information. The shelter can also act to protect visitors from inclement weather.

Within the Area, an information shelter could be placed at a busy entrance to attractions (either within or at an entrance to the Area) at a carpark, camp ground or a lookout. As with other visitor infrastructure, it should be designed and placed to minimise aesthetic impacts on the area and be placed to minimise impacts on views. An information shelter is generally a larger structure than an information board.

Tracks and trails

Walking or cycling track (LVI)

A walking or cycling track may be permitted, along with track structure components that help reduce impacts on the area (including infrastructure such as a boardwalk or bridge), in all management zones subject to assessment. This will consider what is appropriate for the site e.g. in a highly natural environment, a small gravel path may be appropriate but a concrete path may not be. Where tracks or track structures are not suitable for the site, prudent and feasible alternatives may be sought e.g. to be within the scope of LVI and suitable for zone A or B, use of other materials, realigning the track or reducing the scale of the structure.

It is anticipated that signage is limited along tracks to reduce aesthetic impacts. Limits on width will generally be regulated, as will treatments such as batters and retaining walls. However, topography, soils and geology will influence design in places. Walking tracks should be designed according to industry and QPWS&P best practice. Cycling track design will depend on the nature of the proposed experience; shared use tracks (pedestrian and bicycles) will require different design considerations to cross country tracks. However, the primary objective from the Authority's perspective is to minimise construction and operational impacts on World Heritage values. Technical mountain biking infrastructure (such as downhill, gravity and freestyle tracks) requiring significant construction, drainage, and maintenance would be considered DVI.

Visitor structures

Barbecue facility (DVI)

Barbecue facilities are sometimes included at picnic facilities and camp grounds. Wood fires for barbecues may be unsuitable in the Area due to the risk of bushfire, and damage to surrounding ecosystems from harvesting of timber—their inclusion in a proposal is unlikely to be supported. Gas barbecues require on-site bulk gas storage, connection to a gas main or provision of gas bottles. Each option is problematic in more remote areas or where vehicle accessibility is an issue. Electric barbecues require connection to an electricity supply; not feasible in remote areas or they are reliant on renewable energy (also not generally feasible).

Based on these factors it is likely that any barbecue facilities provided would be reliant on gas with bottles replenished every one to two weeks depending upon usage. This would require:

- manual transportation of gas bottles
- service vehicle access or helicopter supply.

Picnic facility (DVI)

A picnic facility is generally associated with high-volume use areas such as recreation areas easily accessible by car where visitors provide their own food and drink (e.g. in an esky) and may include barbecue facilities (DVI). However, picnic facilities in the form of picnic table/s and bench seats may also be provided in a visitors' shelter (for LVI).

Visitors' shelter (LVI)

A visitors' shelter is a shelter shed used to protect visitors from inclement weather conditions or to take a respite from the sun. Furniture (picnic table/s and bench seats) is generally included. In the Wet Tropics, an open unwalled shelter shed is preferred to enable flow of air and to minimise interruption of views. However, a wall facing the prevailing weather may be employed for protection from the elements in exposed areas. As the preferred outcome is minimal footprint and integration with the surrounds, a more sophisticated structure with the same levels of disturbance may be acceptable if aesthetic impacts are minimised through design, use of terrain or screening vegetation to reduce the outline. It should be noted that the QPWS&P Site and Facilities Design Manual discourages shelter sheds "…because they satisfy the needs of very few at a time, for relatively high construction costs, significant visual intrusion and continual maintenance". It goes on to state that "Only consider shelter sheds in high-use areas where there is either:

- no natural cover or shade
- notoriously wet conditions during the popular seasons
- history of branch fall."

Small-scale viewing platform (LVI)

Provided for visitors to enjoy views and appreciate the scenic amenity of the area. It is differentiated from a lookout in terms of scale; a viewing platform might only be able to accommodate a small number of visitors at one time and may be more remote. A small-scale viewing platform might be situated to take advantage of either elevated landscape views or for access to e.g. a wetland for more localised scenery. Generally, a viewing platform will have balustrades for safety and to protect the surrounds from human impacts.



Photo: An example of a small-scale viewing platform— Fitzroy Island National Park, Department of the Environment, Tourism, Science and Innovation.



Photo: An example of a lookout— Skyrail, Tourism Tropical North Queensland.

Lookout (DVI)

Considered to be a bigger structure than a small-scale viewing platform (LVI). A lookout is able to accommodate larger groups of people and may be associated with a road or a shared use constructed path. In reality, size and constructability are often determined by need, access and topography. Very large structures are probably only practical in easily accessible areas. Proposals will be taken on their merit, site characteristics (e.g. vegetation and topography), potential levels of use and will be assessed against the principles and criteria.

Waste disposal

Waste disposal area (DVI)

Waste disposal area could mean any number of processes or sites to treat or manage liquid or solid waste products, including black water (toilet effluent), grey water (wastewater from showers, hand basins, sinks and laundries), litter and green (organic) waste. Types of waste disposal facilities may include sullage pits, dump points, rubbish bins, skip bins and green waste piles. Restrictions must be placed on the types of waste disposal avenues available to users to minimise impacts to World Heritage values. Within the Area, consideration must be given to types and quantities of waste generated, alternative methods of treatment or disposal and impacts on World Heritage values, especially scenic amenity. The options will largely come down to access from major roads, proximity to QPWS&P bases (if facility is on national park) and visitor numbers.