



LITCHFIELD COUNCIL DEVELOPMENT GUIDELINES

2026

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1 INTRODUCTION

1.1 Overview

The Litchfield Council Development Guidelines (Guideline) provides developers and stakeholders, including but not limited to, engineers, planners, and contractors with the minimum standards Litchfield Council will accept or approve for development design, construction, and maintenance of land within the Litchfield municipality.

The Guideline sets out the design and approval process along with the design criteria and technical requirements for all aspects of development managed by Litchfield Council within the Litchfield municipality.

1.2 Use of the Guidelines

The developer shall inform themselves fully of all circumstances and conditions relating to the information provided in this Guideline and read them in conjunction with relevant standards and legislation.

A developer who has any doubts as to the meaning of any part of the Guideline should seek clarification from Litchfield Council.

Litchfield Council reserves the right to vary the Guideline for a specific development where Litchfield Council deems the variation to be reasonable or required due to specific site conditions.

Litchfield Council may amend this Guideline at the discretion of the Director, by publication of a written amendment to the Guideline. The latest version of the Guideline shall be held on the Litchfield Council website.

Although care has been taken in preparing the information contained in the Guideline, Litchfield Council has no liability for, or in connection with any indirect, economic, special, or consequential loss or damage including without limitation; loss of actual or anticipated profit or revenue, business interruption or shutdown, loss of production, delay costs, loss of opportunity, income or rent, financial and holding costs in connection with these Standards and their use.

Where a conflict occurs between this Guideline and any other Standard, Litchfield Council retains the right to determine which document shall hold priority.

1.3 Key Terminology

1.3.1 Urban Areas and Rural Areas

For the purposes of this Guideline, the following definitions apply:

Urban areas include:

- Residential areas where the median lot size for single dwelling developments is $\leq 4,000\text{m}^2$ and/or that include multiple dwelling developments.

- Industrial and commercial precincts.

Rural areas include:

- Residential areas where the median lot size is >4,000m², not including multiple dwelling developments.
- Large scale industrial or commercial ventures located amongst larger lot rural residential development (i.e. mango farms).

1.3.2 Commonly Used Terms/Abbreviations and Definitions

Table 1: Commonly Used Terms/ Abbreviations and Definitions

Term/Abbreviation	Definition
ALD	ALD Averaged Leased Dimension
ARI	ARI Average Recurrence Interval
Approved	Approved The approval given by Litchfield Council
Building Certifier	An individual registered with the Northern Territory Building Practitioners Board as a Building Practitioner in accordance with the NT Building Act
Clearance of General Conditions	Clearance of Litchfield Council conditions included as general conditions on a Development Permit
Council	For these Standards, Council shall refer to a Council officer employed by Litchfield Council
Council's email address	council@litchfield.nt.gov.au
CPTED	Crime Prevention Through Environmental Design
DAS	Development Assessment Services (assessment section of the Department of Infrastructure, Planning and Logistics)
DCA	Development Consent Authority
DLI	NT Government Department of Logistics and Infrastructure
Developer	The person or company responsible for the land to be developed
Development Application	A formal plan and documentation identifying the proposed development lodged with Development Assessment Services. The plans and documentation should contain sufficient information to assess the merits and compliance of the proposal with the NT Planning Scheme and these Standards.
Development Permit (DP)	Documentation issued by a consent authority of the NT Government. The Development Permit will have various conditions specified, which may be to the satisfaction of the Council and service authorities. These conditions must be complied with either prior to or during construction or through the life of the development.
Defects Liability Period (DLP)	For civil, a 24-month period from the initial handover of assets to Litchfield Council wherein the Developer will be responsible for the rectification of any defects at no cost to Council.

	For hard landscaping, a 24-month period from the initial handover of assets to Litchfield Council wherein the Developer will be responsible for the rectification of any defects at no cost to Council. For soft landscaping, a 12-month period from the initial handover of assets to Litchfield Council wherein the Developer will be responsible for the rectification of any defects at no cost to Council. This period also includes that the Developer will be responsible for all maintenance requirements. For further information, refer to Table 3.
Director	Litchfield Council's Director Infrastructure and Operations or equivalent
Drainage Easement	Under General Rights within the NT Law of Property Act 2000 for drainage easement, Litchfield Council has the right to break the surface of, dig, open up and use the land under easement to construct, lay down, take up, use, maintain, repair, relay or inspect drains or drainage pipes for the purpose of draining stormwater and to enter the land under easement at any time (with or without a vehicle or equipment) to do so
Drainage Reserve	A parcel of land owned by Litchfield Council where the sole use is for stormwater drainage
Driveway Crossover	The point of access to a property within the road reserve, ceasing at the property boundary
Environment	The natural and built environment and all aspects of surroundings including physical, biological, and aesthetic aspects
ESA	Equivalent Standard Axle
Guideline	Litchfield Council Development Guidelines
Minister	Minister for Infrastructure, Planning and Logistics or equivalent
NEMA	US National Electrical Manufacturers Association
NT EPA	Northern Territory Environmental Protection Authority
NTG	Northern Territory Government
Nominated Developer's Representative	The person appointed to represent the Developer. For the purposes of these Standards, once a Developer's Representative has been nominated, that individual may be referred to as the Developer.
SDG	The Northern Territory Subdivision Development Guidelines
Services	Includes water, sewerage, power, gas, or telecommunications, whether below, on, or above ground
Pollution	An incident where there is a leak, spill, or escape of harmful substances to the environment
WSUD	Water Sensitive Urban Design

1.4 Telecommunications Works

1.4.1 Exemption for Works Permits

Works related strictly to telecommunications are exempt from having to obtain an approved Litchfield Council Works Permit prior to commencing works. This is in line with the Exemption from State and Territory Laws as per the *Telecommunications Act 1997*.

Schedule 3	Carriers' powers and immunities
Part 1	General Provisions
Division 7	Exemptions from State and Territory laws
Division 7—Exemptions from State and Territory laws	
37 Exemption from State and Territory laws	

- (1) This clause applies to an activity carried on by a carrier if the activity is authorised by Division 2, 3 or 4.
 - (2) The carrier may engage in the activity despite a law of a State or Territory about:
 - (a) the assessment of the environmental effects of engaging in the activity; or
 - (b) the protection of places or items of significance to Australia's natural or cultural heritage; or
 - (c) town planning; or
 - (d) the planning, design, siting, construction, alteration or removal of a structure; or
 - (e) the powers and functions of a local government body; or
 - (f) the use of land; or
 - (g) tenancy; or
 - (h) the supply of fuel or power, including the supply and distribution of extra-low voltage power systems; or
 - (i) a matter specified in the regulations.
 - (3) Paragraph (2)(b) does not apply to a law in so far as the law provides for the protection of places or items of significance to the cultural heritage of Aboriginal persons or Torres Strait Islanders.
 - (4) Paragraph (2)(h) does not apply to a law in so far as the law deals with the supply of electricity at a voltage that exceeds that used for ordinary commercial or domestic requirements.
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1.4.2 Documentation Required to be Submitted to Litchfield Council

While an entity conducting works under the *Telecommunications Act 1997* is exempt from obtaining a works permit, they are still required to complete a Litchfield Council Telecommunications Works Agreement Form and provide contact details for all entities involved in the works.

They will also need to provide documentation to Litchfield Council, as the Road Authority, for review. These documents include the following;

- Traffic management documentation including;
 - A site-specific traffic management plan (TMP)
 - All site-specific traffic guidance schemes (TGS) that show the proposed controls for the road reserve while works are being undertaken
 - Traffic management risk assessments showing the risks considered in the design of the TMP and TGS's.
- A site plan showing the type of works and the area affected
- A site-specific Communications Plan that addresses the following stakeholders;
 - All residents affected by the proposed physical works
 - All businesses affected by the proposed physical works
 - NTG Public Transport
 - Emergency Service providers (where applicable)
 - All other stakeholders affected by the proposed physical works

1.5 Power Water Corporation (PWC) Asset Upgrade / Replacement Approval

1.5.1 PWC Requirements

PWC is required to obtain written approval to remove or replace a PWC asset constructed, or proposed to be constructed, within the Litchfield Council road reserve.

The responsible PWC Officer shall submit a *Litchfield Council – Stormwater, Access, and Asset Replacement Building Pre-Approval Application* form to Litchfield Council via email.

The Litchfield Council Development Engineer will review the proposal and provide a response to the PWC Officer once payment of the relevant approval fee has been received by Litchfield Council.

All works associated with the asset upgrade / replacement approval shall only be conducted under an approved Litchfield Council Works Permit. Where works are completed without an approved works permit being obtained from Litchfield Council, the design approval will be void.

2 DESIGN AND APPROVAL PROCESS

2.1 Overview of Development and Subdivision in Litchfield Council

For new developments, Litchfield Council is primarily responsible for approving the design of road reserves, works within the Council owned road reserves (including landscaping, footpaths, cycle paths, and lighting), stormwater drainage, and waste management.

The Northern Territory Government (NTG), through Development Assessment Services (DAS) and the Development Consent Authority (DCA), is responsible for the approval of all developments requiring Development Applications. Input is provided by various agencies and service authorities on topics of their responsibility. Litchfield Council is considered to be an agency and provides advice on areas of Litchfield Council responsibility, as well as comments on any potential effect to the amenity of the Litchfield municipality because of a development.

In the Northern Territory, developments not requiring Development Applications may require certification by a registered Building Certifier. For these developments, the certifier should seek approval from Litchfield Council for compliance with the requirements in relation to areas of Litchfield Council responsibility.

2.1.1 Communication with Litchfield Council

For each development, the Developer will be required to submit to a Litchfield Council *Nominated Developer's Representative Form*. This form is used to nominate a single point of contact for the duration of the development process. It is important that Litchfield Council liaise with just one person during a development, to ensure the orderly control and flow of information throughout the development processes. There is no fee associated with this application.

Once the *Nominated Developer's Representative Form* has been accepted, Litchfield Council will communicate with the Nominated Developer's Representative as the single point of contact. If the Developer wishes to change the nominated contact during the development, a new form must be submitted to Litchfield Council.

All requests to Litchfield Council should be submitted in writing to Litchfield Council's email address - council@litchfield.nt.gov.au or at Council's front counter. Submissions to other Litchfield Council email addresses, or verbal requests, may not be accepted and may cause delays to any assessments or approvals.

Litchfield Council may take up to ten (10) business days to provide comment in relation to a submission. Comments may only be provided once all relevant documents are submitted, and all fees and charges have been received by Litchfield Council.

2.1.2 Fees and Charges

Fees and charges may apply at various stages during the development process. These fees are set annually by Litchfield Council and can be found on Litchfield Council's website - [Welcome to Litchfield Council](#). Fees for all developments shall be paid as the fee is incurred.

2.2 Development and Subdivision Process

The following outlines the application and construction process for developments in the Litchfield municipality.

- Developments requiring a Development Application, Sections 2.2.1 – 2.2.9 should be followed.
- Developments not requiring a Development Application, Sections 2.2.5 – 2.2.6 should be followed.

2.2.1 Pre-Application Stage

It is recommended that Developers contact Litchfield Council to discuss any proposed developments prior to applying to the Northern Territory Government's Development Assessment Services (DAS). Litchfield Council can then schedule a meeting where it can confirm the development process and discuss Litchfield Council's requirements for both, the application assessment and construction phase. Meeting requests should be arranged by emailing or calling Litchfield Council's Planning and Development team on Ph. (08) 8980 0300.

2.2.2 Development Application Process

When Developers are required to lodge a Development Application with DAS, DAS will advise Litchfield Council of the application in writing via email. Litchfield Council will then be able to assess the application. This process may include Litchfield Council staff conducting site visits.

Litchfield Council will provide a Letter of Comment to DAS at the completion of the assessment. The letter may also be provided to Council's elected members for information at the next Litchfield Council meeting.

Should additional information be required by Litchfield Council to make an adequate assessment, a request for the information will be provided in the Letter of Comment to DAS. If additional information is submitted to DAS by the Development, Litchfield Council will be advised by DCA and then conduct an additional assessment of the application and provide additional comments.

DAS will coordinate the Development Application assessment process and the consent authority (either the Litchfield division of the Development Consent Authority, their delegated appointee, or the Minister) will decide on the application.

Should an application be refused, the development process will end at this point.

2.2.3 Development Permit Issued

If the Development Application is approved, a Development Permit will be issued by DAS.

The approved Development Permit shall contain conditions to which the development must comply. These conditions may require clearances to be provided by Litchfield Council to obtain approval.

There are two types of conditions associated with a Development Permit.

- Conditions Precedent are conditions that must be satisfied prior to endorsement of plans and/or prior to commencement of works on site.
- General Conditions are conditions that must be satisfied either during the construction process or by finalisation of the development.

2.2.4 Clearance of Conditions Precedent

If a Developer wishes to clear Condition Precedent's requiring Litchfield Council approval, the Developer must submit a written request to Litchfield Council, via email, including the following items:

- A fully completed Litchfield Council *Clearance Application* form
- A fully completed Litchfield Council *Development and Subdivision Design/Plan/Report Approval Application* (this form is for the purpose of a Planning Application related clearance only)
- All relevant and related plans or reports required to satisfy the relevant conditions.

If fees and charges are applicable for the review of the information submitted, Litchfield Council will issue an invoice to the Developer (or Developers Representative). A review of the information will commence once all fees and charges have been received by Litchfield Council.

Litchfield Council will then commence review of the information submitted. Should Litchfield Council require additional information to approve a particular condition, a member of Litchfield Council's Planning and Development team will contact the Developer, or Developer's Representative, to discuss.

Once Litchfield Council is satisfied that the conditions have been met in line with the Development Permit, Litchfield Council will issue a Letter of Clearance of Conditions Precedent.

Due to the nature of Conditions Precedent, there may be a necessity to seek a series of clearances for different Conditions Precedent on the same application. This situation will be identified and communicated during a preliminary meeting.

2.2.4.1 Preliminary Meeting

The purpose of a preliminary meeting is to confirm an understanding between all relevant parties of all requirements to satisfy Litchfield Council's standards throughout the development process.

Following this meeting, the Developer will be expected to complete and submit a Litchfield Council *Nominated Developer's Representative Form* via email. Litchfield Council will then provide confirm all potential forms, applications, and permits, as well as a breakdown of any relevant fees and charges required for the development, if applicable.

2.2.5 Detailed Design Stage

Prior to the commencement of works, the Developer shall have all required engineering works, whether driveway access, road, or stormwater drainage works, approved by Litchfield Council.

Developers should note that even if a Development Permit is not required, the Building Certifier is required to obtain written approval of a driveway access or stormwater drainage design from Litchfield Council prior to finalising building certification for a development.

As these features can greatly alter the overall development layout, it is encouraged that the Developer contact Litchfield Council prior to the commencement of any works on site to ensure that the appropriate approvals of the driveway access and stormwater drainage have been obtained from Litchfield Council.

For approval of engineering works, the Developer will need to engage a professional engineer to complete detailed design drawings in line with the NTG Standard Drawings, associated with the NT Subdivision Development Guidelines (NTSDG) ([Northern Territory Subdivision Development Guidelines](#)). The drawings must be submitted to Litchfield Council for approval using the Litchfield Council *Development and Subdivision Design/Plan/Report Approval Application*.

The Developer shall submit the endorsed drawings, signed and issued by DAS, to Litchfield Council at the time of the first submission of the drawings. Litchfield Council may not review detailed design drawings until all Conditions Precedent on the Development Permit, requiring completion “prior to endorsement of plans”, are signed off by the relevant authority and then endorsed by DAS.

Through the development of the detailed designs, the Developer is encouraged to work with Litchfield Council to ensure the best outcome for the municipality. This will need the Developer to consider both the new assets proposed as part of the development and Litchfield Council’s existing road reserves and other assets. Litchfield Council may identify during the design stage that public consultation with the community is necessary, particularly with residents’ who may be affected by the proposed works. This may also be identified at the Preliminary Meeting.

The level of consultation required should be agreed upon by all relevant parties and undertaken by those parties where appropriate. The need for consultation activities should be incorporated into the Developer’s construction timeline and updated in line with the remainder of the construction schedule. It is encouraged that Litchfield Council be kept informed of any changes to the consultation schedule. If the consultation refers to works within the road reserve, confirmation of consultation may be required when submitting a Litchfield Council *Works Permit*, when required.

If fees and charges are applicable for review of the information submitted, Council will issue an invoice to the Developer. After payment of the fees and charges is confirmed and received, Litchfield Council may organise a preliminary meeting with the Developer if no preliminary meeting was previously required at a Conditions Precedent stage. Details of the preliminary meeting are contained in *Section 2.2.4.1*.

Litchfield Council will review the drawings to ensure suitability in line with this Guideline and any other relevant Standards and provide comments to the Developer. If the Developer has proposed any variations to the Guideline or Standards, it is incumbent upon the Developer to draw attention to those variations. If amendments are required, the above design stage process will be repeated, including administration of additional fees, where applicable, until the drawings meet the requirements of Litchfield Council. Approved drawings will then be stamped and signed by Litchfield Council and a copy of the stamped drawings will be provided to the Developer.

All approvals will expire if construction work has not commenced within two (2) years of the date of Litchfield Council’s approval. The Developer may seek written approval from Litchfield Council to extend the approval past the two (2) years. Such requests should be submitted, in writing, to Litchfield Council at least ten (10) days prior to the expiry date.

Litchfield Council may request minor adjustments or updates to the approved drawings where relevant requirements or Standards have changed. These adjustments may consider time and cost imposed on the Developer and may not require a substantial design change, depending on the level of change to the relevant requirements or Standards.

It is important to note that for any approval granted, the Developer or engineer retains full responsibility for the correctness, accuracy, and suitability of the design, drawings, and documents provided.

2.2.6 Construction Stage

No construction works (including earthworks) shall commence until the following conditions have been achieved:

- All relevant drawings and specifications have been approved by Litchfield Council.
- All Conditions Precedent on the Development Permit noted as requiring completion “prior to commencement of works” have been signed off by the relevant authority.
- If works are to take place within Litchfield Council’s road reserve, a Litchfield Council *Works Permit* must be obtained prior to commencement.

Construction works shall be completed in accordance with the requirements of this Guideline, project specifications and endorsed drawings, including adherence to all required hold points as addressed in the following sections, unless otherwise agreed upon with Litchfield Council prior to commencing works. Throughout the construction stage, at all hold points, inspections will be required.

To request an inspection with Litchfield Council, the Developer will submit an *Inspection Request Application* to Litchfield Council at least 48 hours prior to any proposed inspection date and time.

All inspections will be undertaken in conjunction with the Developer. Litchfield Council will provide a copy of an inspection report at the conclusion of each inspection. An inspection report will notify the Developer whether works may proceed on the site, or if rectification works are required.

All relevant fees and will be applied during the inspection stage, as detailed in Litchfield Council’s Fees and Charges. These fees must be paid prior to any relevant approval being provided by Litchfield Council.

2.2.6.1 Works within a Litchfield Council Road Reserve

Where works are to be carried out within the Litchfield Council road reserve, a Litchfield Council *Works Permit* will need to be obtained prior to commencement. The permit holder shall be the responsible party for overall control of the works associated with the development.

To obtain a *Works Permit*, the following documentation will need to be provided for assessment and approval by Litchfield Council:

- Diagram of works
- Public liability insurance (minimum \$10 million coverage)
- Traffic / pedestrian management plans and schemes (designed by an accredited TMD)

- Dilapidation report (showing current photograph/s of site prior to works)
- White card number(s) for Site Supervisor
- Proof of public consultation, if required.

The permit holder will be the responsible party for the overall control of the works associated with the development. The permit application must provide accurate dates of works for the full duration.

The duration of works can be updated upon request from the permit holder. Such updates may incur additional fees, where applicable. It should be noted that where works are completed earlier than anticipated, no fees shall be refunded. This is to encourage applicants to ensure that accurate dates of works are reflected within the permit application.

The permit should detail all works to be undertaken within the Litchfield Council road reserve, including demolition, and vegetation removal where applicable.

Traffic Management Plans (TMP) and/or Traffic Guidance Schemes (TGS) shall comply with the Austroads Guidelines for Temporary Traffic Management, and AS 1742.3, and shall only be designed by an accredited person. These plans shall clearly document any changing nature or location of the works throughout the permit period. Litchfield Council encourages applicants to engage with a local traffic control company for such documentation.

Works permit applications should consider a detailed construction schedule for each portion of works to be undertaken; this schedule should be kept up to date throughout, with all revisions provided to Litchfield Council where appropriate.

Works permit applications shall outline any proposed road closures for Litchfield Council owned or controlled roads. The information provided to Litchfield Council should show the proposed length of time, and shall identify whether any trees or shrubs, signs, structures, or other features within the road reserve are to be removed, either temporarily or permanently to facilitate such closures.

If Litchfield Council identifies that the Developer is required to carry out public consultation related to works within the road reserve, documentation confirming that consultation has been carried out will be provided to Litchfield Council prior to any approvals being issued.

Failure to adhere to any permit conditions related to the Works Permit may result in the permit being suspended or revoked with a requirement for immediate cessation of works.

Council's standard assessment time for a *Works Permit* is five (5) business days. Assessment will only commence once all required documentation is submitted to Council for assessment. Once assessed, a Works Permit will not be issued without payment of the appropriate fees and charges being confirmed and received by Litchfield Council. Works cannot commence until an approved Works Permit has been issued by Litchfield Council. The Developer, and relevant contractors, should make themselves aware of these timeframes and plan accordingly.

2.2.6.2 Naming of Roads

Should new roads be created as part of the development, approval for proposed road names is required from the NT Place Names Committee. Prior to issuing approval for a road name within the Litchfield municipality, the Place Names Committee will seek the view of Litchfield Council.

To avoid delays in the naming process, it is recommended that the Developer seek Litchfield Council's support a minimum of 8 weeks prior to submission of the proposed road name to the Place Names Committee.

Any proposed road name must be reviewed and accepted at a Council meeting, by Litchfield Council's elected members. Litchfield Council supports the Place Names Committee's guidelines for the naming of places and naming rules. Litchfield Council will review the proposed name/s in line with those directives. The Developer shall submit the proposed road name/s and supporting information as noted in the Place Names Committee directives in writing to Litchfield Council.

2.2.7 Practical Completion

The Developer must give Litchfield Council ten (10) business days prior written notice of the date upon which the Developer estimates it will complete construction of each component of the Development Works intended to be handed over to Litchfield Council.

When the Developer considers it has completed construction of a component of the Development works intended to be handed over to Litchfield Council, the Developer must give notice in writing to Litchfield Council. As a minimum, the following information must be submitted in a digital format

with appropriate indexing:

- (i) Completion Certificate, including certificates of compliance
- (ii) Construction report, including CCTV Inspection of underground stormwater networks
- (iii) Digital As-constructed Drawings (in AutoCAD format), including As-Constructed Survey files.
- (iv) Register of non-conformances and changes from the approved design, including evidence of Certification by the Certifying Engineer and approval by Litchfield Council
- (v) Detailed breakdown of all assets to be handed over, with valuations based on Construction Cost
- (vi) Dilapidation Reports
- (vii) All manuals, warranties and other documents required for the use, operation and maintenance of all services and systems forming part of the Development Works.

As soon as reasonably practicable of receiving written notice, Litchfield Council will inspect the relevant component of the Development Works and:

- (i) if satisfied Practical Completion has been achieved, provide to the Developer a Practical Completion Letter and Clearance Letter (as applicable), which may be subject to conditions requiring rectification of any minor defects and/or omissions within specified timeframes; or
- (ii) if not satisfied Practical Completion has been achieved, give notice to the Developer setting out the works required to be undertaken, or the documentation required to be provided, to achieve Practical Completion.

The Developer must perform the works or provide the documentation set out in a notice as soon as possible after receipt of the notice and, upon completion may give to Litchfield Council a further notice.

Practical completion will continue to apply in respect of each component of the Development works intended to be handed over to Litchfield Council until such time as Litchfield Council issues a Practical Completion Letter to the Developer.

The Developer must refer to Litchfield Council for details on applicable charges and payment terms for inspections, as per Litchfield Council's fees and charges.

2.2.7.1 Bonding of Incomplete Works

Developers may, in appropriate circumstances and with the consent of Litchfield Council, enter into an arrangement to bond certain incomplete Development works as part of the Practical Completion process.

Litchfield Council will consider whether the circumstances are appropriate for the bonding of the relevant works on a case by case basis and after an assessment of risk posed to Litchfield Council. This includes the risk of Litchfield Council having to undertake incomplete works in the event a Developer defaults.

Bonding of incomplete Development works will not be considered unless:

- (i) The incomplete Development Works can be completed within a reasonable period after the granting of the clearance (see Table 39 — Bonding of Incomplete Works for guidance on timeframes).
- (ii) There are no External Works to be undertaken as part of that stage of the Development Works, which are required to service the proposed allotments.
- (iii) The Developer has disclosed to the purchaser of any allotment impacted by uncompleted works being bonded that the allotment being purchased is the subject of a Bonding Deed and therefore all services may not be available until the relevant incomplete Development works are complete.
- (iv) All engineering plans for the relevant incomplete Development Works have been completed and all approvals required for them have been obtained.
- (v) All preparation and earthworks on lots completed, including any geotechnical assessments required submitted and approved by Litchfield Council.
- (vi) All essential services (water, wastewater and power) reticulation complete, except where agreed otherwise with Litchfield Council.
- (vii) All cadastral survey pegs have been placed for allotment boundaries, except where agreed otherwise with Litchfield Council.
- (viii) Permits to build all buildings/structures that form part of title incomplete Development Works have been obtained, where required by the Building Act.
- (ix) *Table 2 — Bonding of Incomplete Works* indicates the likely minimum requirements for bonding arrangements in respect of different classes or types of Development Works.

The Developer must enter into a Bonding Deed with Litchfield Council to provide for the bonding arrangement. The Bonding Deed ensures that the incomplete Development Works are legally secured by conditions which would allow Litchfield Council to step-in and complete the relevant Development works if required to do so, and a Security Bond to cover the costs of completing the relevant Development works and the administrative and other costs of stepping-in.

Litchfield Council is to be provided with an original and two copies of the deed, duly executed by the Developer prior to lodging with Litchfield Council. Satisfactory evidence of the items must be attached to the Developer's application for a bonding arrangement;

Table 2: Bonding of incomplete works

Bond Type	Type 1	Type 2
Infrastructure to bond (Subject to agreement with Litchfield Council)	Pathways Soft Landscaping Street furniture (excluding signage relevant to safe road use) Bus stops	Driveways
Timeframe for works to be completed	Within 18 months after the date of the Bonding Deed, or such other period agreed between the Relevant Authority and the Developer	Within 24 months after the date of the Bonding Deed, or 100% of buildings complete, whichever comes first, or such other period agreed between Litchfield Council and the Developer
Minimum Bond Amount	1.5 x cost of incomplete Development Works	1.5 x cost of incomplete Development Works
Key terms of Bonding Deed	Incomplete Works may be subject to testing upon completion and prior to handover. The Developer may be required to pay the costs of the Authority in preparing, negotiating and entering into a Bonding Deed where there is no application fee payable.	The Developer may be required to pay the costs of Litchfield Council in preparing, negotiating and entering into a Bonding Deed where there is no application fee payable.
Objectives / Factors	Incomplete Works are to be completed when construction of 80% is complete. This allows works that are not essential, to be constructed once the majority of the building works are complete. This reduces the risk of damage to works associated with building construction.	This option is an alternative to a payment in lieu arrangement with Litchfield Council.

2.2.8 Clearance of General Conditions

After all works are completed, the Developer shall request Clearance of General Conditions from Litchfield Council.

For a development without subdivision, the Developer shall submit the following documents to Council:

- A fully completed Litchfield Council *Clearance Application*
- As-Constructed drawings in PDF format and/or relevant Standard Drawings, if applicable.
- A fully completed Litchfield Council *Inspection Application*, if applicable.

Litchfield Council will review the relevant conditions within the Development Permit and the associated materials submitted for compliance.

Litchfield Council requires that engineered drawings show the design and location of any proposed new assets, and to confirm stormwater drainage arrangements are suitable. For minor developments, where driveway crossovers are the only new asset; the Developer can submit a dimensioned plan illustrating the driveway location and dimensions. The drawing will need to include a note that refers to the appropriate NTG Standard Drawing for the driveway. For all other developments, Litchfield Council requires detailed As-Constructed drawings with asset information geo-referenced for the site.

For most developments, an inspection will be required. An inspection request can be submitted at the same time as the request for Clearance of General Conditions. If the Developer is unsure whether an inspection is required, the Developer can seek clarity from Litchfield Council.

To request an inspection with Litchfield Council, the Developer will submit a Litchfield Council *Inspection Application* at least 48 hours prior to any proposed inspection date and time.

Should any issues or defects in the works be identified, Litchfield Council will notify the Developer in the inspection report, and the Developer shall undertake all necessary steps for rectification of works prior to clearance being issued. Such works shall be done at no cost to Litchfield Council.

Should no inspection be required, Litchfield Council will review the General Conditions and provide comments as applicable.

For developments without subdivision, the Developer may be invoiced for any outstanding inspection fees and all relevant administration fees. The Developer will also be invoiced for the following, where applicable:

- Administration Fee,
- Fees for additional inspections undertaken due to failure to meet hold point requirements,
- Outstanding Works/Defects Bond, if applicable.

Once payments of all outstanding fees and invoices are made, the Developer is responsible for submitting the receipt or receipt number for the paid invoice to Litchfield Council. Litchfield Council will then issue a Letter of Clearance of General Conditions.

For developments not including subdivisions, this point will be the conclusion of the Development Process.

2.2.7.1 Administration Fees

An Administration Fee is payable for all developments to cover administrative activities undertaken by Litchfield Council during the planning and development process. The fee is set each year as part of Litchfield Council's Fees and Charges.

2.2.7.2 Additional Inspection Fees

Litchfield Council's Administration Fees are calculated to cover one inspection per required hold point. During the construction process, if the works fail any required hold point, an additional inspection will be required once rectification works have been undertaken. These fees for additional inspections will be calculated and charged at the conclusion of the development.

2.2.7.3 Outstanding Works/Defects Bond Agreement

Prior to the commencement of the defect's liability period, the Developer may be required to provide an additional bond for any works not completed to a standard Litchfield Council deems suitable. Acceptable outstanding works may include, but not be limited to, insufficient grass cover. Provision of the Outstanding Works / Defects Bond will allow the Developer to finalise the development prior to completing the outstanding works. Please note that this is not a standard practice but may be considered where Litchfield Council deems suitable.

For Litchfield Council to consider any proposal for an Outstanding Works / Defects Bond, the Developer will be required to submit a Litchfield Council *Outstanding Works / Defects Bond Agreement* to Litchfield Council. The Outstanding Works / Defects Bond will be of an amount mutually agreed by both parties but will be based on a calculated cost for Litchfield Council to complete the outstanding works. If both parties fail to reach an agreement, Litchfield Council maintains the right to engage in a quantity surveyor to estimate the value of the outstanding works. If a quantity surveyor is engaged, the cost of engaging the surveyor will be added to the bond. Litchfield Council will only accept cash, cheque, or a bank guarantee for the Outstanding Works / Defects Bond; credit cards cannot be accepted for this specific bond.

Once the outstanding works are completed to Litchfield Council's satisfaction, the Outstanding Works / Defects Bond will be returned to the Developer. Where a quantity surveyor had to be engaged, this cost will be deducted from the amount of the final bond return.

2.2.9 Defects Liability Period

When the Letter of Clearance of General Conditions is issued for a development, the development will enter a Defects Liability Period (DLP) in line with *Table 3 – Defects Liability Periods*.

Throughout, and at the conclusion of, the DLP period, Litchfield Council will inspect the works for defects. Typically, the Developer will only be asked to rectify any of the defects identified at the conclusion of the DLP; however, if an identified defect is deemed to be a safety hazard or

considered to create on-going maintenance issues for Litchfield Council, rectification works may be required immediately. Any such works will be conducted at no cost to Litchfield Council.

When the DLP is due to expire, the Developer will need to submit a Litchfield Council *Inspection Application* to Litchfield Council. Litchfield Council will then undertake a final inspection of the development. Should the inspection identify any defects, other than normal wear and tear, the Developer will be notified in writing and be required to rectify the identified defects within a timeframe agreed upon between the Developer and Litchfield Council. The DLP will remain in place while rectification works are completed to a standard deemed suitable by Litchfield Council.

If any defects are not appropriately rectified, Litchfield Council maintains the right to draw on bonds associated with the development to undertake rectification works. If the Bond amount does not cover the costs of works required, Litchfield Council maintains the right to issue an invoice to the Developer to cover any additional costs involved.

When all works are determined to be completed, and all defects determined to be resolved to a standard that Litchfield Council deems suitable, the development will be issued a Letter of Release from Defects Liability Period. Any remaining funds in the Maintenance Bond will be returned to the Developer.

For the duration of the applicable DLP, the Developer must maintain all soft landscaping in a healthy condition and meet the required service levels outlined by Litchfield Council. Any soft landscaping elements which become unhealthy prior to handover and acceptance will be considered a Defect. Litchfield Council shall maintain the right to request the DLP to be extended while rectifications to defects are being established.

Table 3: Defects Liability Periods

Defects	Liability Period
Soft Landscaping	12-months (incl. Maintenance)
Hard Landscaping Park Furniture Play Equipment	24-months
Roads Drains / Stormwater (incl. detention basins) Kerbing Driveways / Access Pathways Any other Civil Aspects	24-months

2.3 General Design Requirements

The following section provides the Developer details to ensure they have awareness of any Litchfield Council requirements for the development of detailed designs for developments in Litchfield municipality.

2.3.1 Use of Qualified Consultants

All design work for proposed assets to be constructed and gifted to Litchfield Council must be undertaken by a suitably qualified engineer or other professional, unless otherwise advised by Litchfield Council. Litchfield Council will not review or provide approval for designs that do not meet this requirement.

2.3.2 Engineering Survey Requirements

All surveys shall be undertaken by a certified surveyor and shall comply with the provisions of this section. All survey marks/levels relevant to the design submission shall be shown on the plans. Permanent reference points shall be established within the proposed or existing road reserves at

spacing not greater than one kilometre, unless otherwise agreed to by Litchfield Council.

2.3.2.1 Units of Measurement

The following units shall be adopted:

- Linear measurements shall be in metres (m)
- Vertical measurements shall be in metres (m)

2.3.2.2 Vertical Control

All levels are to be provided in Australian Height Datum (AHD) to two decimals, unless specified otherwise by Litchfield Council. The Developer shall adopt or establish a reliable benchmark by application of appropriate survey procedures from reliable survey stations.

2.3.2.3 Horizontal Control

The following points shall be adopted:

- The horizontal control to two decimals, unless specified otherwise by Litchfield Council, for each project shall be based on the existing survey stations.
- The contractor shall establish reliable horizontal control where none exist.
- Plans shall show the distance from the centre line of the proposed or existing road to the road reserve boundary at all tangent points and intersections of roads.
- The centre line shall be pegged at 25m intervals on straight sections and 12.5m intervals on
- curves, tangent points, and the intersection of road centre lines. Chainage is to be commenced at the intersection of road centre lines. Offset recovery pegs are to be placed left and right of the centre line at no greater than 100m intervals, at tangents and secant points.
- Boundaries of the development shall be clearly pegged to avoid disputes between landowners.

Where any unacceptable discrepancies exist in control marks due to soil settlement, inundation,

disturbance or other factors, a discrepancy report will be prepared by the Developer and provided to Litchfield Council.

Enough benchmarks – surveyed in three coordinates in GDA94 – MGA Zone52 projection: Eastings, Northings, and Height (AHD) – to enable the works to be set out accurately in accordance with the Standard Drawings shall be provided.

2.3.3 Detailed Engineering Drawing Requirements

The Developer must provide a complete set of legible detailed engineering drawings with supporting specifications and reports for each development.

The following requirements are applicable to developments:

- For detailed design review, the drawings shall be provided in PDF format. As-Constructed drawings shall be provided in AutoCAD.
- Drafting standards must comply with the provisions of Australian Standard ‘Technical Drawing General Principles’ AS1100.101-1992 or superior.
- The drawings must show sufficient detail to allow Litchfield Council to accurately ascertain the feasibility of the design and compliance with Litchfield Council’s Standards in all areas and to allow contractors to confidently construct the works.
- All engineering drawings must include a scale and north arrow and must be legible on A3 print.
- The drawings shall show the location of the site in relation to existing named roads.
- Although Litchfield Council does not control reticulated services (sewer, water, gas, power, and telecommunications), this information is required to be shown on plans to prevent conflict with Litchfield Council infrastructure. All network utility services, including easements, must be located at offsets shown within the Standard Drawings, unless an alternative location has been approved by Litchfield Council.
- Litchfield Council understands that services and infrastructure are required to be located within Litchfield Council’s road reserve. However, Litchfield Council seeks to minimise impacts upon the road reserve, and the amenity of the municipality, as much as possible. The Developer shall provide a demolition and vegetation removal plan illustrating any required disturbances within the road reserve.

2.3.3.1 Development Drawing Requirements

Development drawings may need to include the following items, unless otherwise agreed to, in writing, by Litchfield Council:

- General notes.
- General details.
- Site plan.
- Driveway access plan.
- Bulk earthworks plan.
- Demolition and vegetation removal within Litchfield Council’s road reserve plan.

- Stormwater management plan, including drainage easement arrangement plan and existing and proposed contours, including finished surface contours and key levels.
- Cross sections.
- Traffic sign and line-marking arrangement plan.
- Street light design.
- Bus route and bus stop plan.
- Staging plan.

2.3.4 Driveway Access Plan Requirements

When new access driveways are proposed for a development, a driveway access plan will be required. The driveway access plan may be combined with other required drawings, subject to all plan requirements continuing to be met. Following the initial approval of the driveway access plan at the Condition Precedent stage, additional information is required at the detailed design stage.

At the clearance of Condition Precedent stage, the plan illustrating the new driveway access shall:

- Be dimensioned and drawn to scale.
- Include a north arrow.
- Clearly demonstrate the location of all driveway access points to the site, including dimensions from the property boundaries.
- Identify the type of crossover with reference to the specific relevant NTG Standard Drawing.
- Be in accordance with these Standards, including Standard Drawings, for sizes and technical specifications.
- Illustrate any potential obstacles and services, existing and proposed, (e.g. power poles, stormwater pits, sewer pits, and trees) near the vicinity of the works and distances from these obstacles and/or services to the proposed driveway are as follows.
 - 500mm from street signs
 - 600mm from any stormwater drainage pits
 - 1000mm from overhead power / streetlight poles
 - 1200mm clear of service pits, pillars, valve boxes, etc.
 - 6000mm from the tangent point of any intersections
- Show dimensions between each driveway access if multiple driveways are proposed.
- Show the distance from the edge of the driveway to any intersection or any other driveway within 100m of that driveway.

At the detailed design stage, the plan illustrating the new driveway access shall include all above information required at Condition Precedent stage, plus the following:

- Show the proposed material type, material thickness/preparation, and width of all driveways with reference to the specific relevant NTG Standard Drawing.

2.3.5 Stormwater Management Plan Requirements

For most developments within Litchfield municipality, a stormwater management plan will be required. Following the initial approval of the stormwater management plan at the Condition Precedent stage, additional information is required at the detailed design stage.

At the clearance of Condition Precedent stage, the stormwater management plan shall:

- Be dimensioned and drawn to scale.
- Include a north arrow.
- Be prepared by a suitably qualified professional engineer.
- Include details of site levels (e.g. indicative levels or contour lines). Both existing site levels and designed site levels are required. Contour lines should be provided at an appropriate height difference to clearly show how the existing land and the developed land rises and falls. Typically, a contour height difference of 0.2 m for existing levels and 0.1 m for design levels will be acceptable; however, Litchfield Council may require greater detail to be shown.
- Show direction of stormwater flow.
- Show details of surfaces across the lot (e.g. paved, concreted, bituminised, grassed, gravelled, and asphalted etc.).
- Show how the stormwater is collected to the extent of the lot boundaries, including all proposed stormwater infrastructure (e.g. open channels, underground pipe, pits, concrete invert, detention and/or detention basins, kerb, and gutters, etc.).
- Show all proposed drainage easements and responsibility for each.

At the detailed design stage, the stormwater management plan shall include all the above information required at Condition Precedent stage, plus the following:

- Show the flood level lines (ARI 100) defining the areas of inundation.
- Include hydrologic calculations.
- Be in accordance with the NTSDG for sizes and technical specifications.
- Show cross-sections of the proposed stormwater infrastructure features.
- Show the location and details of the point of discharge. If an underground connection is used, the Developer shall use the relevant NTG Standard Drawing for connection details. Where NTG Standard Drawings are not applicable, design criteria for stormwater connections shall comply with Australian Standards and best industry practices and must be designed by a professional engineer.

2.3.6 Operational Environmental Management Plan

For development that includes a potential for environmentally sensitive uses, such as motor repair stations and service stations, Litchfield Council may request an Operational Environmental Management Plan (OEMP) for the management and operation of the use. The use must always be conducted in accordance with the plan. The OEMP shall:

- Be prepared by an independent qualified professional person and/or organization.
- Include overall environmental objectives for the operation of the use and techniques for their achievement.
- Include procedures to ensure that no significant adverse environmental impacts occur as result of the use.
- Include proposed monitoring systems.
- Identify all possible risks of operational failure and response measures to be implemented.
- Include day to day management requirements for the use, including waste management.

2.3.7 Traffic Impact Assessment / Statement

An understanding of the traffic impact of a proposed development is essential to design both the internal layout and external integration with the surrounding street/road networks, and for assessment by the Relevant Authorities.

Typically, a full Traffic Impact Assessment (TIA) is required for any Development that will generate in excess of 100 vehicle trips in peak hour; and a Traffic Impact Statement (TIS) is required for any Development that will generate between 10 and 100 vehicle trips in peak hour.

The requirement for a TIA or TIS will generally be imposed by Litchfield Council if applicable. Where it is reasonably foreseeable that a Development will trigger a TIA or TIS, it is recommended that the Developer undertake the assessment during the project development phase, prior to submitting to Litchfield Council.

A TIA/TIS must be developed in accordance with *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development*, and address the following as a minimum:

- (i) Predicted traffic generation from the various land uses proposed in the Development.
- (ii) Distribution of the predicted traffic generation onto the proposed internal street network and the external street/road network.
- (iii) Recommended minimum street hierarchy and street cross sections consistent with assigned traffic flows.
- (iv) Network permeability and connectivity, including for vehicles, pedestrians and cyclists.
- (v) Intersection (including property entrances) performance and configurations necessary to cater for assigned vehicle traffic flows and for the safe and efficient movement of pedestrians, cyclists and other street users.

- (vi) Provision for public transport and other transport modes, such as pedestrians and cyclists.

Where the proposed development incorporates a school site, consideration must also be given to specific access and controls for staff and students.

A TIA/TIS may be referred to various affected Relevant Authorities for comment, and the Developer must be mindful of this when preparing the TIA/TIS.

2.3.8 Traffic Management Plan (incl. Traffic Guidance Schemes)

For all developments that will result in work being undertaken from the Litchfield Council road reserves, a Traffic Management Plan (TMP) will be required. The TMP shall:

- Be designed by a suitably qualified person who holds a valid traffic management design accreditation and include their accreditation number.
- Be designed in accordance with Austroads Guidelines and AS1742.3
- Include evidence of review by another suitably qualified person who holds a valid traffic management design accreditation and include their accreditation number.
- Include a risk analysis matrix.
- Include all site-specific traffic guidance scheme/s designed by a suitably qualified person who holds a valid traffic management design accreditation and include their accreditation number.
- Include all appropriate attachments and appendices within the TMP.

2.3.9 Road Safety Audit

For developments where Litchfield Council has identified potential concerns with the proposed road designer impact upon the existing road design because of the new development, a Road Safety Audit (RSA) may be required. The RSA shall:

- Be prepared by an independent certified road safety auditor and include the certificate number of the auditor.
- Reference all risks identified in the report in accordance with relevant Austroads Guidelines and/or Australian Standards.
- Include photos and/or site plan for each identified risk.
- Include a risk analysis matrix and recommended remediation method.
- Include developer's responses to each recommended remediation method including a timeframe.

2.3.10 Demolition and Vegetation Removal Plan

For developments where disturbances from the movement and use of plant, equipment, and materials are required to Litchfield Council's road reserve, the disturbances shall be minimised as much as possible. Disturbances within Litchfield Council's road reserve shall be documented and approved by Litchfield Council as part of any design reviews, which shall include:

- The use of road shoulders and verges to support heavy vehicle turning movements, including turning circles.
- The removal of any trees or shrubs, which may be illustrated as clusters of vegetation unless there are individual trees standing alone.
- The removal or temporary relocation of any fixed structures, including signs, whether the structure is live/serviceable.
- The placement of temporary fencing or barriers other than flagging.
- Any earthworks not shown on the bulk earthworks plan, such as:
 - Trenches, illustrating width and depth,
 - Creation of temporary hardstands or laydown areas for either materials laydown or machinery access and operation, and
 - Stockpiles of soil or construction materials.

3 ROADS AND PATHWAYS

3.1 General

Generally, roads are not required to be built for a development, outside of a proposed subdivision.

Where a development is required to build a road, Litchfield Council refers to the NT Subdivision Development Guidelines (NTSDG) for the appropriate standards for design and construction, alongside Litchfield Council's Variations as part of Section 14 of the NTSDG. The Litchfield Council variations can be found at [Northern Territory Subdivision Development Guidelines](#).

These variations are addressed in this section of the Guidelines.

3.2 Road Network Design Philosophy

Refer to the current NTSDG Part 4.

3.3 Traffic Impact Assessment / Statement

Refer to the current NTSDG Part 4.

3.4 Noise Attenuation

Refer to the NTSDG Part 4.

3.5 Road Hierarchy

Refer to the current NTSDG Part 4, except 4.5.3 *Design Criteria – Category D and E*.

3.5.2 Design Criteria – Category D and E.

All streets must have a Minimum Carriageway Width of 10m comprising 2 x 3.5m Lanes, and 2 x 1.5m shoulders (1.0m sealed, 0.5m unsealed), consistent with Primary Collector.

Street reserve widths remain as specified in the NTSDG but are minimum values and may need to be increased to fit table drains and other infrastructure.

3.6 Road Design

Refer to the NTSDG Part 4, except 4.6.2 *Cul-De-Sac and Intersection Turning Criteria* and 4.6.3 *Kerbing*.

3.6.1 Cul-De-Sac and Intersection Turning Criteria

Design Vehicle for all Rural Residential (RR) and Rural Living (RL) Zoned Secondary Collector / Primary Collector intersections must be Prime Mover and Semi-Trailer (19m).

Design Vehicle for all mixed use and industrial intersections must be Prime Mover and Semi-Trailer (19m).

3.6.2 Kerbing

The use of layback kerbing will not be supported by Litchfield Council, and all designs should show the use of barrier kerbing.

Where layback kerbing is currently in use in the road reserve adjacent to a development and the development proposes changes to the road reserve, Litchfield Council may request the kerbing to be updated to barrier kerbing at no cost to Litchfield Council.

3.7 Stormwater Design

Stormwater drainage design within all Road Reserves must comply with the requirements of Section 4 – Stormwater Drainage.

3.8 Road Pavement Design

Refer to the current NTSDG Part 4.

3.9 Street Furniture and Traffic Control Devices

Refer to the current NTSDG Part 4.

3.10 Shared Paths and Footpath Design

Refer to the current NTSDG Part 4.

3.11 Road Safety Audits

Refer to the current NTSDG Part 4.

3.12 School Sites

Litchfield Council considers that parking, set down and pick up at school sites is a core requirement of the school design and shall be accommodated within the school site. The design of roads abutting school sites must incorporate provision for safe routes to schools and crossing facilities as required.

Litchfield Council maintains the right to request upgrades to pedestrian infrastructure within 500m of a school site to ensure pedestrian connectivity, where the results of a TIA show such requirements.

3.13 Service Conduits

Service conduits shall be designed and constructed by suitably qualified individuals. Service conduits include communication, irrigation, and electrical cables or pipes under roadways, footpaths, access strips, and elsewhere as required. Design of these services is to be in consultation with the appropriate authority or as directed by Litchfield Council. Conduits shall be constructed at the time of construction of a development.

All conduit locations are to be marked on As-Constructed drawings. Installation of conduits shall not adversely impact the pavement compaction.

3.14 Hold Points

Hold points are points in the construction process where an inspection and clearance are required from Litchfield Council prior to the Developer moving forward with the works.

Litchfield Council may attend every hold point, where reasonable, and is responsible for reviewing all information submitted by the Developer. In some special circumstances, a Litchfield Council Officer may accept evidence specific to the inspection point be sent via email and reviewed without attending site.

To request an inspection with Litchfield Council, the Developer will need to submit a Litchfield Council *Inspection Application* to Litchfield Council at least 48 hours prior to any proposed inspection date and time.

The following tables outline the required hold points in line with types of construction.

Table 4: Road Construction Hold Points

Hold Point	Developer Shall Provide	Council Will Review
Road Works		
1. Once sub-grade is complete	• Certified geotechnical report. • Conformance test report in accordance with NTG roadworks specifications	• Grades • Compaction • Formation
2. Once sub-base is complete	• Certified geotechnical report. • Conformance test report in accordance with NTG roadworks specifications	• Grades • Compaction • Formation
3. Once base-course is complete	• Certified geotechnical report. • Conformance test report in accordance with NTG roadworks specifications	• Grades • Compaction • Formation
Sealing		
1. Prior to sealing or asphaltting	• Conformance test report in accordance with NTG roadworks specifications • Design for asphalt mix	• Pavement dry back • Ball penetration • ALD for aggregate • Proposed application rate and/or asphalt design (note that this information is required prior to sealing)

Table 5: Driveway Crossover Construction Hold Points

Hold Point	Developer Shall Provide	Council Will Review
Concrete Invert		
1. Prior to pouring concrete	• Adequate site access	• Subgrade compaction • Installation of reinforcement steel • Thickness and width of the driveway
Concrete Flat		
1. Prior to pouring concrete	• Adequate site access	• Subgrade compaction • Installation of reinforcement steel • Thickness and width of the driveway
Driveway with Box Culvert		
1. Prior to pouring concrete for the bottom slab	• Adequate site access	• Subgrade compaction • Installation of reinforcement steel • Thickness and width of the driveway
2. Prior to pouring concrete for headwalls and wingwalls	• Adequate site access	• Installation of reinforcement steel • Thickness and dimensions
3. After installation of culverts, prior to backfill	• Adequate site access • Adequate visibility for culvert, headwalls, and wingwalls	• Culvert joints • Headwall and wingwall joints • Alignment of the culvert

4. After backfilling, prior to sealing	• Conformance test for base-course material in accordance with NTG guidelines • Undertake proof-roll using adequate vehicles in accordance with NTG roadworks specifications	• Check compaction of base-course • Check formations and grades • Proposed application rate and/or asphalt design (note that this information is required prior to sealing)
Rural Flat Driveway		
1. Prior to sealing or asphaltting	• Conformance test for base-course material in accordance with NTG guidelines • Undertake proof-roll using adequate vehicles in accordance with NTG roadworks specifications	• Check compaction of base-course • Check formations and grades • Proposed application rate and/or asphalt design (note that this information is required prior to sealing)

NOTE: Litchfield Council may request confirmation of concrete strength testing where applicable.

4 STORMWATER DRAINAGE

4.1 Design Criteria

This section sets out the standards and requirements of Litchfield Council for the design and construction of stormwater drainage systems in urban, rural, and industrial/commercial developments. The following standards are to be used:

- This Litchfield Council –Development Guidelines
- The NTG Standard Drawings as well as relevant Litchfield Council policies.
- Austroads Guidelines, including Guide to Road Design – Part 5: Drainage.
- Australian Rainfall and Runoff.
- Relevant Australian Standards.

The Litchfield Council Development Guidelines, including the NTG Standard Drawings, take precedence over all other guidelines and standards. This Guideline is designed with consideration for the environment, safety, and future maintenance requirements. Where Litchfield Council documents may not cover the works to be constructed, then other designs may be adopted with the approval of Litchfield Council.

Design concepts outside of this Guideline may be considered if supporting documentation is provided, that addresses Litchfield Council's concerns for the environment, safety, and future maintenance, including all engineering aspects of the design and risk analysis. This assessment shall be included in the design report submitted with the initial plans. It is recommended that the applicant arrange to meet with Litchfield Council prior to developing any designs that are not adequately covered by Litchfield Council's documents.

To avoid mosquito breeding and associated issues, the Developer may be required to provide Litchfield Council with evidence that all drainage systems and associated structures have been designed in consultation with the NT EPA and the NT Department of Health – Medical Entomology Section.

4.2 Hydrology

Refer to the current NTSDG Part 7.

4.3 Major and Minor Drainage System

Refer to the current NTSDG Part 7.

4.4 Adjacent Catchments and Drainage Networks

Refer to the current NTSDG Part 7.

4.5 General Drainage Infrastructure

Refer to the current NTSDG Part 7.

4.6 Urban Drainage

Stormwater drainage in urban areas is required to be collected within the lot and connected underground into Litchfield Council's stormwater drainage system of pipes, pits, drains, and the road network. Where a stormwater drainage system is not available for direct connection, the Developer shall show the flow of stormwater does not affect neighbouring properties. The use of back of kerb connections shall not be approved by Litchfield Council.

Drainage in urban areas shall be designed to cater for ARI 5 storm events.

For Urban lots less than 800m²;

- Plans must be dimensioned, drawn to scale, and include a north arrow.
- Lots shall have a minimum grade of 1.0%, be self-draining and shall be graded so as to drain to the adjacent road reserve which services the lot.
- Ponding of water on allotments is not acceptable.
- Drainage shall not be directed from one lot to another. Special approval from Litchfield Council and easement(s) will be required if there is no other practicable alternative.
- Illustrate how stormwater is collected within lot boundaries and include all proposed infrastructure.
- The allotment must collect all stormwater on the Development Site during the minor storm event and discharge via a Stormwater Lot Connection to a Lawful Point of Discharge
- All Stormwater Lot Connections must provide a grated inlet pit installed at the property boundary to safely accommodate surcharge into the Road Reserve at the connection point without impacting upstream hydraulic performance (min 450 x 450 GIP for Residential Zones;

Refer to the current NTSDG Part 7.

4.7 Rural Drainage

Stormwater drainage in rural areas is to sheet flow across the lot into Litchfield Council's stormwater drainage system of open drainage channels (which may be within the road reserve), floodways, and natural water bodies.

Drainage within individual lots shall be designed to cater for ARI 5 storm events. Other drainage infrastructure in rural areas may be required to cater for higher ARI storm events, as detailed in the following sections.

For Rural Lots greater than 1ha;

- Plans must be dimensioned, drawn to scale, and include a north arrow.
- Include details of site levels, showing both existing and designed site levels with contour lines at an appropriate height difference.
- Indicate the direction of stormwater flow.
- Plan must show how stormwater will be collected within the property
- Current location of Driveway crossover

For Rural & Urban lots less than 1ha;

- Plans must be dimensioned, drawn to scale, and include a north arrow.
- Lots shall have a minimum grade of 1.0%, be self-draining and shall be graded so as to drain to the adjacent road reserve which services the lot.
- Ponding of water on allotments is not acceptable.
- Drainage shall not be directed from one lot to another. Special approval from Litchfield Council and easement(s) will be required if there is no other practicable alternative.
- Illustrate how stormwater is collected within lot boundaries and include all proposed infrastructure.
- All drainage must comply with the relevant Australian Standards, the Northern Territory Subdivision Development Guidelines (Refer Section 4.2.5) and relevant standard drawing (refer SS3002). Plans must be dimensioned, drawn to scale, and include a north arrow.

Refer to the current NTSDG Part 7.

4.8 Potentially Hazardous Land Uses

Land uses that deal with substances that may be potentially harmful to the natural environment if captured in stormwater runoff, should have an Operational Environmental Management Plan (OEMP) in place to manage normal operation and emergency situations. Typically, the OEMP will be a requirement of a Development Permit issued for the site. Example land uses include, but are not limited to, service stations and motor repair stations.

Refer to the current NTSDG Part 7.

4.9 Water Sensitive Urban Design (WSUD)

Refer to the current NTSDG Part 7.

4.10 Hold Points – Drainage

Hold points are points in the construction process where an inspection and clearance from Litchfield Council is required prior to the Developer moving forward with the works.

Litchfield Council, or a representative of Litchfield Council, must attend every hold point and is responsible for reviewing all information submitted by the Developer. In some special circumstances, a Litchfield Council Officer may accept evidence specific to the inspection point be sent via email and reviewed without attending site.

To request an inspection with Council, the Developer will need to submit a Litchfield Council *Inspection Application* to Litchfield Council at least 48 hours prior to any proposed inspection date and time.

The following sections set out the required hold points.

Table 6: Drainage Construction Hold Points - Urban Areas

Hold Point	Developer Shall Provide	Council Will Review
Underground Stormwater Infrastructure		
1. Prior to trench / culvert backfilling	- Adequate site access - Adequate visibility for the pipe and bedding material	- Trench formation and joint sealing in accordance with approved specifications - Bedding material in accordance with approved specifications - Trench depth and pipe cover - Conditions of the pipe to pipe joint and the pipe to pit joint - Integrity of the pipe and pit and the alignment of the pipes - Invert level of pipe and pit
2. After subsoil drainage laid and prior to backfill	Adequate site access	Soil types, bedding material, and pipe conditions in accordance with approved specifications

Table 7: Drainage Construction Hold Points - Rural Areas

Hold Point	Developer Shall Provide	Council Will Review
Underground Stormwater Infrastructure		
1. Prior to trench / culvert backfilling	Adequate site access	Trench formation and joint sealing in accordance with approved specifications

5 LANDSCAPING

5.1 Design Criteria

This section sets out the standards required by Litchfield Council for the design and construction of landscaping of roads and pathways, as well as public open spaces, in urban, rural, and industrial/commercial developments. Landscaping works are to conform to the following publications unless specified otherwise:

- This Litchfield Council Development Guidelines, which includes NTG Standard Drawings as well as relevant Litchfield Council policies.
- AS/NZS 3500 Plumbing and drainage.
- AS 4419 Soils for landscaping and garden use.
- NTG Standard Specifications for Roadworks – Section 16 Landscaping.

The Litchfield Council Development Guidelines, including the NTG Standard Drawings, take precedence over all other guidelines and standards.

5.2 Landscaping in Road Reserves

All road verges shall contain grass in accordance with these Standards. Additionally, road verges in urban areas shall contain trees evenly spaced along the verge, with the exact spacing between trees determined at the detailed design stage, in conjunction with Litchfield Council, based on the mature canopy size of the selected tree species. Where there are existing trees within road reserves, the Developer shall provide a design that avoids removal of the trees to the greatest extent possible.

Trees shall not be planted:

- Within 5m of a light pole or side entry pit,
- Within 3m of a fire hydrant,
- On the truncation of private land or within the tangent points of any intersection.
- Where the location will ultimately obscure traffic signs, signals, or other essential roadside features.

5.3 Landscaping in Public Open Spaces

Within public open spaces, a range of plants shall be used to create high quality spaces, with an appropriate balance and mix of upper canopy trees to provide shade, shrubs, and grass, and with existing trees retained where possible.

The designated locations of proposed new landscaping materials shall be agreed with Litchfield Council at the time of public open space design, depending upon the specific requirements of the space.

The Developer shall coordinate with Litchfield Council to create an approved species list prior to installing any new plants. The timing of the landscape works is critical to the achievement of a successful open space area and approved plant material will need to be ordered well in advance.

Near play equipment and seating areas, as well as along pathways, shade trees shall be grouped and provided for visual amenity and physical comfort.

Planting of trees and shrubs shall address the principles of Crime Prevention Through Environmental Design (CPTED).

African mahogany trees are not appropriate shade trees and where these trees already exist near a proposed playground and/or seating area, the trees shall be removed in accordance with any statutory requirements.

Existing native trees shall be a minimum of 3m, but may require greater distances, from built infrastructure and trenches in accordance with Australian Standard AS4970-2009 Protection of Trees on Development Sites.

Where works are being conducted in proximity to trees a Tree Management Plan shall be designed by an accredited Level 5 arborist on behalf of the Developer and submitted to Litchfield Council for approval.

5.4 Topsoil

Topsoil may be from the subject site or imported to the subject site. Should topsoil be imported to the site, Litchfield Council requires that it be obtained from a quarry certified by the NT EPA. Should the Developer choose to import topsoil from another source, a waste classification report, prepared by a qualified environmental scientist or geotechnical engineer shall be submitted for Litchfield Council approval prior to transport of the topsoil to the site.

The Developer shall strip the existing topsoil and either stockpile the soil at the location nominated in the Erosion and Sediment Control Plan or windrow the soil beside the road formation. To the maximum degree practicable, topsoil should not be mixed with subsoil during the stripping and stockpiling procedure.

The top 50mm of soil should be stockpiled separately and re-spread as the top layer. However, if the soil contains excessive weed seed, this top 50mm layer may need to be buried or otherwise treated to prevent the spread of weeds.

As it is desirable to retain the viable seed content of the soil, stockpiling should consist of long low mounds no greater than 1m to 1.5m in height. For seed viability, stripped topsoil should be used as soon as possible and preferably should not be stockpiled for more than 12 months. Long term stockpiles may need to be mulched or temporarily vegetated to prevent weed infestation and loss of material.

Soils may need adjustment with a combination of fertilisers and ameliorants to improve both the short and long term success of vegetation establishment. Fertilisers must be applied in accordance with manufacturer's recommendations, or site-specific specialist advice.

Prior to the application of the topsoil, the Developer shall lightly rip the finished earthworks to a depth of 50-100mm, ensuring ripping operations occur along the contour.

The topsoil shall be spread to a lightly compacted (i.e. firm) depth of about 40mm to 60mm where the slope exceeds 1:6 (vertical:horizontal) and 75mm elsewhere. Where it is desirable to

reestablish the entrapped seed content of the soil, the topsoil should be re-spread in the reverse sequence to its removal so that the original upper 50mm soil layer is returned to the surface.

If existing stripped topsoil is limited, the Developer shall import clean, weed free topsoil as required. Imported topsoil shall conform generally to AS4419 Soils for Landscaping and Garden Use and shall meet the following requirements:

- Be free draining,
- Be red brown or black sandy loam,
- Contain no grass or weed growth,
- Have maximum stone size of 50mm.

The Developer shall utilise a pad foot roller (not vibrating) to complete one pass over the topsoil area to introduce surface roughness.

The placing of topsoil shall consider the appropriate time of the year for local weather conditions. The Developer shall re-spread stripped topsoil or spread imported topsoil prior to 30th of September of each year to allow the best opportunity for germination of seeds.

5.5 Flora Selection

All trees, plants, shrubs and ground cover species including grass seed mixes must be approved by Litchfield Council. Litchfield Council may nominate pre-approved species and seed mixes, where appropriate.

All flora species and planting arrangements must be low maintenance, water efficient, and suitable for the intended use, location, wind loading, site soils and drainage conditions.

All trees must have the following characteristics:

- (i) sturdy and well hardened trunks and stems
- (ii) a well-developed root system
- (iii) a minimum 3 months in the container
- (iv) obviously sound, healthy and vigorous appearance
- (v) be free from pests and disease.

Flora with thorns, or similar, are not permitted.

5.6 Tree Planting

Within verges in urban areas and as specified within public open spaces, the Developer is required to provide trees that have the following characteristics:

- Sturdy and well hardened trunks and/or stems,
- A well-developed and vigorous root system,
- A minimum of three months in their container,
- Obviously sound, healthy, and vigorous, and

- Free from insect pests, plant diseases, sun scalds, fresh abrasions of the bark, or other disfigurements.

The tree planting corridor in Road Reserves is generally located 1100 – 1600mm behind kerb and may be installed with root barriers as per the Standard Drawings.

Trees and shrubs in Power and Water service corridors and easements must be selected from the Power and Water approved list of allowable plants.

Trees and planting must be installed to provide the following clearances at full maturity:

- (i) appropriate separation between different species of trees and plants
- (ii) clear sight distances for pedestrians and vehicles at intersections, driveways Pedestrian Crossings, and Kerb Ramp Crossings
- (iii) clearance from overhead power lines, light poles and CCTV cameras to prevent Public Infrastructure damage and compromised light spills/CCTV views
- (iv) clearance to underground services and stormwater pits to avoid root damage
- (v) minimum 3 metres clearance from fire hydrants.

5.6.1 Planting Requirements

The Developer shall accurately set out the locations for trees to be planted in accordance with the Council approved drawings.

- The Developer shall not use chemicals on site for plant treatment. Containerised plants shall be well watered prior to despatch from the nursery and shall remain in the containers until required for planting. Trees that are not immediately planted shall be stood upright on level ground, protected, and maintained in good condition.
- From the time of planting through the successful completion of the DLP, the Developer shall immediately remove any dead, dying or diseased trees from the site and replace with new trees of approved species.
- The Developer shall maintain the integrity of the tree root zone and the surrounding earth mould and shall place fertiliser in the hole adjacent to, but not in contact with, the root zone of the tree. Fertiliser shall be utilised in accordance with NT Government Standard Specification – Section 16 Landscaping.
- The Developer shall backfill the hole so that the tree is contained firmly in the ground in a vertical position and shall water the backfill material immediately after surface fertilisation to ensure no air voids or loose material surround the plant root zone.
- The Developer shall maintain appropriate moisture levels at each planting area to promote healthy growth during the DLP. The Developer shall also undertake weeding and pruning activities as required to maintain trees in a healthy condition during the DLP.
- The Developer shall supply organic mulch that is free from weeds, seeds, sticks, stones, insects, diseases, and other deleterious matter in a 100mm thick compacted layer for a 500mm radius from the main trunk with a gap of 50mm retained between the main trunk and the mulch.

- Where reasonably practicable, trees must be planted a minimum 3 metres from built infrastructure (streets, pathways, structures, etc.). Where trees are located less than 3m from built infrastructure (roads, pathways, shelters, buildings, underground services etc.), root barriers will be required.

5.6.2 Approved Tree Species

The Developer is required to select trees for road verges in urban areas from Litchfield Council's approved tree species, found in the Litchfield Council Approved Tree Species. However, an alternative tree species may be approved by Litchfield Council. As some trees may be more appropriate for specific spaces within the road reserve, the selected tree and location within the road reserve shall be confirmed by Litchfield Council.

5.7 Garden Beds

Ensure a variety of flora is installed in each garden bed to create thematic planting.

Design planting arrangements to achieve 100 percent canopy cover of the garden bed at maturation, unless otherwise agreed with Litchfield Council.

5.8 Grassing

The developer shall establish and maintain all grassed areas during the DLP and shall reseed areas that fail to germinate and propagate after 28 days.

The developer shall ensure that an even strike of grass grows at an acceptable rate. The developer is advised to undertake soil testing to identify properties of topsoil and subsoil and any subsequent deficiencies for the intended grass species. Soils should be adjusted with a combination of fertilisers and ameliorants to improve both short and long term success of their revegetation.

The developer shall maintain and mow the grass to a maximum height of 150mm in rural areas and 70mm in urban areas.

5.8.1 Grass Seed Mix

Grass seed mix shall be applied as per the recommended rate of the product provider. Where dryland grass is proposed, please refer to the following table:

Table 8: Dryland Grass Seed Mix

Water Regime	Seed Type	Percentage by Weight	Mixture Application Rate
Dry grassland areas	Cynadon dactylon (Couch)	40	Minimum 300kg per hectare
	Paspalum notatum pensicola	60	
* If Paspalum notatum Argentina is not available at the time of construction, Cynodon dactylon Bermuda / Couch can be substituted.			

5.8.2 Grass Cover

The Developer shall meet Litchfield Council's required grass cover rate, as detailed in the following table and the following schematic drawings illustrating 1%, 5%, 10%, 20%, 40%, 60%, and 80% grass cover.

Table 9: Grass coverage rates

Location		Grassing Extent	Grass Cover Rate (minimum)
Urban Areas	Verges	On all verges.	100%
	Other Distributed Areas of Site	All disturbed areas that may or will scour, plus 500mm past the affected area	100%
	Public Open Spaces	As specified in approved For-Construction drawings.	100%
Rural Areas	Verges	On all verges.	80%
	Road Shoulders	Minimum 500mm clearance to seal. Minimum 500mm wide on the shoulder. The finished level of the topsoil must be the same as the shoulder with a 4% slope away from the edge as per Standard Drawings.	80%
	Table Drains	On both sides of the drain (invert of the drain to be assessed by the Developer's engineer) plus extend to either side of the top of the drain.	80%
	Other Disturbed Areas of Site	All disturbed areas that may or will scour, plus 500mm past the affected area	80%

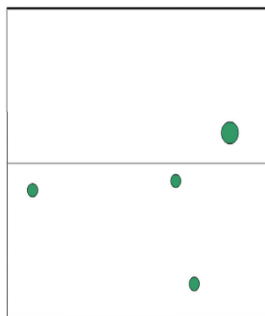


Figure 1 Schematic of 1% Grass Cover

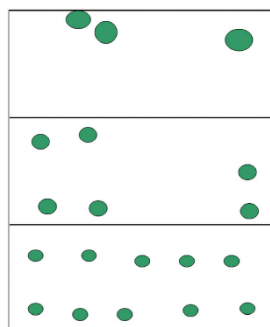


Figure 2 Schematic of 5% Grass Cover

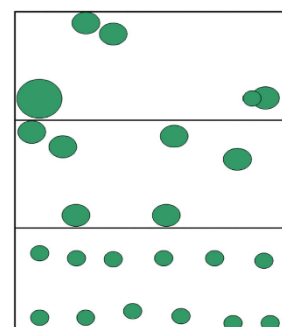


Figure 3 Schematic of 10% Grass Cover

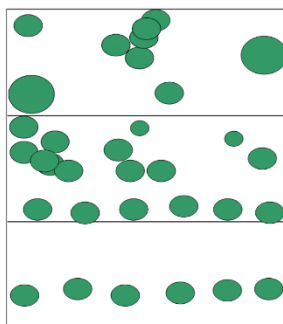


Figure 4 Schematic of 20% Grass Cover

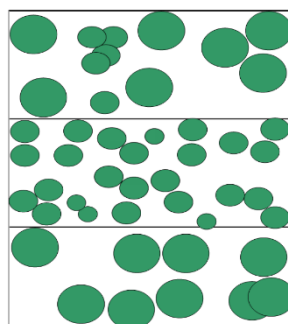


Figure 5 Schematic of 40% Grass Cover

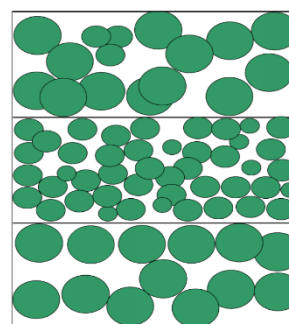


Figure 6 Schematic of 60% Grass Cover

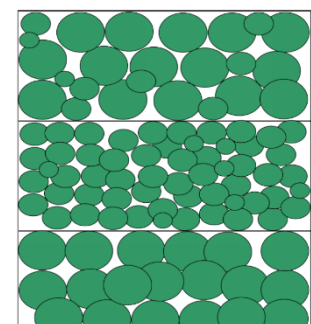


Figure 7 Schematic of 80% Grass Cover

5.9 Irrigation

Permanent irrigation must be limited to active open space areas, featured landscape areas and garden beds.

Within road reserves, except verges adjacent to irrigated parks or open space areas, irrigation systems are not required and will not be owned or maintained by Litchfield Council.

Irrigation systems must be designed by a qualified irrigation designer certified by Irrigation Australia and must comply with all relevant Australian Standards.

Landscaping and irrigation work must be designed to achieve efficient use of water, providing adequate water for healthy growth of plants without wastage.

All possible sources of water for irrigation purposes must be investigated by the Developer, with potable water only used where alternative water sources are not practicable.

The Developer is responsible for the supply and maintenance of water and irrigation of all soft landscaping during the DLP. Where permanent irrigation is absent, temporary irrigation shall be required to assist with establishment and maintenance of soft landscaping. Any temporary irrigation installed must be removed by the Developer prior to completion of the DLP, unless otherwise agreed with Litchfield Council.

5.10 Control of Weeds

The developer shall ensure all areas disturbed because of the development are weed free prior to Clearance of General Conditions, and these areas shall remain weed free for the duration of the DLP. Weeds are to be identified as declared weeds listed under the *NT Weeds Management Act 2001* or as otherwise agreed between the Developer and Litchfield Council.

5.11 Requirements for Streetscapes

Streetscapes must generally be planted as follows:

- (i) Primary Collector Street – Thematic planting is required on all verges and in any median areas. Landscape treatment to include garden beds, tree planting and grassing to both verges and medians as well as appropriate drainage, irrigation and growing medium.
- (ii) Secondary Collector, Access, and Minor / Cul-de-Sac Streets – Landscape treatment to include tree planting and grassing to both verges and medians.
- (iii) Roundabouts - typically designed with topsoil, subsoil drainage, feature planting, irrigation and mulch. Hard landscaping treatments may be adopted where subsoil drainage cannot be adequately provided, subject to approval by the Relevant Authority.

6 WASTE

6.1 Framework

Litchfield Council is committed to being recognised as a clean and environmentally responsible Council.

While Litchfield Council does not provide a general kerbside collection service for the municipality, Litchfield Council aims to reduce kerbside waste into landfills. This can be achieved through improved landfill diversion and reduced contamination of kerbside comingled recycling. Litchfield Council continues to build our capacity and capability to deliver high quality resilient resource recovery services, while providing education to the community to assist in achieving our aim.

6.2 Development Applications

To demonstrate compliance with Litchfield Council's waste management guidelines, Litchfield Council may require a Waste Management Plan to be submitted prior to signing off on any Development Permit issued by the Development Consent Authority.

6.3 Residential Waste and Recycling Collection Services

All residential premises have access to Litchfield Council's waste and recycling transfer stations located at Howard Springs, Humpty Doo, and Berry Springs.

Residential dwellings will be provided an access to any Litchfield Council owned or managed waste transfers station within the Litchfield Municipality, to enable the owner or occupier to dispose of waste items that are accepted by the waste transfer stations.

For some urban residential developments, waste services for less than three (3) residential dwellings will be provided with Litchfield Council's kerbside collection service. Each dwelling will be provided with one 240-litre waste bin (serviced weekly) and one 240-litre recycling bin (serviced fortnightly). Residents are responsible for placing the bins on the kerbside on collection days (or the evening prior) and returning it inside the premises not later than 24 hours after the contents have been collected. The residents will be responsible for storage of the bins within the premises.

For rural residential developments that are not provided with a waste collection service by Litchfield Council, Litchfield Council will approve the use of a waste collection contractor of their own choosing, at their own cost.

6.4 Commercial and Industrial Waste and Recycling

Litchfield Council requires all commercial and industrial premises to arrange for private waste and recycling collection services and to have dedicated onsite waste bin and recycling storage enclosure that complies with the requirements of these Guidelines. Litchfield Council requires all commercial and industrial premises to practice recycling with their waste disposal activities.

Litchfield Council may request evidence be provided by the Developer to confirm that a suitable arrangement has been confirmed with a waste collection provider.

All commercial and industrial premises garbage services must be approved by Litchfield Council.

6.4.1 Small-Medium Commercial Development

Including medical consulting room, shops (up to 300m²), offices (up to 300m²), restaurants and childcare centres.

- Minimum 1 x 240-litre waste bin and 1 x 240-litre recycling bin per 100m² net floor enclosure.
- Bin enclosure should provide a minimum of 1m² per bin.

6.4.2 Medium-Large Commercial

Including caravan parks, indoor recreation, licensed clubs, hotels, motels, motor body works, motor repair station, offices (exceeding 300m²), shops and showrooms (exceeding 300m²), service stations and schools.

Minimum 1 x 3m³ bulk storage bin.

- Minimum bin enclosure for one bin should have dimensions approximately 2.5m x 2.5m.

6.4.3 Industry and Warehouses

Minimum bin storage enclosure should have dimensions approximately 5.0m x 2.5m.

- Minimum 1 x 5m³ bulk bin or 2 x 3m³ bulk bins.

6.5 Waste Bin Enclosure Design

All residential, commercial and industrial developments are required to provide on-site, dedicated secure enclosure/s for the storage of waste and recycling bins. The design of the enclosure is to be unobtrusive to ensure adverse impacts on neighbouring properties are mitigated.

The following requirements apply:

- Residential, Commercial and Industrial bin enclosures are to be of sufficient size to store the essential number and types of bins required to service the land use associated with the property under this Standard.
- The enclosures will be of adequate space to allow for easy access by residents, maintenance staff and waste contractors and to allow room for a person to stand while accessing the bins. A corridor of a minimum 1-metre width in front of or in between bins will be allowed for access purposes.
- A level sealed path should be provided into the enclosure.
- The bin enclosure should have access to fresh water supply, be imperviously sealed and effluent resulting from cleaning the bins and enclosures must be discharged into the sewer system.

- In mixed-use residential and commercial developments, two separate waste bin enclosures are required, one for the residential units and one for the commercial units. Signs should be placed to clearly identify the separate enclosures.
- Waste collection vehicle turning circles are to be included in any plan submitted.

6.6 Location

Bin enclosures must be conveniently located for the occupants of the premises and for the waste contractor.

The following requirements apply:

- The bin enclosure should be visible, noticeable to minimise the amount of manual manoeuvring of the bins required by waste contractor. Waste and recycling contractor vehicles must be able to service the development efficiently and effectively with the bin enclosure located near an appropriate access road. Bins must not be wheeled oversteps or steep inclines.
- Basement bin enclosures must be of sufficient height to accommodate the waste and recycling waste trucks including free and unobstructed movement of the bin lifting arms.
- For unit and cluster housing developments with a locked security gate, a separate unimpeded access to the bin enclosure from the adjoining road should be provided. If a separate unimpeded access road is not available, it is the responsibility of the owner or body corporate to provide and deliver remotes/access keys to the security gate to the waste contractor and replace any remote/access keys that may be faulty or broken as a matter of urgency.
- If vehicle access to the bin enclosure is impeded in any way, it is the responsibility of the owner or body corporate to arrange for the bins to be placed on the verge for collection by the waste contractor until such time that access can be provided and return them to the enclosure as soon as practicable, but not later than twenty- four (24) hours after the contents have been collected by the waste contractor.
- The access layout shall permit the vehicle to enter and exit in a forward gear with minimal need to reverse, waste vehicle turning circles shall be provided with the waste management plan.
- The bin enclosure should be within reasonable walking distance of the premises being serviced. Clear and unobstructed access to the bin enclosure area must be provided from the premises being serviced.
- The bin enclosure should not block the sightlines for vehicles and pedestrians entering or leaving the property.
- Bin enclosures are not to be located on Litchfield Council land.

6.7 Screening

Appropriate screening must be provided to conceal the bin enclosure from adjoining property and from public roads and footpaths. Measures should also be taken to screen the enclosure from view from within the premises.

Appropriate fencing, walls or landscaping can be used to screen the waste bin enclosure.

6.8 Bulk Bins

Bulk bin storage areas must be located on site and access for waste collection must be unimpeded by security gates. Design of bulk bin enclosure areas must be located on site and shall be screened from view to a minimum height of 1.8m so that it is not visible from the street. The enclosures are to be of sufficient size to store the essential number and types of bins required to service the land use associated with the property under this Standard.

The bin enclosure/s shall have ready access to a fresh water supply, be imperviously sealed and effluent resulting from cleaning the bins and enclosures must be discharged into a sewer system.

The dimensions of overhead loaders that remove waste from bulk refuse containers are as follows:

- Gross vehicle mass (laden) 28t
- Vehicle height clearance at rest 4.5m
- Height arms extended 6.5m
- Width overall 3m
- Length of vehicle 11.8m
- Length of vehicle with forks fully extended 12.5m

7 WATER

7.1 Overview

All Developments must make provisions for an adequate supply of water to service the Development, having regard to the nature and context of the Development.

7.2 Water Mains

Refer to the current NTSDG Part 8.

7.3 Bores

Refer to the current NTSDG Part 8.

8 WASTEWATER MANAGEMENT

8.1 Overview

The management, including treatment and disposal of wastewater (e.g. domestic sewage) is an

important consideration in all Subdivisions, whether urban, rural or remote and whether disposal is intended to be through an established reticulated network or by On- site Wastewater Management Systems (OWMS).

Connection to reticulated sewerage is the preferred option for collection and treatment of wastewater. OWMS must only be considered where connection to reticulated sewerage is not feasible, and a risk assessment is undertaken to confirm OWMS is a suitable solution. Refer Section 9.2 for detailed requirements.

Large scale OWMS and community wastewater management systems may require specific approvals to operate from environmental and health agencies. The complexity and scale of these systems requires them to be captured within the planning stages of a Subdivision.

All wastewater Public Infrastructure to be gifted to PWC must be designed by a PWC accredited consultant with relevant qualifications to the requirements of PWC's *Connection Code for Water Supply and Sewerage Services* and the *Water Supply Code of Australia NT Supplement* and submitted to PWC for approval.

8.2 Reticulated Sewer

Refer to the current NTSDG Part 9.

8.3 Feasibility / Risk Assessment of Unsewered Developments

Refer to the current NTSDG Part 9.

8.4 On-site Wastewater Management Systems

Refer to the current NTSDG Part 9.

9 ELECTRICAL

9.1 Overview

Electrical Public Infrastructure in subdivision developments must be designed by an appropriately qualified electrical consultant.

Electrical Public Infrastructure to be handed over to Power and Water must be designed by a Power and Water Corporation accredited electrical consultant (designer/engineer).

Electrical Public Infrastructure for all lighting must be designed in accordance with Section 12 - Lighting.

Electrical Public Infrastructure design for all other facilities to be handed over to the Litchfield Council (e.g. BBQs, GPOs, Irrigation Controllers etc.) must be designed in accordance with AS/NZS 3000: Electrical Installations.

Electrical switchboards and cabinets are to be fitted with double hasp and staple locking systems, with key locks made to Relevant Authority requirements.

9.2 Power and Water Infrastructure

Refer to the current NTSDG Part 10.

10 COMMUNICATIONS

10.1 Overview

Refer to the current NTSDG Part 11.

11 LIGHTING

11.1 Overview

Litchfield Council requires that urban areas have street lighting to suit the urban uses while rural areas should retain low level lighting where possible.

Provision of new streetlights may not be restricted to roads only within the development but may be extended to include existing roads providing access to or affected by the proposed development.

The Relevant Authorities for lighting are:

- Litchfield Council in relation to street lighting and lighting to other public parks and places to be handed over to the Litchfield Council
- Department of Infrastructure, Planning and Logistics in relation to street lighting to roads and lighting to other public places to be handed over to the NTG

The Relevant Standards for street lighting and lighting within public areas are:

- *AS/NZS 1158: Lighting for Roads and Public Spaces*
- *AS/NZS 3000: Electrical Installations*
- *AS/NZS 4282: Control of the Obtrusive Effects of Outdoor Lighting*
- Power and Water Corporation for electrical supply metering to public areas not within designated Road Reserves and for mounting streetlights to overhead power poles
- Power and Water Corporation for connection to Relevant Authority main switchboards.

Developers must provide lighting to streets, carparks, bus stops, parks, walkways including Pedestrian Crossing and Kerb Ramp Crossings, footpaths/shared paths and other public areas of the proposed development, unless otherwise specified by Litchfield Council. This lighting must be in accordance with the relevant Australian Standards and the requirements and specifications of Litchfield Council, including the incorporation of smart lighting technology.

LED luminaire types must comply with Litchfield Council requirements. Where not specified, the following minimum standards/requirements must apply:

- Compliance with *SA/SNZ TS 1158.6:2015 - Lighting for roads and public places Luminaires - Performance*
- Rated life of power supply: 100,000 hours minimum
- Predicate power supply failure rate: 0.2% per 1000 operating hours
- Ingress Protection (IP) ratings:
 - Optical Module: minimum IP65
 - Gear Chamber: minimum IP24
 - Power Supply: minimum IP65
- Correlated Colour Temperature (CCT):
 - Category V Streets: 4000 K
 - Category P Streets: 3000 K and 4000 K as directed by Litchfield Council
- Minimum Colour Rendering Index (CRI): - 70+Ra
- Power supply dimming: Digital Addressable Lighting Interface (DALI) 2.0
- Integral power supply to be Zhaga Book 18 compatible with DALI 2.0
- Luminaire housing: aluminium alloy LM6
- Luminaire IK Rating:
 - Category V Streets: minimum IK06
 - Category P Streets: minimum IK08
- Smart controls readiness: NEMA/ANSI C136.41 7 contact receptacle
- Electrical Compliance: Class 1 and optional Class 2
- Surge protection: 20 kV/10 kA within the luminaire housing

Pole/outreach types, footing details, active/neutral street lighting conductor types, and conduit size for all lighting to comply with the Standard Drawings and *AS/NZS 3000: Electrical Installations*. Alternative pole/outreach types may be desirable to build a sense of character for the community; and may be submitted to Litchfield Council for approval.

The Developer must provide structural certification for the proposed luminaire / pole / outreach / footing arrangements, noting that the Subdivision Standard Drawings are based on assumed wind loading which will vary significantly between different localities.

All lighting must be designed by an appropriately qualified Consultant, meeting the requirements of Litchfield Council.

All lighting designs must be Certified by an appropriately qualified Consultant, having a minimum of four years' experience in the design of lighting for development and:

- for Infrastructure Categories A and D, being a full Member of the Illuminating Engineering Society of Australia and New Zealand (MIES ANZ) or holding equivalent qualifications acceptable to Litchfield Council.
- for Infrastructure Categories B, C and E, meeting any additional requirements of Litchfield Council.

Certification required under Section 12(g) must include a statement confirming that the design meets the requirements of the NTSDG, any additional requirements of Litchfield Council, and all requirements of the applicable parts of the *AS/NZS 1158* standard series. Where any aspects do not comply, these must be clearly identified and justified.

The Developer must obtain asset numbers from Litchfield Council and install identification markers on all lighting poles, in accordance with the requirements of Litchfield Council.

11.2 Public Open Space Lighting

Refer to the current NTSDG Part 12.

11.3 Street Lighting

Refer to the current NTSDG Part 12.

11.4 Traffic and Pedestrian Considerations

The use of rigid, frangible, slip base and vehicle impact absorbing light poles (VIAC) is determined based on traffic speed, pole location and the expected level of pedestrian activity. Refer to Austroads Guide to Road Design Part 6B: Roadside Environment.

In general, the following requirements shall apply:

- Rigid poles may only be used when located outside the clear zone.
- Slip base mounted poles shall be used where vehicle speeds are more than 70km/hr.
- VIAC poles shall be used where there is a high likelihood of pedestrian activity. Slip base mounted poles shall not be used in such situations.

12 PUBLIC OPEN SPACE

12.1 Introduction

The consideration of landscape design issues early in the development process is important. The design of open space areas shall be undertaken to create a consistent character that integrates with surrounding neighbourhoods and existing open spaces and that creates a desirable character for future neighbourhoods.

Litchfield Council will only accept ownership of useable open space. Litchfield Council will not accept ownership of conservation land and will not maintain areas of conservation, service easements, or reserves on land not owned by Litchfield Council.

All public open spaces shall be designed with consideration for all other engineering works and shall actively support the principles of Crime Prevention Through Environmental Design (CPTED).

The provision of an integrated network of Public Open Space is a key factor in a neighbourhood's liveability, vitality, civic interaction and sense of place. A complementary range of well-located, site-responsive parks of different types, scales and activity levels should work together across project boundaries to facilitate walking and cycling as well as provide recreation, play and outdoor lifestyle opportunities for the whole community.

This section sets out the range of design elements that are to be considered and addressed in the planning and design of public open space areas within a development.

Detention basins will not be considered to contribute to public open space as such infrastructure is designed for the purpose of managing stormwater.

Landscaping is covered within Section 5.

Detailed requirements for lighting are covered within Section 7.

12.2 Public Open Space Plan

Refer to the NTSDG Part 5.

12.3 Public Open Space Provision and Distribution

Refer to the NTSDG Part 5.

12.4 Land Use and Activity

Refer to the NTSDG Part 5.

12.5 Site Responsive Design

Refer to the NTSDG Part 5.

12.6 Interfaces and Surveillance

Refer to the NTSDG Part 5.

12.7 Accessibility and Movement

Refer to the NTSDG Part 5.

12.8 Structures and Hard Landscaping

Refer to the NTSDG Part 5.

12.9 Streetscapes

Refer to the NTSDG Part 12.

12.10 Naming of Public Open Spaces

Should new public open spaces be created as part of a development, approval for the proposed park name is required from the NT Place Names Committee. Prior to issuing approval for a park name within Litchfield municipality, the Place Names Committee must seek the view of Litchfield Council.

Any proposed park name must be reviewed and accepted at a Litchfield Council meeting by Councils' elected members. Litchfield Council supports the Place Names Committee's guidelines for naming of places and naming rules and will review the proposed name in line with those directives. The Developer shall submit the proposed park name and supporting information as noted in the NT Place Names Committee directives in writing to Litchfield Council.

To avoid delays in the naming process, it is recommended that the Developer seek Litchfield Council's approval a minimum of 8 weeks prior to submission of the proposed park name to the NT Place Names Committee.

13 TRAFFIC MANAGEMENT

13.1 Introduction

Litchfield Council is committed to ensuring that works within the road reserve are conducted with an equitable and consistent approach to assessing road and pedestrian safety concerns across Litchfield Council's road network. Litchfield Council is the *Road Authority* for all roads under its control and care within the municipality.

Litchfield Council works in line with the Austroads Guidelines for Temporary Traffic Management (AGTTM). The AGTTM is a set of comprehensive Austroads publications developed to provide a best practice reference for the development of safe, cost effective and efficient Temporary Traffic Management (TTM) solutions for Australia and New Zealand. Comprised of 10 parts, practitioners are advised to visit the Austroads website (<https://austroads.com.au>) to view the latest versions of the parts as well as other Guide series available.

Managing the risks associated with providing the optimal level of safety for employees and contractors working in or near traffic, combined with the need to provide a safe road environment for all road users is a significant issue for road agencies in Australia.

It is recognised that activities associated with temporary traffic management (TTM) represent a high-risk works activity that requires a suitable level of response. These risks have been realised

with serious incidents at road worksites across Australia, having resulted in injuries and deaths of road workers, traffic management personnel and the public.

Road agencies and industry have legislative responsibility under the Australian Commonwealth Work Health and Safety Act and jurisdictionally based legislation to eliminate a reasonably foreseeable risk, to the extent reasonably practicable.

The following principles must influence the delivery of work health and safety practices:

- The duty of care extends to all whom an agency may influence or affect by its business or undertaking.
- Risk management is the key to road agency safety performance.
- Road agencies and industry will consult, cooperate and coordinate to ensure all safety risks are managed while conducting their business.

13.2 Purpose of Temporary Traffic Management (TTM)

The purpose of TTM is the creation of a safe work area to facilitate construction, maintenance and other activities which occur on or near a road.

TTM is most commonly achieved through use of traffic control devices which include signs, traffic signals, pavement markings, traffic islands, or other devices installed with the approval of a road agency having the necessary jurisdiction to regulate and guide traffic.

13.3 Road Categories for Temporary Traffic Management

13.3.1 General

Road categories form a broad framework for road controlling authorities, or the Road Infrastructure Manager (RIM), to apply guidelines for the purpose of applying TTM practices.

Road categories determine the requirements for TTM for the:

- design of the Traffic Guidance Scheme (TGS) by the Traffic Management Designer (TMD)
- training of personnel to implement and close-out a TGS
- response times for submission, review and approval of TMP's.

For purposes of planning and implementing a TMP, roads in Australia are categorised to best fit the application of TTM practices. These categories are currently focused primarily on the training framework and some variances in design practice but in time are expected to include further variations in design practices and the TTM company prequalification.

Any category of road may be adjusted up or down by the RIM dependent on a range of site-specific considerations. Conditions on the works may be applied if required or deemed

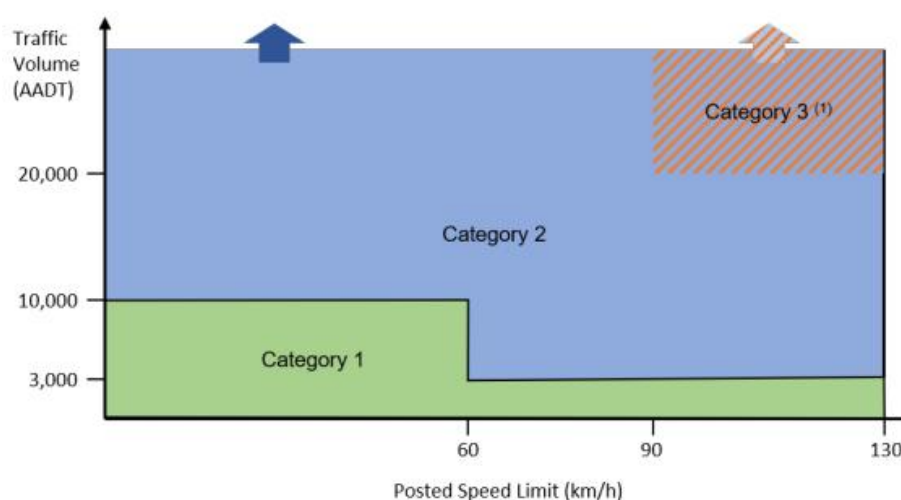
necessary for the road category adjustment for a specific project or work activity. This adjustment to road category may be project or site specific or even permanent.

Road Categories shall only be defined by the RIM and may not be modified by the Principal Contractor or the TTM Contractor.

13.3.2 Default TTM Road Categories

The criteria for the selection of the default TTM category is based on the traffic volume and posted speed for a road as depicted in Figure 10.

Figure-8: Road categories for TTM applications



Note (1): Category 3 applies only when the road is an expressway type road or is predominantly characterised by grade separated intersections (not within Litchfield municipality).

Note (2): Litchfield Council has determined that all roads connected to a school within the municipality, under Litchfield Council control, shall be deemed Category 2 in the interest of improved safety around school zones.

Roads shall be categorised to reflect their intensity of use (traffic volume), complexity (road type) and the risk (speed and mix of traffic) to associated TTM practices. Three general road categories are defined for the purpose of default categorisation:

- **Category 1** (most urban streets and lower volume rural roads). The characteristics of category 1 roads are defined by the following parameters:
 - Posted speed and AADT of:
 - any speed limit with less than 3,000 vehicles per day AADT
 - a speed limit of less than 60 km/h and traffic volumes between 3,000 and 10,000 vehicles per day AADT
 - The characteristics of these roads are generally recognised as:
 - roads (with or without a centre line), sealed and unsealed

- two lanes two way, and sections including one-way single lane, and overtaking lanes.
- **Category 2** (high-volume roads). The characteristics of category 2 roads are defined by the following parameters:
 - Posted speed and AADT of:
 - a speed limit greater than, or equal to 60 km/h and traffic volume greater than, or equal to 3,000 vehicles per day AADT
 - any speed limit with traffic volumes greater than, or equal to 10,000 vehicles per day AADT.
 - Signalised intersections
 - The characteristics of these roads are recognised as:
 - multilane or divided roads
 - high speed highways.
 - This Category of road:
 - may include major urban streets in the central business district, some arterial roads
 - generally, requires larger signs
 - generally, requires signs on both sides of the road
 - Stringent criteria for mobile operations apply to this Category of TTM.

13.3.3 Project Specific Amendments to TTM Road Categories

TTM road category selection may be adjusted by the RIM (for example from Category 1 to Category 2) through a risk assessment of the specific road environment and contributing factors.

13.4 Process for Traffic Guidance Schemes Selection

13.4.1 General

Traffic guidance schemes (TGSs) are described in three broad types regarding their location specific context:

- generic
- site-suitable
- site-specific.

The features of each of the types are discussed below.

13.4.2 Generic Traffic Guidance Scheme

A generic TGS is developed for a stereotypical road environment or situation and has no specific location information. A generic TGS may be applicable for use at a number of locations and TTM Categories. A generic TGS must meet all of the following requirements:

- be designed by a TMD
- only be used for short-term works
- have a selection procedure defined by the TMD to ensure the selected TGS is suitable for the road type, environment and the type and location of works to be undertaken (for example on-shoulder or in-lane)
- The generic TGS selection procedure must use a checklist with specific questions for the TMI or TMD to consider when reviewing the suitability of a TGS. The checklist must also clearly articulate the choices/steps in this process and specify any required adjustments and modifications.
- include an on-site risk assessment as part of the selection procedure
- specify all devices required to implement the TGS
- detail the implementation and removal procedure
- include instructions for record-keeping.

A generic TGS must be developed based on the requirements of AGTTM Part 3, Part 4 or Part 5. Example activities for which a suite of generic TGSs may be developed include:

- repetitive and routine maintenance work
- installation and removal of temporary signs and devices
- surveying activities
- road inspections and data collection
- linemarking
- minor pavement repair
- vegetation control (e.g., mowing, tilling, weeding, weed spraying)
- emergency and incident response.

Any works that require a long-term TGS must have a site-specific TMP and associated TGSs (which may include a combination of site-specific, site-suitable and generic TGSs).

Once a generic TGS is developed, it may be updated in the following ways:

- Adjustments may be determined and applied by a TMI in accordance with AGTTM Part 6 Section 6.8.
- Modifications include all other changes and must be assessed and certified by a TMD.

All adjustments and modifications must be documented, including the reasons for the changes. Where modifications to a generic TGS are major or substantial, a TMD may require the

preparation of a new site-specific TGS, rather than endorsing significant modifications made to the generic TGS by a TMI.

NOTE: Litchfield Council generally will not support the use of generic TGS's for works within the municipality as they lack detail in design for site-specific scenarios.

13.4.3 Site-Suitable Traffic Guidance Scheme

All generic TGS must be confirmed as a site-suitable TGS prior to the commencement of works. For a generic TGS to be confirmed as site-suitable, the following must be performed and signed off by a TMD or a TMI:

- selection using the defined selection procedure
- a site visit or investigation of the site
- an on-site risk assessment (conducted as part of the selection procedure)
- recorded confirmation of the TGS as site-suitable for the required works.

Once the generic TGS is confirmed as suitable for use, the location information must be added to the generic TGS and all record-keeping completed by a TMI.

13.4.4 Site-Specific Traffic Guidance Scheme

A site-specific TGS is developed by a TMD for use at a specific location on the road network and to complete a specific work task.

A site-specific TGS may be developed by a TMD based on a generic TGS modified to suit a particular site. Once a generic TGS has been modified to be site-specific it must not be used as a generic TGS.

13.4.5 Traffic Guidance Scheme Type Selection

The process for establishing the most appropriate TGS type for use at a site is outlined in Figure 4.1 of AGTTM – Part 8. This process may result in the selection of a site-suitable generic TGS or identify the need to design a site-specific TGS.

It is noted that TMD, TMI and TC must only work on TTM Category roads or sections of the network for which they are currently approved. Refer to Section 2 of AGTTM – Part 8 for more information about training and accreditation.

13.5 Training and Accreditation Requirements for TMD's and TMI's

Litchfield Council supports the requirements as outlined in the AGTTM for training and accreditation requirements.

Training and accreditation requirements are outlined in Section 5 of AGTTM – Part 8.

14 FORMS

- Developer's Representative Nomination form
– **INSERT LINK TO DOCUMENT**
- Clearance of Conditions Application form
– **INSERT LINK TO DOCUMENT**
- Development and Subdivision Design-Plan-Report Approval Application form
– **INSERT LINK TO DOCUMENT**
- Inspection Request Application form
– **INSERT LINK TO DOCUMENT**
- Outstanding Works and Defects Bonds Application form
– **INSERT LINK TO DOCUMENT**
- Stormwater, Access, and Pole Replacement Building Pre-Approval Application form
– **INSERT LINK TO DOCUMENT**
- Works Permit Application form
– **INSERT LINK TO DOCUMENT**

15 NTG STANDARD DRAWINGS

[SS0000 - SCHEDULE OF DRAWINGS](#)

[SS1000 - STREET HIERARCHY - CATEGORY A - RESIDENTIAL AND MIXED USE - SET TYPE 1 - SHEET 1 OF 4](#)

[SS1001 - STREET HIERARCHY - CATEGORY A - RESIDENTIAL AND MIXED USE - SET TYPE 1 - SHEET 2 OF 4](#)

[SS1002 - STREET HIERARCHY - CATEGORY A - RESIDENTIAL AND MIXED USE - SET TYPE 2 - SHEET 3 OF 4](#)

[SS1003 - STREET HIERARCHY - CATEGORY A - INDUSTRIAL - SET TYPE 1 - SHEET 4 OF 4](#)

[SS1004 - STREET HIERARCHY - CATEGORY B AND C - RESIDENTIAL, MIXED USE AND INDUSTRIAL](#)

[SS1005 - STREET HIERARCHY - CATEGORY D AND E - RURAL](#)

[SS1006 - VEHICLE ACCESS - CATEGORY A - TYPICAL DETAILS](#)

[SS1007 - VEHICLE ACCESS - CATEGORY B - TYPICAL DETAILS](#)

[SS1008 - VEHICLE ACCES - CATEGORY C TO E - TYPICAL DETAILS](#)

[SS1009 - FOOTPATHS, SHARED PATHS AND KERB RAMPS - TYPICAL DETAILS](#)

[SS1010 - STREET NAME SIGNS - TYPICAL DETAILS](#)

[SS2000 - PLANTING - TYPICAL DETAILS](#)

[SS3000 - SUBSOIL DRAINAGE - TYPICAL DETAILS](#)

[SS3001 - STORMWATER PIPES - TYPICAL TRENCH DETAILS](#)

[SS3002 - STORMWATER PIPES - TYPICAL LOT CONNECTION DETAILS](#)

[SS3003 - STANDARD SIDE ENTRY PIT - TYPE A DETAILS - SHEET 1 OF 2](#)

[SS3004 - STANDARD SIDE ENTRY PIT - TYPE B TO E DETAILS - SHEET 2 OF 2](#)

[SS3005 - GRATED SIDE ENTRY PIT - GENERAL ARRANGEMENT - SHEET 1 OF 3](#)

[SS3006 - GRATED SIDE ENTRY PIT - LINTEL & PIT ARRANGEMENT DETAILS - SHEET 2 OF 3](#)

[SS3007 - GRATED SIDE ENTRY PIT - GRATE AND FRAME - SHEET 3 OF 3](#)

[SS3008 - ACCESS CULVERT - TYPICAL ENDWALL DETAILS](#)

[SS4000 - URBAN MASTER SERVICES PLAN - SAMPLE LAYOUT](#)

[SS4001 - RURAL MASTER SERVICES PLAN - SAMPLE LAYOUT](#)

[SS5000 - LIGHTING DRAWINGS LIST](#)

[SS5001 - STEEL COLUMNS - 9.0m AND 12.0m TAPERED OUTREACH TYPE](#)

[SS5002 - STEEL COLUMNS - 12m TAPERED OUTREACH TYPE VIAC](#)

[SS5003 - STEEL COLUMNS - 5.5m TAPERED OUTREACH TYPE](#)

[SS5004 - STEEL COLUMNS - 6.5m TAPERED CURVED OUTREACH TYPE](#)

[SS5005 - STEEL COLUMNS - 5.5m TAPERED POST TOP TYPE](#)

[SS5006 - TYPE 5 AND TYPE 9 RAG BOLT REINFORCEMENT DETAIL](#)

[SS5007 - TYPE 12 RAG BOLT REINFORCEMENT DETAILS](#)

[SS5008 - TYPE 5, 9 AND 12 RAG BOLT ASSEMBLY FOOTING DETAILS](#)

[SS5009 - RAG BOLT REINFORCEMENT BAR - DEFORMED DETAILS](#)

[SS5010 - OUTREACH ARMS](#)

[SS5011 - CABLE PIT](#)

[SS5012 - LED LUMINAIRE SWITCH PACK WIRING DIAGRAM](#)

[SS5013 - LED LUMINARIE SWITCH PACK DETAILS](#)

[SS5014 - MSB WITH TIME CONTROL WIRING DIAGRAM AND DETAILS](#)

[SS5015 - MSB WITH NO TIME CONTROL WIRING DIAGRAM AND DETAILS](#)