



TOWARDS AN AREA PLAN FOR THE COOLALINGA / FREDS PASS RURAL ACTIVITY CENTRE



Discussion Paper for Stage 1
Community Consultation

In developing an area plan for the Coolalinga/Freds Pass Rural Activity Centre, the Northern Territory Planning Commission is pleased to be working alongside the Department of Infrastructure, Planning and Logistics to address long term traffic management issues in the locality.
The Department's traffic management options will help the community to comment on the future of the activity centre and realise the integration of transport and traffic management with future land use planning.

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1. INTRODUCTION: AREA PLANNING FOR RURAL ACTIVITY CENTRES

1.1 Purpose

This document provides a summary of the technical information being considered as part of the area planning process for the Coolalinga/Freds Pass Rural Activity Centre. Information includes the current state, opportunities and constraints for the centre's natural environment, transport, infrastructure and community facilities.

An area plan's detailed level of land use planning will help maintain the amenity and lifestyle of the rural area by ensuring the provision of adequate services to support growth within the boundaries of the activity, while helping to protect the rural area from ad hoc development in the future. Coolalinga/Freds Pass is the second Rural Activity Centre to begin the area planning process, with work on Howard Springs already underway, and Area Plans for Humpty Doo and Berry Springs to follow.

This document is intended to give information and guidance for the preparation of individual submissions and participation in the Stage 1 community workshop.



Aerial Image of the Coolalinga / Freds Pass Rural Activity Centre

1.2 Background

Over the next 40 to 50 years, the population of the Darwin region is expected to almost double with an increase of approximately 120 000 residents. It is expected that 500 dwellings will be required in Litchfield in the next 5 to 10 years to meet demand. In the longer term, approximately 20 000 dwellings will be required in Litchfield, including greenfield developments such as Weddell, and growth within the Rural Activity Centres of Howard Springs, Coolalinga/Freds Pass, Humpty Doo and Berry Springs.

The Rural Activity Centres have long been a feature of planning for the Darwin region and are discussed in the Darwin Regional Land Use Plan 2015. Land Use Concept Plans for each of the four Rural Activity Centres are provided in the Litchfield Subregional Land Use Plan 2016. The Coolalinga/Freds Pass Land Use Concept is at Figure 3.

These land use plans are adopted as policies within the Northern Territory Planning Scheme and have provided the basis for further studies into the needs, opportunities and constraints identified in this document. Area Plans for the Rural Activity Centres will also become part of the Planning Scheme to provide a decision making framework to inform future rezoning and development decisions. The hierarchy of these policy documents is shown in Figure 1.

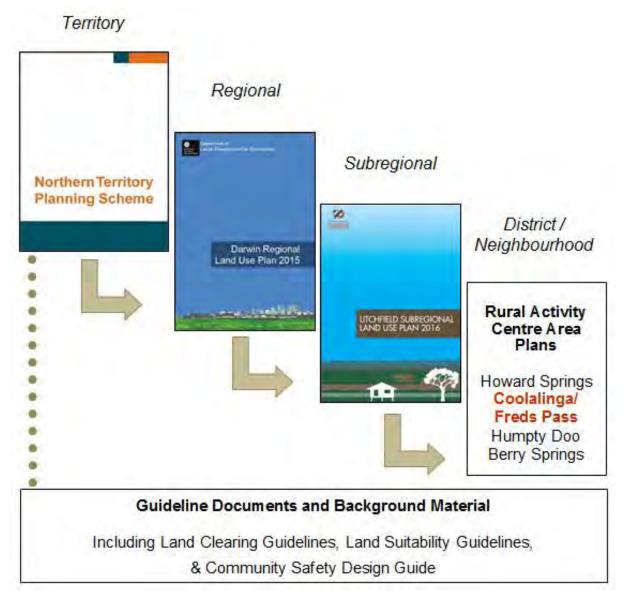


Figure 1: Planning policy hierarchy of the Litchfield Subregion

1.3 The Rural Activity Centre

A Rural Activity Centre provides for a mix of land uses, transitioning from a central core comprising commercial, community and mixed density residential development to larger rural residential lots as a buffer to rural lifestyle areas. Development within a Rural Activity Centre requires reticulated services, thereby preserving groundwater for rural lifestyle lots outside the boundary of the centre. A Rural Activity Centre supports provision of a greater range of services and facilities to a local population, including public transport and local employment opportunities. Figure 2 below demonstrates the transition between different land uses within a Rural Activity Centre..

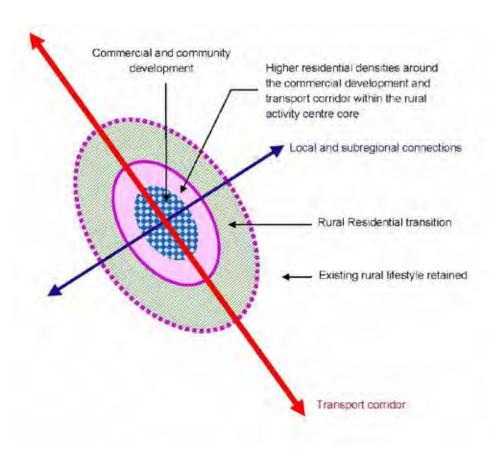


Figure 2: Land use transition in a Rural Activity Centre

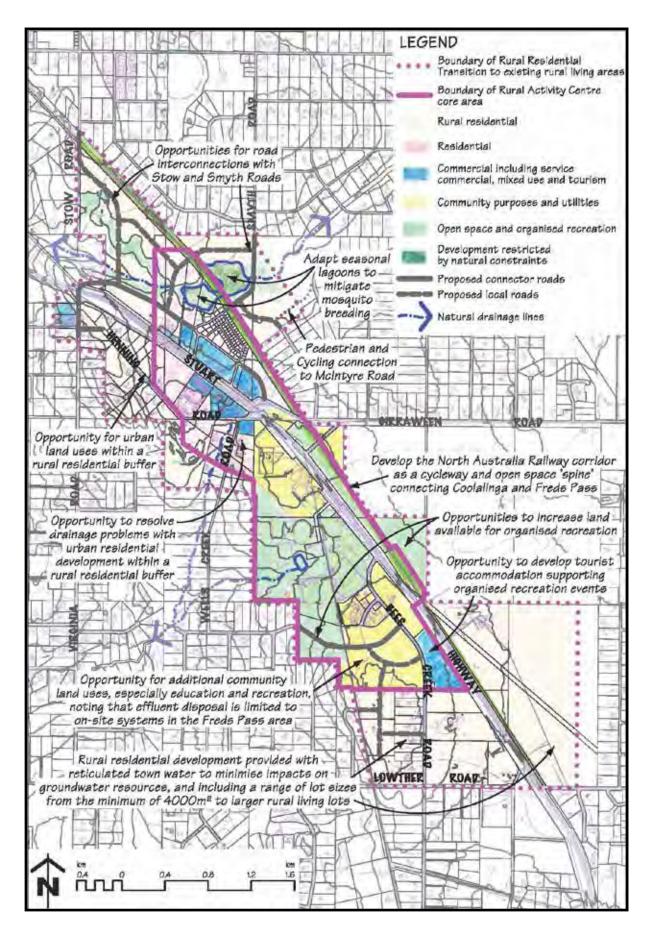


Figure 3: Land Use Concept for Coolalinga/Freds Pass Rural Activity Centre, Litchfield Subregional Land Use Plan 2016

2. THE AREA PLANNING PROCESS

2.1 Purpose

While the Land Use Concept plan for Coolalinga/Freds Pass (Figure 3) provides a high level vision for the locality, the Area Plan will provide more detailed strategic planning direction by establishing a long term vision and land use framework for future development in the area.

An Area Plan usually contains a map or plan that indicates how land can be best used in the future. These maps or plans are accompanied by planning principles that guide the decision makers and help people understand what the development objectives of the plan are. By clearly identifying these objectives, an Area Plan can provide the community, including owners, residents, businesses, developers and decision makers with confidence about the direction for future growth and investment. Area Plans also allow for servicing authorities, such as the Power and Water Corporation and the local council, to plan and manage required infrastructure upgrades.

Area Plans DO NOT automatically rezone land. Any applications for rezoning must be made through the Minister responsible for administering the *Planning Act*.

2.2 How will the Area Plan Be Prepared?

This diagram shows the stages that will be used to prepare the Area Plan for Coolalinga/Freds Pass.

STAGE 1

Information gathering and analysis, including community engagement and infrastructure and servicing investigations.

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STAGE 2

Preparation of options for a draft Area Plan informed by initial community feedback and other information obtained during Stage 1, and undertake further consultation on the options.

STAGE 3

Finalise a draft Area Plan and associated planning principles and recommend it to the Minister for exhibition as a proposed Planning Scheme Amendment.

Stage 1 is an opportunity for you to share your thoughts and ideas on how the community's vision for Coolalinga/Freds Pass can be met whilst meeting challenges associated with accommodating a growing population. Thoughts, comments, questions and feedback in Stage 1 will help the Planning Commission to develop options for draft Area Plans for Coolalinga/Freds Pass for further consideration in subsequent stages. Your input into this process is valued and appreciated.



COOLALINGA / FREDS PASS RURAL ACTIVITY CENTRE

The Coolalinga/Freds Pass Rural Activity Centre currently encompasses the Coolalinga commercial precinct and urban residential development of up to four storeys, rural lifestyle development on predominately 2 ha lots, the Virginia local centre, public bus interchange and associated car park, the Power and Water Corporation McMinns Water Pumping Station ('19 Mile' facility), Freds Pass Recreation Reserve, Bees Creek Primary School and Sattler Christian College, and the Litchfield Council chambers. The current land use zones are shown in Figure 4.

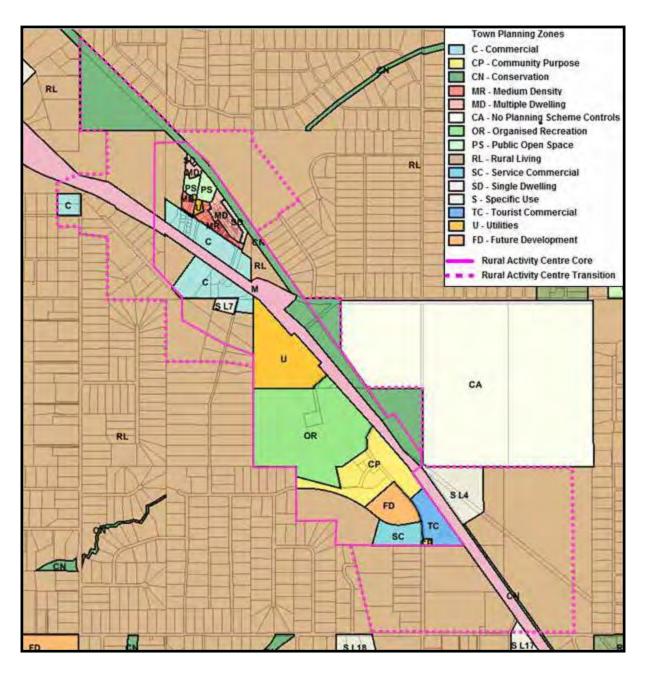


Figure 4: Current land use zones of the Coolalinga/Freds Pass Rural Activity Centre

4. LAND TENURE

The majority of land within the Rural Activity Centre and transition area is privately owned. There are some large parcels of vacant Crown land within the transition area, as well as community purpose use of Crown land in Bees Creek. This will have implications for the pace of growth and when key infrastructure can be delivered. Discussions will be required with individual landowners to negotiate how their aspirations can be achieved concurrently with the aspirations of the community as a whole. The current tenure status of land within the Rural Activity Centre is shown below in Figure 5.

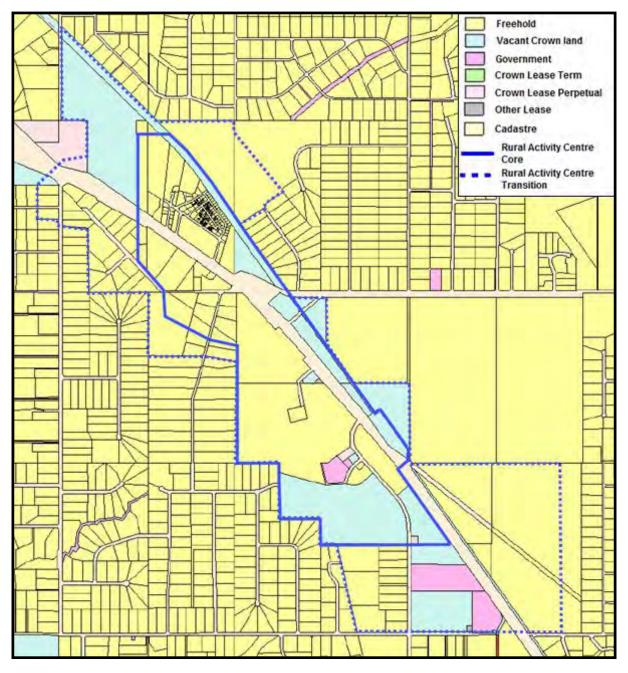


Figure 5: Current land tenure status within the Coolalinga/Freds Pass Rural Activity Centre



5. NATURAL ENVIRONMENT

The natural environment is a great asset to the Coolalinga/Freds Pass locality, providing excellent amenity and enjoyment to residents. At the same time, the environment presents some constraints that limit the feasibility for development in some areas. The natural constraints in the Coolalinga/Freds Pass Rural Activity Centre are shown on Figure 7.

5.1 Stormwater Catchments

The study area is saddled across five catchment areas, as identified in Figure 6 below. These catchments drain into the Howard River tributary and McMinns Lagoon in the north-east, and Brookings, Wells and Burdens Creeks in the south, which drain into the Elizabeth River.

Some properties adjacent to these waterways, such as those along the western side of Wells Creek Road, have regularly reported property flooding, particularly in years with higher than average rainfall.

Previous investigations have found that, with the implementation of mitigation measures (for example, the construction of detention basins), peak flows can be reduced in the most troublesome locations. Additionally, urban stormwater management systems can actually slow down or even decrease flows, as stormwater will take longer to travel through the developed areas than it currently does through rural properties.

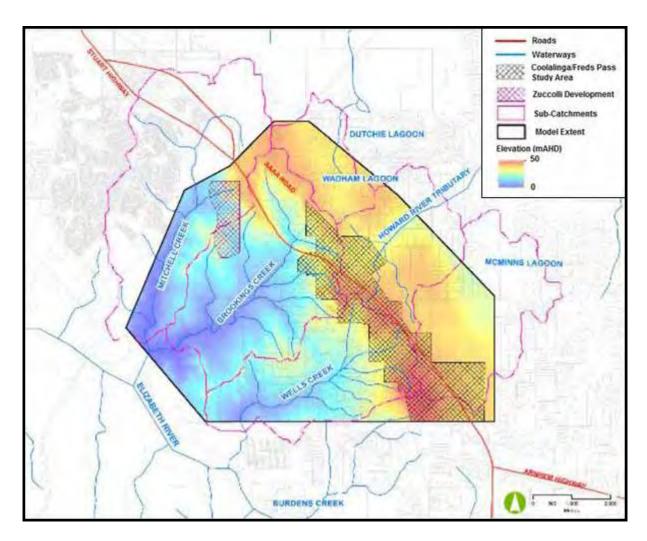


Figure 6: Coolalinga/Freds Pass stormwater catchment areas

5.2 Land Units and Drainage

Land units within the Rural Activity Centre indicate that soils range from well-draining to moderately to severely waterlogged. There are five main areas that are subject to poorly drained soils, being the paperbark swamp in northern Coolalinga, Section 2964 (155) Henning Road, parcels along Wells Creek Road, and areas throughout Freds Pass Recreation Reserve. Natural drainage of surface water is exacerbated in the paperbark swamp and Wells Creek Road localities by concentrated road run-off.

5.3 Groundwater Avaiability

Groundwater use in Coolalinga currently exceeds sustainable yield. The Water Resources Division of the Department of Environment and Natural Resources is undertaking ongoing groundwater assessment for the rural area and implementing management actions. Any future development in the Coolalinga/Freds Pass area must have a sustainable water supply that does not increase draw from the underlying aquifer.

5.4 Areas of Environmental Significance

The Litchfield Priority Environmental Management (PEM) map identifies an area in the north of the Rural Activity Centre that may include sandsheet heath, a significant vegetation type identified by the Department of Environment and Natural Resources. This area is included in the map of constraints at Figure 7.

5.5 Biting Insects

Preliminary studies by the Department of Health show seasonally high levels of mosquitoes in the Coolalinga/Freds Pass Rural Activity Centre. There are two sites in particular that are of concern, being the paperbark swamp at the north-western extent of the existing urban residential development, and an area of low-lying, seasonally inundated land to the north-east of the urban residential development. These two areas are connected, with the paperbark swamp draining into the low-lying land, and eventually into the Howard River. These sites breed mosquitoes that could potentially carry viruses such as Kunjin, Ross River and Barmah Forest, as well as Murray Valley encephalitis. Due to the proximity to urban areas, there is a potentially high mosquito risk to urban residents from these two breeding sites that needs to be resolved.

The extent and methods for management of mosquito breeding sites will need to occur without undermining the drainage function and amenity of the natural areas. The paperbark swamp is within Zone PS (Public Open Space) and is therefore required to provide some level of public access and usability. Due to the proximity of urban development and the risk to public health of mosquito-borne diseases, the swamp will need to be appropriately modified. Options include a mixture of deepening all or part of the swamp, modifying the edges to minimise ponding and weed growth, adjusting the level of the stormwater outflow, and introducing fill.

Open grassy pools within the Wells Creek drainage line could also be sources for mosquito breeding in the late wet season, and potentially in the dry season, if dry season urban stormwater is discharged into this drainage line.

- ... how you think mosquito breeding areas may impact on the future of the Rural Activity Centre and how this might be addressed
- ...how the natural amenity of the locality can be maintained and enhanced for everyone to safely enjoy



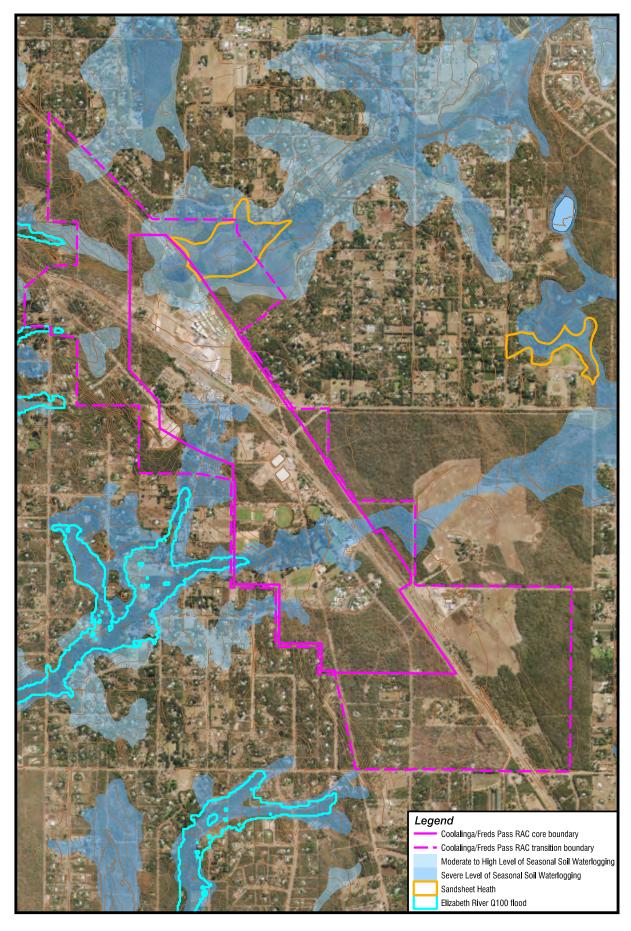


Figure 7: Constraints for the Coolalinga/Freds Pass Rural Activity Centrre

6. INFRASTRUCTURE

Capacity in the existing utility infrastructure in Coolalinga/Freds Pass is limited to servicing existing urban and commercial development. This will limit development in the short term; however, and further urban residential and commercial development will provide the economies of scale needed to extend and upgrade infrastructure. Figures 8 to 11 show the extent of existing services and proposed infrastructure networks to service the anticipated growth.

6.1 Power

Reticulated power is available in the Coolalinga/Freds Pass Rural Activity Centre, and is provided through a combination of underground and overhead wires. The level of development envisaged by the Land Use Concept would require an additional two electrical feeders. The timing of development in the broader area will determine if a new zone substation will be required and/or the upgrading of the Strangways Zone substation. All power supply within an urban environment will be required to be underground; power supply within rural residential areas may be located aboveground.

6.2 Water

Development within urban zones and Zone RR (Rural Residential) require connection to reticulated water and will allow the population in Coolalinga/Freds Pass to grow without increasing the demand on groundwater resources. Reticulated water supply is currently supplied through both the Palmerston Water Supply Tank and the McMinns Pump Station (19 Mile Facility). This often results in variable pressures/ flows throughout the local network. Extending urban densities within the Rural Activity Centre will make upgrades to water supply infrastructure more viable. Urban densities will also be supported by reticulated sewerage, avoiding contamination of groundwater from on-site effluent disposal systems.

6.3 Sewerage

The Woolworths shopping complex on the southern side of the Stuart Highway is connected to its own package treatment system. The existing urban development in Coolalinga and the new commercial development on the northern side of the Stuart Highway are serviced by reticulated sewerage, but are connected to a further two privately owned onsite package treatment plants. The remainder of the Rural Activity Centre relies on onsite wastewater systems. Future urban development, as well as growth of the commercial centre on the southern side of the Stuart Highway, will rely upon the extension of the Power and Water Corporation's reticulated sewerage network. Up to three new sewer pump stations will be required to connect to a new underground network comprised of gravity and sewer rising mains. Development within Zone RR (Rural Residential) is not required to connect to reticulated sewerage.

6.4 Stormwater Drainage

Coolalinga's natural drainage lines receive not only overland surface flow, but concentrated run-off from the arterial and local road network. The stormwater often carries numerous pollutants and nutrients, creating challenges for the receiving natural environment and local landowners. Infrastructure will need to be designed to address these issues and to ensure that future development does not exacerbate the existing situation. Additionally, new urban development will need to be supported by underground drainage infrastructure. Stormwater drainage solutions will also need to consider methods through which biting insect breeding can be appropriately managed.





Figure 8: Existing service infrastructure

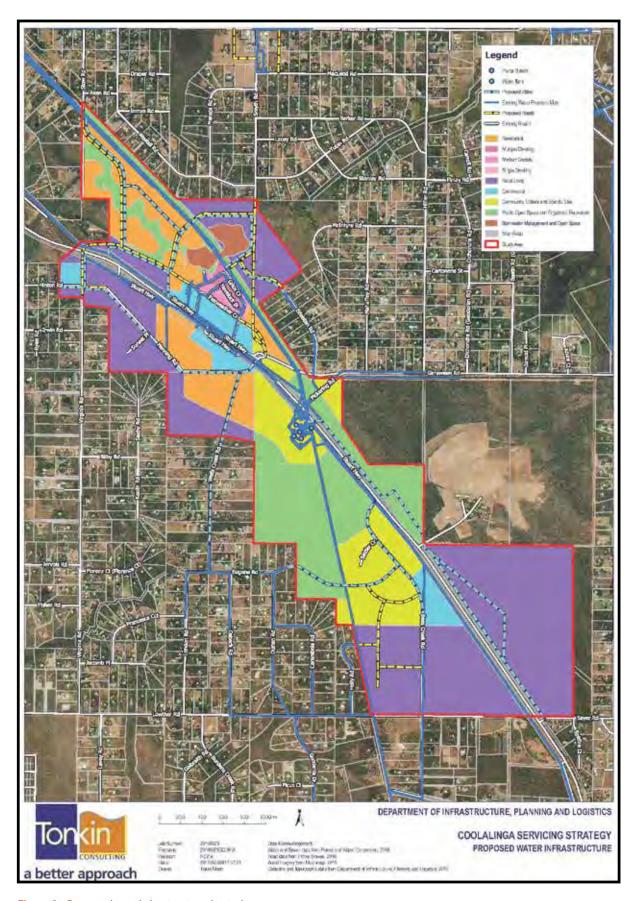


Figure 9: Proposed new infrastructure (water)

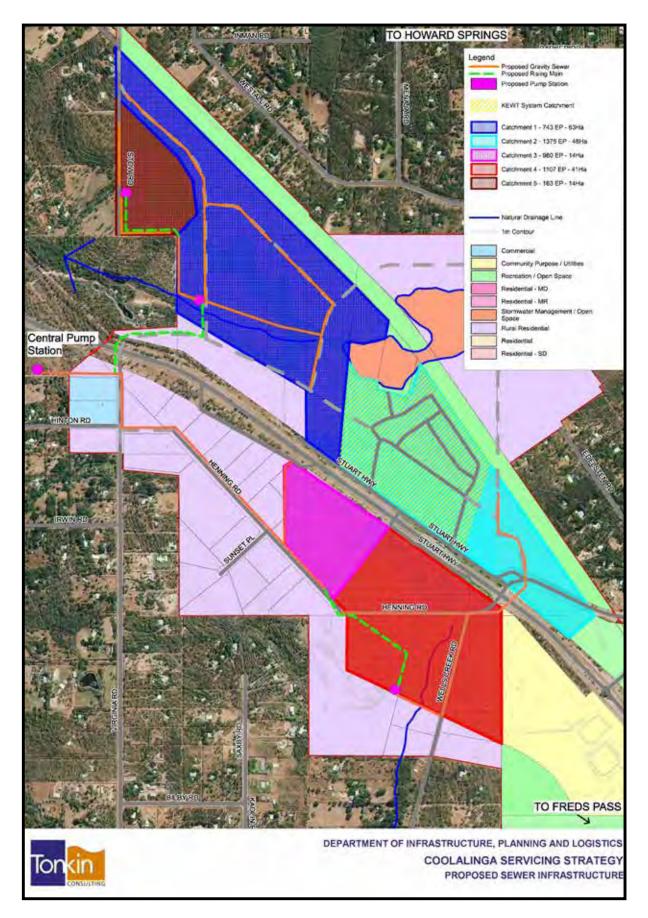


Figure 10: Proposed new infrastructure (sewer)

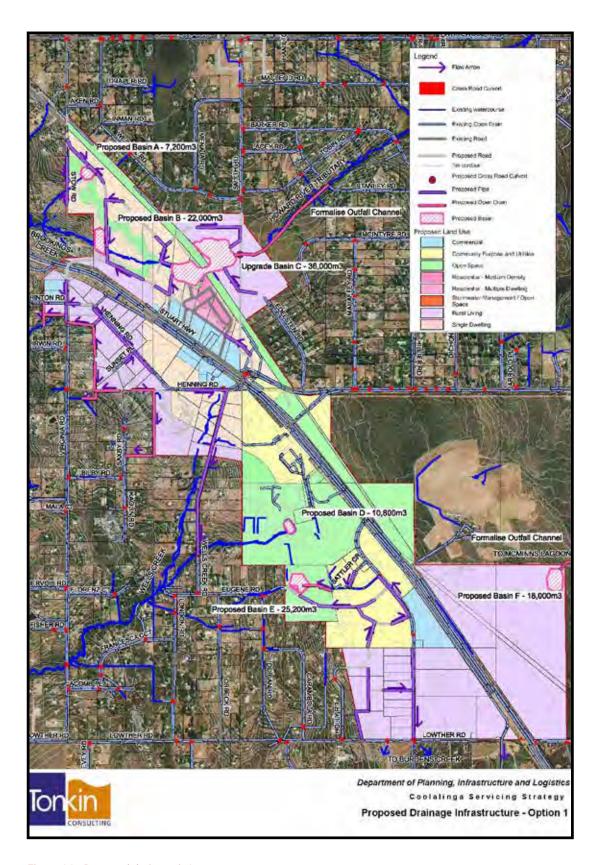


Figure 11: Proposed drainage infrastructure

- ...how stormwater issues in the Rural Activity Centre could be resolved
- ...your thoughts on the existing capacity of water supply and sewerage infrastructure in the area, and how this capacity may be increased in the future



7. TRANSPORT

As with service infrastructure, growth in the Rural Activity Centre will require associated road upgrades as commercial centres and new housing is developed. Increased density in Coolalinga/Freds Pass will make improvements to transport networks more viable. There are opportunities over the long term to improve links from Coolalinga to Howard Springs, and future developments in Kowandi North and Holtze.

7.1 Local Road Network

The Stuart Highway bisects the Coolalinga commercial centre, which is accessed via service roads that connect the local road network to the major arterial. The performance of the intersections where the service roads meet the Stuart Highway has declined over time as the amount of traffic passing through those intersections has increased. The Department of Infrastructure, Planning and Logistics is currently undertaking upgrade works to improve the safety of the median break in front of the United service station and the existing caravan park. Independent consultation and concept development for longer term traffic management solutions is also planned to take place.

Traffic modelling within the Coolalinga/Freds Pass Rural Activity Centre for future scenarios shows a significant increase in vehicle movements per day on Bees Creek Road from the Stuart Highway. This is predominantly generated by an increased use of the Freds Pass Recreation Reserve and future development of community purpose land adjacent to the reserve. It is anticipated that improved traffic management would be required at the Stuart Highway and Bees Creek Road intersection to cater for the future traffic generation. The increase in traffic movements in the local area is minimal at the Bees Creek Road and Lowther Road intersection. Other collector roads in the locality, including Virginia Road, Girraween Road and Wells Creek Road, also show minimal increases in vehicle movements. The table below provides preliminary data on the existing and future projected traffic volumes at select locations within the study area.

Table 1: Vehicle Movements in Coolalinga/Freds Pass

Road	Location	Existing Daily Volume	Projected Daily Volume	Change in Daily Volume
Virginia Road	Stuart Highway to Irwin Road	2815	9770	6955
Wells Creek Road	Henning Road to Eugene Road	1501	5330	3829
Girraween Road	Stuart Highway to Hillier Road	8050	8340	290
Bees Creek Road	Stuart Highway to Sattler Crescent	n/a	17710	n/a
	Lowther Road	1510	2090	580
Stuart Highway	Palmerston – Virginia Road	25400	52210	26810
	Virginia Road – Pickering Road	16825	34050	17225
	Bees Creek Road to Arnhem Highway	12280	17800	5520

There is an opportunity for a broader, interconnected local road network north and south of the Stuart Highway in Coolalinga to service new urban and rural residential development. This will focus increased local traffic away from the Stuart Highway and maintain the hierarchy of the road network.

Figures 12 and 13 identify the hierarchy of the existing road network, and what the future road hierarchy could look like with new connections realised. All references to road hierarchies within this document are based on AustRoad guidelines.

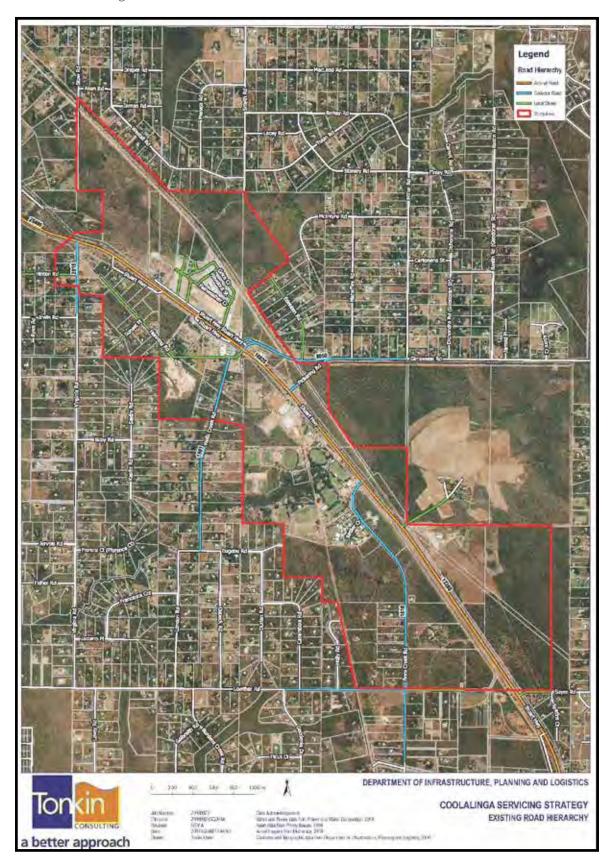


Figure 12: Existing Road Hierarchy



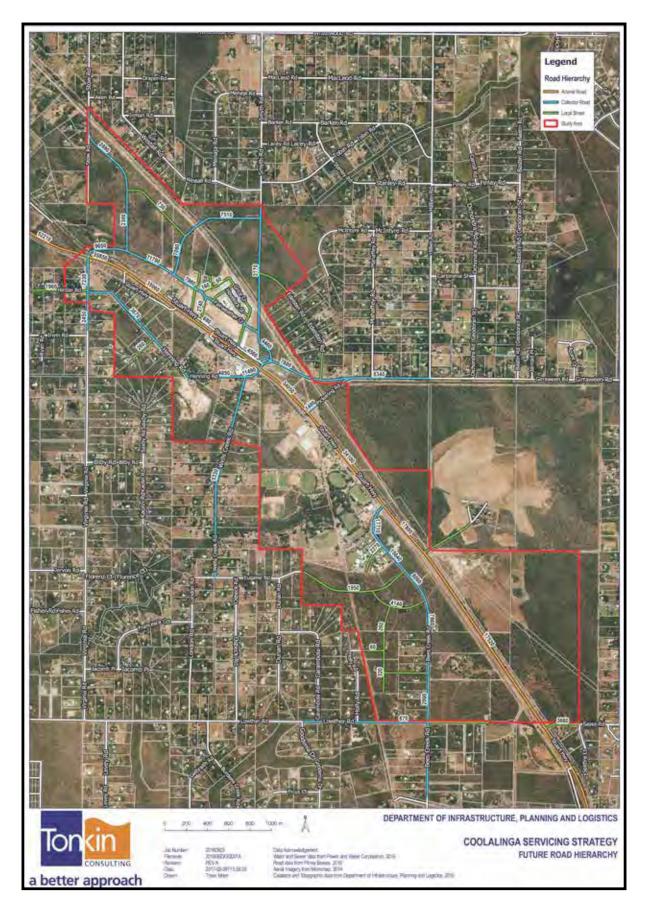


Figure 13: Future Road Hierarchy

7.2 Regional Connections

Coolalinga provides an opportunity for a subregional junction to offer alternative routes to reach popular destinations. The extension of Smyth Road through to the Coolalinga Bus Interchange on Girraween Road will provide a direct connection to the Howard Springs Rural Activity Centre. Likewise, the extension of Stow Road will provide an alternate connection to Howard Springs Road, passing the Good Shepherd Lutheran College and future redevelopment of the Inpex Workers' Accommodation Village site. These two connections will meet with Madsen Road, which will become part of the arterial road network when it is extended across Kowandi North to Holtze and the new Palmerston Regional Hospital.

Regional traffic modelling predicts that by 2027 the Stuart Highway will be carrying over 50 000 vehicles per day between Coolalinga and Palmerston, which is more than double existing volumes. The modelling also shows that, particularly between Temple Terrace and Girraween Road, the proposed regional connection (as shown in Figure 14) will provide for a considerable reduction in traffic volumes on the Stuart Highway as an alternative route for local traffic.

The identification of this transport corridor will also assist with infrastructure planning on a subregional scale, as trunk infrastructure is generally located within road reserves.

7.3 Public Transport

The existing Coolalinga bus interchange/park-and-ride facility provides a central hub for public bus services within the rural area and for connections to Humpty Doo, Palmerston and Darwin, especially during peak periods. There are also a number of school buses that pass through the Coolalinga interchange in the mornings and afternoons, connecting schools in Humpty Doo, Freds Pass, Howards Springs and Palmerston.

Opportunities exist to extend the local road network north to Howard Springs to provide a more extensive and better-connected public transport network. The viability of additional public transport options will need to be tested as part of a broader subregional transport study. Regional public transport connections are shown at Figure 14.

7.3 Pedestrian and Cycle Networks

Traffic signals at the Stuart Highway and Girraween Road/Henning Road intersection provide the only controlled pedestrian crossing between the two commercial precincts. Solutions need to be identified for the safe movement of vehicles and more direct access for pedestrians onto and across the Stuart Highway, as fatalities of both motorists and pedestrians have occurred in the past.

Underdeveloped commercial areas offer the opportunity for additional commercial and residential activity as demand increases. Unconstrained land surrounding the existing commercial centre on both sides of the Stuart Highway could accommodate a range of urban density housing options within 400 m walking distance from the commercial centre and accompanying community services. This would theoretically increase the amount of pedestrian activity within the Rural Activity Centre.

It is proposed to undertake a staged extension of the cycle path from Howard Springs along the old North Australia Railway (NAR) corridor through to the Coolalinga bus interchange. This would link Coolalinga with the wider cycle path network that exists throughout Greater Darwin. The existing and proposed cycle path network is also shown on Figure 14.



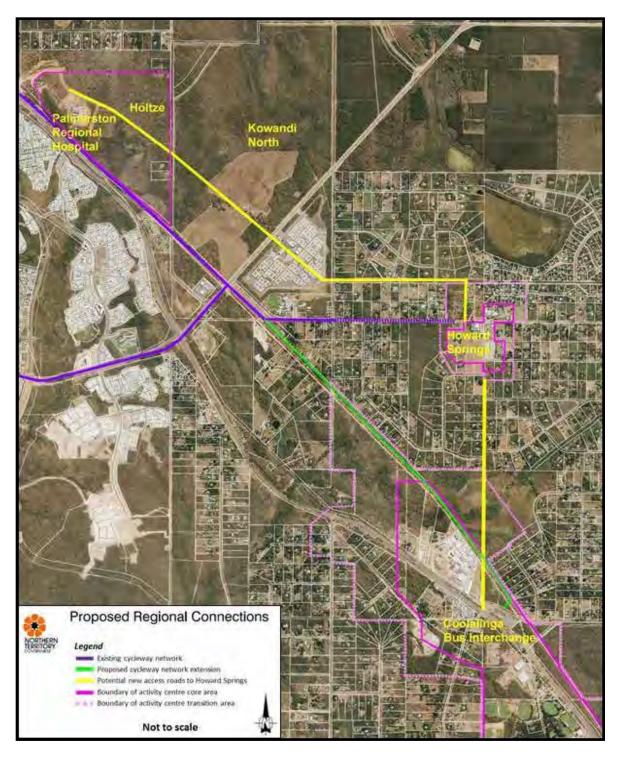


Figure 14: Proposed Regional Connections

- ...the public transport options that might be required for a larger population
- ...how newly developed areas within the Rural Activity Centre can be connected to the local road network
- ...what opportunities there are to improve the local road networks, including pedestrian and cycling
- ...if it would be beneficial to have a more direct connection to Howard Springs

8. SOCIAL AND COMMUNITY SERVICES

This section details the current availability of social and community services within the Coolalinga/Freds Pass Rural Activity Centre, and anticipated short and long term needs as identified in the social infrastructure study conducted by FYFE Consultants in 2015. The locations of existing social and community services available within the Coolalinga/Freds Pass Rural Activity Centre are shown at Figures 15 and 16.

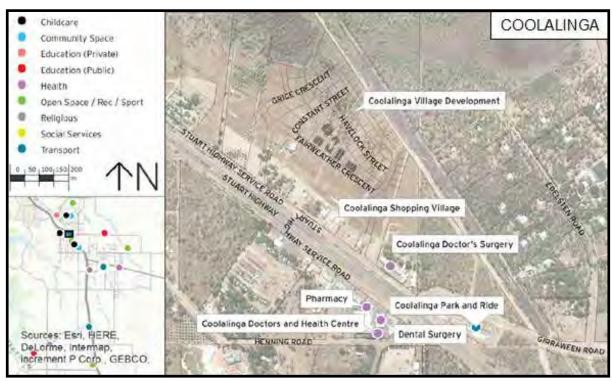


Figure 15: Social and Community Services, Coolalinga

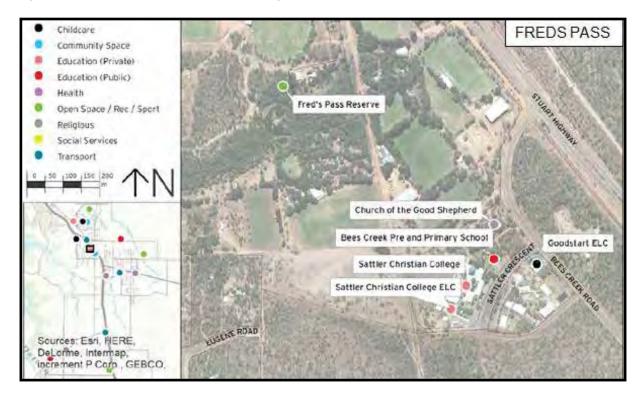


Figure 16: Social and Community Services, Freds Pass



8.1 Health

An additional dentist based in Coolalinga would help address the existing gap in the wider Litchfield subregion. A further dentist is likely to be required in the long term.

It is likely that the new Coolalinga Central commercial development will include a private medical centre that will be of a size to accommodate a range of practitioners and services. More specialist facilities are available in Palmerston, and will be available in the new Palmerston Regional Hospital and associated medical precinct.

8.2 Schools

The Coolalinga/Freds Pass Rural Activity Centre is served by the Bees Creek Primary School and Sattler Christian College (Transition – Year 9). Both schools are located in Freds Pass. Government and non-Government secondary schooling is available in Humpty Doo and Palmerston.

Bees Creek Primary School is currently functioning at approximately 70% capacity, and is able to cater for a further 140 students. Sattler Christian College, which caters for students from Transition to Year 9, currently has an enrolment of approximately 140 students. Additional primary schools could be required in the longer term to cater for an increased population in the locality.

8.3 Community Facilities and Open Space

Urban densities for residential development have a corresponding need for public open space and active and passive recreational pursuits. Freds Pass Recreation Reserve is a multi-user, multi-sport facility that serves the whole Litchfield subregion, and which has capacity to expand and provide greater services to the increasing population.

An additional 6 ha of land is estimated to be required for several more ovals, fields and courts in the far term. Through the management board, and its master plan for the recreation reserve, there is also the opportunity for more efficient use of the existing facilities.

Extension of the cycle path from Howard Springs to Coolalinga along the old North Australia Railway (NAR) corridor will provide a 'green spine' to the activity centre, and natural drainage corridors could form linear parks that connect cycleways and pedestrian corridors.

Under the NT Planning Scheme, residential subdivisions are to provide a minimum of 10% of the area as public open space. Thus as the Rural Activity Centre develops further, additional public open space will be added to the land use mix. There is an opportunity to provide additional guidance on the provision of public open space through planning principles within the Area Plan.

PLEASE TELL US...

...what services and facilities will be required as Coolalinga and the surrounding areas grow to support that population

...your views on the future of Freds Pass Recreation Reserve

9. TRANSITION AREAS

Part of the area planning process is to review the extent of the core and transition areas identified in the Land Use Concept, as these boundaries are only a suggested area that could accommodate the anticipated growth. The extent of the Rural Activity Centre should be large enough to support growth and also to provide a buffer to the broader rural area.

As well as supporting new population growth, the Rural Activity Centre will also support the movement of existing residents to smaller lots, for whom the larger, established rural lifestyle lots are unsuitable. This is due to a number of factors, including affordability and the ability of residents to maintain their properties. A review of the housing options currently available, and consideration of the types of housing and accommodation needed in order to offer choice to residents who wish to retire but remain in the local area, will provide guidance on the acceptable mix of lot sizes and the extent of future development.

A suitable transition will ensure that smaller lot sizes do not impact on the amenity of the established rural living area. As shown in Figure 17 below, the Rural Activity Centre would typically transition from urban-sized single dwelling lots in the core to 4 000 m² rural residential lots, and then to 2 ha (5 acre) lots in the existing rural living area.

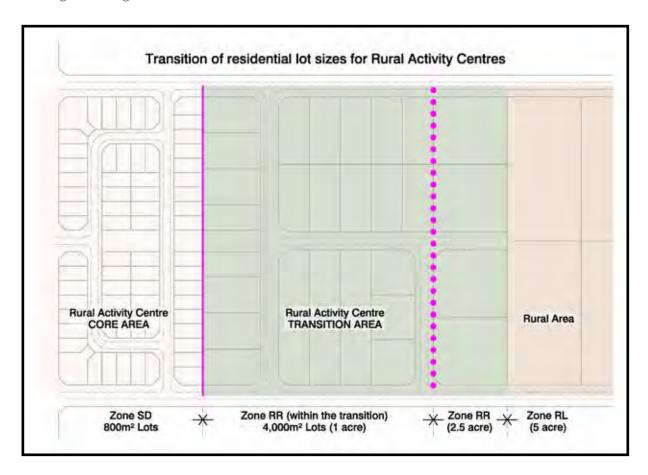


Figure 17: Typical transition of lot sizes and land use zones

- ...who will live in Coolalinga/Freds Pass in the future, and what will their housing needs be?
- ...what size should urban (Zone MD and Zone SD) lots be? And how should these transition to rural residential lots?



NOTES



For more information

Email: ntpc@nt.gov.au

Visit: www.planningcommission.nt.gov.au

Phone: 08 8924 7540

Say Hello

See the website for a list of dates and locations.

The Northern Territory Planning Commissionis an independent and advisory statutory authority that prepares strategic land use plans to manage growth in anticipation rather than response.

The Planning Commission proactively sets the strategic framework for better integrated land use, transport and infrastructure planning, delivering more sustainable and cost-effective outcomes for the community, with sensitivity to environmental and heritage values.