



NORTHERN TERRITORY  
**PLANNING  
COMMISSION**

# LITCHFIELD SUBREGIONAL LAND USE PLAN 2016



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# FOREWORD



Following extensive community engagement and input, the NT Planning Commission is pleased to release the Litchfield Subregional Land Use Plan. This is a long-term plan that identifies the land to support growth while protecting the established rural areas. It provides opportunities around rural activity centres and land for urban residential with buffers to rural areas. It seeks to protect the long term sustainability of ground water resources by identifying locations for residential and rural residential lots on reticulated town water.

The Plan shows concept plans for the rural activity centres to give vision to how the local area will grow over the long term. More detailed area plans will follow, supported by infrastructure and traffic assessments and outlining the investment needed to bring services to the area.

The Litchfield Subregional Land Use Plan is a product of two stages of community and stakeholder consultation in October and November 2015, and February and March 2016. The level of engagement from the community during both stages of consultation was encouraging – Litchfield people are passionate about their homes and lifestyle and this was reflected in the way they took time to stop and talk with us at markets and shopping centres, to attend briefings and provide submissions. Some of this feedback was very detailed, and will be helpful in preparing draft area plans, which will include further consultation with the community.

It is important to ensure the objectives and goals of the Plan remain valid into the future. For this reason, the Commission intends regular review of the Plan as the Litchfield area grows.

I would like to thank everyone who has contributed to the development of the Litchfield Subregional Land Use Plan, including those who took the time to provide their feedback. The subregional plan will provide long term guidance and clarity to future development in Litchfield.

A handwritten signature in black ink, appearing to read 'Gary Nairn'.

Hon Gary Nairn AO

Chairman, Northern Territory Planning Commission  
April 2016

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# INTRODUCTION



# PURPOSE

The Litchfield Subregional Land Use Plan supersedes the Litchfield Planning Concepts and Land Use Objectives 2002 to provide a contemporary response to planning challenges in line with the direction set by the Darwin Regional Land Use Plan 2015, which establishes the strategic planning framework for the Darwin region.

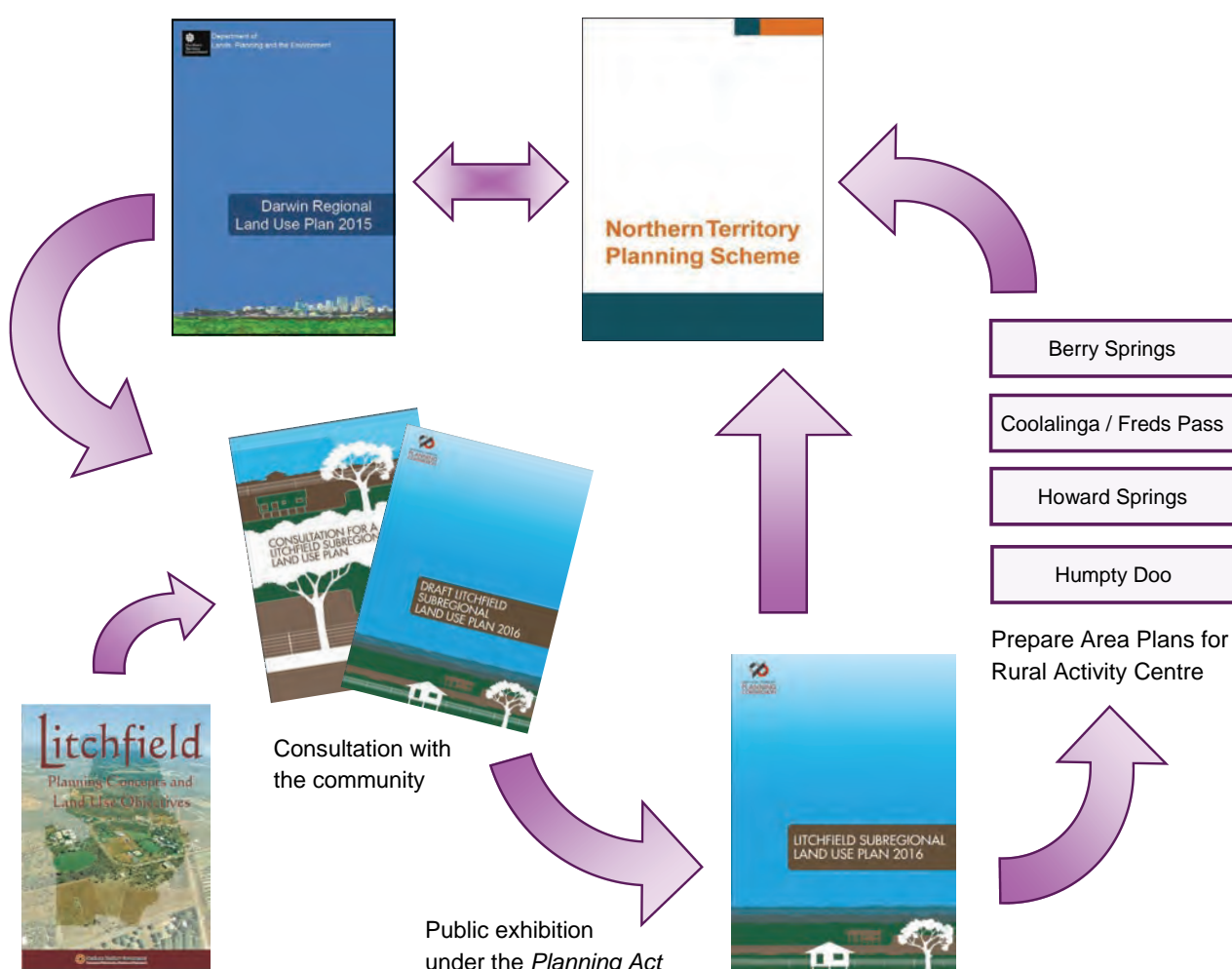
The Subregional Plan provides more detailed planning than the regional plan, including statements of policy specific to the Litchfield subregion and land use concept plans to guide the future preparation of area plans for the rural activity centres.

The Subregional Plan is a product of two stages of community and stakeholder consultation followed by formal exhibition as an amendment to the Northern Territory Planning Scheme. The Subregional Plan enables work to commence on the preparation of area plans for the rural activity centres. The diagram below illustrates this process.

# CONTEXT

Litchfield is one of six subregions identified in the Darwin Regional Land Use Plan, which characterises Litchfield as having a rural lifestyle with a focus on local communities. The Regional Plan recognises that Litchfield's proximity to established and developing urban infrastructure will inevitably increase demand for urban development in Litchfield, and identifies the need for planning to coordinate efficient development to meet the needs of both existing and future residents.

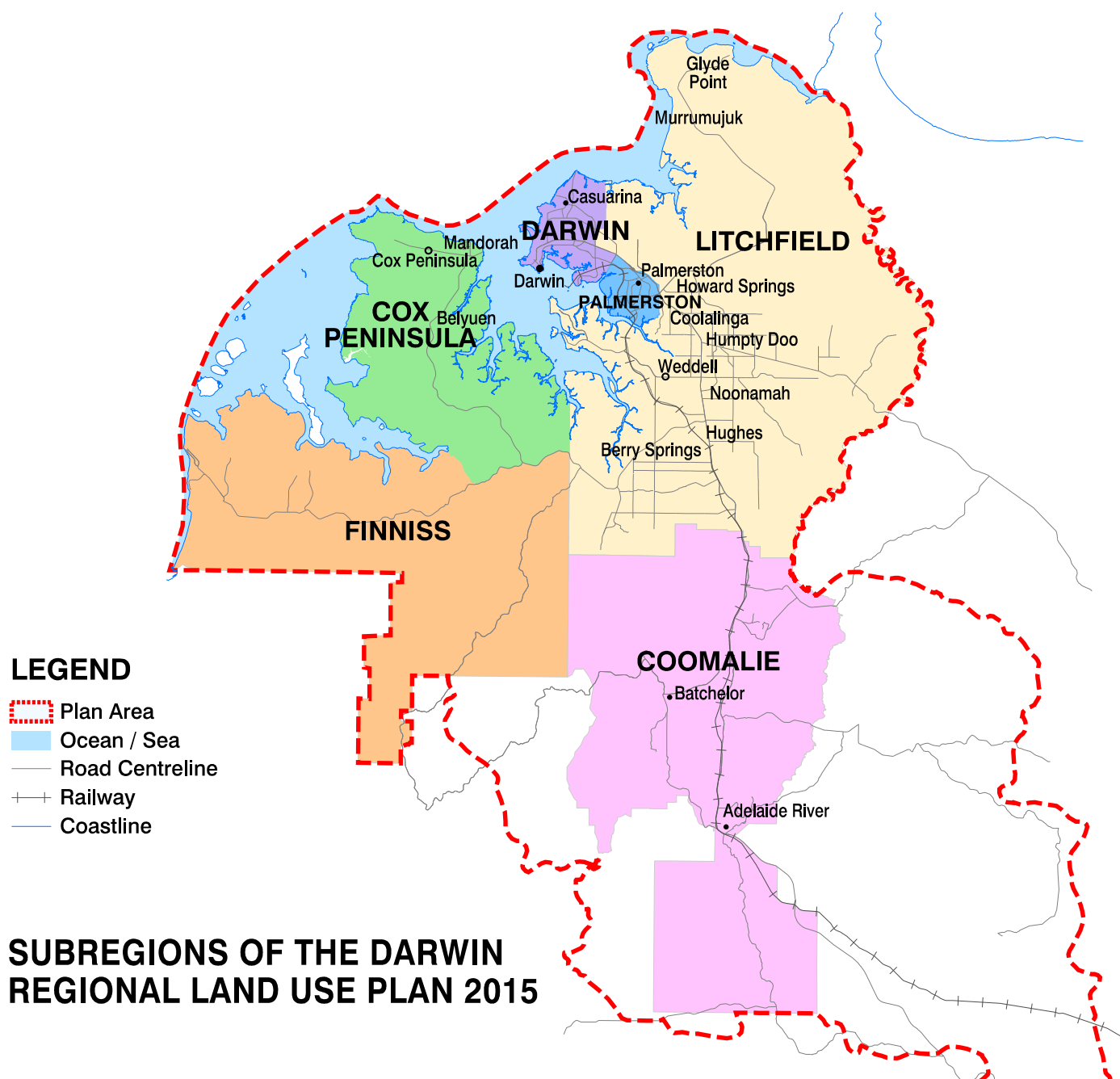
For this reason the Regional Plan establishes principles that direct subregional growth to previously undeveloped areas to minimise the impacts of growth on established areas. This is evidenced by areas identified for urban development at Holtze and Murrumujuk, and the new city site at Weddell with associated transition areas in the localities of Noonamah and Hughes.



# THE LITCHFIELD SUBREGION

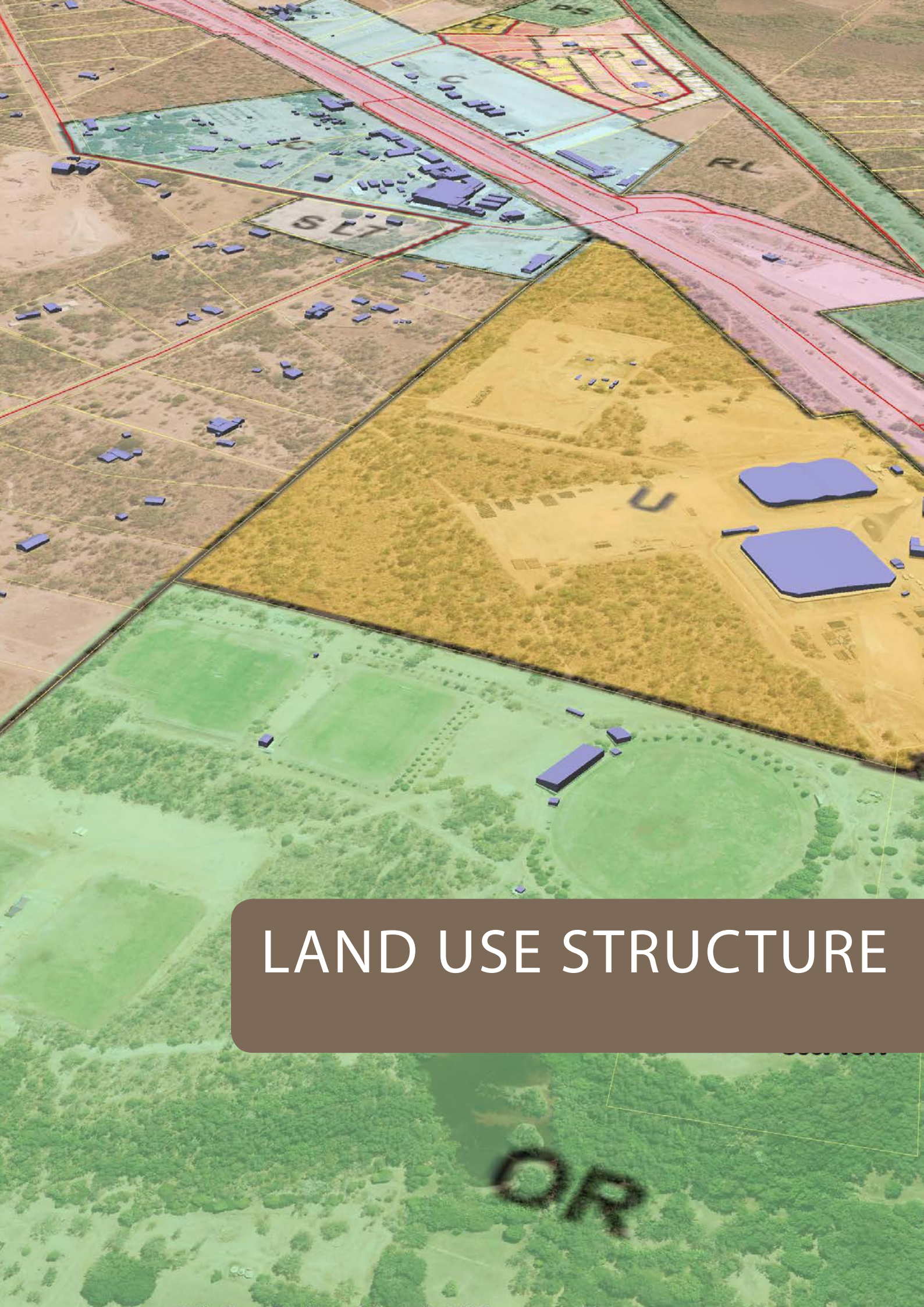
Litchfield is particularly important as Darwin's hinterland with potential to support population growth close to the urban facilities of Palmerston and Darwin. In 2014, 22 000 people lived in Litchfield in approximately 7 540 dwellings. For growth an estimated additional 500 dwellings will be required in the subregion over the next 5 to 10 years, and a further 20 000 dwellings over the longer term of 40 to 50 years.

It follows that this Plan must include land use policy that provides opportunities for urban growth in Litchfield, both in the short and long term, whilst supporting the rural land uses and environment, and respecting cultural heritage. This challenge includes the need to balance population growth with the protection of natural resources such as water, horticultural soils and construction materials; and the recognition of Litchfield's strategic land uses, such as defence, major industry, utilities and unique environmental areas.









# LAND USE STRUCTURE



The Land Use Structure responds to key opportunities and constraints in the Litchfield Region within the context of the Darwin Regional Land Use Plan. The Land Use Structure identifies hatched areas where more detailed planning has given greater clarity to initiatives of the Darwin Regional Land Use Plan.

## RESIDENTIAL

### RURAL AREA

The Subregional Plan will preserve the existing amenity of the rural area, identified as Rural Lifestyle in the Darwin Regional Land Use Plan. Outside identified rural activity centres, the amenity of established areas will continue to be supported by no changes to the current minimum lot sizes in Zone RL (Rural Living) and Zone R (Rural).

The diagram below illustrates the transition from urban to rural land uses.

There is opportunity to investigate the rezoning of land from Zone R (Rural) to Zone RL (Rural Living) to cater for the growing demand for rural living. Consideration must be given to, but not limited to the constraints of the land, water quality and availability, potential impact on the amenity of the locality, and ability for an interconnected local road network to be established.

The potential conflicts between horticulture and residential developments will need to be managed as part of accommodating future growth.

## URBAN AND PERI - URBAN RESIDENTIAL

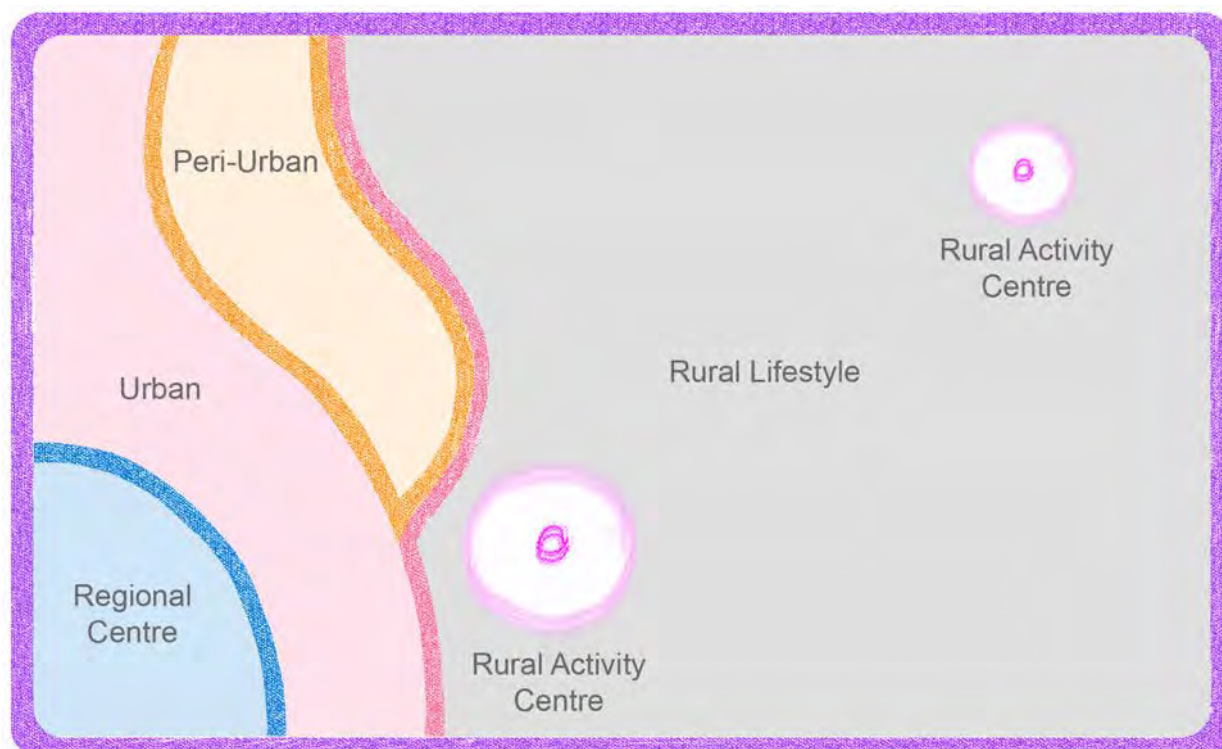
Most of the growth in Litchfield will occur in the urban and peri-urban areas of Holtze, Weddell, Hughes, Murrumujuk, and the Noonamah area.

Development of the Palmerston Regional Hospital at Holtze will create a focus for urban development of undeveloped land between the Palmerston CBD and Howard Springs Road.

Weddell will be a primary activity centre housing over 40 000 people and providing retail, commercial, community and residential land uses. Development on Crown land will be supplemented by private development providing lower scale centres and a transition from the future suburban edge of Weddell to existing rural areas.

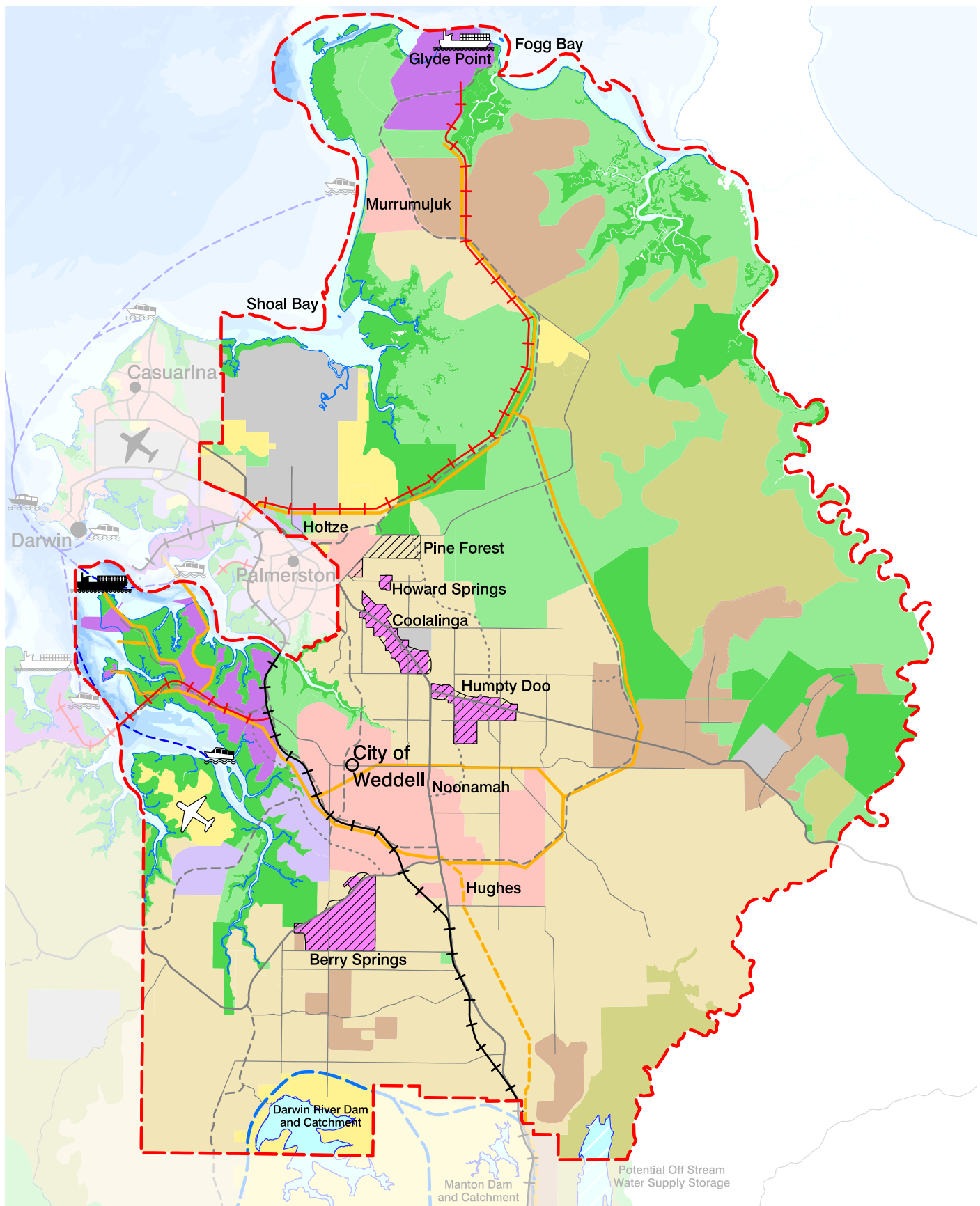
### RURAL ACTIVITY CENTRES

Rural activity centres at Berry Springs, Coolalinga / Freds Pass, Howard Springs and Humpty Doo provide for expanded local facilities and services with a range of residential options decreasing in density from urban residential within the core area, transitioning to larger lots as a buffer to rural areas. Accommodating some population growth within rural activity centres increases the sustainability of larger rural lots by reducing the reliance on natural resources, particularly groundwater. Urban residential development within rural activity centres will increase housing choice and underpin the provision of reticulated services and community infrastructure; and support a wider variety of retail and commercial services.



Urban to Rural Land Use Structure





## LEGEND

- Subregion Boundary
- Updates since the DRLUP 2015
- Urban / Peri-Urban
- Rural Area
- Horticulture
- Community / Government
- Open Space / Natural Area
- Mangrove / Conservation
- Industry

- Strategic Industry
- Commonwealth
- Rural Activity Centre
- Grazing / Agriculture
- Utility Corridor
- Amadeus Gas Pipeline
- Water Supply Catchment
- Existing Waterbody
- Potential Waterbody

- Coastline
- +—+—+— Existing / Planned Railway
- - - - - Existing / Planned Ferry Route
- - - - - Existing / Planned Arterial Road and Transport Corridor
- . . . . . Existing / Planned Collector Road
- ✈ Existing / Planned Airport
- 🚢 Existing / Planned Sea Port
- 🚢 Existing / Planned Ferry Terminal
- Existing / Planned Regional Centre

## LITCHFIELD SUBREGION LAND USE STRUCTURE

The rural activity centres will also provide opportunities for industries to meet the future needs of local residents. Increased local population will support a greater range of local facilities and services, including public transport and improved local employment opportunities. The boundaries of the rural activity centres have been refined as a result of further evaluation of land and servicing options.

Community consultation highlighted the values people place on the Pine Forest, particularly for recreation and therefore the Pine Forest is no longer planned as a rural activity centre. Investigations also indicate urban development is constrained by proximity to biting insects breeding areas. This area has environmental sensitivities and further land analysis is required to determine the level of development possible on the land.



*Berry Springs Rural Activity Centre*

## SERVICE NODES

Commercial development will continue to be focused on the established rural activity centres, although established service nodes at Virginia, Darwin River, Noonamah and Acacia will continue to provide a local level of retailing, servicing passing highway traffic, tourism and the local community. A service node on Girraween Road provides a location for a primary school, with potential for local commercial, community and recreation uses, as identified at page 21.

## STRATEGIC INDUSTRY

Glyde Point is identified for major industrial development outside Darwin Harbour. Glyde Point provides the necessary isolation to minimise the impacts of strategic industrial development on established urban areas. The proposed urban area at Murrumujuk will provide opportunities for employees to live locally. Transport and infrastructure corridors will provide access to the broader region.

## PRIMARY INDUSTRY

### HORTICULTURE AND AGRICULTURE

The land areas that have the greatest potential for horticulture or agriculture are identified on page 32. Proposed alternative use of this land must consider lost opportunities for local food security including reduced transportation, and diversity of regional, Territory and national economies.

Cattle holding facilities and other intensive animal industries require locations that are both suitable for purpose and not in conflict with adjacent land uses. Other considerations include proximity to arterial roads and port.

### CONSTRUCTION MATERIALS

The extraction of sand, gravel and rock materials in Litchfield supply the construction industry of the Darwin Region. Access to extractive mineral sites must be maintained, but with greater consideration of the adverse impacts on the local road network. Preferred heavy vehicle access roads are identified on the Main Roads Map (page 33). There is also a need to ensure that depleted leases are properly rehabilitated to suit the future land use.

## ENVIRONMENTAL MANAGEMENT

The protection of land and water resources, the conservation of significant vegetation communities and wildlife habitats, and the maintenance of publicly accessed reserves all contribute to the quality and amenity of the natural environment in Litchfield.

The existing system of parks and reserves will continue to help conserve biodiversity of plants and animals in Litchfield. Wildlife corridors between natural areas will provide for continued movement of wildlife across the landscape as subdivision and closer settlement occurs.

The Priority Environmental Management (PEM) map (page 37) identifies those areas where development should give priority to the natural environment and where there may be a need for assessment of potential environmental impacts.

The relationship between areas identified for environmental management and their use for recreation and tourism should be recognised in management strategies and access maintained for these purposes, including the provision of linkages between individual areas.

# COMMUNITY FACILITIES AND SERVICES

## ACTIVE RECREATION

The Freds Pass Recreation Reserve is the primary facility within Litchfield, providing for a range of recreational activities, including equestrian, rugby, AFL, soccer, cricket and multi-use indoor spaces.



*Cycling in the Pine Forest*

## HEALTH SERVICES

The staged development of Palmerston Regional Hospital will provide convenient access to health services and reduce emergency travel distances.

## EDUCATION

In the short term the schools in Litchfield are expected to have capacity to accommodate additional children, but it is noted that some schools are using transportable buildings to meet demand.

To accommodate growth there is an identified future need and corresponding program to expand some Litchfield schools, including out-of-school-care. For example the Berry Springs primary and pre-school is scheduled for expansion and there is an existing need for child care in the locality.

## INFRASTRUCTURE

### ESSENTIAL SERVICES

The sequencing of future development will have a significant influence on cost-efficient access to facilities and services. The strategic planning of infrastructure at a regional scale will facilitate provision of urban services to Crown and private land over time.

## GROUNDWATER AND WATER SUPPLY

Much of Litchfield relies on groundwater as the primary source for potable water. The several aquifers that underlie the subregion (shown on page 39) support numerous rural land uses, including stock, agriculture, horticulture and domestic purposes.

Groundwater also sustains the natural environment and contributes to the regional water supply. Sustainable groundwater extraction is approximately 20% of the annual recharge. Over extraction will reduce discharge to receiving environments and groundwater dependent ecosystems. In addition, proliferation of on-site effluent disposal systems can potentially compromise quality in water supply aquifers where they overlie them.

The Berry Springs aquifer feeds the popular recreation area of the Berry Springs Nature Park and sustains the waterways and habitats of the Territory Wildlife Park. This aquifer is exposed to stress from increased subdivision and development, and overuse will have serious implications for groundwater supply for residents, tourism, industry and the environment. Maintaining the environmental flows of Berry Spring is to be prioritised when considering additional extraction demands from increased subdivision and development over the Berry Springs aquifer.

Water allocation plans under development for the Howard groundwater system and Berry Springs dolostone system will aid in avoiding over extraction and ensure long term sustainability.

The Darwin Region water supply system currently sources water from Darwin River Dam (85 per cent) and McMinns and Howard East borefields (15 per cent) and provides reticulated supply to five supply zones: Darwin Rural/Palmerston, Stuart Park, Casuarina, Karama and Channel Island. Potential options to increase the catchment and storage capacity include Manton Dam, Adelaide River Off Stream Storage, Upper Adelaide River Dam, Marrakai Dam and Mount Bennett Dam.

## GAS PIPELINE

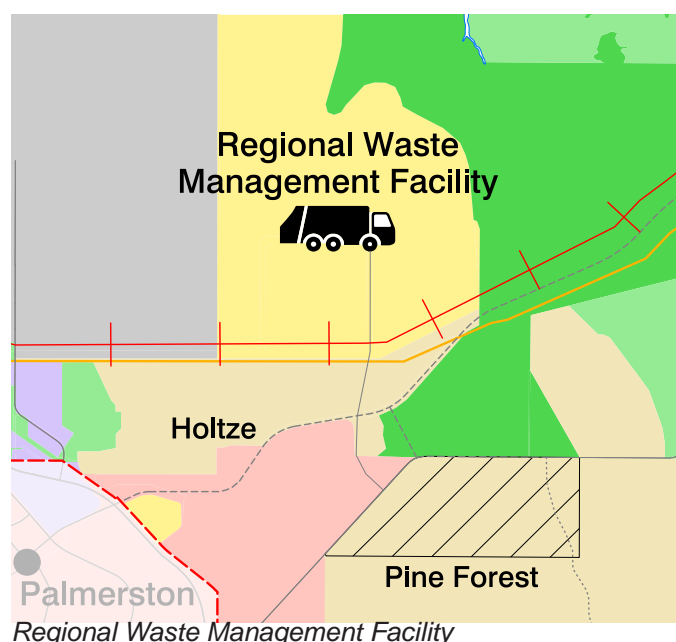
The gas pipeline from the Amadeus Basin to Channel Island Power Station is included in the Land Use Structure. Increased gas consumption will lead to additional pipeline capacity through new infrastructure and potentially additional corridors.



# WASTE

A site central to the Darwin region at Howard Peninsula is identified for a future regional waste management facility, including the capacity for the emergency storage of waste as a result of a natural disaster. Based on current technology and predicted volumes, the site has capacity for 50 years of use, and will continue the function of the Shoal Bay waste facility. More detailed studies and environmental assessment processes are required to realise this proposed land use.

Waste management strategies must acknowledge the potential risk of natural disaster, including cyclone and storm surge, and have processes that respond to significant quantities of waste generated in such an event.



Regional Waste Management Facility

# TRANSPORT

Identified arterial transport corridors on page 33 accommodate high capacity main roads that service Litchfield and the broader region. The corridors include the links to the strategic industry area at Glyde Point, links around the harbour and to Batchelor and the Weddell arterial linking the Stuart Highway to existing infrastructure at the Elizabeth River bridge.

The Glyde Point corridor will provide convenient access between the existing port at East Arm and the future industrial area, and between Murrumujuk and higher order urban services available in Palmerston. A second corridor from the Glyde Point arterial to Stuart Highway opposite Cox peninsula Road will connect the future industrial area directly to the national highway, and limit the impacts of heavy transport on built up areas.

A number of other roads which will be important in connecting proposed urban and peri-urban areas with higher order centres are also identified. These include the link from Noonamah to the Glyde Point arterial via Humpty Doo and the planned Middle Arm link between Cox Peninsula and Channel Island Roads.

The identification of local road networks will aid in establishing, during future Area Planning, an interconnected local road network that improves route choice and access options.

Road Network Localities 1 to 4 (pages 34 and 35) identify the opportunities to establish local road networks as part of the subdivision process. Subdivision and development of the indicated networks will be subject to development approval and compliance with Council's requirements.



Whitewood Road, Howard Springs

# STATEMENTS OF POLICY

Statements of policy are shaded, with principles to achieve policy outcomes listed below each policy.

## RESIDENTIAL LAND USES

### URBAN

1. Facilitate urban residential land uses within identified urban / peri-urban areas and rural activity centres to meet market demand.
  - locate land for urban residential development close to the central commercial and community facilities of urban / peri-urban areas and rural activity centres; and
  - facilitate the provision of trunk infrastructure to identified urban land to support a range of residential densities and enable more affordable housing choices.

### HOLTZE

2. Provide urban land in Holtze to support the Palmerston Regional Hospital, associated medical precinct and neighbourhood centre.
  - identify and service urban land for future residential development with convenient access to Palmerston Regional Hospital;
  - locate a neighbourhood centre with retail premises and community facilities near the Palmerston Regional Hospital; and
  - promote mixed use development with commercial and medical profession premises within the neighbourhood centre.

### CITY OF WEDDELL

3. Preserve the viability of Crown land set aside for the City of Weddell.
  - restrict land uses that have the potential to adversely impact on the amenity of future urban residential areas in Weddell;
  - manage the development of adjacent private land to provide a transition between urban and rural living areas; and
  - preserve the role of the future city centre of Weddell as a primary activity centre with residential, retail, commercial, social and cultural functions.

## RURAL RESIDENTIAL DEVELOPMENT

4. Facilitate new areas of rural residential development close to community facilities.
  - locate Zone RR (Rural Residential) lots either within or in close proximity to peri-urban areas and rural residential transition areas;
  - require all lots in Zone RR to be serviced by reticulated water and to not adversely impact on groundwater resources;
  - require all lots in Zone RR that are outside the defined boundaries of peri-urban areas and rural residential transition areas to be in close proximity to community facilities and be no less than 1 ha; and
  - Require land proposed for rezoning to Zone RR to have an area of 8 ha or greater to allow for the provision of an interconnected local road network.

### RURAL AREA

5. Maintain rural amenity and lifestyle choice.
  - continue to support the subdivision of suitable land outside rural activity centres into 2 ha lots in Zone RL (Rural Living) and into 8 ha lots in Zone R (Rural);
  - require reliable water supply adequate for residential use;
  - require stormwater drainage for new residential development to not adversely impact on the receiving environment; and
  - require residential subdivision to provide roads and infrastructure to the requirements of the responsible authorities.
6. Provide opportunity for residential land uses in the Rural Area to meet market demand.
  - provide a transition of residential density from rural land uses to rural activity centres;
  - demonstrate the capability of the land to support closer residential settlement;
  - have regard for the impact of clearing native vegetation and any adverse impacts on areas identified on the Priority Environmental Management Map (page 37); and
  - provide road reserves that connect to adjacent properties in order to allow the establishment of an interconnected local road network.



## UNIT TITLE SUBDIVISION

7. Facilitate unit title subdivision as an option for residential subdivision of large properties with significant areas of constrained land.
  - require an evaluation of land capability and preparation of a management plan ensure ongoing management of environmentally significant or constrained areas;
  - site dwelling lots on unconstrained land;
  - site dwelling lots to minimise adverse impact on or exposure to adjacent land uses; and
  - limit total density to the average density of the zone of the site.

## BITING INSECTS

8. Mitigate the impact of biting insects on residential amenity and public health.
  - limit residential development within areas of high exposure to biting insects;
  - require future development to have regard for the Department of Health's advice on biting insects; and
  - provide separation, as recommended by the Department of Health, between biting insect breeding sites and dwellings on lots less than 2 ha.

## COMMERCIAL AND INDUSTRIAL LAND USE

### COMMERCIAL

9. Facilitate commercial land uses within identified urban and rural activity centres to meet market demand
  - co-locate compatible uses to facilitate the growth of vibrant centres supporting commercial services to the community; and
  - Limit ribbon development to minimise the associated adverse impacts on the amenity of established rural areas.

## INDUSTRIAL

10. Facilitate industrial land uses within urban / peri-urban areas and rural activity centres to meet market demand.
  - co-locate compatible industrial activities to support industry and associated services;
  - require appropriate road connections to facilitate efficient traffic movement and convenient access to arterial roads; and
  - provide adequate buffers to mitigate adverse impacts on sensitive land uses.

## MANAGEMENT OF LAND USE CONFLICT

### RESIDENTIAL AND AGRICULTURAL LAND

11. Minimise land use conflict between adjacent agricultural and residential land.
  - require proposals to demonstrate an adequate water source to sustain the development at maturity; and
  - require proposals to include adequate buffers to protect the amenity and function of adjacent land uses.

### CATTLE HOLDING FACILITIES

12. Minimise the impacts of cattle holding facilities and intensive animal industries.
  - locate cattle holding facilities with sufficient separation from sensitive land uses to avoid adverse impacts on the amenity of adjacent land;
  - require effective buffers or barriers to protect the amenity of adjacent land and roads from any off-site impacts of cattle holding facilities.
  - require waste disposal infrastructure to avoid adverse impacts on water resources; and
  - locate cattle holding facilities with convenient access to arterial roads and within a viable distance of port.



# INFRASTRUCTURE

## TRANSPORT AND MAIN ROAD NETWORK

13. Provide a coordinated, efficient and interconnected transport network.
  - manage the number and location of intersections and access points on arterial roads to support a safe and efficient transport network;
  - promote the use of identified heavy vehicle routes to limit damage to lower order roads;
  - promote interconnectivity of the local road network in the design of subdivisions;
  - promote 'active' transport modes by identifying and requiring facilities such as cycle paths and associated infrastructure;
  - facilitate the progressive expansion of public transport services into Litchfield; and
  - utilise the former railway corridor to provide a future cycleway through Litchfield.

## LOCAL ROAD NETWORK

14. Resolve problems associated with historic multiple battle-axe lots to establish an interconnected local road network.
  - require development to respond to the local road strategy on pages 34 and 35;
  - require subdivision design to provide an internal road network that serves all adjoining lots with subdivision potential.

## PROVISION OF UTILITIES

15. Provide utilities and trunk services sequentially and cost efficiently.
  - require future development of urban and peri-urban areas and rural activity centres to be consistent with subregional infrastructure strategies;
  - ensure on-site effluent disposal systems do not create detrimental effect on the environment or public health; and
  - provide a site on Howard Peninsula for the future regional waste disposal facility, incorporating the safe temporary storage or treatment of waste as a result of natural disaster, subject to the necessary environmental assessment.

# ENVIRONMENTAL CONSIDERATIONS

## GROUNDWATER

16. Support sustainable groundwater use.
  - Maintain environmental flows of natural drainage and groundwater systems to protect wetland and forest habitats, and natural areas valued for tourism and recreation;
  - require the groundwater demand of subdivision and development to not exceed the sustainable recharge of the aquifer;
  - require the design of stormwater drainage and on-site effluent disposal systems to minimise the potential to pollute surface and ground water; and
  - manage development within the recharge area of aquifers to protect water quality.

## ENVIRONMENTAL MANAGEMENT

17. To conserve natural systems and biodiversity.
  - maintain the existing system of parks and reserves to conserve significant occurrences of plants and animals in the long term;
  - maintain and establish wildlife corridors between natural areas, providing for continued movement of wildlife across the landscape and through waterways as subdivision and closer settlement occurs;
  - prevent land degradation and loss of biodiversity through the inappropriate removal of native vegetation;
  - manage development of recreation and tourism uses that will enhance people's experience of natural systems; and
  - consider the land management and tenure arrangements with regard to conserving natural systems prior to the zoning and subdivision of land.
18. To minimise detrimental impacts of development on the environment.
  - manage development to minimise adverse impacts on the receiving environment;
  - incorporate sound weed management planning to mitigate the spread of weeds;
  - have regard to referenced guidelines of the NT Planning Scheme and relevant documents published by other departments and agencies; and
  - develop practical and environmentally sensitive approaches to fire management.





# URBAN DEVELOPMENT





Litchfield will play an important role in accommodating urban growth in the Darwin Region over the next 40 to 50 years. While the Litchfield Subregional Land Use Plan sets the foundation for growth in the rural area, further detailed planning will be required to inform infrastructure and servicing upgrades and timing of development to meet demand.

The detail of urban areas will be guided by this subregional plan and subsequent Area Plans prepared in consultation with the community.

These Area Plans will facilitate urban residential opportunities within identified urban / peri-urban areas and rural activity centres to meet market demand and to support a range of residential densities enabling more affordable housing choices.

## MURRUMUJUK

Murrumujuk is located on the Gunn Point Peninsula overlooking Shoal Bay, about 60 km from the Darwin CBD and 40 km from Palmerston. Substantial areas of relatively flat land next to Glyde Point are subject to detailed investigation to facilitate future industrial development, which would have synergies with an urban centre at Murrumujuk, residential lots in a rural setting and potential horticultural development. Previously planned transport and infrastructure corridors will integrate the locality with the broader region and minimise the potential impacts on existing networks. Future investigations into land capability, environmental issues and infrastructure requirements will inform more detailed planning.



*Multiple Dwellings at Humpty Doo*

## HOLTZE

The locality of Holtze is identified in the Darwin Regional Land Use Plan as suitable for future urban and peri-urban development. The Holtze Urban Area Plan included under Part 8 of the NT Planning Scheme provides certainty for future infrastructure needs in the area and will guide future land use decisions.

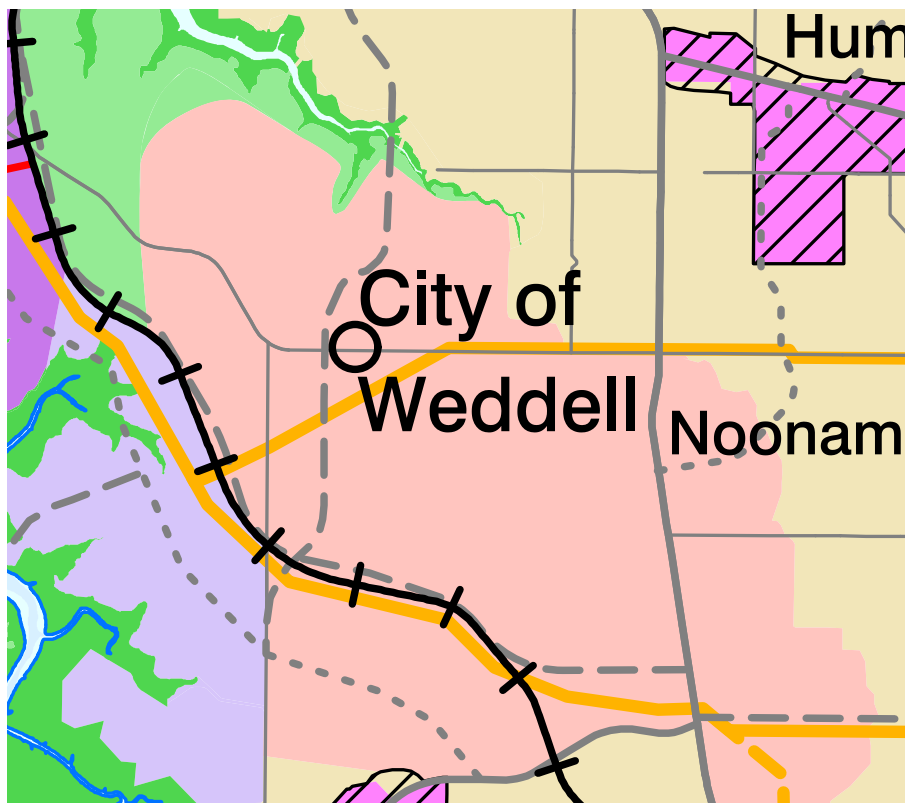
The area plan encompasses land that is largely undeveloped. Subject to the management of constraints and provision of trunk urban services, much of this land is suitable for urban residential development over time. After exclusion of the hospital site and medical precinct, the Glyde Point arterial corridor and steep or poorly drained areas, there is approximately 70 ha of land identified for urban development. This presents an opportunity for housing next to a regional hospital, with the advantage of being conveniently located near an established urban area that provides a range of commercial and community facilities and services.

Important issues for the future development of Holtze include:

- development of an integrated framework of roads and trunk infrastructure to deliver compact walkable neighbourhoods;
- upgrading Temple Terrace to carry increased traffic and include a cycleway;
- delivery of a public transport service from Palmerston to the new hospital;
- identification of suitable land for community purposes such as education, sports and open space for passive recreation.



*Apartments at Coolalinga*



The Land Use Structure for the whole subregion is on page 7 and identifies: the city centre of Weddell; the major roads connecting to the Stuart Highway, Palmerston and Darwin; and the extent of the urban and peri-urban area, which includes larger lots at the fringes to provide a transition to the rural area. .



View from the Elizabeth River Bridge



Weddell from the air in 2015

## WEDDELL

Weddell is to be a new city planned as the next major increment of growth for the Darwin Region. It is south of Palmerston, and is bounded by the Elizabeth and Blackmore Rivers, the Middle Arm Peninsula and the Stuart Highway. It has capacity for at least 40 000 people, as well as significant capacity for employment uses, community uses, parkland and recreation.

Weddell is around 40 km from central Darwin, and 19 km south of Palmerston, connected by existing and planned arterial roads. It is around 6000 ha in area. Around 3000-4000 ha is suited to urban development. The site is bisected by the Adelaide to Darwin rail line. Land generally to the west of the line is unsuited to residential development but may provide some areas for industrial development and infrastructure.

At present, the Weddell site is largely undeveloped, with the western two thirds being Crown land covered with savannah woodland, and the eastern third being private land, with some low intensity farming uses and a privately owned airfield.

Around half of the site drains north to the Elizabeth River, and the other half drains southwest to the Blackmore River.

Key constraints include flood-prone land and waterlogged soils, biting insect breeding areas,

archaeological heritage sites, conservation zoned land, existing and future major infrastructure corridors, and adjoining land uses such as the MKT airfield.

Design of Weddell requires the addressing of many challenging issues, including:

- the opportunity for development focused on activity centres in the Noonamah and Hughes localities to provide a transition between the urban areas of Weddell and established rural lifestyle areas and to offer a further lifestyle choice;
- the potential synergies between private development in the Hughes and Noonamah locality and development of Weddell and possible influences of the timing of the respective developments;
- a response to the biting insect breeding areas by way of appropriate buffers;
- the delivery of efficient public transport services to link Weddell and land to the east with Palmerston and Darwin City;
- the availability of land for employment opportunities; and
- the costs of utilities, trunk services and social infrastructure required to support future development in the locality.





# RURAL ACTIVITY CENTRES





The land use concept plans in this section propose future land uses within the defined rural activity centres.

Community consultation informed how best to manage growth in the rural area. The ability to preserve the established rural lifestyle is balanced by focussing urban growth within rural activity centres. This will minimise the impacts of growth on the broader rural area.

Principles underpinning the shape and design of the concept plans include:

- providing reticulated (town) water to the whole of the centre, reducing reliance on ground water
- providing a long term vision for growth over the next 40 - 50 years
- locating commercial and community services within the centre
- providing housing diversity to offer choice and more affordable options
- locating multiple and single dwellings closest to the centre, surrounded by the rural residential transition area with the minimum of 4000 m<sup>2</sup> to larger rural living lots
- providing reticulated sewerage to urban land uses within the rural activity centres
- preventing 'strip commercial development' by managing access to arterial roads, and directing commercial and industrial land use to establish within rural activity centres
- establishing local roads to improve access, facilitate efficient public transport and provide route choice.

Further studies will refine land use areas, and ensure efficient traffic movement and infrastructure delivery. The concept plans establish a framework to guide these studies which, in due course, will inform the preparation of more detailed draft Area Plans which will be subject to further community consultation.

The following statements of policy relate specifically to the defined rural activity centres.



Strauss Airstrip, Noonamah

## STATEMENTS OF POLICY

### RESIDENTIAL LAND IN RURAL ACTIVITY CENTRES

- A1 Provide a transition between residential land within rural activity centres and established rural areas to minimise the impacts of growth on existing amenity.
- transition residential land uses from low density rural areas to higher density adjacent to urban services;
  - locate Zone RR (Rural Residential) lots, no less than 4000 m<sup>2</sup>, as a transition to rural areas;
  - provide a variety of residential lot sizes and housing types;
  - locate urban residential areas nearest facilities and services; and
  - require higher density residential development to comply with the NT Government Compact Urban Growth Policy.

### IMPACTS ON THE ENVIRONMENT IN RURAL ACTIVITY CENTRES

- A2 Minimise detrimental impacts of development within rural activity centres on the receiving environment.
- identify and evaluate environmental constraints, and comply with any relevant environmental management plans;
  - require development proposals to demonstrate an urban design and engineering response to the environmental and physical constraints of the site;
  - require drainage systems that respond to the natural drainage regimes and minimise modification or disturbance to the natural systems as far as is practical; and
  - require the discharge of concentrated stormwater to not exceed pre-development flows or have detrimental impacts in the receiving environment.

### CULTURE AND HERITAGE IN RURAL ACTIVITY CENTRES

- A3 Integrate sites of natural and cultural heritage into the development of rural activity centres.
- integrate sites of natural and cultural heritage with parks, reserves, and conservation areas.

## TRANSPORT AND ROADS IN RURAL ACTIVITY CENTRES

### A4 Provide rural activity centres with interconnected local road networks

- require the design of subdivisions to provide for interconnected local roads;
- promote 'active' transport modes by identifying and requiring facilities such as cycle paths and associated infrastructure; and
- support the expansion of public transport services to and within rural activity centres.

## UTILITIES IN RURAL ACTIVITY CENTRES

### A5 Provide reticulated services to rural activity centres.

- prepare infrastructure plans for the strategic and progressive delivery of trunk services to support urban development.

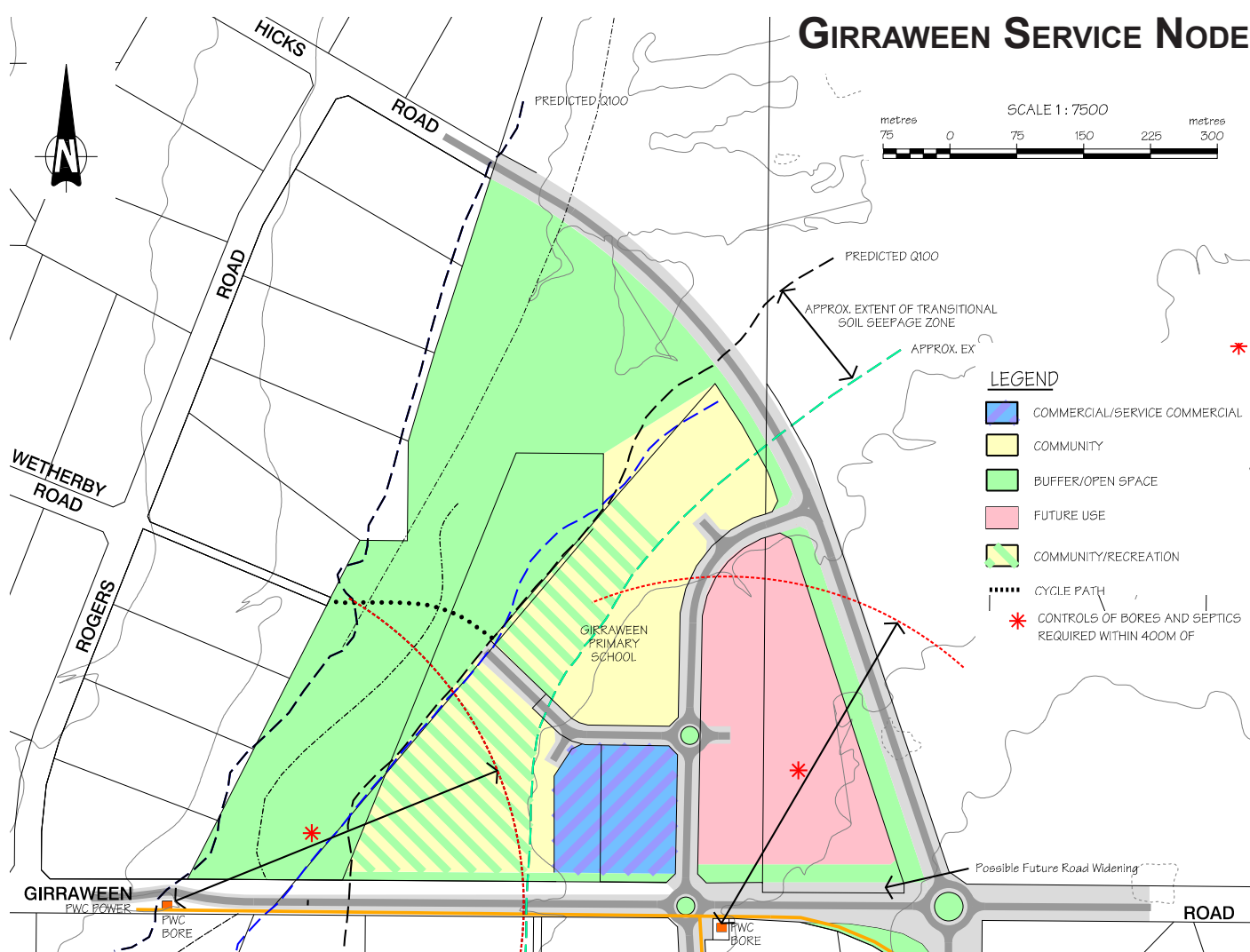
## SOCIAL INFRASTRUCTURE IN RURAL ACTIVITY CENTRES

### A6 Provide social infrastructure within rural activity centres.

- facilitate community facilities such as schools, community centres, health clinics and aged care facilities within rural activity centres to meet the needs of the community;
- facilitate multi-purpose community facilities and shared use of existing facilities within rural activity centres; and
- identify and retain land within rural activity centres for future social infrastructure needs.

## GIRRAWEE SERVICE NODE

A site for a local centre to serve the Girrawee locality is identified at the intersection of Girrawee Road and the future collector road intended to link Gunn Point Road and the Arnhem Highway. While this site has advantages, in terms of population distribution in the locality and accessibility, appropriate infrastructure will be required to protect significant water resources and the environment.



# BERRY SPRINGS RURAL ACTIVITY CENTRE

The Berry Springs Rural Activity Centre is located along the southern side of Cox Peninsula Road.

Although development of this centre has been constrained to date by the lack of reticulated services, there is considerable potential to develop a comprehensive centre providing an alternative residential choice with ready access to a range of facilities and services.

Factors contributing to and underpinning the viability of a comprehensive centre in this locality include:

- the limited provision of local facilities in the southern portion of the Litchfield Subregion and areas further afield;
- the improved accessibility to employment associated with the upgrading of Finn Road;
- the availability of large parcels of Crown and privately owned land; and
- the location of the centre on the access to tourist destinations such as Litchfield National Park, Berry Springs and the Territory Wildlife Park.

The undeveloped land within and adjacent to the centre has the capacity to accommodate a broad range of housing options supported by commercial and community facilities and services.

The reticulation of water to the proposed rural residential areas will minimise impacts on the Berry Springs aquifer, as continued development of rural and rural living lots drawing from the aquifer may not be sustainable.

The concept plan (opposite page) has a residential lot yield in the order of 700 urban lots and 1 800 rural residential lots. A yield of this order is desirable for the cost-effective provision of reticulated services, especially town water supply, and to support development over the long term of a viable commercial centre.

The Berry Springs Nature Park, Territory Wildlife Park and Berry Creek are both a constraint and an opportunity for the future development of the centre. Protection of these areas will assist in the creation of a vibrant and robust public realm to establish a distinct character for this community with strong links to the environment.

Following are statements of policy relevant to the Berry Springs rural activity centre.

## REGARDING RESOURCE MANAGEMENT

- B1 Maintain the impacts of development in this locality within the limits of the sustainability of ground and surface water resources.
- require the provision of reticulated water;
  - evaluate the suitability of proposed waste disposal infrastructure; and
  - design and manage stormwater drainage to minimise adverse impacts on the receiving environment.

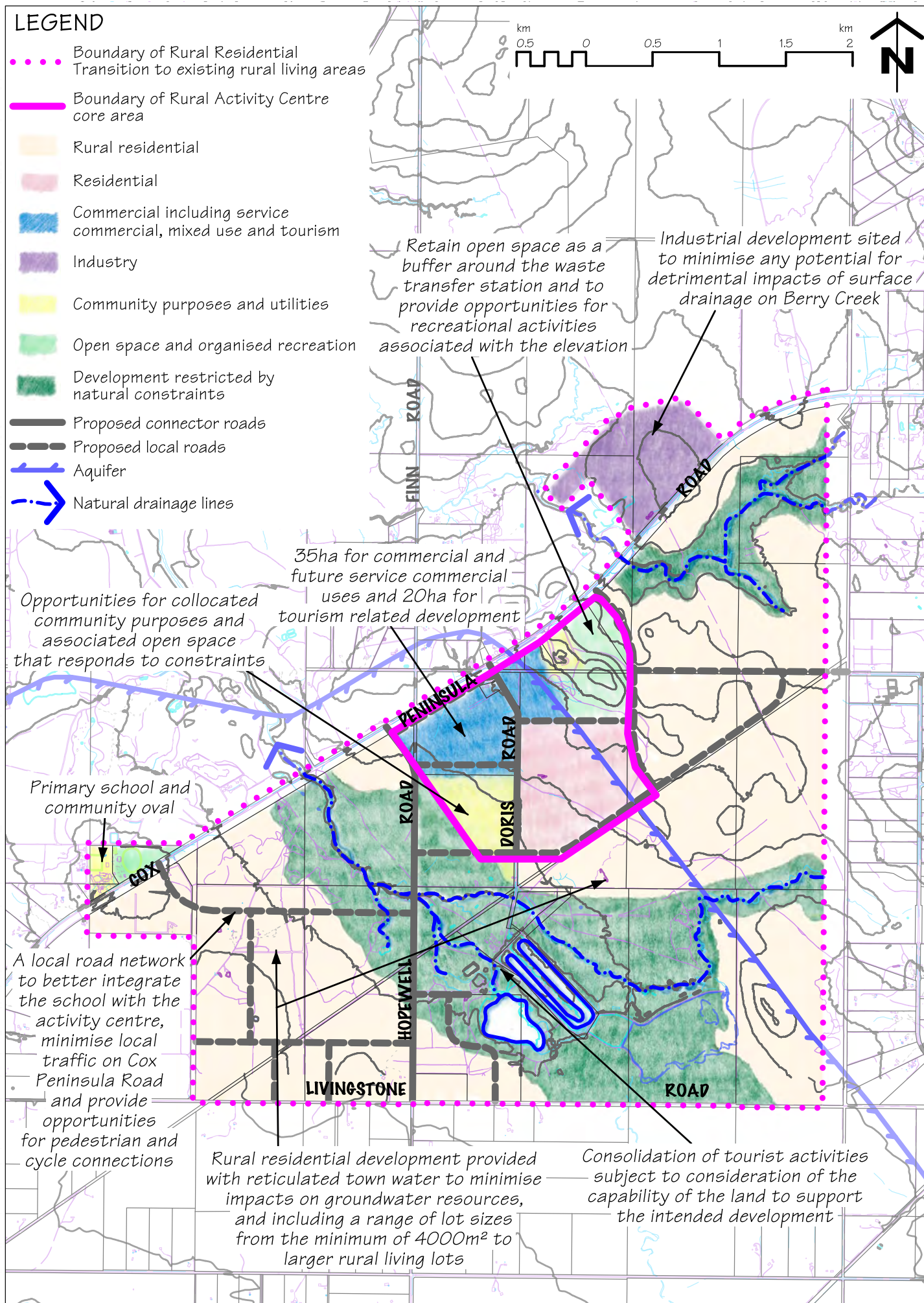
## REGARDING INTERCONNECTED LOCAL ROADS

- B2 To connect commercial and community facilities and residential areas, and minimise the impacts of local traffic on the arterial road network
- require internal local road links within the rural activity centre;
  - continuation of the service road to link Doris and Hopewell Roads; and
  - provide convenient pedestrian and cycle connections between nodes of activity.



*Bazza the Berry Buff*





## LAND USE CONCEPT FOR BERRY SPRINGS RURAL ACTIVITY CENTRE

# COOLALINGA RURAL ACTIVITY CENTRE

This rural activity centre has two distinct areas being the commercial centre at the north, and the recreation and community uses at the south.

The old North Australia Railway corridor can function as a 'spine' linking the two areas.

## COOLALINGA

Coolalinga continues to develop within the existing commercial zoning either side of the Stuart Highway. Commercial development can be expected to continue to grow inline with Litchfield's population and volume of passing traffic.

Coolalinga is in transition. Already a successful centre with a major supermarket, community services and public transport; commercial expansion will drive land use change. The demand for urban residential close to a growing range of services and facilities will bring redevelopment opportunities for private land within the rural activity centre.

Undeveloped Crown land north of the Highway has the capacity to extend the range of housing options supported by the commercial growth on that side.

The land use concept (opposite page) proposes rural residential as a buffer between urban land uses and the rural areas adjacent to the rural activity centre. Also, the old North Australian Railway corridor acts as a buffer in some locations.

The residential capacity of Crown land and undeveloped private land has the potential to underpin the provision of urban services.

The concept plan has a residential lot yield in the order of 50 multiple or small-lot dwellings, 500 urban lots and 150 rural residential lots.

## FREDS PASS

To the southeast Freds Pass offers regional facilities for organised recreation and community land uses; primarily for future education and sports facilities.

The difficulty and associated cost of providing reticulated sewerage to Freds Pass precludes urban development in the foreseeable future.

The only commercial land in Freds Pass is the Zone TC (Tourist Commercial) site on Bees Creek Road. This is an opportunity for a caravan park or similar tourist facility providing accommodation during major sporting events.

The concept plan identifies the future potential for areas of rural residential lots south of Freds Pass taking advantage of access to town water and proximity to the community facilities. Over time approximately 80 rural residential lots could be developed west of the Highway and 200 lots east of the Highway.

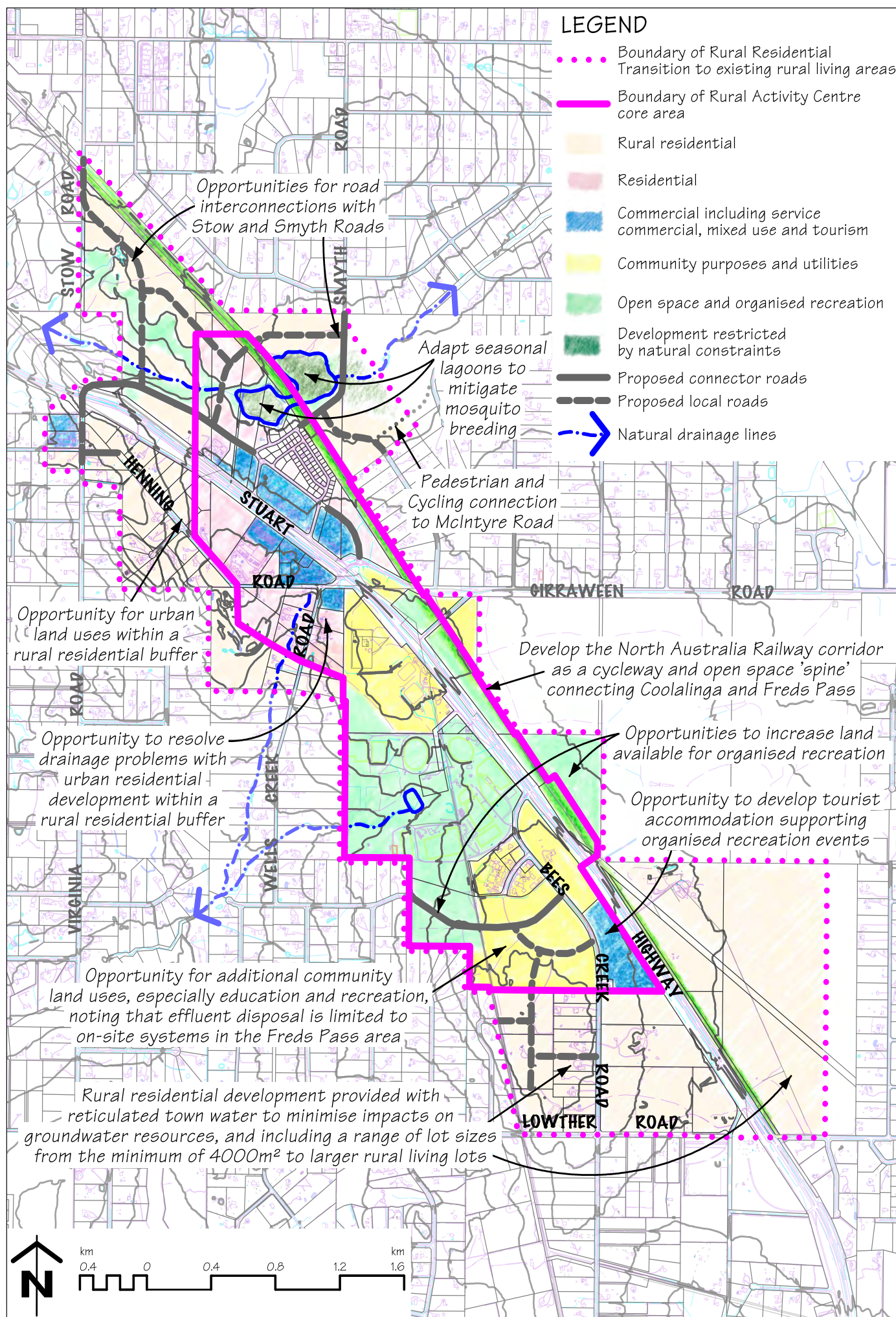
The following statements of policy relate specifically to Coolalinga and Freds Pass Rural Activity Centre.

## MOSQUITO BREEDING SITES

- C1 Integrate urban residential areas in Coolalinga with the existing lagoons as public open space and mitigate mosquito breeding.
- adapt lagoon edges and implement stormwater management to mitigate mosquito breeding; and
  - enhance the environment of the lagoons to serve as public open space.







## LAND USE CONCEPT FOR COOLALINGA AND FRED'S PASS RURAL ACTIVITY CENTRE

# HOWARD SPRINGS RURAL ACTIVITY CENTRE

The Howard Springs Rural Activity Centre is located 9 km east of the Palmerston CBD. It is characterised by the small commercial centre and local community facilities that serve the surrounding rural area.

There is an opportunity to increase the diversity of housing options in the centre, including a small area of urban-scale growth in the immediate vicinity of the commercial zone.

The locality plan (opposite page) shows the extent of the rural activity centre and its location in the Howard Springs neighbourhood. The future local road connections via Madsen Road to Howard Springs Road and via Smyth Road to Coolalinga are shown; and future cycleway linkages are indicated. More detailed information on future land use change within the rural activity centre is provided by the Area Plan in the Planning Scheme.

In March 2018 the Planning Principles and Area Plan for the Howard Springs Rural Activity centre were introduced to Part 8 of the Planning Scheme. The Area Plan was developed with the community to support a moderate level of growth. The future land use changes identified by the Area Plan will accommodate approximately 200 dwellings and an increased commercial area. Almost all land subject to the Area Plan is in private ownership and opportunities for growth will rest on the aspirations of individual land owners.

## MOSQUITO BREEDING SITES

HS1 To mitigate the impacts of biting insects on urban development in the rural activity centre

- locate urban residential subdivision in accordance with the requirements of Medical Entomology;
- require caution notices to be placed on all effected urban lots advising of the likelihood of high seasonal mosquito problems; and
- identify and implement engineering works required to mitigate mosquito breeding in Wadham Lagoon.

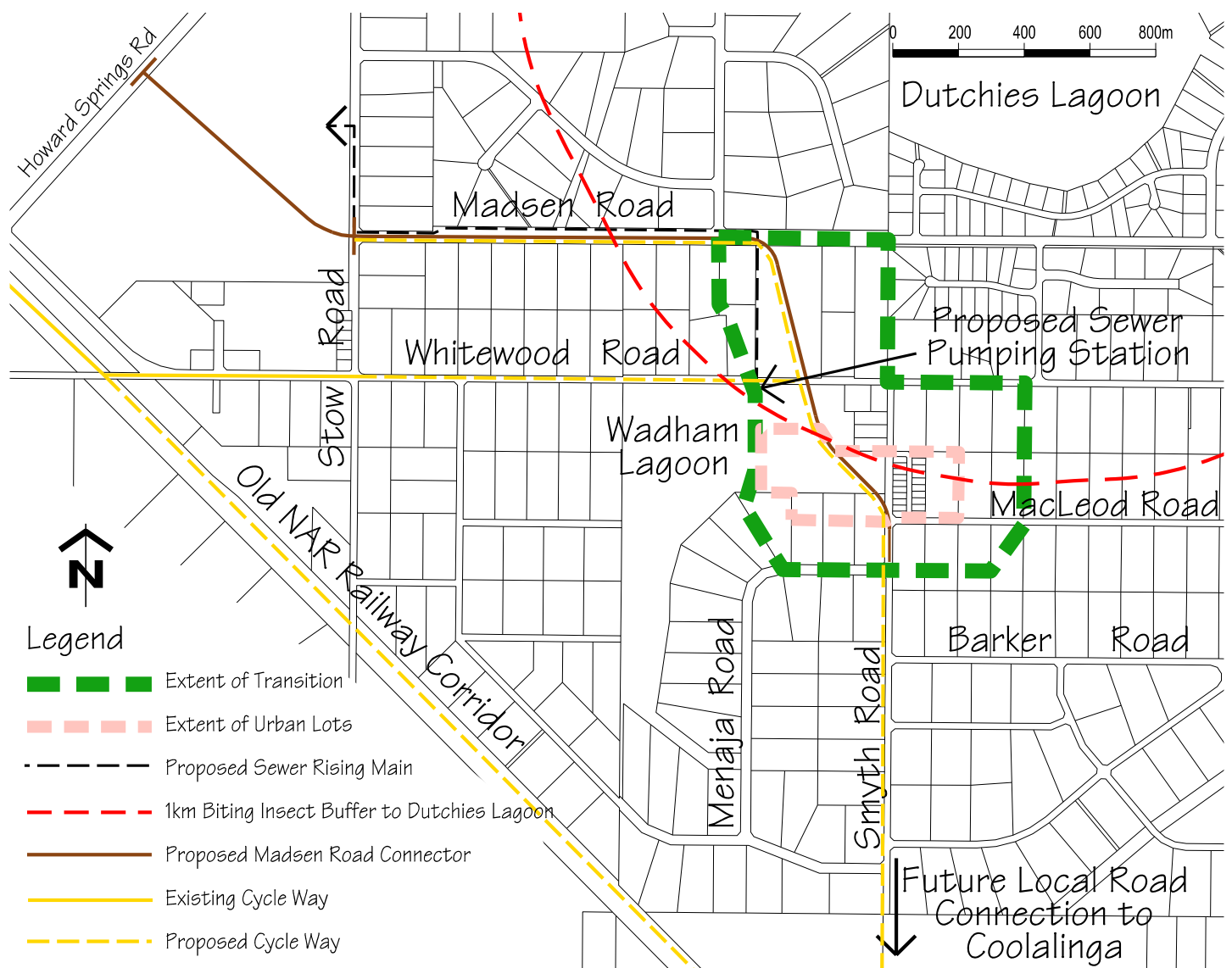
## COMMERCIAL CENTRE

HS2 To provide for an increased diversity of uses

- integrate future urban residential development with existing commercial uses; and
- promote compact and mixed-use development.







## LOCALITY PLAN FOR HOWARD SPRINGS RURAL ACTIVITY CENTRE

# HUMPTY DOO RURAL ACTIVITY CENTRE

The Humpty Doo Rural Activity Centre has supported a large proportion of commercial, community, industrial and residential development. The range of activities demonstrate the opportunities created by the provision of reticulated water and sewer. However, development has taken up current capacity, and future growth will require expansion of additional services.

Opportunities for development include undeveloped portions of private and Crown land in close proximity to the centre for increased local community and commercial facilities. New housing options have the potential to enhance the viability of community services and facilities, in addition to infrastructure upgrades.

The centre is characterised by a series of low ridges and depressions. Edwin, Horns and Bees Creeks provide the few natural drainage lines and as such, future development will be required to manage drainage to minimise impacts on lagoons and wetland systems.

Legacies from historic uses within Humpty Doo centre provide barriers to development, notably the old Humpty Doo dump site and extractive pits. Buffers to trunk infrastructure are also a constraint to development.

The Arnhem Highway is an important component of the arterial network serving Litchfield and beyond. Interconnected local road networks and controlled access points aim to reduce the impacts of growth to traffic movement, including closure of direct property access where alternative access is available.

The concept plan (opposite page) has a residential lot yield in the order of 80 multiple or small-lot dwellings, 300 urban lots and 875 rural residential lots.

## TRAFFIC AND CONNECTIVITY

**HD1** Minimise the impacts of local traffic on the arterial road network.

- require interconnected local road networks north and south of the Arnhem Highway connected to the Highway at identified access points;
- avoid direct property access to the Stuart and Arnhem highways; and
- provide for the future widening of the Arnhem Highway.

## INFRASTRUCTURE

**HD2** Provide for the expansion of infrastructure to meet projected demand and manage the potential for conflict with future development.

- identify and retain land to accommodate water supply and sewerage infrastructure; and
- avoid land uses that could restrict operation of the waste stabilisation ponds, for example by excluding incompatible development from the odour buffer.

## REGARDING THE ENVIRONMENT

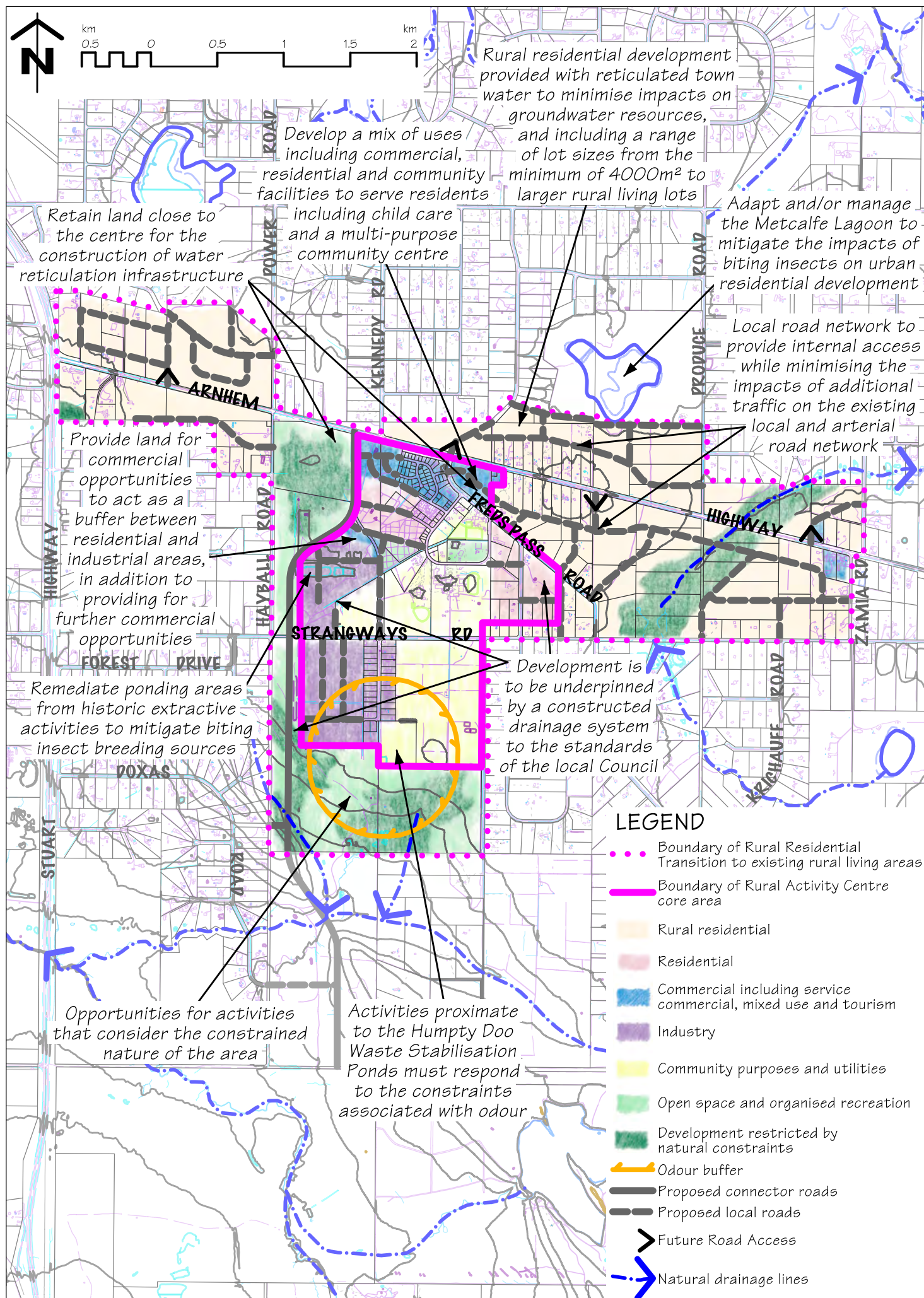
**HD3** Manage identified potential impacts on the environment and identified environment risks for residents.

- mitigate the residual hazards of the expired Humpty Doo dump site to facilitate identified future land uses;
- continue to evaluate the suitability of on-site effluent disposal systems; and
- adapt and manage biting insect sources such as McMinns Lagoon, Metcalfe Lagoon, Section 1725 wetland and extractive pits.



Humpty Doo





## LAND USE CONCEPT FOR HUMPTY DOO RURAL ACTIVITY CENTRE

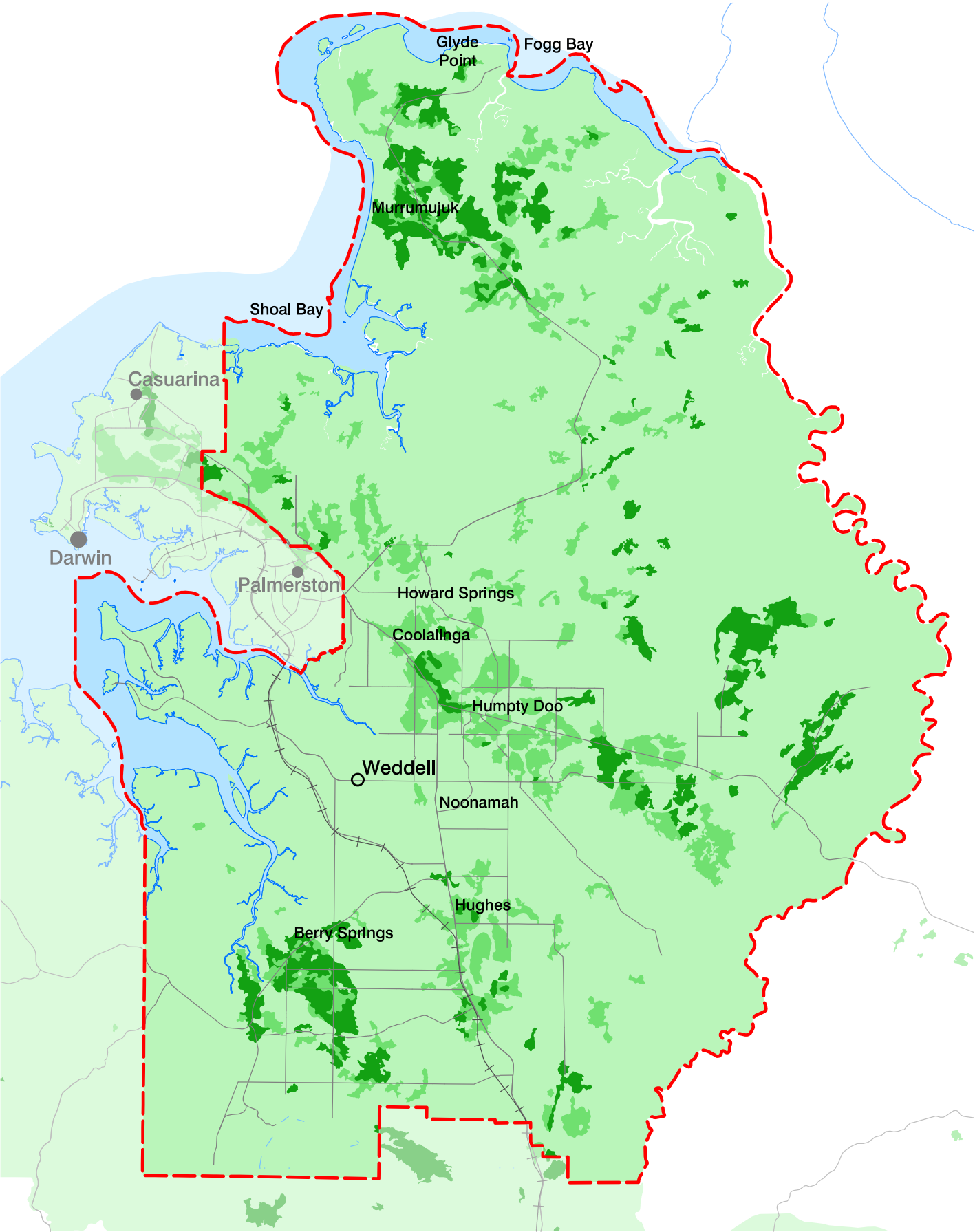




An aerial photograph of a rural landscape. The terrain is covered with dense green trees and vegetation. A network of reddish-brown dirt roads and a few paved roads crisscross the area. Several small, irregularly shaped ponds or lakes are visible, some with dark water and others with green algae. Small white buildings, likely houses or farm structures, are scattered throughout the landscape. The overall scene depicts a developing or semi-rural area.

# MAPS

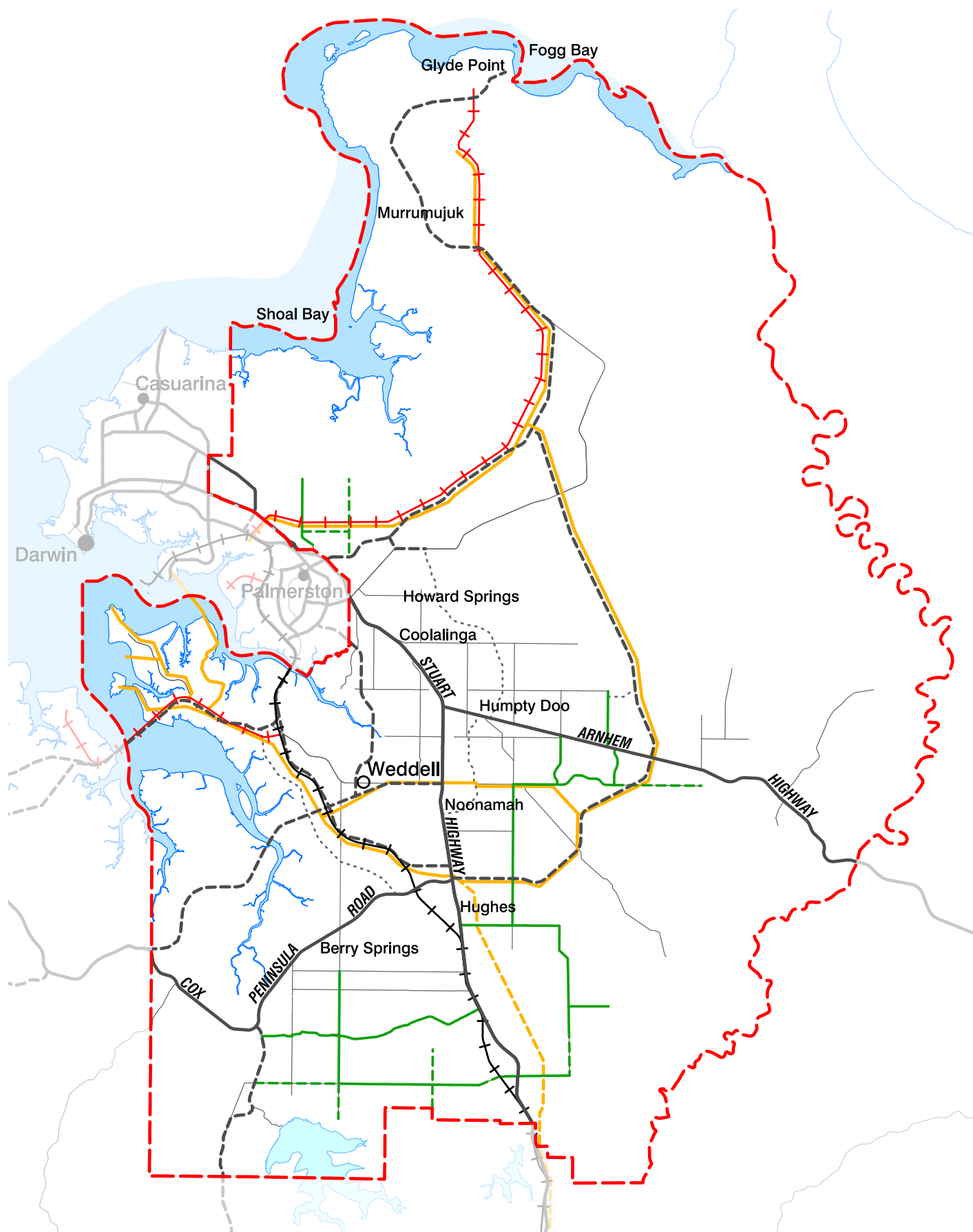




LEGEND

- Subregion Boundary
- High Perennial Horticultural Potential
- High Annual Horticultural Potential
- Low Horticultural Potential
- Ocean / Sea
- Road Centreline
- Railway

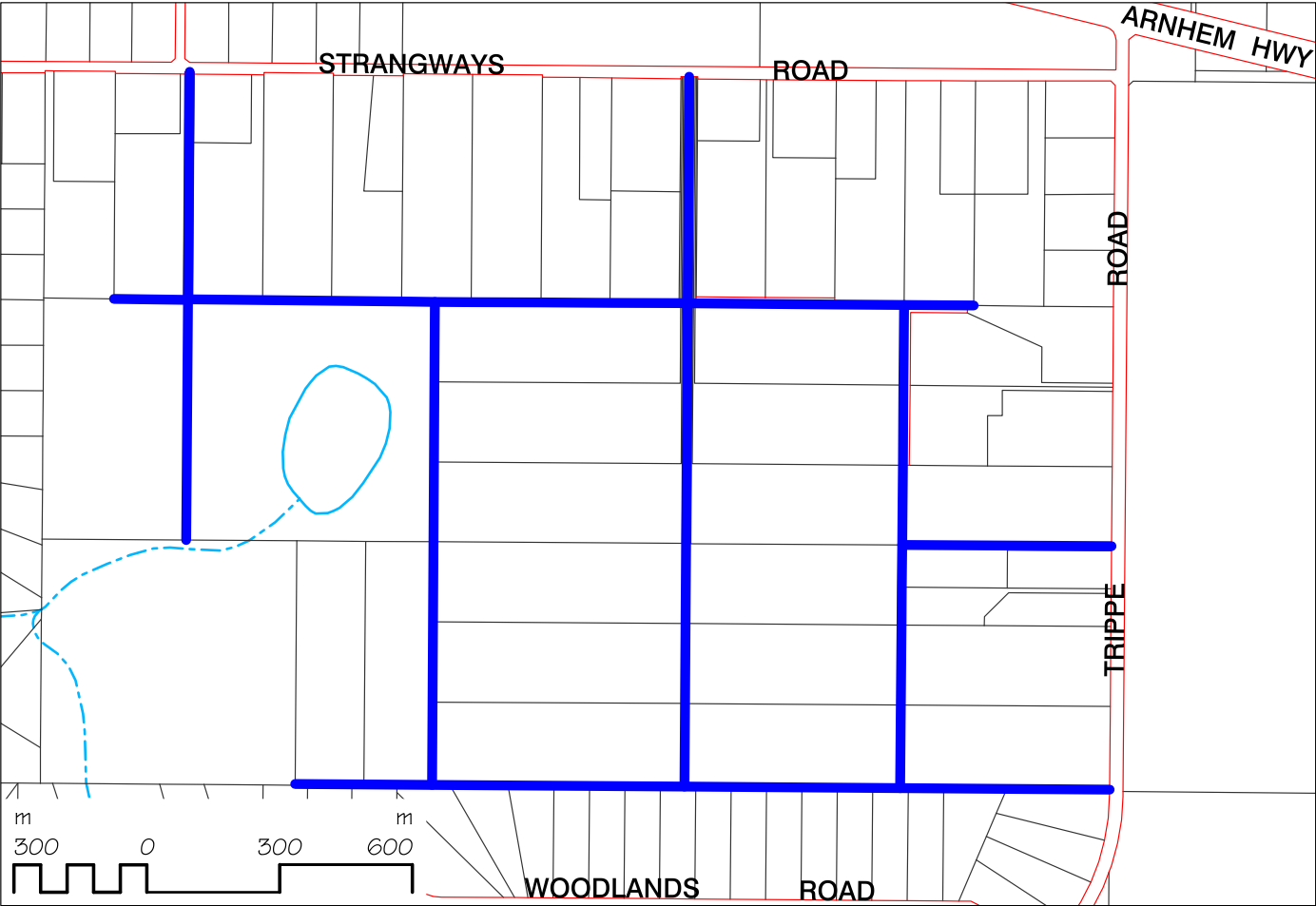
HORTICULTURAL POTENTIAL



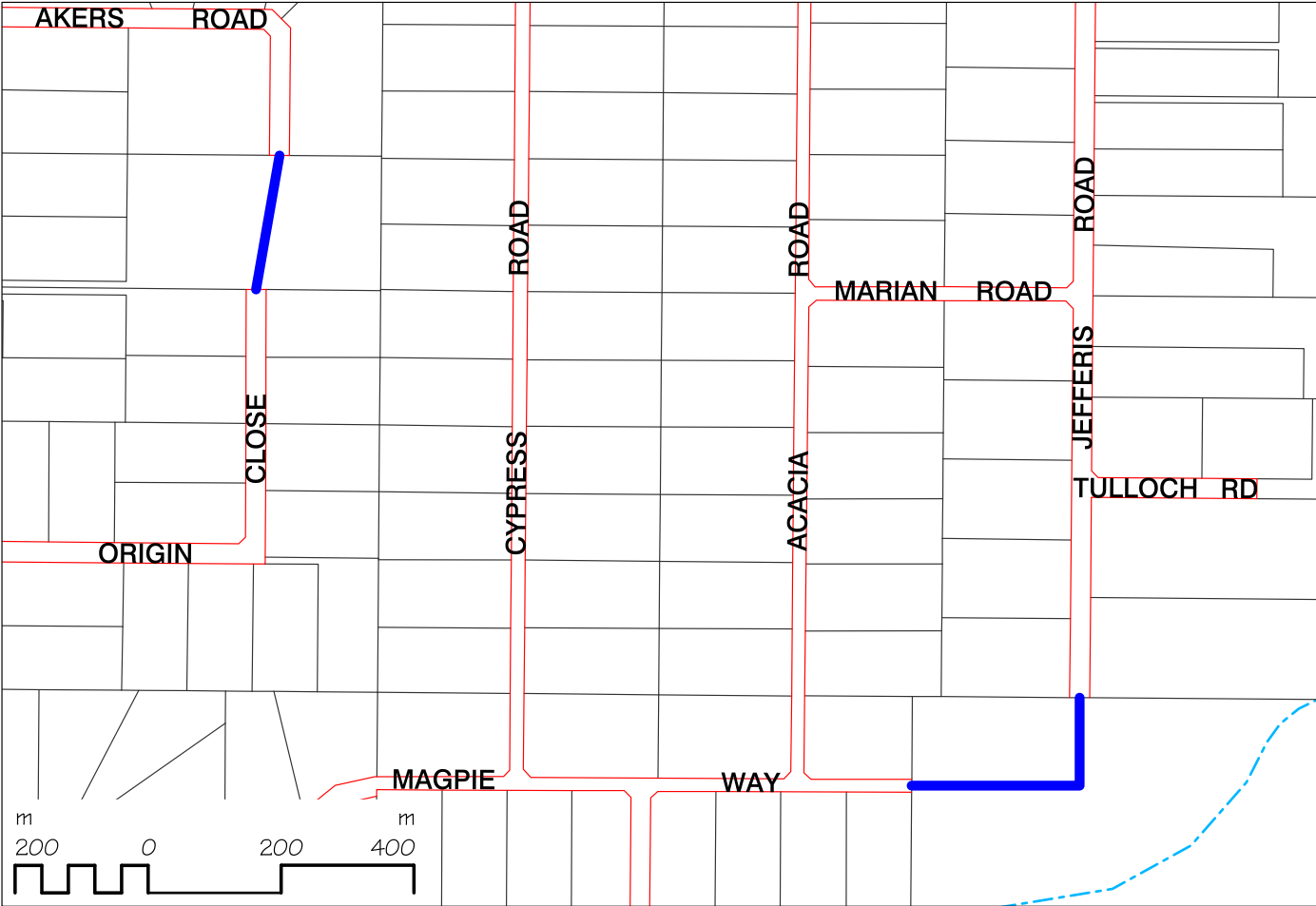
### LEGEND

- Subregion Boundary
- Existing Waterbody
- Ocean / Sea
- Existing / Planned Rail
- Existing / Planned Arterial Road and Transport Corridor
- Existing / Planned Collector Road
- Sealed / Unformed Heavy Vehicle Access Road
- Utility Corridor
- Amadeus Gas Pipeline
- Coastline

## MAIN ROADS

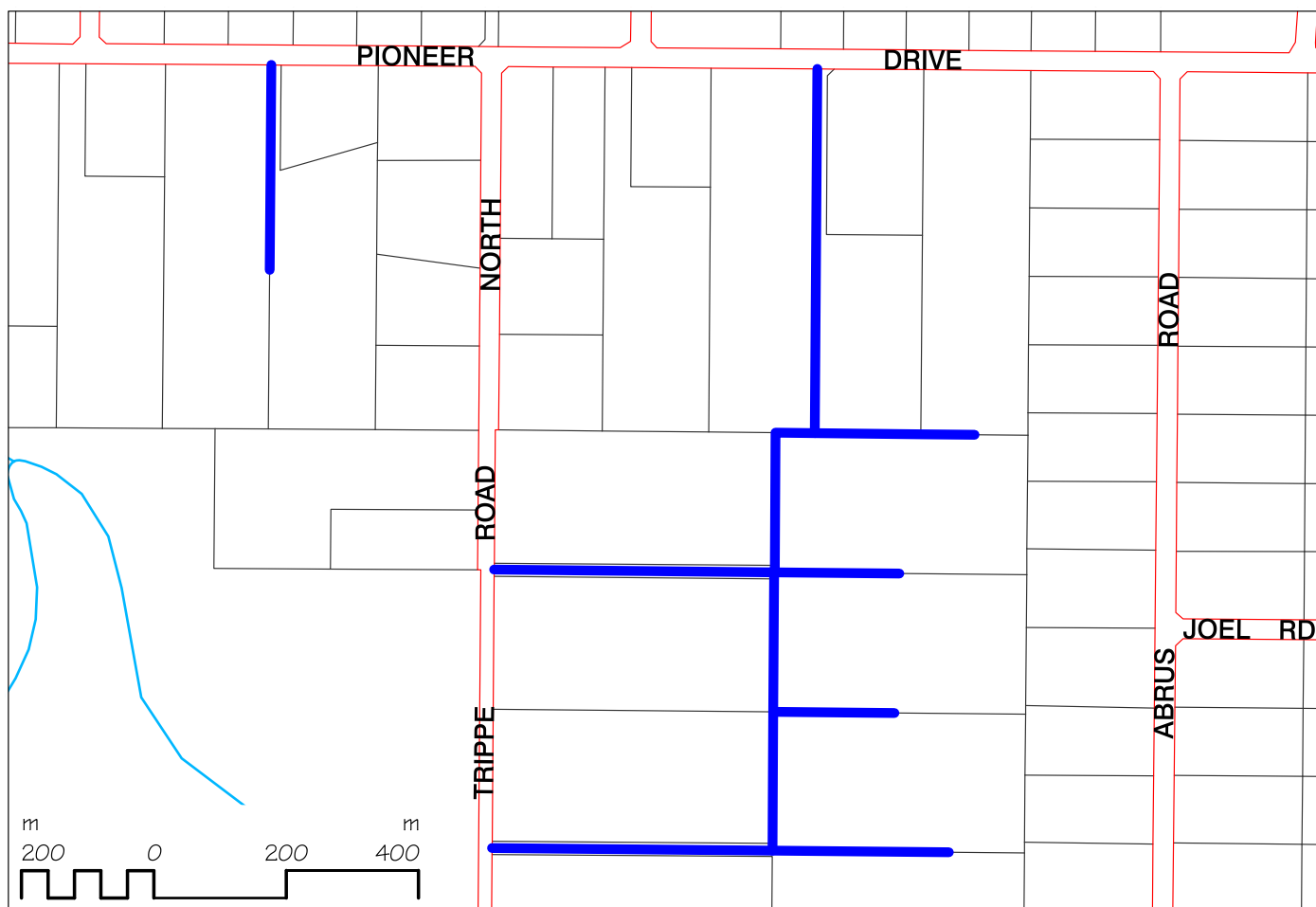


LOCAL ROAD NETWORKS - LOCALITY 1

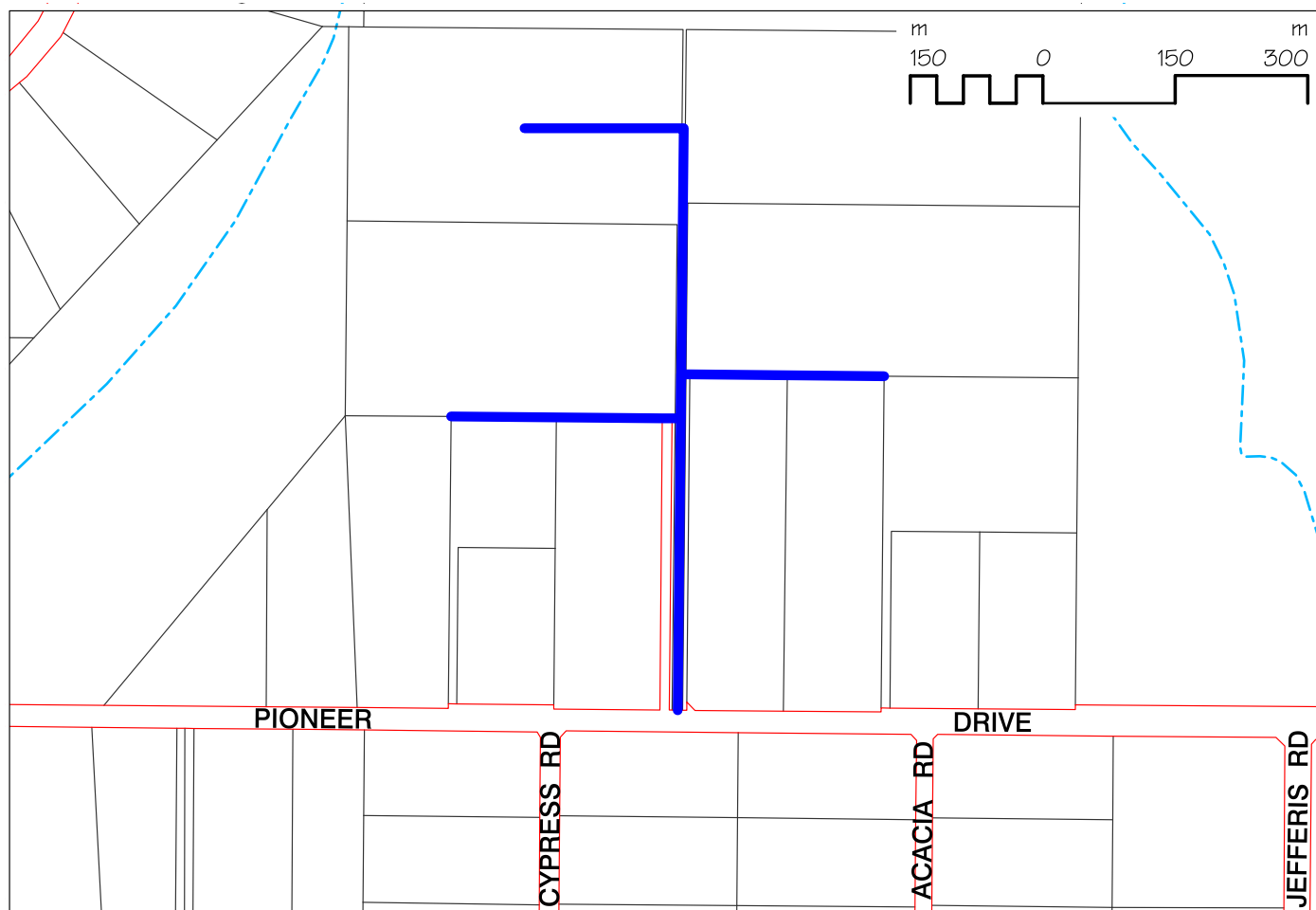


LOCAL ROAD NETWORKS - LOCALITY 2

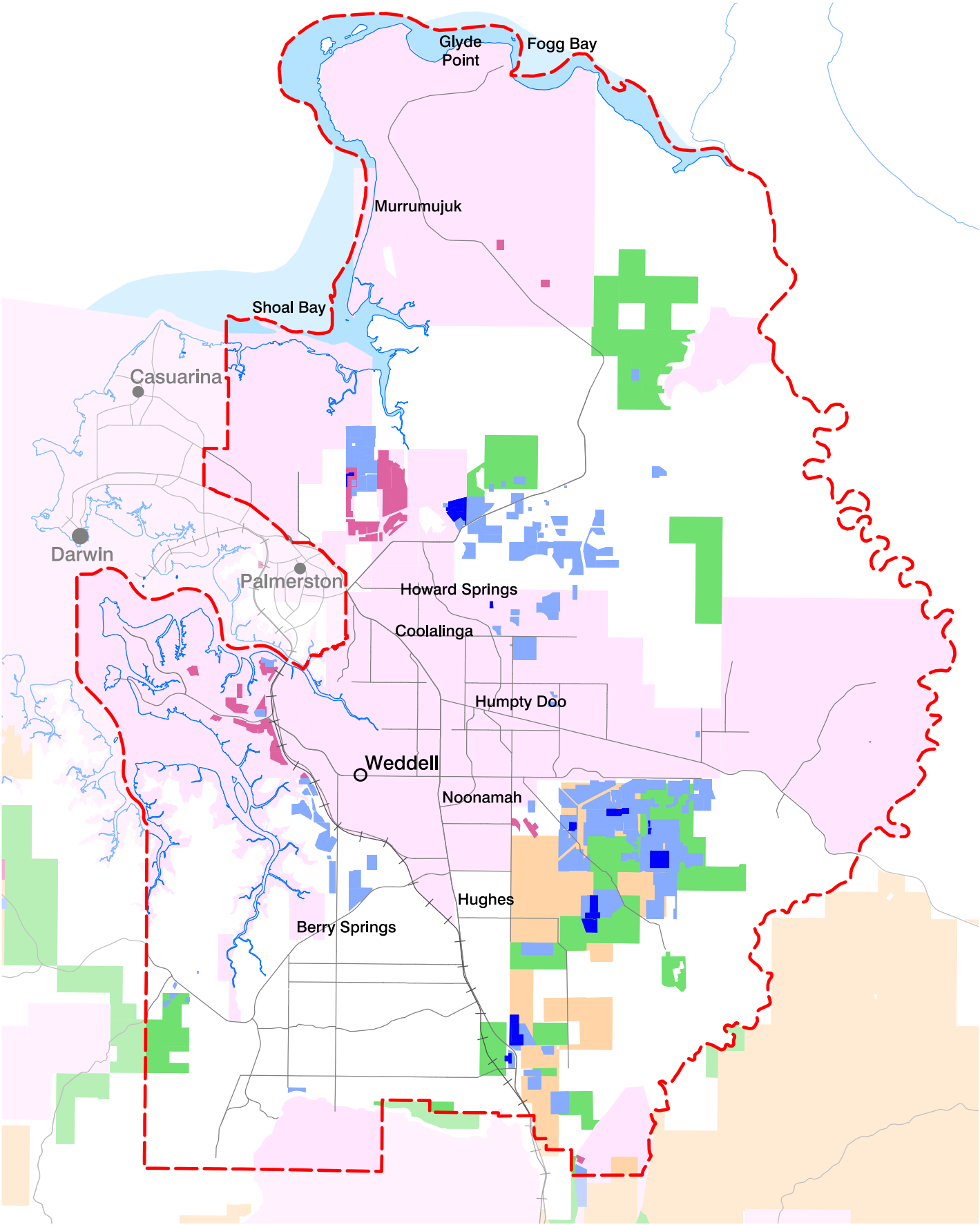




**LOCAL ROAD NETWORKS - LOCALITY 3**



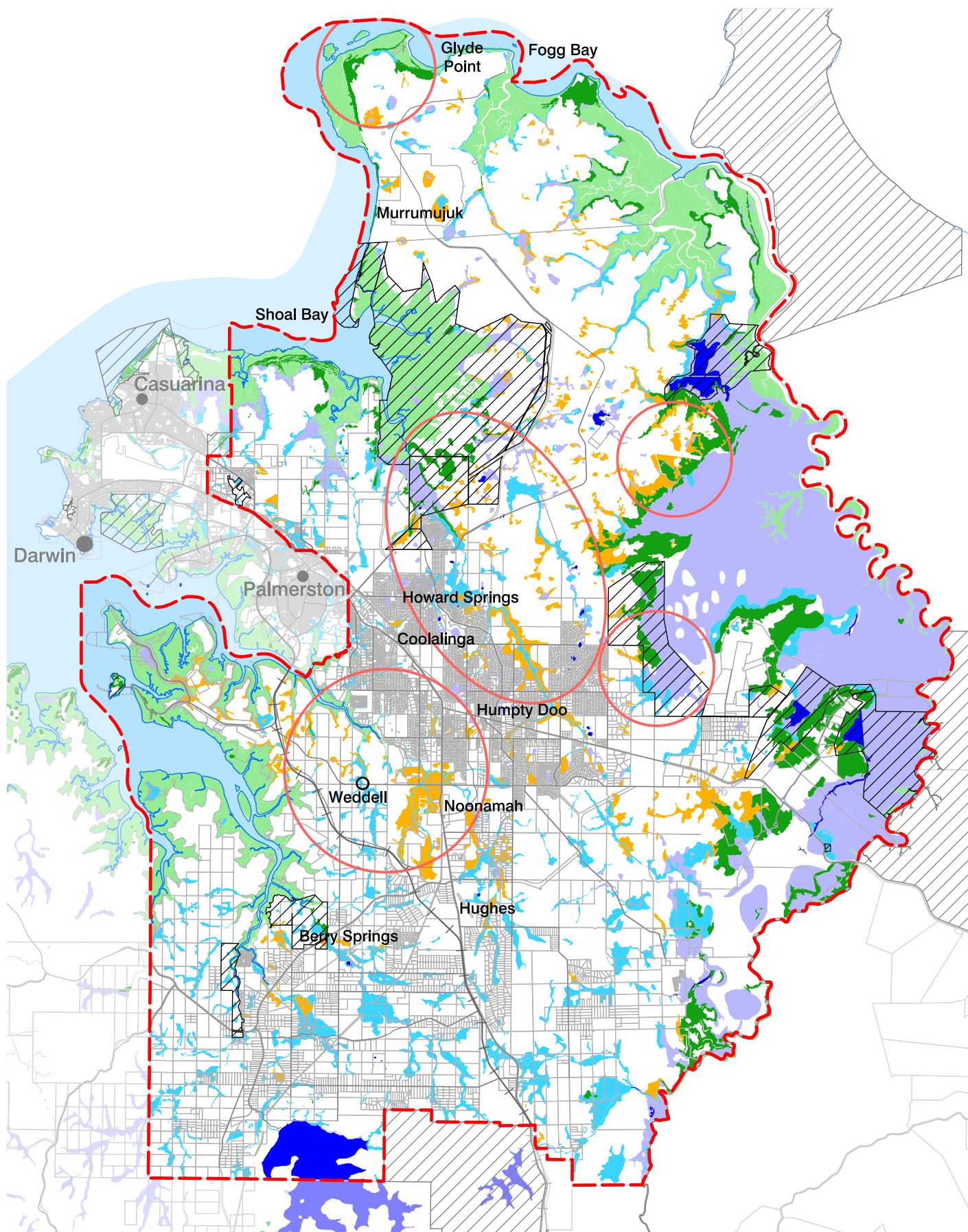
**LOCAL ROAD NETWORKS - LOCALITY 4**



**LEGEND**

- |  |                 |
|--|-----------------|
| Subregion Boundary                     | Ocean / Sea     |
| Extractive Mineral Exploration License | Road Centreline |
| Extractive Mineral Permit              | Railway         |
| Extractive Mineral License             | Coastline       |
| Mineral Lease                          |                 |
| Mineral Exploration License            |                 |
| Reserves From Mining                   |                 |

**MINERALS AND  
EXTRACTIVE MINERALS**



# LEGEND

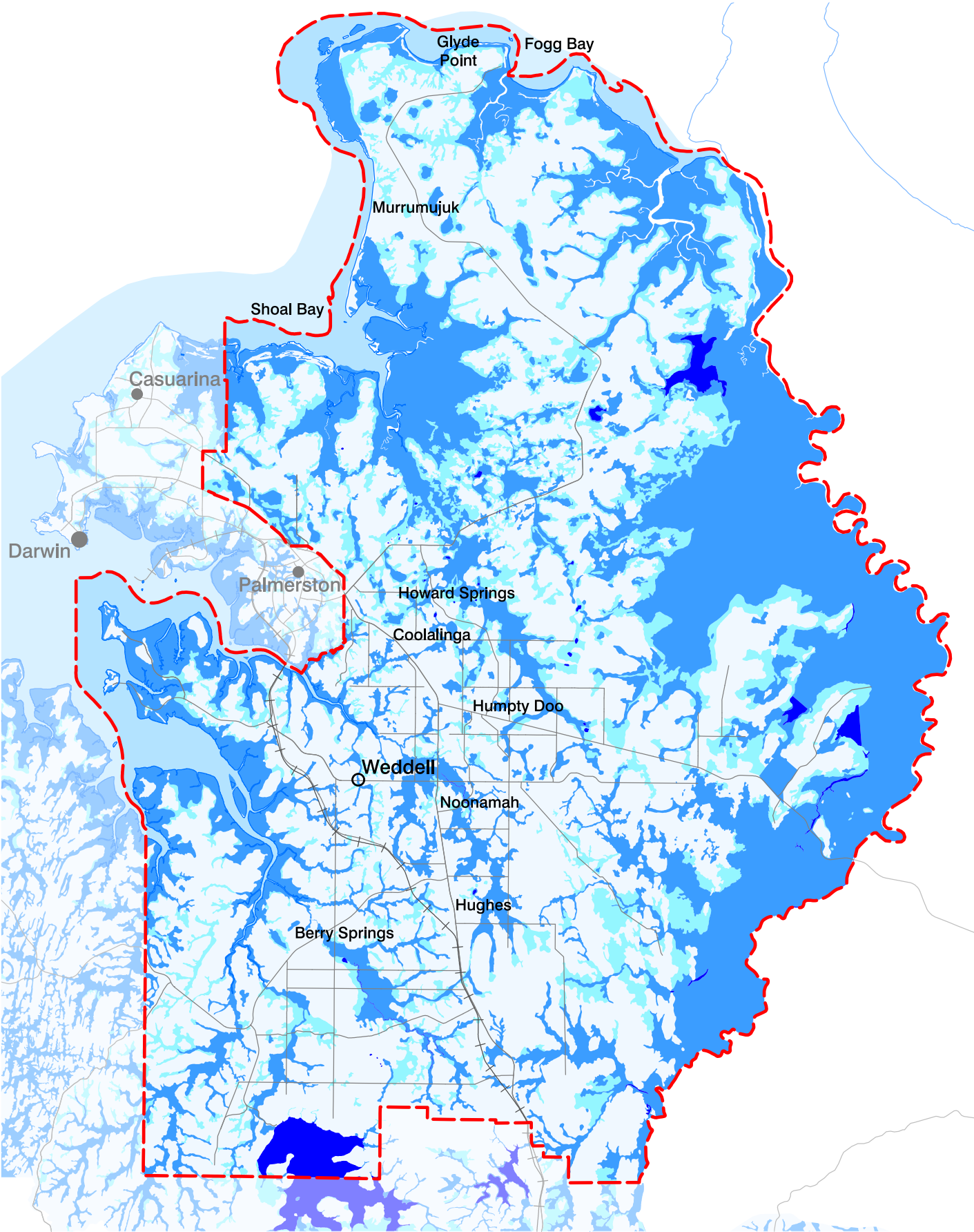
- Subregion Boundary
- Threatened Vegetation Concentration
- Rainforest
- Drainage and Riparian
- Sandsheet Heath
- Wetland
- Mangrove

- Parks and Reserves
- Ocean / Sea
- Cadastral Boundary
- Road Centreline
- Railway
- Coastline

## PRIORITY ENVIRONMENTAL MANAGEMENT AREAS

Data supplied by Department of Land Resource Management.  
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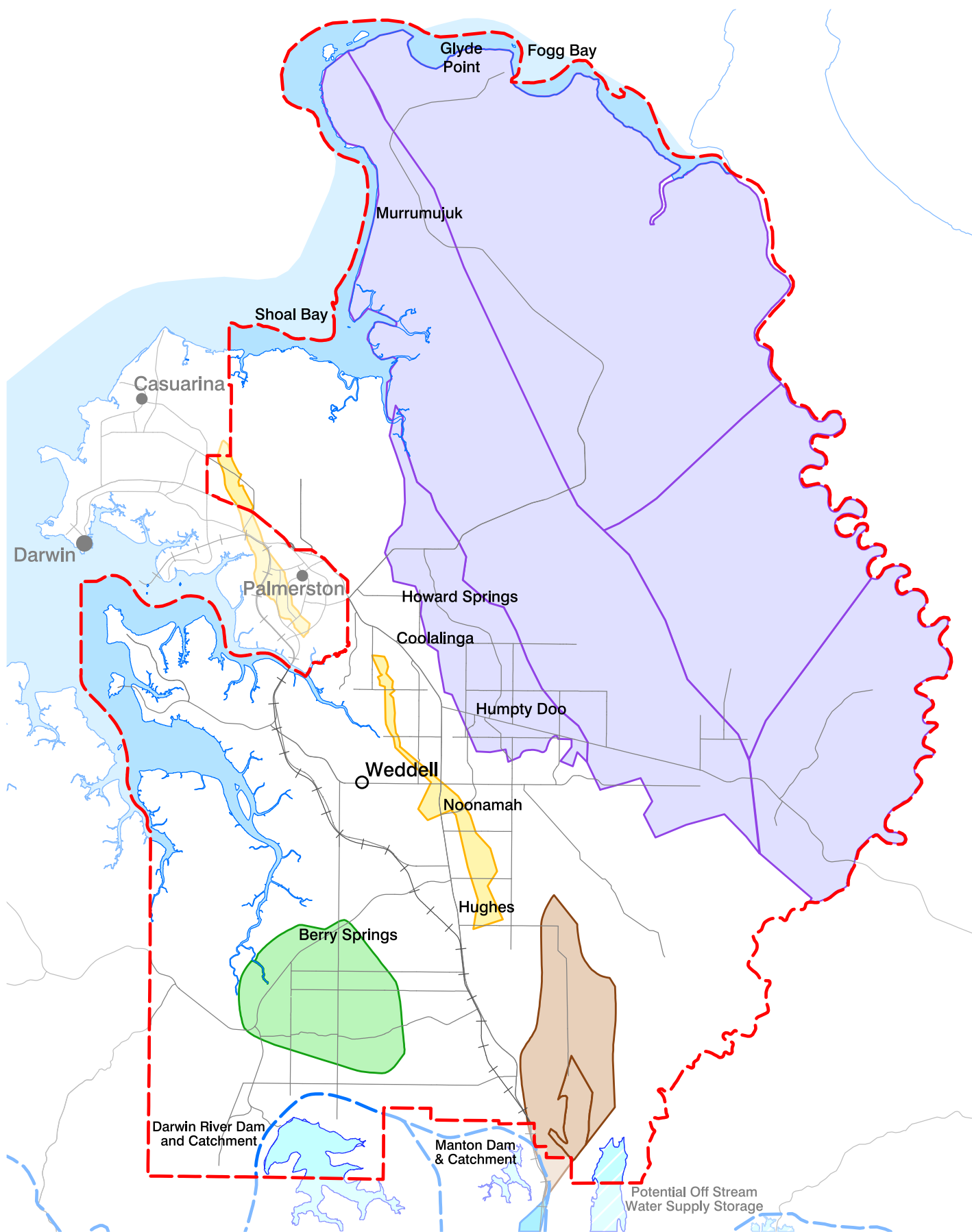




**LEGEND**

- Subregion Boundary
- Rapidly to Moderately Well Drained
- Imperfectly to Poorly Drained
- Poorly to Very Poorly Drained
- Waterbody
- Ocean / Sea
- Road Centreline

**SOIL DRAINAGE**



## LEGEND

- |  |   |
|--|---|
| <span style="border: 2px dashed red; padding: 2px;"> </span> Subregion Boundary  | <span style="background-color: lightblue; border: 1px solid blue; padding: 2px;"> </span> Existing Water Supply Storage   |
| <span style="background-color: purple; border: 1px solid purple; padding: 2px;"> </span> Koolpinyah Dolomite                       | <span style="background-color: lightblue; border: 1px dashed blue; padding: 2px;"> </span> Potential Water Supply Storage |
| <span style="background-color: green; border: 1px solid green; padding: 2px;"> </span> Berry Springs Dolomite                      | <span style="border: 2px dashed blue; padding: 2px;"> </span> Water Supply Catchment                                      |
| <span style="background-color: brown; border: 1px solid brown; padding: 2px;"> </span> Acacia Hills                                | <span style="background-color: lightblue; padding: 2px;"> </span> Ocean / Sea   |
| <span style="background-color: yellow; border: 1px solid yellow; padding: 2px;"> </span> Knuckey, Palmerston and Virginia Dolomite | <span style="border-bottom: 1px solid grey; padding: 2px;"> </span> Road Centreline                                       |
|  | <span style="border-bottom: 1px dashed grey; padding: 2px;"> </span> Railway  |
|  | <span style="border-bottom: 1px solid blue; padding: 2px;"> </span> Coastline   |

## WATER RESOURCES





# USEFUL TERMS

<b>Activity centre</b>	a place with vital community services and facilities to meet day to day needs. Can include shops, banks, offices, restaurants, cafes, parks schools and a variety of housing types
<b>Amenity</b>	the pleasant or normally satisfactory aspects of a location which contribute to its overall character and the enjoyment by residents or visitors
<b>Community facilities and services</b>	includes schools, halls, libraries, childcare centres, police and fire stations, medical services, religious facilities
<b>Land suitability</b>	is the fitness of a given area for a land utilisation type (or land use), or the degree to which it satisfies the land user. It is generally presented as a class or rating. See NT Land Suitability Guidelines 2013.
<b>Peri-urban</b>	also known as semi-rural, an area with both urban and rural characteristics
<b>Public open space</b>	areas of land reserved for green space and/ or natural environments and intended for use for recreation (active or passive) by the general public
<b>Reticulated services</b>	electricity, water, sewer, drainage and/or telecommunications infrastructure that connects individual parcels of land to major supply or treatment utilities
<b>Rural activity centre</b>	also known as a district centre or village centre, a place with vital community services and facilities to meet day to day needs. Can include shops, banks, offices, restaurants, cafes, parks, schools and a variety of housing types
<b>Rural (lifestyle) area</b>	residential lots outside rural activity centres. Lots are most likely to be serviced with ground water (via a bore) but may be connected to reticulated water.
<b>Rural residential</b>	residential lots (minium 4000 m <sup>2</sup> in rural residential tranistion areas, otherwise 1 ha in Litchfield) that are connected to reticulated services, other than sewerage.
<b>Seasonal waterlogging</b>	soils that become waterlogged during the wet season
<b>Social infrastructure</b>	infrastructure supporting social service requirements, including schools, community centres, public open spaces, organised recreation facilities, community health services and childcare centres
<b>Transport corridor</b>	road or reservation containing high frequency public transport
<b>Urban residential</b>	units, towns houses and single dwellings that are connected to reticulated services including sewerage
<b>Walkable Catchment</b>	400 metres or a 5 minute walkable catchment is generally considered a comfortable walking distance. A comfortable walking distance varies, and can also be assessed based on an individual's willingness to walk, the weather, aesthetics, attractiveness, directness and safety of the walking route and the facilities at the destination

