



YARRABILBA

MIBA NORTH CONTEXT PLANNING AREA STRATEGY

PRECINCT 2A & PART OF PRECINCT 5

Lendlease
KN Group
SLR
BPS

Design Flow
Natura
RPS
Stantec

Date: August 2021

AMENDED IN RED

By: Gabrielle Shepherd

Date: 14 September 2021



The Earthworks and Stormwater IMPs, and the Total Water Cycle Management Strategy OSS will need to be updated with respect to the drainage line to reflect the current State Planning Policy outcomes prior to the first ROL

COMPLIANCE ENDORSEMENT
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2011/187

Date: 15 September 2021



Document Information

Project Name: MIBA North (Precinct 2A & Part of Precinct 5), Yarrabilba
Reference: PR124141
Document Title: Context Planning Area Strategy
Contact: Lyndelle Seymour / Gavin Edwards (RPS)

Version History

Version	Date	Purpose	Author	Reviewer	Approval Date
A	17 May 2021	Application Lodgement	RPS	Lendlease	17 May 2021
B	12 August 2021	Further Advice Response	RPS	Lendlease	13 August 2021

PRECINCT OVERVIEW

MIBA North is the first entirely non-residential Precinct at Yarrabilba and is the fifth Precinct of the community to be developed. MIBA North comprises Precinct 2A and Part of Precinct 5, having a total area of approximately 20 ha and is located directly south of Precinct 1. An extension of Wongawallan Drive will provide access to MIBA North. To the west of MIBA North is Waterford Tamborine Road.

MIBA North represents the first release area within the MIBA precinct, allowing MIBA development to be brought to market in a timely manner. Future context planning will be undertaken for the balance of the MIBA Precinct, being land to the south of MIBA North.

A locality plan is included at Figure 1.

The MIBA North precinct will deliver industrial, business park and commercial activities to the Yarrabilba community, supporting self-sufficiency in the South West Corridor of South East Queensland.

The rollout of MIBA North requires a pragmatic approach in response to the capability and demand available in the market, facilitating growth and evolution over time.

The key elements of MIBA North include:

- Establishing a development footprint of unconstrained land that can be developed efficiently to respond to market conditions
- Understanding the spatial setting of the development footprint within the broader MIBA Precinct.
- Ensuring appropriate interfaces and setbacks to adjoining natural features and physical corridors.
- Managing land uses to ensure appropriate acoustic and air quality environments are achieved within and beyond the Precinct.
- Ensure the orderly establishment of the internal Yarrabilba road network, including planning for future external road connections.

Purpose

This context planning area strategy has been prepared in accordance with Condition 7 of the whole of site MCU (DEV2011/187).

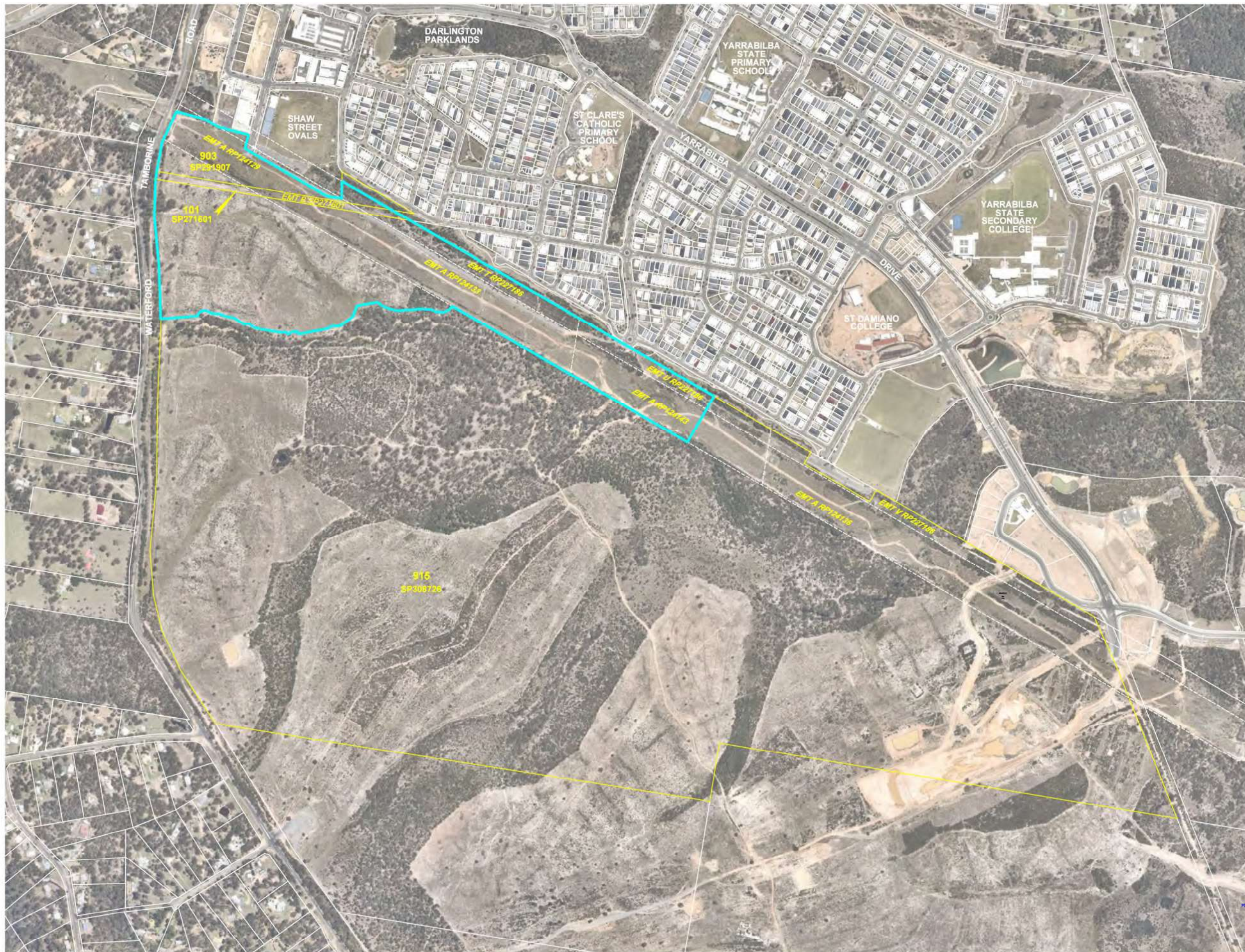
This strategy requires compliance assessment against Condition 11 of the approval.

Context Plans

A series of plans have been developed as follows:

1. Aerial Photo
2. Yarrabilba Precinct Plan
3. Location Plan (Current Zoning)
4. Location Plan (Proposed Future Zoning)
5. MIBA North Indicative Context Plan –Precinct 2A and Part of Precinct 5
6. Open Space and Linkages Plan
7. Constraints Plan

- YARRABILBA SITE BOUNDARY
- SUBJECT LOTS
- PROPOSED MIBA NORTH PRECINCT







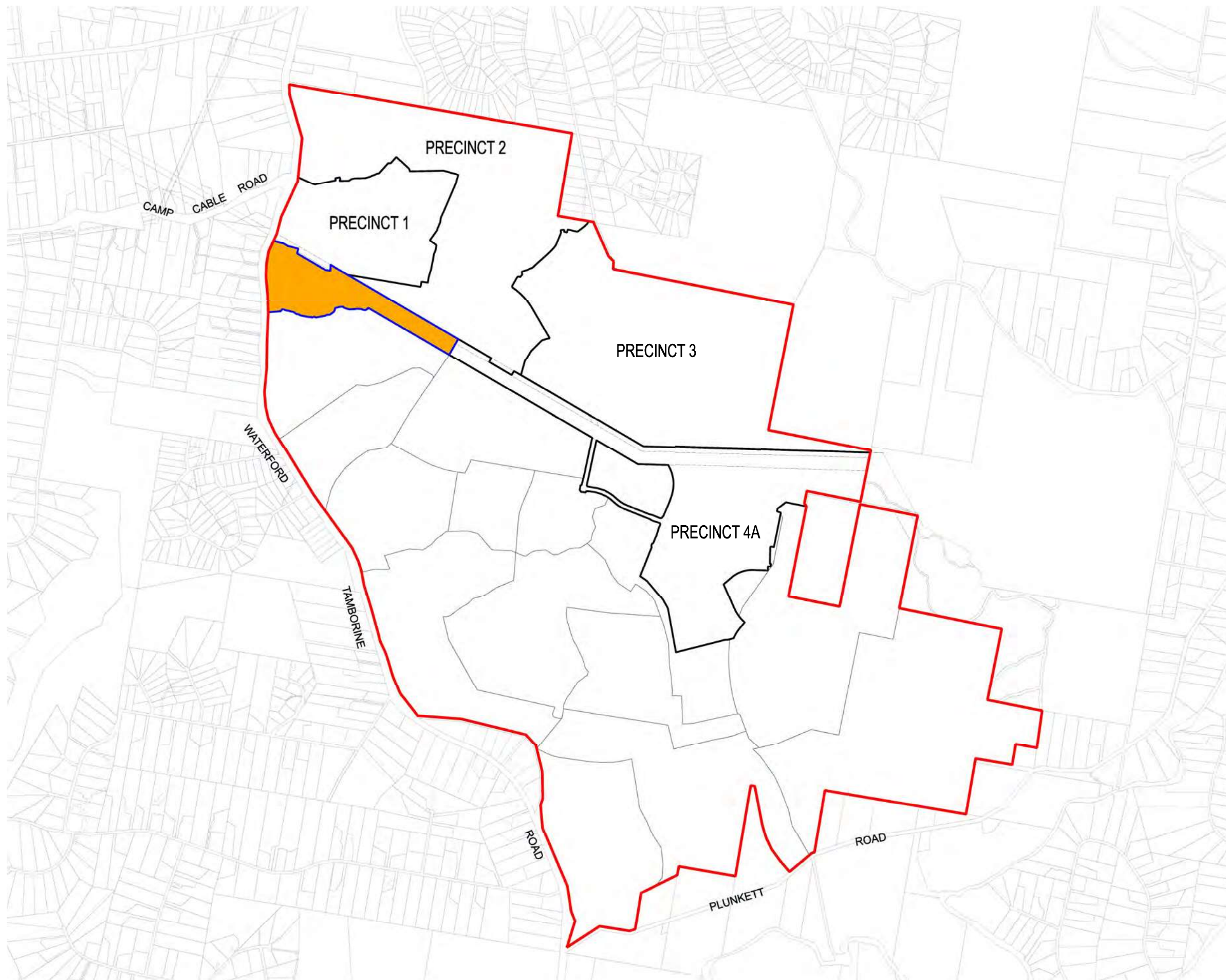
YARRABILBA MIBA NORTH PRECINCT - AERIAL PHOTO

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0 100 200 300 400 500m
Scale 1:10,000 at A3



-  YARRABILBA SITE BOUNDARY
-  PROPOSED MIBA NORTH PRECINCT
-  EXISTING PRECINCT BOUNDARIES
-  INDICATIVE FUTURE PRECINCT BOUNDARIES

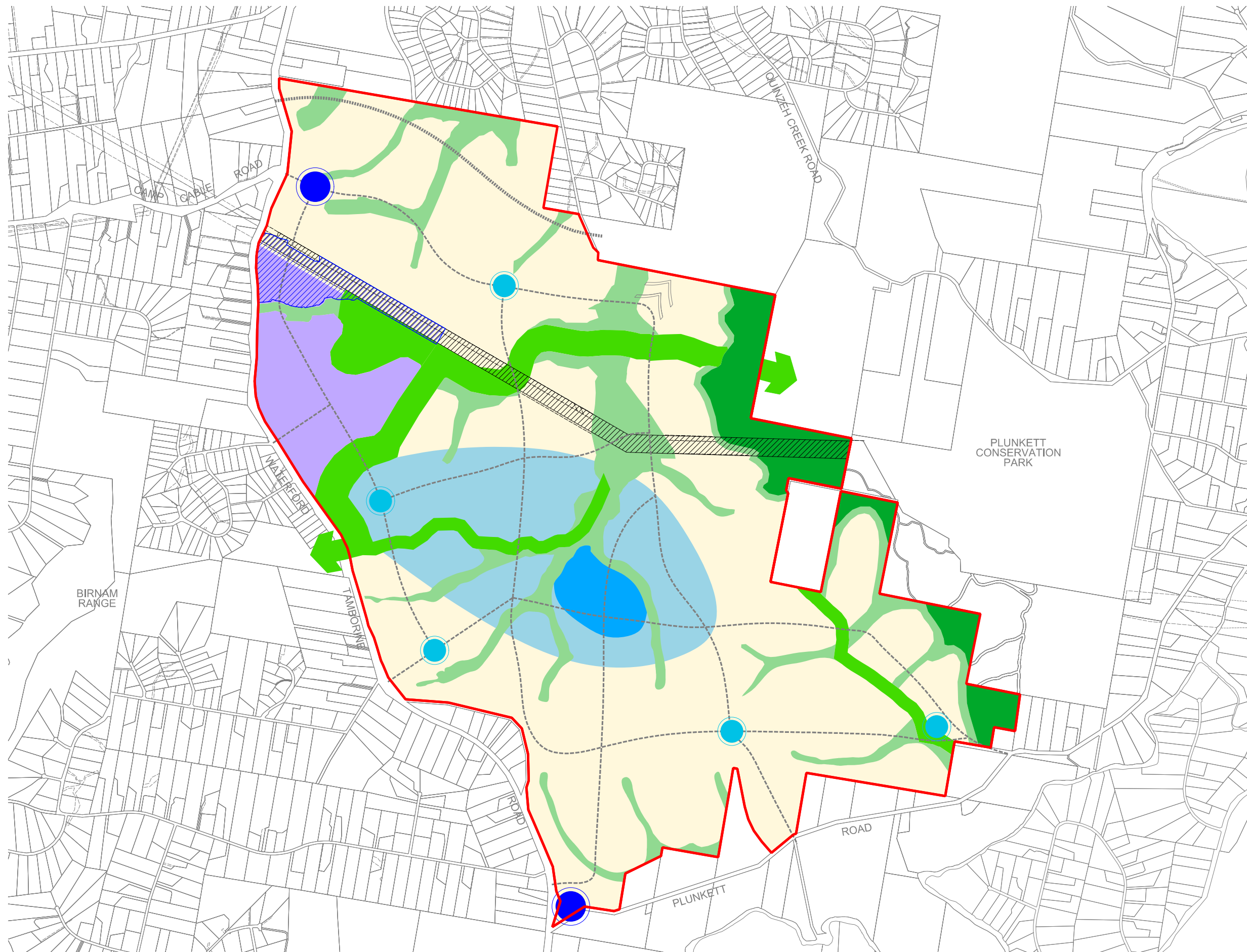



















YARRABILBA MIBA NORTH PRECINCT - PRECINCT PLAN CONTEXT

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0 300 600 900 1200 1500m
Scale 1:20,000 at A3





- LEGEND**
-  YARRABILBA SITE BOUNDARY
 -  MIBA NORTH PRECINCT
- ELEMENTS**
-  POTENTIAL GREEN SPACE
 -  FAUNA CORRIDOR
 -  TRANSMISSION EASEMENT
 -  DISTRICT CENTRE
 -  NEIGHBOURHOOD CENTRE
- TRANSPORT NETWORK**
-  REGIONAL ROAD
 -  PRIMARY ROAD
 -  EXISTING ROAD
 -  INDICATIVE MAJOR TRANSPORT CORRIDOR
 -  INDICATIVE FUTURE CONNECTION
- LAND USE**
-  URBAN LIVING
 -  MAJOR CENTRE CORE
 -  MAJOR CENTRE FRAME
 -  INDUSTRY AND BUSINESS
 -  ENVIRONMENTAL PROTECTION

SOURCE: MAP 8 ZONES - YARRABILBA PDA

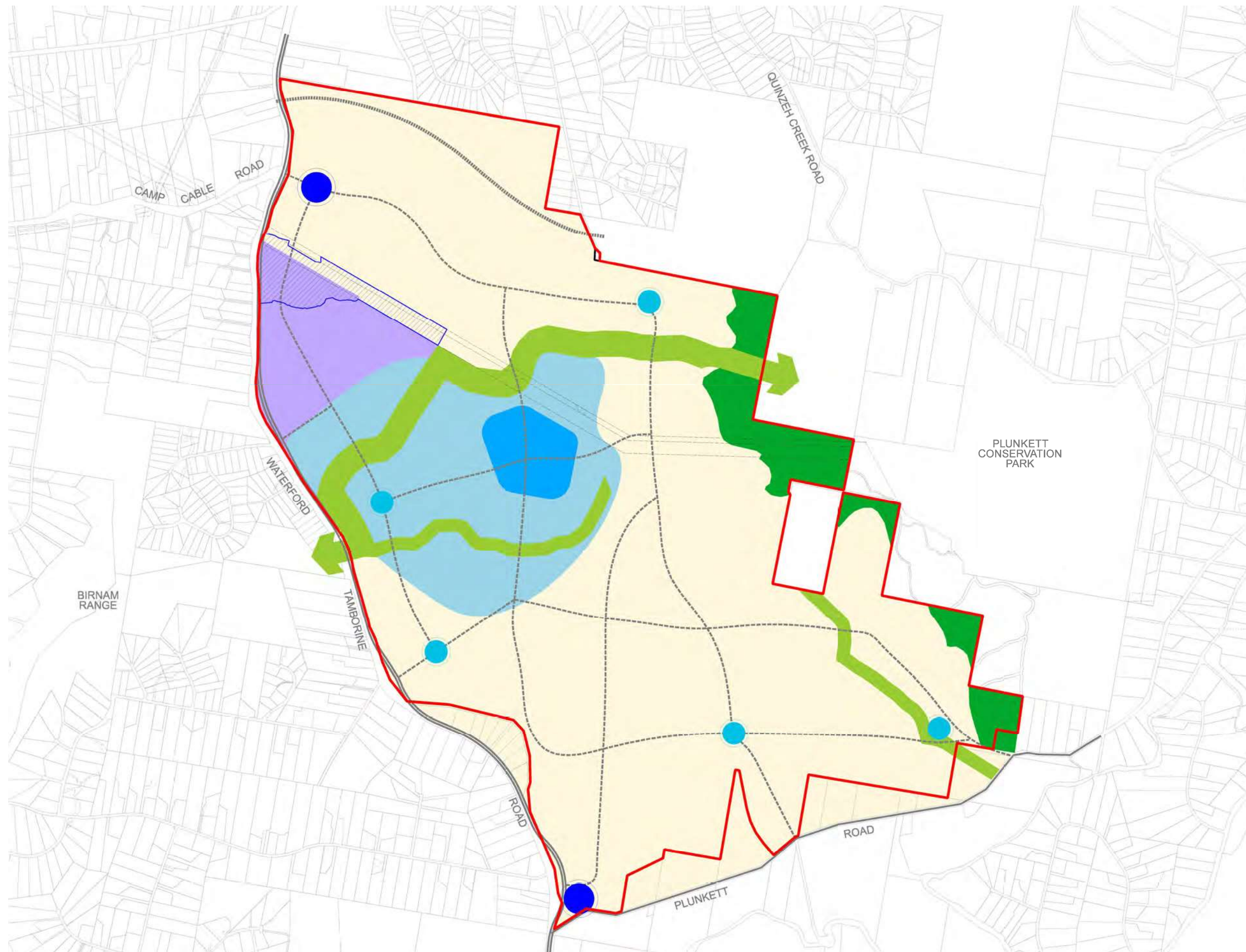
YARRABILBA - MIBA NORTH PRECINCT CONTEXT PLAN LOCATION - CURRENT ZONING

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LEGEND

-  YARRABILBA SITE BOUNDARY
-  MIBA NORTH PRECINCT
-  INFRASTRUCTURE EASEMENT
- LAND USE**
 -  URBAN LIVING ZONE
 -  MAJOR CENTRE ZONE (CORE)
 -  MAJOR CENTRE ZONE (FRAME)
 -  INDUSTRY AND BUSINESS ZONE
- ELEMENTS**
 -  FAUNA CORRIDOR
 -  ENVIRONMENTAL PROTECTION
 -  DISTRICT CENTRE
 -  NEIGHBOURHOOD CENTRE
- TRANSPORT NETWORK**
 -  PRIMARY ROAD
 -  INDICATIVE MAJOR TRANSPORT CORRIDOR



SOURCE: ZONING MAP WITH TOWN CENTRE CORE RELOCATION CURRENTLY IN PROCESS OF BEING REVISED

YARRABILBA - MIBA NORTH PRECINCT CONTEXT PLAN LOCATION

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- LEGEND**
- YARRABILBA SITE BOUNDARY
 - MIBA NORTH PRECINCT BOUNDARY
 - MIXED INDUSTRY AND BUSINESS AREA
 - INFRASTRUCTURE EASEMENT
 - ✱ STORM WATER QUALITY AND DRAINAGE
 - INFRASTRUCTURE EASEMENT
 - PRIMARY ROAD NETWORK
 - WATERFORD TAMBORINE ROAD WIDENING
 - WATERFORD TAMBORINE ROAD BUFFER/BATTER

TOTAL PRECINCT AREA	40.47 ha
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DISCLAIMER
 The context plan is intended to guide development within the Yarrabilba MIBA North Precinct area and show the preferred land use designations and structural elements. The context plan does not prescribe these designations and structural elements with complete accuracy and the final location will be determined through further detailed design and development applications.

NOTES
 The contents of this plan are conceptual only. All areas are approximate only and subject to relevant studies, survey, engineering and relevant authority approvals.



YARRABILBA - MIBA NORTH PRECINCT INDICATIVE CONTEXT PLAN

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 Scale 1:5,000 at A3



- LEGEND**
- YARRABILBA SITE BOUNDARY
 - MIBA NORTH PRECINCT BOUNDARY
 - MIXED INDUSTRY AND BUSINESS AREA
 - INFRASTRUCTURE EASEMENT
 -  STORM WATER QUALITY AND DRAINAGE
 - INFRASTRUCTURE EASEMENT
 - PRIMARY ROAD NETWORK
 - WATERFORD TAMBORINE ROAD WIDENING
 - WATERFORD TAMBORINE ROAD BUFFER/BATTER
 - LINEAR OPEN SPACE
 - KOALA HABITAT TO BE MANAGED
 - FAUNA CORRIDOR



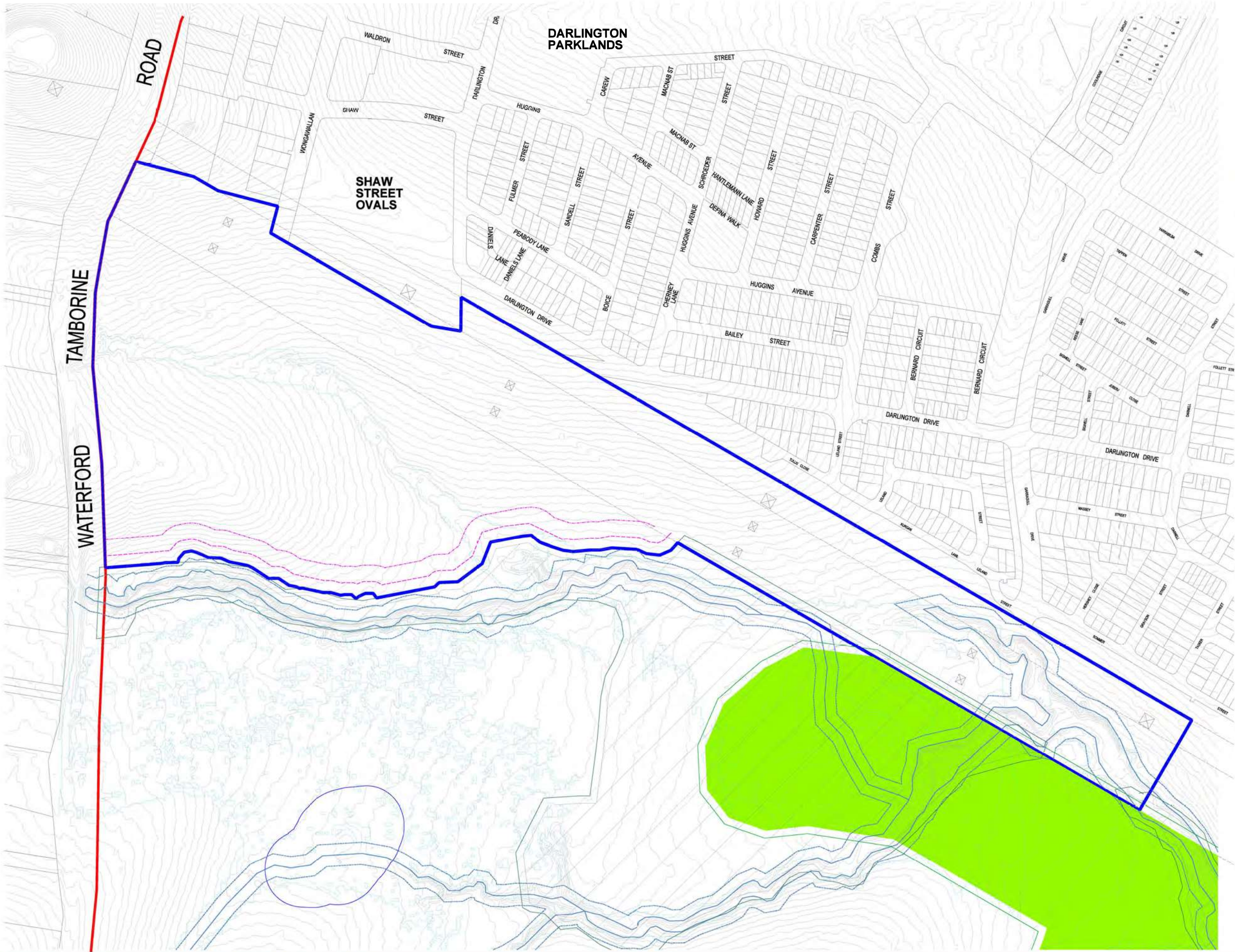
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








YARRABILBA - MIBA NORTH PRECINCT OPEN SPACE LINKAGES PLAN

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Scale 1:5,000 in A3





- LEGEND
-  YARRABILBA SITE BOUNDARY
 -  MIBA NORTH PRECINCT BOUNDARY
 -  INFRASTRUCTURE EASEMENT
 -  FAUNA CORRIDOR AND BUFFER
 -  KOALA HABITAT TO BE MANAGED AND BUFFER
 -  Q100 FLOOD EXTENT (EXISTING)
 -  50m WETLAND BUFFER
 -  ELECTRICAL INFRASTRUCTURE TOWER
 -  RETAINED WATERWAY AND 15m WATERWAY BUFFER
 -  BUILDING SETBACK 38m BUSHFIRE BUFFER (FOR VULNERABLE USES)
 -  BUILDING SETBACK 16m BUSHFIRE BUFFER

NOTES
The contents of this plan are conceptual only. All areas are approximate only and subject to relevant studies, survey, engineering and relevant authority approvals.

YARRABILBA - MIBA NORTH PRECINCT CONSTRAINTS PLAN

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North



STRATEGY 1

ACCESSIBLE HOUSING & SOCIAL HOUSING OVERARCHING SITE STRATEGY

Strategy

The *Accessible Housing and Social Housing OSS* for Yarrabilba involves ongoing actions for the project that will continue to be met.

It is the intention to deliver a range of housing options at Yarrabilba, including accessible housing and social housing options that will allow for a diversity of residents and community members. The successful establishment of community and social housing relies on tenants' easy access to community services, employment and other goods and services.

In December 2016, DHPW announced the Better Neighbourhoods Logan initiative. This program is understood to be a partnership between DHPW and Economic Development Queensland. The initiative is intended to deliver over 3,000 new social and affordable homes by 2036 in Logan.

MIBA North is to contain Mixed Industry and Business Activities. Residential uses are not supported within MIBA North.

Strategy 1 is not applicable to future development within MIBA North. Assessment against this strategy is not required as a part of any future development applications for MIBA North.

Accessible and Social Housing achievements to date (provided within Precincts 1, 2, 3 and 4) are summarised below.

Community and Social Housing

- Ongoing identification of potential Community Housing and Social Housing partners;
- Engagement with DHPW and EDQ to discuss the detail of the Better Neighbourhoods Program and any opportunities for them to advance the outcomes sought in the OSS within Yarrabilba;
- Responding to DHPW's Expression of Interest requests to provide residential lots for the Housing Construction Jobs Program, which resulted in the provision of 14 lots to DHPW for social housing purposes in 2019;
- With each residential ROL application, identify specific lots for Community and Social Housing that may be subject to a first right of refusal at full market value; and

- Report to EDQ with the second and subsequent applications within an Urban Neighbourhood, outcomes of engagement and strategy for delivery of community/social housing product.

Accessible Housing

- Identification of lots within Yarrabilba that would be suitable for the construction of accessible homes at the MCU/ROL stage and inclusion of an accessible lot plan with each ROL application (i.e. a plan indicating flat and sloping lots);
- Engagement with builders to encourage accessible housing product to be included within their portfolios, and to make customers aware of the benefits of accessible housing over the life of a home;
- Requirement of builders within any display village to either construct display village homes to a 'silver standard' against the Liveable Housing Design Guidelines, or to provide housing of this standard within their portfolios;
- Report to EDQ within the last application in Precinct 4, outcomes of engagement with builders and customers during the Precinct 4 horizon.

STRATEGY 2

COMMUNITY DEVELOPMENT PLAN

Strategy

The Community Development OSS for Yarrabilba has ongoing actions for the project that will continue to be met. **Within Part of Precinct 5 and Precinct 2A(MIBA North) there will be no community development, noting that MIBA North is for a Mixed Industry and Business Activities.**

MIBA North is located along the western boundary of the Yarrabilba PDA area, alongside Waterford Tamborine Road.

By the time the MIBA North precinct is developed, the following community areas will be established within Yarrabilba and the following initiatives are continuing to progress:

Community Connection:

- Ensuring serviced land for permanent facilities are delivered;
- Access to community services and programs;
- Continued support of the Yarrabilba Community Association via a partnering approach to community events and initiatives;
- Continued support of the permanent community facilities in the Shaw Street Ovals in partnership with Logan City Council, which formally opened in November 2018;
- Continued partnership between State Government, Logan City Council and Brisbane Catholic Education to deliver the Precinct 3 Yarrabilba Community Hub (the HIVE), forecast to commence construction in 2021; and
- Strengthen relationship with Logan City Council and work towards an agreement for the footprint for community facilities within the Town Centre.

Education and Community Services

- Yarrabilba State Secondary College was completed in 2019 and opened for Grades 7 and 8 in January 2020. Construction of Stage 2 is underway and is expected to be completed in late 2021.
- San Damiano College is a co-educational school which opened in 2021 with three classes of Grade 7 students. The school will grow by one year level until its first cohort of Grade 12 students graduate in 2026.
- A new State School will be located within Precinct 4.
- Ongoing discussions with university partnerships are continuing. Potential tertiary education strategy to be developed in parallel with the adjacent major centre strategy development.

Sport and Recreation

- Continuing to work with Logan City Council and sporting clubs to provide clubhouses and ancillary facilities, as well as establishing organised sporting activities within the major sports parks being delivered in P2/P3. Logan City Council signed a lease with Yarrabilba Touch for use of the P2 Ovals in 2021. Discussions with several clubs are underway regarding use of the P3 Ovals.
- Trail head locations have been identified and are being considered to provide access into the Plunkett Conservation Park. Lendlease are continuing to work with QPWS to open these facilities to the community as development on the interface progresses.
- Construction of the multi-purpose Yarrabilba Sports and Community Hub located adjacent to Shaw Street Ovals is now complete. The building contains change rooms, toilet facilities, meeting rooms, a canteen, fully equipped commercial kitchen and 100sqm of community space.
- Darlington Parklands, Buxton Park, Sandstone Park, Jinnung Jalli Park and McKinnon Sports Park South are open recreation spaces for residents and visitors to enjoy.

STRATEGY 3

COMMUNITY FACILITIES

Strategy

To provide land for community facilities for the Yarrabilba community in accordance with the Yarrabilba Community Facilities Infrastructure Master Plan, and to work with infrastructure providers to ensure that the facilities provided are fit for purpose and delivered within an appropriate timeframe.

The delivery of Community Facilities is triggered by residential lots. MIBA North is to contain Mixed Industry and Business Activities. Residential uses are not supported within MIBA North. As such, the delivery of this precinct does not trigger any additional community infrastructure.

Infrastructure shall be delivered in accordance with:

- Community Facilities EDQ PDA Guideline No. 11
- Engineering Standards EDQ PDA Guideline No. 13

Table 1: Community Facilities: Key Infrastructure

Community Infrastructure	Required in MIBA North	Provided in Precincts 1, 2, 3 and 4
Neighbourhood Meeting Room (0.075ha)	Not required	<ul style="list-style-type: none"> • 2 sites (co-located) in Shaw St Oval. • 1 and part of 1 site (co-located) provided in Precinct 3A. Further discussions around the location of the remainder of this site(residual 500m²) are occurring with both LCC and EDQ.* • 1 site (trigger 4,400th residential lot) within Precinct 4. Further discussions around the delivery of this site are occurring with LCC and EDQ.*
Local Community Centre/ Hub (0.5ha)	Not required	<ul style="list-style-type: none"> • 1 site proposed in Precinct 3A • The trigger for the second local community centre site (6,000th residential lots) has not been reached in Precinct 4.

District Community Centre (1ha)	Not required	<ul style="list-style-type: none"> 1 site may be provided in Precinct 3A, subject to EDQ and Council's agreement. Note trigger for first facility is 6,000th lots.
Major Civic Centre/Hub (1.5ha)	Not required	N/A, the trigger of Major Civic Centre/Hub (9,000 th residential lot) has not been reached.
Major Sporting Facility (1.8ha or 2 x 0.9ha)	Not required	1 x 0.9ha site may be provided in Precinct 3A, subject to EDQ and Council's agreement. Note the trigger for first facility is 9,000 th residential lots.
State Primary School (7ha)	Not required	<ul style="list-style-type: none"> 1 State primary school and 1 private primary school provided in Precinct 2 1 site (trigger 5,500 residential lots) within Precinct 4.
State Secondary School (12ha)	Not required	<ul style="list-style-type: none"> 1 State secondary school and 1 private secondary school provided in Precinct 2
Ambulance (0.5ha)	Not required	The Queensland Ambulance Service (QAS) has secured a site within Village 3D, Precinct 3, as per QAS's preference. Note, trigger for facility is 8000 th residential lot.
Fire and Rescue (0.6ha)	Not required	The Queensland Fire and Emergency Services (QFES) has secured a site in Precinct 1 District Centre, and per QFES's preference. Note, trigger for facility is 8000 th residential lot.
District Police (0.6ha)	Not required	Allowance for District Police is made for in the MIBA area further south of MIBA North, subject to negotiations regarding Queensland Police Service's preferred location Note, trigger for facility is 8000 th residential lot.

* Tripartite agreement is currently being prepared by Logan City Council regarding the delivery of required community facilities in Yarrabilba Precincts 3 and 4.

** Current Applications and Approvals for Precincts 1, 2, 3 and 4 involve approximately 4,700 residential lots (including MFS lots).

STRATEGY 4

COMMUNITY GREENSPACE

Strategy

To provide land for open space and recreation for the Yarrabilba community in accordance with the Yarrabilba Community Greenspace Infrastructure Master Plan.

To deliver a range of different parks for different purposes, including recreation and sporting activities as well as a network of parks that protect environmental features such as waterways and important existing vegetation that also provide opportunities for the community to access these features.

Any Infrastructure shall be delivered in accordance with:

- Engineering Standards EDQ PDA Guideline No. 13
- Park Planning and Design EDQ PDA Guideline No. 12

Other Considerations

MIBA North does not contain any environmental values protected under the EPBC Act referral approval.

There are no specific requirements for parks within the MIBA Precinct as there is no residential population trigger. Open space may be provided to protect and maintain natural features and waterways if required.

Provision for additional parks and open space is not precluded.



Figure 1: Greenstone Park

Table 2: Community Greenspace – Key Infrastructure

Park Type	MIBA North Requirement	Park Provision from Precincts 1, 2, 3 & 4* <i>Assumes conservative total of approx. 12,690 persons (4,700 dwellings)</i>	Balance of Parks to be Provided <i>Assumes 31,000 persons**</i>
Local Recreation Park 0.1 ha / 1,000 person	Not required	Required - 1.269 ha required. Provided / Approved -2.82 ha (1.51 ha surplus)	1.68 ha <i>Total 4.5 ha required for Yarrabilba**</i>
Neighbourhood Recreation Park 0.5 ha / 1,000 persons	Not required	Required – 6.345 ha Provided / Approved – 12.43ha 6.085 ha surplus)	10.07 ha <i>Total 22.5 ha required for Yarrabilba**</i>
Local and Major Linear Local 0.7 ha /1,000 persons Major 0.5 ha /1,000 persons & to coincide with waterways and fauna corridors	Not required	Required – 15.228 ha Provided / Approved – 40 ha (34.772 ha surplus)	4 ha <i>Total 54 ha required for Yarrabilba**</i>
District Recreation Park 0.5 ha / 1,000 persons 3 x 5 ha	Not required	Required – 6.345 ha Provided / Approved –11.75 ha (5.405 ha surplus)	3.25 ha <i>Total 15 ha required for Yarrabilba**</i>
Major Recreation Park 0.5 ha / 1,000 persons 2 x 10 ha OR 1 x 20 ha	Not required	Required – 6.345 ha Provided / Approval – 20 ha (13.655 ha surplus)	0 ha <i>Total 20 ha required for Yarrabilba**</i>
Overall Recreation Park 2.8 ha / 1,000 persons	Not required	Required – 35.532 ha Provided - 67 ha (31.468 ha surplus)	59 ha <i>Total 126 ha required for Yarrabilba**</i>
District Sports Park 1.0 ha / 1,000 persons 4 x 7.5 ha 1 x 4.5 ha park (Shaw Street Oval)	Not required	Required – 12.69 ha Provided / Approved – 4.83 ha (7.86 ha deficit)	32.67 ha <i>Total 37.5 ha required for Yarrabilba**</i>
Major Sports Park 0.8 ha / 1,000 persons 2 x 15 ha	Not required	Required – 10.152 ha Provided / Approved – 19.67 ha (9.518 ha surplus)	10.33 ha <i>Total 30 ha required for Yarrabilba**</i>
Overall Sporting Park 1.8ha/1,000 persons	Not required	Required – 22.842 ha Provided – 24.50 ha (1.658 ha surplus)	56.5 ha <i>Total 81 ha required for Yarrabilba**</i>

*The 'provided/approved' areas are estimates only subject to variation

**Assumes total population 45,000 persons.

STRATEGY 5

EARTHWORKS INFRASTRUCTURE MASTERPLAN

Strategy

MIBA North shall comply with the requirements of the Earthworks Infrastructure Master Plan.

Key actions relevant for MIBA North include:

- **As part of first application:**
 - Submit Precinct wide erosion and sediment control measures as part of the Stormwater Management Plan
- **Prior to any subdivision applications being lodged:**
 - Commission a geotechnical study for MIBA North to be completed prior to the lodgement of the subdivision applications
- **As part of subdivision applications:**
 - Submit bulk earthworks plans and management plan
 - Submit soils management strategy
 - Confirm how the earthworks strategy addresses the geotechnical study findings
 - Address IMP code

STRATEGY 6

EMPLOYMENT & ECONOMIC OVERARCHING SITE STRATEGY

Preamble

The Yarrabilba Employment and Economic Development Site Strategy - 16 April 2013 (EEDSS) defines actions and strategies for the project. The EEDSS was derived from conditions 5 (Overarching site strategies) and 39 (Employment) outlined in the UDA Development Approval for DEV2011/187 issued by the ULDA on 4 April 2012.

The employment calculations have been based on the assumptions that the Mixed Industry and Business Area (MIBA) will have 80Ha of net developable land with a total size of over 100Ha. The actual area of developable land will be monitored as part of the detailed design and delivery of the MIBA.

Description

The area of the MIBA subject to this Context Area Planning Strategy is expected to deliver a range of lot sizes and built form to cater to market demand. As detailed in the Yarrabilba Development Scheme, the MIBA will accommodate industrial, business park and commercial activities which do not generate dust, noise and odour emissions beyond the zone. Accordingly, a wide range of employment generating uses can be accommodated in the MIBA.

Employment Estimates

The EEDSS defined how the Yarrabilba target of 13,000 jobs (at 60% employment self-sufficiency) will be delivered throughout the community. The MIBA is projected to deliver between 4,000 and 5,000 Full time equivalent (FTE) jobs. A total of 4,000 FTE is expected to be present when the development of the residential components of Yarrabilba is complete. An additional 1,000 FTE jobs will be delivered when parts of the MIBA are redeveloped to a higher employment density at some point after the initial development of Yarrabilba is complete.

The MIBA North precinct (Precinct 2A & Part of Precinct 5) is projected to host 600 to 800 FTE. The actual employment will depend on the range of businesses that locate in the area. The employment estimates for all established parts of the MIBA will be reported in subsequent applications as a check on the progress towards the target of 4,000 FTE for the area.

Built Form

The built form of the MIBA North precinct is expected to include:

- Small industrial units – typically built in number as part of a community title development with the units ranging up to 1,000 Sq M but with the majority being 100 Sq M to 200 Sq M in size.
- Medium to Large industrial units - typically developed for a specific use/business. The medium scale units typically are up to 2,000 Sq M, with the large scale units being greater in size.
- Yards – storage yards with a minimal built form.

The subdivision pattern will allow for the reconfiguration (amalgamation and subdivision) of lots to cater to the needs of specific businesses.

Business Types

The MIBA North precinct is expected to host of employment generating businesses in line with market demand and the established planning controls. The mix of uses (as defined by the Yarrabilba UDA Development Scheme or Schedule 24 of the *Planning Regulation 2017*) may include:

- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ Agriculture supply store
<i>Examples include (but are not limited to) animal feed, bulk veterinary supplies, chemicals, farm clothing, fertilisers, irrigation materials, saddlery, seeds</i> | <ul style="list-style-type: none"> ▪ Garden centre
<i>Examples include (but are not limited to) retail plant nursery and may include ancillary cafe or coffee shop</i> | <ul style="list-style-type: none"> ▪ Service station
<i>Example includes (but is not limited to) electric charging station</i> |
| <ul style="list-style-type: none"> ▪ Business
<i>Examples include (but are not limited to) business support services, property and maintenance services (including storage and co-working spaces)</i> | <ul style="list-style-type: none"> ▪ Low impact industry
<i>Examples include (but are not limited to) automotive repair and services (service, electrical, tyres etc)</i> | <ul style="list-style-type: none"> ▪ Showroom
<i>Examples include (but are not limited to) bulky goods sales, motor vehicles sales showroom, bulk stationery supplies</i> |
| <ul style="list-style-type: none"> ▪ Car park
<i>Examples include (but are not limited to) parking station, 'park and ride', bicycle parking</i> | <ul style="list-style-type: none"> ▪ Outdoor sales
<i>Examples include (but are not limited to) Agricultural machinery sales yard, motor vehicles sales yard, construction, industrial or farm plant and equipment, vehicles, boats and caravans.</i> | <ul style="list-style-type: none"> ▪ Telecommunication facility
<i>Examples include (but are not limited to) telecommunication tower, broadcasting station, television station</i> |
| <ul style="list-style-type: none"> ▪ Emergency services
<i>Examples include (but are not limited to) State emergency service facility, ambulance station, rural fire brigade, auxiliary fire and rescue station, urban fire and rescue station, police station, emergency management support facility, evacuation centres</i> | <ul style="list-style-type: none"> ▪ Research and technology facility
<i>Examples include (but are not limited to) professional scientific and technical services</i> | <ul style="list-style-type: none"> ▪ Utility installation
<i>Examples include (but are not limited to) electricity, water, and waste services - Sewerage treatment plant, mail depot, pumping station, water treatment plant</i> |
| <ul style="list-style-type: none"> ▪ Fast food premises | <ul style="list-style-type: none"> ▪ Service industry
<i>Examples include (but are not limited to) kitchen and hospitality supplies, audio visual equipment repair, film processing, bicycle repairs, clock and watch repairs, computer repairs, dry cleaning, hand engraving, jewellery making, laundromat, locksmith, picture framing, shoe repairs, tailor</i> | <ul style="list-style-type: none"> ▪ Veterinary hospital ▪ Warehouse
<i>Examples include (but are not limited to) Self-storage sheds/facility, storage yards</i> |

- Medium impact industry
Examples include (but are not limited to) manufacturing, engineering and construction (contractors' yards, concrete batching plant, panel beating & spray painting, cabinet maker, kitchen construction, window and blind manufacturing, metal fabrication, pumps, hydraulics, heating and air conditioning, recycling etc) where supporting documentation is provided demonstrating the use satisfies the definition of Medium Impact Industry under the Yarrabilba PDA Development Scheme.
- Bulk landscape supplies
- Food premises
Includes food preparation
- Wholesale nursery
- Indoor entertainment
Examples include (but are not limited to) cinema, nightclub, adult entertainment, theatre and hotel.
- Outdoor sport and recreation
Examples include (but are not limited to) outdoor public swimming pools, golf courses and driving ranges, outdoor courts and sportsground and the like.
- Place of assembly
- Educational establishment
Limited to technical institutes, academy, adult education and/or other educational centre
- Transport depot
Examples include (but are not limited to) logistics and transport, contractor's depot, bus depot, truck yard, heavy machinery yard
- Hardware and trade supplies
Examples include (but are not limited to) building suppliers (steel, timber, plumbing, electrical, lighting, tiles etc)
- Theatre
Limited to film studio and music recording studio
- Car wash

Strategy

The Employment and Economic Development Site Strategy for Yarrabilba has ongoing actions for the project. For MIBA North, these actions include:

- Attract investment and employment:
 - Preparation of a marketing strategy and marketing materials.
 - Preparation of a strategy to attract target business and industries.
 - Creation of a key industry cluster for local and future light and service industries.
 - Investigate the establishment of an environmental construction cluster.
 - Continued planning for future development of the MIBA.
 - Provide the opportunity for specific uses, including multi-purpose design and integration of businesses.
- Foster business connectedness:
 - Continue to promote awareness, interaction and cohesion amongst the local business community of Yarrabilba.
- Provide place creation and amenity:
 - Allow temporary industrial and business uses in the short-term to generate economic activity from land that will be developed in the future.
- Encourage economic flexibility:
 - Allow flexible and convertible building design to future proof development and provide for the transition between various types of appropriate employment generating uses.
 - Provide a subdivision pattern that will allow for the reconfiguration (amalgamation and subdivision) of lots to cater to the needs of specific businesses.
- Enabling Infrastructure
 - Lendlease will provide (or organise) all required hard infrastructure (including ICT) to all parts of the MIBA.
- Governance, monitoring and resourcing:
 - Progress of compliance with EEDSS and employment projections to be provided as part of future development applications.

Conclusion

The planned development of MIBA North is in accordance with the actions and objectives established in the Employment and Economic Development Site Strategy. The subject precinct has the capacity to deliver the level of employment (600 to 800 FTE) that is required for the MIBA to deliver a total of 4,000 FTE by the time the development of the residential components of Yarrabilba is complete. The progress of achieving the employment targets in the MIBA will be assessed as part of future development applications.

STRATEGY 7

ENERGY SERVICES INFRASTRUCTURE MASTERPLAN

Strategy

To develop MIBA North in accordance with the Energy Services Infrastructure Master Plan.

This will ensure that residents and businesses within Yarrabilba will have access to high quality energy services. Within the time horizon for MIBA North, being between 2023-2033, the key actions are to:

- Work with Energex to confirm any land requirements for sub-stations prior to any ROL application in MIBA North being lodged.
- Preliminary discussions with Powerlink have indicated that no substation is required for MIBA North.
- Continue implementation of reticulated electricity throughout MIBA North.
- Continue to investigate and promote opportunities for innovative energy solutions such as renewable energy sources and small scale storage.
- A suite of programs focusing on environmental sustainability and energy efficiency are being developed. These include small subsidies to increase the uptake of PV, education materials to assist households in understanding how they can save energy and a demonstration home that will be designed to reduce energy use and include a PV system and battery storage.
- The CSIRO Virtual Power Station 2 project completed in January 2018. Over 60 households and the Sales Office within Yarrabilba were included in the trial. CSIRO researchers were very pleased with the project's success, and outcomes achieved. Each participating household was provided with their own individual report, including the Yarrabilba Sales Office. Further investigation is continuing into the opportunities for Yarrabilba to be part of the Virtual Power Station 3 project.

STRATEGY 8

HOUSING AFFORDABILITY INFRASTRUCTURE MASTERPLAN

Strategy

The Housing Affordability Infrastructure Masterplan for Yarrabilba involves ensuring allocation of housing considers smaller housing product that will remain within affordable rental and purchase ranges of income bands 1-2, as outlined in PDA Guideline no 16 - Housing.

MIBA North does not include any residential components and Strategy 8 is not applicable to development within MIBA North.

The buying capacities available within Yarrabilba are outlined in the Precinct 3 and Precinct 4 Context Plan Area Strategies and will also be addressed as part of CPAS planning for future residential precincts.

STRATEGY 9

ICT STRATEGY & MASTERPLAN

Strategy

The ICT IMP is an evolving document that outlines deliverables required to support the progressing delivery of the Yarrabilba development from a Communication Technology perspective at a regional level. The strategy focuses on technology cycles and the use of ICT services, systems and functions across the development.

The core attributes for achieving a successful ICT strategy include:

- Focusing investment on delivery of “enablers”;
- Technology will force change, accepting the fact that the technologies communities will enjoy in 10, 15 and 30 years’ time have not been invented, or even contemplated yet;
- Not over-investing in technology early in the project life;
- Partner where appropriate and do not lock into single vendor, carrier or proprietary technologies;
- Maintaining awareness of the political and industry changes impacting the Australian telecommunications marketplace; and
- A technology “blueprint” strategy document is being developed to address future ICT based opportunities and needs. This is being discussed with Logan City Council and EDQ. As this strategy appears to align well with their broader city wide ICT planning, Council are very interested and willing to be involved.

Key Actions

For Precinct 2A and Part of Precinct 5 MIBA North, the below tasks are applicable:

- Continuation of FTTP network rollout including suitable provisioning as needed for opportunities under the Yarrabilba technology “blueprint” strategy;
- Continue discussions with providers for further coverage of mobile phone and data services; and
- Extending the availability of public WIFI in selected open space areas and continuing to work towards available WIFI in all public open spaces.

Future Tasks

- Increase carriage services in Yarrabilba; and
- Review the ICT strategy as required.

STRATEGY 10

OVERARCHING SITE RESOURCE STRATEGY

Strategy

Continue to implement requirements of the Overarching Site Resource Strategy within MIBA North to ensure that the project achieves planned sustainable development outcomes.

MIBA North has a time horizon between 2023-2033. During this time the high priority areas to advance sustainable development outcomes within Yarrabilba will be:

- In December 2017, Yarrabilba was officially awarded a 6-star Green Star Community rating by the Green Building Council Australia. This 6-star Green Star rating requires regular reporting to the Green Building Council and will be re-applied for prior to its expiry in December 2022.
- A sustainable display home was constructed within the Precinct 2 display village. The home demonstrated an accessible, environmentally friendly home that is affordable to purchase and minimised ongoing water and energy bills. A second sustainable display home is anticipated to be established within the next display village in Precinct 4.
- Maintain, and expand where practical, the adopted strategies for use and re-use of site materials to minimise the importation of externally sourced construction materials; and
- Data provided from Logan Coaches shows that student patronage on the Yarrabilba bus service has continued to steadily increase (latest advice indicates school patronage at 400-450 students per day). Continued monitoring and identifying further options to promote increased use of sustainable transport (active and public transport options) within Yarrabilba will occur.

STRATEGY 11

WATER & WASTEWATER

Strategy

Strategy 11 – Water & Wastewater is broken into the following components

- Sewer (Wastewater)
- Water Supply

Sewer (Wastewater)

Sewering of the proposed MIBA North development will be based on the internal collection system layout outlined in the "Yarrabilba – Infrastructure Master Plan, MWH, September 2013". The long-term approach is to transfer sewage to a new treatment plant near Logan Village as identified by Logan City Council.

EDQ, in conjunction with LCC and major developer Logan PDA stakeholders, developed a revised sewerage strategy that includes the Yarrabilba and Park Ridge areas as outlined in "Logan South Wastewater Servicing Strategy" dated 27 May 2016. As part of the strategy, a regional sewage treatment plant (STP) will be constructed to the west of Logan Village. Based on the report 'Yarrabilba Water & Wastewater Servicing – Status Report' dated June 2019, the first stage of the STP is to be delivered by LCC and commissioned in 2025 in conjunction with a new rising main from Yarrabilba to the regional STP. As part of the planning for MIBA North, the timing of the new regional pumping station (PS3) will be also confirmed.

Prior to completion of the STP, sewage from the Yarrabilba development is transferred from the Yarrabilba PS1 pumping station to LCC's Loganholme WWTP via the Logan Village pumping station and the existing trunk system. Sewage from Precincts 1, 2 and part of 3 is collected by the existing Yarrabilba PS1 and PS2 pumping stations. Sewage from the rest of Precinct 3, early stages of Precinct 4 and the proposed MIBA North development will be collected at the existing temporary pumping station, PS3A (located near the site of the future PS3). The wet weather storage facility at pumping station PS1 (constructed on 2017 as part of the Precinct 3 development) will ensure that the existing network has capacity to transfer or contain flows from Yarrabilba Precincts 1, 2, 3 and initial stages of Precincts 4 and MIBA North development up to 2025 (subject to the remaining capacity of existing trunk infrastructure capacity upstream LCC's Chamber Flat pumping station and the real growth rate of Yarrabilba development), when the new STP will be commissioned per the adopted Logan South strategy. The servicing of the MIBA North Precinct will be addressed in the Precinct Network Plan (PNP).

Changes will be also made to the IMP to include the revised sewerage strategy.

Key issue

Lendlease will continue to work with EDQ and LCC to confirm the long-term regional sewerage strategy and the construction of the new regional STP. Lendlease will continue working with EDQ and LCC to confirm this strategy. The proposed temporary pumping station PS3A, combined with the wet weather storage facility at the Yarrabilba pumping station PS1, will serve Precinct 5 until the new regional sewage treatment plant is completed in 2025. The trigger point and estimated timing of the ultimate regional pumping station PS3 will need to be confirmed.

Approach to Services for MIBA North

A Precinct Network Plan (PNP) for MIBA North will be submitted and endorsed prior to the granting of the first ROL. The PNP will include both interim and ultimate solutions in accordance with the revised regional strategy agreed by both EDQ and LCC. The PNP is a detailed planning document that identifies all trunk infrastructure to service the proposed Precinct both internal and external to the site. The PNP will include details of all the infrastructure required, including layout plans, pipe sizes, conceptual design of the new pump station, vertical alignment of controlling sewer, and conceptual design of interim servicing infrastructure required to address development staging and odour/corrosion control. The PNP will be supported by an assessment to verify that Desired Standards of Service are met and each lot can be serviced in an efficient way.

Standards to be applied to the provision of wastewater infrastructure are:

- SEQ Water Supply and Sewerage Design and Construction Code;
- Logan Water Desired Standards of Service – Water;
- WSA 02-2014 Sewerage Code of Australia (Second Edition, 2014); and
- WSA 04-2005 Sewerage Pump Station Code of Australia (Second Edition, Version 2.1, 2005).

Timing

The PNP will be submitted and endorsed prior to the granting of the first ROL. The IMP will be submitted and endorsed based on the agreed timeframe between EDQ and Lendlease.

Water Supply

Servicing the proposed Precinct 5 MIBA North development with potable water will be generally in accordance with the strategy outlined in the "Yarrabilba Precinct 4 (formerly Precinct 5) - Precinct Network Plan - Water and Wastewater Infrastructure" dated January 2018, which is to be included in the update of the IMP. The development will be served from the Travis Road reservoirs, i.e. existing 3 ML and 6 ML reservoirs.

Supply to the Travis Road reservoirs will be provided by a new connection from the Southern Region Water Pipeline (SRWP) at Chambers Flat along with a new DN600 trunk main, which has been confirmed by Seqwater in the Logan South Local Area Plan (2020). Prior to the new bulk water connection being made available, LCC has constructed a new 6 ML reservoir at Travis Road and will install a 1.8 km of 500 mm diameter trunk main in Camp Cable Road. The existing bulk supply (without the SRWP connection) has capacity to supply Precincts 1 to 3 and early stages of Precincts 4 and 5 development until 2023 at current growth rates.

The internal water supply system for MIBA North will require the extension of the 450 mm diameter trunk main from the existing Yarrabilba Drive trunk main to the MIBA North development area. There are no constraints in relation to the delivery of this extension. A pressure management strategy (if required) will be developed for MIBA North and surrounding areas, in conjunction with LCC.

The EP trigger for the construction of the new SRWP connection will be confirmed as part of the PNP. The IMP will be also updated based on the delivery of bulk water from the SRWP.

Key Issue

Ultimate water supply for Precinct 5 will be provided via the existing 9 ML storage reservoirs at Travis Road with a new bulk supply connection to the SRWP around 2023 (delivered by LCC). Lendlease will continue working with EDQ and LCC to confirm this strategy and the timing of augmentation. A pressure management strategy will also be developed for MIBA North.

Approach to Services for MIBA North

A Precinct Network Plan (PNP) will be required for MIBA North. The PNP will include both ultimate and interim solutions in accordance with the revised regional strategy agreed by both EDQ and LCC. The PNP is a detailed planning document that identifies all trunk infrastructure to service the proposed Precinct, both internal and external to the site. The PNP shall include details of all the infrastructure required to deliver peak demand, fire flow and pressure management (as required), including layout plans, pipe sizes, and details of pressure reduction areas and equipment. The PNP shall be supported by an assessment to verify that Desired Standards of Service are met and each lot can be serviced in an efficient way.

Certification of ecological compliance will be provided as part of each Development Application.

- SEQ Water Supply and Sewerage Design and Construction Code;
- Logan Water Desired Stands of Service – Water; and
- WSA 03-2011 Water Supply Code of Australia (Second Edition, 2011).

Timing

The PNP will be submitted and endorsed prior to the granting of the first ROL. The IMP will be submitted and endorsed based on the agreed timeframe between EDQ and Lendlease.

STRATEGY 12

TOTAL WATER CYCLE MANAGEMENT

Strategy

The *Total Water Cycle Management Strategy* (TWCMS) (DesignFlow, 2012) provides an overarching strategy that combines the individual Infrastructure Master Plans (IMP) and site assessments covering stormwater, flooding, waterways, groundwater and water supply/wastewater.

While separated for the purpose of strategy discussion below, the management of land and infrastructure for these water cycle elements can be integrated to achieve a range of beneficial outcomes including ecological waterway protection, multiple use open spaces, improved landscape amenity and reduction in potable water demand. Recognition of the social element of total water cycle management is included to ensure the community both contributes to and benefits from an integrated approach to water management within Yarrabilba.

The MIBA North strategy details relating to each of the intermittent water cycle elements (stormwater, flooding, waterways and groundwater) are provided on the following sections, with site constraints presented in Figure 12-1 and indicative infrastructure locations and management zones identified in Figure 12-2. The relatively constant urban water cycle elements (water supply and wastewater) are discussed briefly for completeness within the TWCM strategy. Reference should be made to this separate Water and Sewerage Context Plan Area Strategy (CPAS) for further detail on the relevant strategies and infrastructure requirements of these associated elements of the water cycle.

Stormwater

The stormwater management strategy aims to protect ecosystem health and improve stability of receiving waterways by managing urban stormwater to meet the objectives identified in Table 1 and 2 of the Stormwater Infrastructure Master Plan (DesignFlow, 2012) and summarised below in the context of MIBA North:

- achieve best practice pollutant load reductions for key stormwater pollutants; and
- Integrate development interface with future rehabilitation of receiving waterway (future precinct to the south) to improve stability and habitat.

In addition, opportunities for the provision of fit for purpose alternative water supply options such as stormwater harvesting for open space irrigation may be identified and assessed where practical.

Key Infrastructure

Stormwater management infrastructure (and strategies) associated with MIBA North are shown in Figure 12-2 and include:

- Bioretention basin(s) for water quality and minor flow management; and
- Design integration of southern boundary of MIBA North zone to support future rehabilitation of the waterway external to the CPAS boundary and integration of vegetated stormwater infrastructure into degraded waterway buffers to enhance habitat value, amenity and contribute to multiple use open spaces.

Stormwater infrastructure aims to integrate closely with the waterway management strategy to achieve a range of goals while optimising use of space and resources. However, waterway riparian buffers and overriding setback requirements under the Natural Environment Site Strategy and Fauna Corridor CPAS must be considered when locating key infrastructure.

Where existing erosion/scour is present, or potential instability is identified within the MIBA North area, rehabilitation works (such as rock protection, soil amelioration and/or revegetation) will be undertaken to minimise instability and erosion under post-development hydrological conditions. A major area of waterway rehabilitation south of MIBA North will occur as part of future MIBA expansion but does not lie within the CPAS area. This is discussed further in the Waterways strategy below.

Stormwater infrastructure shall be delivered in accordance with:

- Park Planning and Design – EDQ PDA Guideline No. 12; and
- Engineering Standards – EDQ PDA Guideline No. 13.

Reporting

A stormwater management plan covering the MIBA North zone and contributing external catchments is required as part of the first development application to demonstrate that stormwater quality can be managed on-site to achieve the pollutant load reduction targets and be located and designed in a manner complimentary to both the development layout the adjacent waterway and ecological corridors. This management plan will link with the flooding (stormwater quantity) and waterway management plans.

Flooding

The overarching flood management strategy is to provide flood management infrastructure that integrates with parks and natural open spaces in order to meet the objectives identified in Table 7 of the Stormwater Infrastructure Master Plan (DesignFlow, 2012) and summarised below:

- Mitigate flood impacts on people, property and infrastructure external to Yarrabilba by preserving peak site discharge and flood levels upstream and downstream of the site to predevelopment conditions for all events from 2 to 100 year ARI (50% to 1% AEP); and
- Maintain flood conveyance through the site while providing 100 year ARI (1% AEP) flood immune development.

Key Infrastructure

Flood management will generally be undertaken in accordance with the Yarrabilba Development: Flood Risk Management Strategy (BMTWBM, 2012) which beneficially exploits the use of the natural terrain and constructed road crossings (over drainage features and watercourses) to attenuate increased runoff from development. It should be noted that flood mitigation infrastructure is not constructed solely for a single stage or precinct, but functions as part of a total site flood management strategy that addresses current and future development precinct requirements. A number of these detention zones have been constructed in Precinct 1, 2 and 3 to date in advance of the urban development within the catchment. No flood management infrastructure is required or proposed as part of the MIBA North CPAS area.

Development will be designed to ensure that 100 year ARI immunity from the adjacent waterway can be achieved. An existing overland flow path from Waterford Tamborine Road through the MIBA North area (generally from northwest to southeast) will be managed for via the piped stormwater drainage network combined with the road network (as major overland flow path). While the ultimate upgrades to Waterford-Tamborine Road will reduce the catchment draining to this overland flow path, the local drainage and overland flow will need to account for the anticipated short-term catchment conditions (prior to road upgrade).

Development and infrastructure shall be delivered in accordance with:

- Park Planning and Design – EDQ PDA Guideline No. 12;
- Engineering Standards - EDQ PDA Guideline No. 13; and
- Protection from Flood and Storm Tide Inundation – EDQ PDA Guideline No. 15.

Reporting

The *Yarrabilba-Quinzech Creek Flood Study* (DesignFlow, 2017) has already been prepared across the overall Yarrabilba site portions draining to Quinzech Creek, a stormwater quantity certification will be required to support development application that confirms all areas of MIBA North achieves the required flood immunity and no impacts on the flood conveyance of the main creek result.

Waterways

The overarching waterways site strategy aims to protect and enhance waterways and wetlands for ecosystem health and amenity to meet the objectives identified in Table 5 and where relevant, Table 6 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2012). Waterway management (from engineering perspective) is inseparable from the strategies outlined in the Natural Environment Site Strategy and Fauna Corridor Master Plan CPAS and must therefore be cognisant of the overlapping constraints and requirements in key areas.

Key Infrastructure

The potential impacts of urban runoff on waterway health and stability are managed via the implementation of water quality and flow management strategies identified as part of the stormwater and flooding components of the CPAS. To further preserve or enhance the ecosystem and character values of waterways and wetlands onsite, riparian buffers have also been adopted in accordance with Section 4.4 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2012) as shown in Figure 1. Minimum buffers (typically from top of defined bank) are:

- 30m to major creeks
- 15m to minor creeks and retained drainage lines of ecological significance
- 50m to wetlands of local significance

Where regional ecosystem mapping or detailed vegetation survey identifies a greater riparian corridor, this should be retained in preference to minimum buffers above. Conversely, where buffers contain minimal significant vegetation, it may be practical to include vegetated stormwater treatment infrastructure or recreational infrastructure within the buffer in conjunction with rehabilitation.

For waterways that are degraded but have ecological significance, rehabilitation through stabilisation works and/or revegetation to suit post development hydrology and use is proposed. The *Yarrabilba General Waterway Condition Assessment* (DesignFlow, 2013) provides broad assessment of the MIBA North areas for consideration. The minor creek south of MIBA North is generally rated as 'poor' in the above assessment and future rehabilitation will be required as part of future MIBA expansions to the south. Appropriate waterway buffers and development setbacks have been allowed for in the MIBA North concept plan to allow for and support this future works/rehabilitation. The drainage line extending from Waterford Tamborine Road through the site in a south east direction has little to no ecological value and primarily functions as an overland flow path. This drainage line will be removed with ultimate flow managed via development road layout and underground pipe drainage. The upstream (external) catchment to this flow path will be ultimately cut off/diverted by the Waterford-Tamborine Road upgrade to the west.

Waterways and waterway buffers shall be delivered in accordance with:

- Environmental Values and Sustainable Resource Use – EDQ Guideline No. 14
- Park Planning and Design – EDQ PDA Guideline No. 12
- Development Interfaces – EDQ PDA Guideline No. 18

An important factor in the implementation of waterway protection or rehabilitation is the comparatively slow timeframes over which protection/improvement can be measured (compared to the rate of development). Based on the Precinct 1, 2 and 3 experiences to date, there is merit in limiting the intervention in degraded/disturbed waterways until development within the catchment has neared completion (unless major issues are evident prior). Allowing natural regeneration and succession of vegetation species within waterways (including weeds initially) has been shown to represent a beneficial and cost effective outcome for particular waterways. However, where overriding requirements for Koala or other fauna/flora management exist or major instability issues present a risk to infrastructure, these must be taken into consideration and adopted where necessary.

Reporting

As waterway management requires strategic input from both engineering and ecological disciplines, the waterway management strategy will be captured across the Stormwater Management Plan (for engineering strategies associated with stormwater quality and stability management) and the Vegetation and Rehabilitation Management Plans (for ecological strategies relating to flora/fauna protection and enhancement) for future MIBA expansion. As no part of MIBA North extends into the retained waterway (or buffers) to the south, reference will only be made to indicative future rehabilitation works that need to be managed as part of the subsequent expansion of the MIBA area to the south.

Groundwater

The overarching groundwater site strategy aims to protect the ecological health, environmental values and water quality of groundwater and dependent ecosystems while managing the potential impact of groundwater on development and infrastructure.

Key Infrastructure

No crossing of waterways occurs as part of MIBA North and the scale of this precinct therefore not likely to represent an impact to regional groundwater movement. Potential impacts to (or from) groundwater may occur from cut and fill earthworks and services trenching. Where detailed site or geotechnical investigations identify localised groundwater interception locations, these will be managed as part of infrastructure design, construction management and directed towards local drainage and ultimately the waterway to the south. The stormwater quality strategy described previously protects downstream waterway health while managing minor flows from development. Based on historical observations of drainage lines and waterways in Precinct 1 to 3 before, during and after development, there has been a general increase in wetness (seepage flow) within ephemeral waterways attributed to pine plantation removal, interception of springs by stormwater infrastructure, slow release of water from bio-retention basins and anthropogenic sources (e.g. lawn over-irrigation). Adequate supply of water to existing (and introduced) downstream aquatic and groundwater dependent ecosystems is therefore sustained.

Infrastructure shall be delivered in accordance with:

- Engineering Standards - EDQ PDA Guideline No. 13

Reporting

No specific reporting is required for subsequent applications as groundwater factors are addressed through stormwater quality management (see above) and detailed civil engineering design.

Community

Yarrabilba aims to adopt urban and landscape design that responds to and promotes community awareness of water supply and use, waterway function, local environment and where practical, allows for safe interaction with these natural areas.

Key Opportunities

- Integrate community infrastructure into public open spaces within and surrounding areas designated for stormwater, flooding and waterways strategies discussed previously (multiple use public open spaces) by including pathways adjacent to and through waterway/vegetation corridors for use during low or no rainfall periods.
- Provide educational signage to highlight the environmental/ecological role of waterways and vegetation corridors while protecting public safety through warning/caution signage to reinforce the flood conveyance role of these areas and risk associated.
- Ensure infrastructure design is sensitive to the adjoining natural landscape to promote a blurred interface between urban and natural landscapes.

Reporting

No stand-alone reporting is required for this aspect of the Total Water Cycle Management (TWCM) CPAS as these elements form part of the detailed planning and design of stormwater infrastructure and open space landscapes.

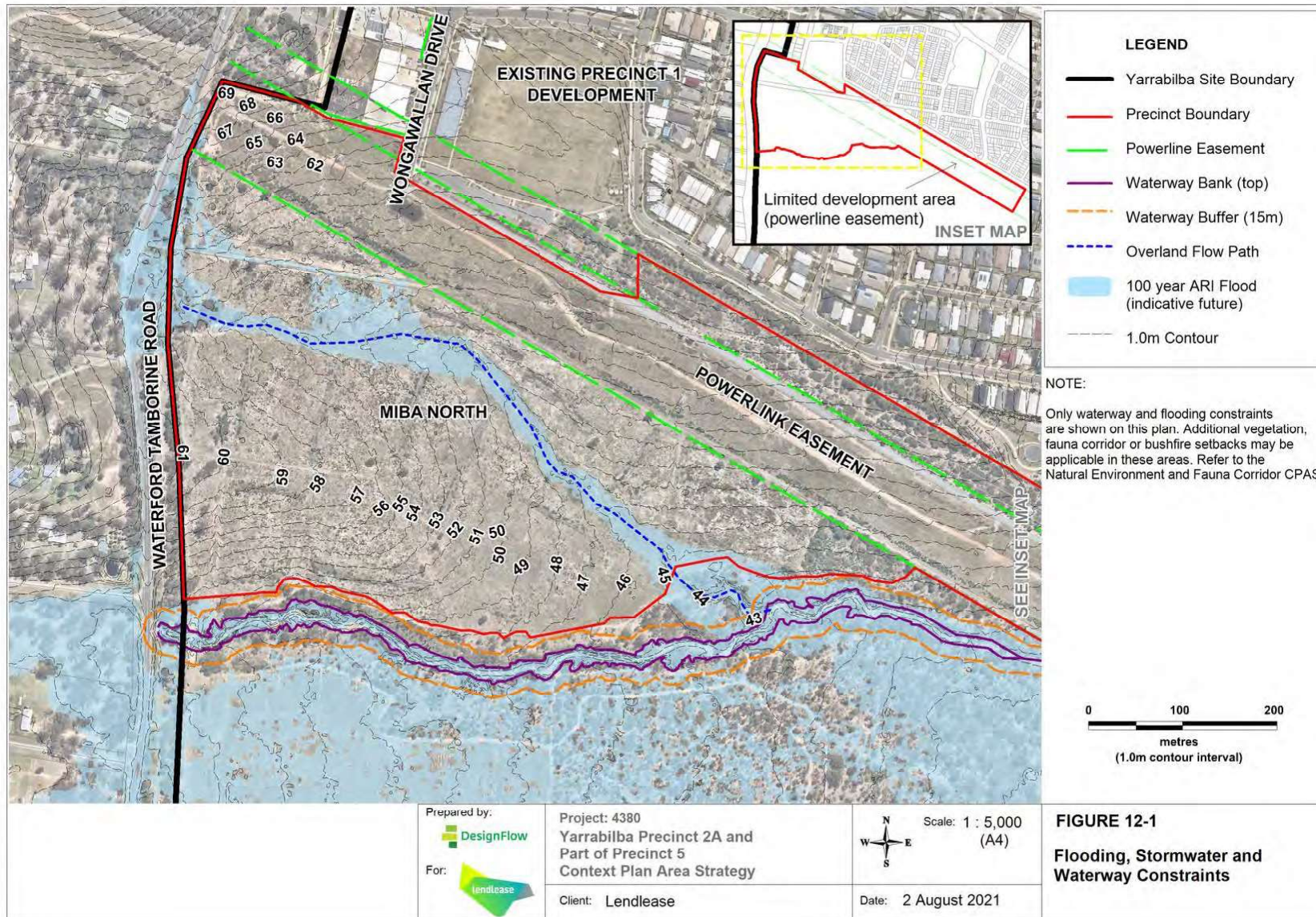


Figure 12-1: Flooding, Stormwater and Waterway Constraints

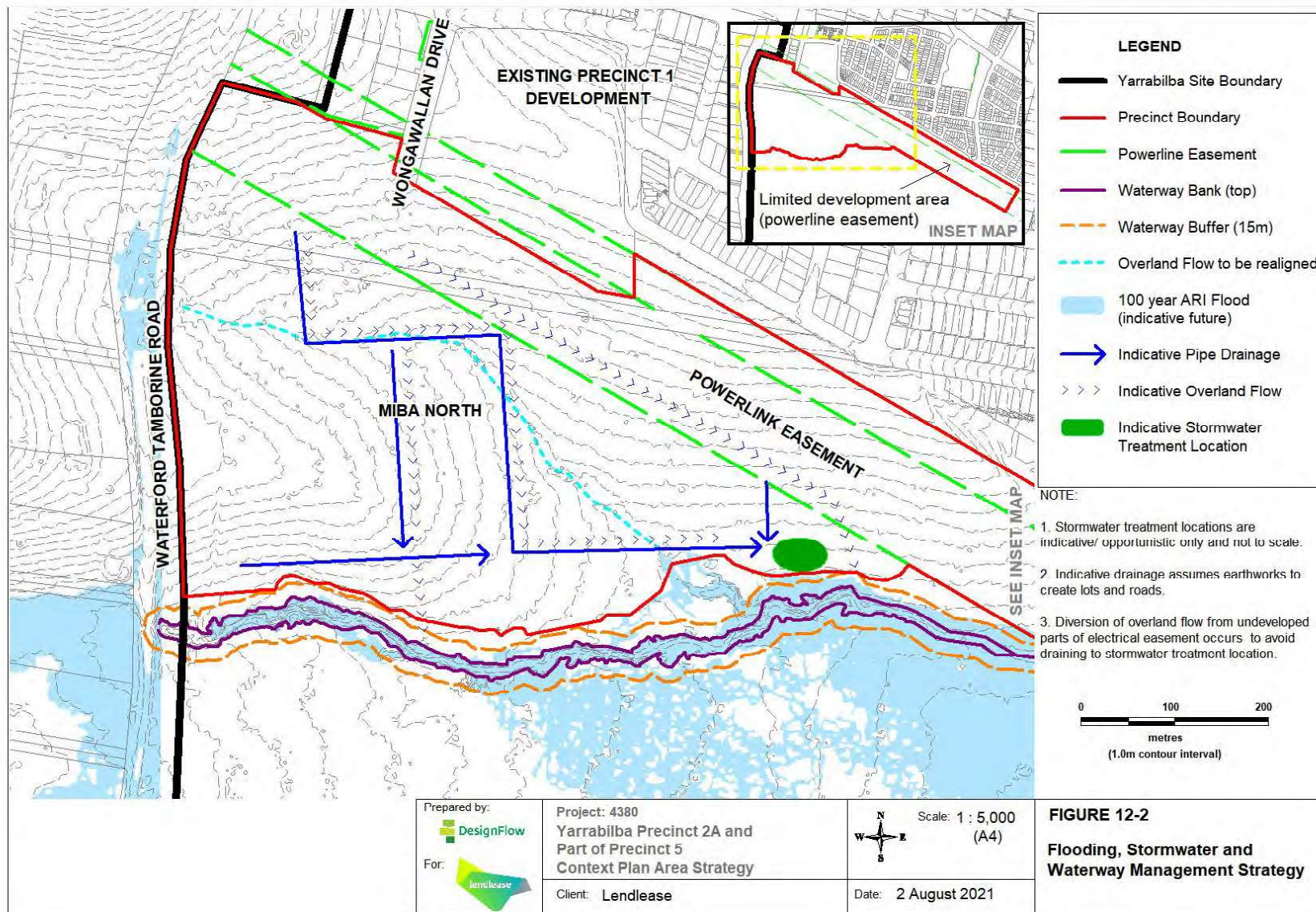


Figure 12-2: Flooding, Stormwater and Waterway Management Strategy

STRATEGY 13

MOVEMENT NETWORK INFRASTRUCTURE MASTER PLAN

Strategy

Subject Site

The site that is the subject of this application and consideration is the northern part of the Mixed Industry Business Area (MIBA), currently referred to as MIBA North. This includes part of Precinct 5 and Precinct 2A. The site is located to the immediate east of Waterford-Tamborine Road, south of the power line easement (to the south of Wongawallan Drive/Shaw Street/Adler Circuit). Road access will occur via a southern extension of Wongawallan Drive.

Previous Work/Reporting

The development of the appropriate traffic and transport plans for the Yarrabilba development has been ongoing. The latter has been reported in the following documents:

- *Yarrabilba Masterplan – Micro-Simulation Modelling – Transport Assessment Report (Cardno, August 2012);*
- *Yarrabilba Precinct 2 – Integrated Transport Assessment Report (Cardno, November 2013);*
- *Yarrabilba Masterplan – Micro-simulation Modelling – Revised Land Use and Road Network (Cardno, 4 November 2013);*
- *Yarrabilba Amended Movement Infrastructure Master Plan (Cardno, February 2014);*
- *Yarrabilba Precinct 2 – Yarrabilba Drive Intersection Configurations (Cardno, 11 March 2014);*
- *Yarrabilba Movement Infrastructure Master Plan (Cardno, 20 May 2015);*
- *Yarrabilba Movement Infrastructure Master Plan (Cardno, 8 October 2015) – amended and endorsed by Economic Development Queensland (EDQ) on 11 November 2015, and subsequently amended on 1 July 2019 and endorsed on 3 July 2019*

- *Yarrabilba Context Planning Area Strategy – Precinct 3 (Lendlease, 17 June 2016) – amended and endorsed by Economic Development Queensland (EDQ) on 26 July 2016;*
- *Yarrabilba Precinct 3A Traffic Impact Assessment (Cardno, 20 July 2016);*
- *Yarrabilba Precinct 3 Traffic Assessment (Cardno, 17 November 2016);*
- *Yarrabilba Precincts 3B & 3C Traffic Impact Assessment (Cardno, 25 November 2016);*
- *Yarrabilba Masterplan Trigger Analysis for Yarrabilba Drive Intersections (Cardno, 29 November 2016);*
- *Yarrabilba Movement Infrastructure Master Plan (SLR Consulting, 26 April 2017);*
- *Yarrabilba Precinct 5 Traffic Impact Assessment (SLR Consulting, 25 September 2017);*
- *Yarrabilba Precinct 1 District Centre Change Application (SLR Consulting, 15 May 2018); and*
- *Yarrabilba Precinct 3D Traffic and Transport Assessments (SLR Consulting, 27 February 2018 and 30 September 2020).*

The Movement Infrastructure Master Plan includes the Yarrabilba Public Transport Servicing Strategy (MRCagney, 7 August 2012).

The Yarrabilba Movement Infrastructure Master Plan (IMP), dated 8 October 2015 (which was most recently amended and endorsed by EDQ on 1 and 3 July 2019 respectively) and the Yarrabilba Movement Infrastructure Master Plan (IMP), dated 26 April 2017, have been used to govern traffic and transport planning for the Yarrabilba Development. The Movement IMP will be updated to reflect updated traffic modelling and changes introduced as part of revised planning in Precinct 5, Precinct 4 and the Town Centre.

Planning is currently underway to revise the internal major road network within the Yarrabilba development to improve transport connections and linkages with external road infrastructure. The revised road network retains the currently endorsed external intersections with Waterford- Tamborine Road and Plunkett Road (and the future Southern Infrastructure Corridor). Importantly, the revised network retains the road network functionality and a road hierarchy consistent with the endorsed Movement IMP. Of relevance to MIBA North is the realignment of the proposed New Internal Road which provides an improved connection from Yarrabilba Drive to the Waterford-Tamborine Road / Dollarbird Drive intersection. Whilst it is understood that the overall development yield will remain relatively consistent with that previously approved, the minor reconfiguration of land uses and road infrastructure will result in updated traffic volumes along internal roads and at intersections.

As such, a revised technical assessment will be required to reassess the intersection and midblock link requirements as well as public and active transport connections. This is to be undertaken as part of an amended Movement IMP which is currently being prepared. This revised Movement IMP will rely on updated traffic modelling undertaken by SLR (in collaboration with EDQ) in 2018.

SLR has provided input to the preliminary planning and design for MIBA North in support of this CPAS, such that the transport elements (roads, public transport, and active transport) will be consistent with the Movement IMP (recognizing the revised network and retaining the endorsed transport infrastructure functions).

Development Yield/Road Network

The proposed development yield has not yet been determined but based on planning to date (ie. concept plan of subdivision) it will represent the following within MIBA North:

- *Approximately 44 lots within a precinct area of roughly 40.74ha (which includes the adjacent electrical easement).*
- *Approximately 143,160 sqm land area (excluding roads).*
- *Approximately 128,565 sqm developable land area (excluding roads and buffers).*
- *Approximately 64,283 sqm GFA (based on a coverage of 50% of developable land).*

The most recent traffic modeling for Yarrabilba includes approximately 62,283sqm GFA of MIBA uses within the subject site (MIBA North). This is represented in traffic zones EL04A1 and EL04A2.

The currently anticipated development yield for MIBA North is generally consistent with that which has been included in the traffic modelling undertaken for Yarrabilba. As such, the traffic volumes to be generated by MIBA North are expected to be consistent with what has been modelled to date.

The proposed road network (major road network and key collector street connections), as currently proposed, is generally consistent with that identified in the Movement Infrastructure Master Plan (IMP) and included within the traffic model.

The road network to be delivered as part of MIBA North will include the following:

- *A north-south major collector, being the southern extension of Wongawallan Drive (this will ultimately extend further south, through subsequent development precincts, to connect with the Town Centre East West Road that links Waterford-Tamborine Road with Yarrabilba Drive).*
- *Internal road connections to/from the north-south major collector.*

Further traffic analysis needs to be undertaken to confirm the timing and needs for either:

- *A second (new) roadway between Waterford-Tamborine Road and Yarrabilba Drive (commencing opposite Dollarbird Drive). This is referred to as the Town Centre East West Road or the Dollarbird Drive Link.*
- *A second (new) intersection between Waterford-Tamborine Road and Yarrabilba (eg. at Dollarbird Drive / Waterford-Tamborine Road); and/or*
- *Upgrading of the Yarrabilba Drive/Waterford-Tamborine Road/Camp Cable Road intersection.*

This analysis is ongoing as part of planning for each new precinct in Yarrabilba. This analysis will be undertaken as part of the first development application for MIBA North, and will also determine any other road upgrades triggered by MIBA North traffic (eg. Wongawallan Drive/Shaw Street/Adler Circuit and Wongawallan Drive/Yarrabilba Drive).

Importantly, the need for, and timing of the Town Centre East West Road is set by a trigger volume on Yarrabilba Drive (east of Waterford-Tamborine Road). That trigger, and the monitoring of the traffic volumes on a 3 monthly basis, is set within approval conditions for other precincts within Yarrabilba (Precinct 4 (previously Precinct 5) and part of Precinct 3). This trigger condition is the appropriate mechanism for the delivery of the Town Centre East West Road, and will reflect the traffic demands generated by MIBA North.

Road Hierarchy/Cross Sections

The proposed road hierarchy for MIBA North is generally consistent with the hierarchy as outlined in the Movement Infrastructure Master Plan (IMP), Figure 5-1. It is noted that particular consideration has been given to the proposed Arterial Road connections between Yarrabilba Drive (and Town Centre North South Road) and Waterford-Tamborine Road. The purpose and function of these proposed new Arterial Road connections are retained in the proposed updates to the major road network.

Importantly, the road connections which allow access to MIBA North do not directly service the residential areas of Yarrabilba. The roads within MIBA North are to be designed to generally comply with the cross sections provided in the Movement Infrastructure Master Plan (IMP), Appendix C – Cross Sections.

Public Transport

The bus route planning for MIBA North is yet to be undertaken, however preliminary planning indicates that bus routes as identified within the Movement Infrastructure Master Plan (IMP), Figures 5-3 to 5-5 will be appropriate for and consistent with the proposed MIBA North layout. Bus routes are to be accommodated along the north-south major collector within MIBA North.

Additional local bus routes and bus stops will be provided such that 90% of all uses will be within 400 metres of a public transport service as per the Movement Infrastructure Master Plan (IMP), Section 5.2 – Public Transport Strategy. Traffic reports submitted as part of the individual development applications will address this design requirement.

The bus network, bus stops and bus services to be identified in MIBA North will ensure compliance with the recommended bus service provision strategy as documented in the Yarrabilba Public Transport Servicing Strategy.

Active Transport

Detailed planning of the active transport network is yet to be finalised. The proposed network will need to be consistent with the revised road network and the amended Movement IMP.

Commuter cycle routes will run alongside the north-south major collector within MIBA North, with additional connectivity provided along the verges/footpaths of new internal roads. These routes will be consistent with the amended Movement IMP where principal cycle routes are identified.

Local active transport routes are to be provided along other major roads and green space areas consistent with Movement IMP. These routes will encourage local trips to be made via walking and cycling, and will be designed for riders including children and less confident cyclists, by using off road shared paths where possible. Where appropriate, active transport routes will utilize the Energex easement towards the north of the precinct.

Information required to be submitted as part of subsequent applications:

- *With the first development application within the precinct a concept plan for the major local active transport routes for MIBA North shall be provided; and*
- *Details of all active transport paths shall be provided with each ROL application outlining the location and width of the pathway, and its function for pedestrians and cyclist*
- *Details of bus stops shall be provided along the north-south major collector within MIBA North.*

STRATEGY 14

FAUNA CORRIDOR INFRASTRUCTURE MASTERPLAN & NATURAL ENVIRONMENT OVERARCHING SITE STRATEGY

Strategy

Previous Work / Reporting

Natural Environment Site Strategy (NESS), Natura Consulting, 2016
Fauna Corridor Master Plan (FCMP), Natura Consulting, 2013

Overview

The Natural Environment Site Strategy (NESS) (Natura Consulting, 2016) provides an overarching plan that pulls together the individual Infrastructure Master Plans (IMP), such as the Fauna Corridor Master Plan (FCMP) (Natura Consulting, 2013), and site assessments addressing vegetation and fauna management. While vegetation and fauna management are separated for the purpose of strategy discussion below, the management for these components is typically integrated for construction or post-construction outcomes. The MIBA North strategies pertaining to each of these key components are discussed separately below and are identified collectively at the end of this section in Figure 14.5. It must be noted that while no fauna or environmental corridors are within the CPAS boundary, buffers have been carefully considered. Also detailed below are approval reports to be completed for MIBA North which are to be certified and endorsed with the subsequent applications.

Buffers and Determining the Extent of Works

A number of setbacks to environmental values are identified within the IMP/OSS and planning documents and these are consistent with those being used in the MIBA North CPAS. The setbacks and buffers applicable to the MIBA North area are summarised in the following text and presented graphically in the subsequent figures. Figure 14.1: Wetlands/waterway buffers (section 4.4 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2012):

- 15 m to minor creeks and retained drainage lines of ecological significance;
- 30 m to major creeks; and
- 50 m to wetlands of local significance.

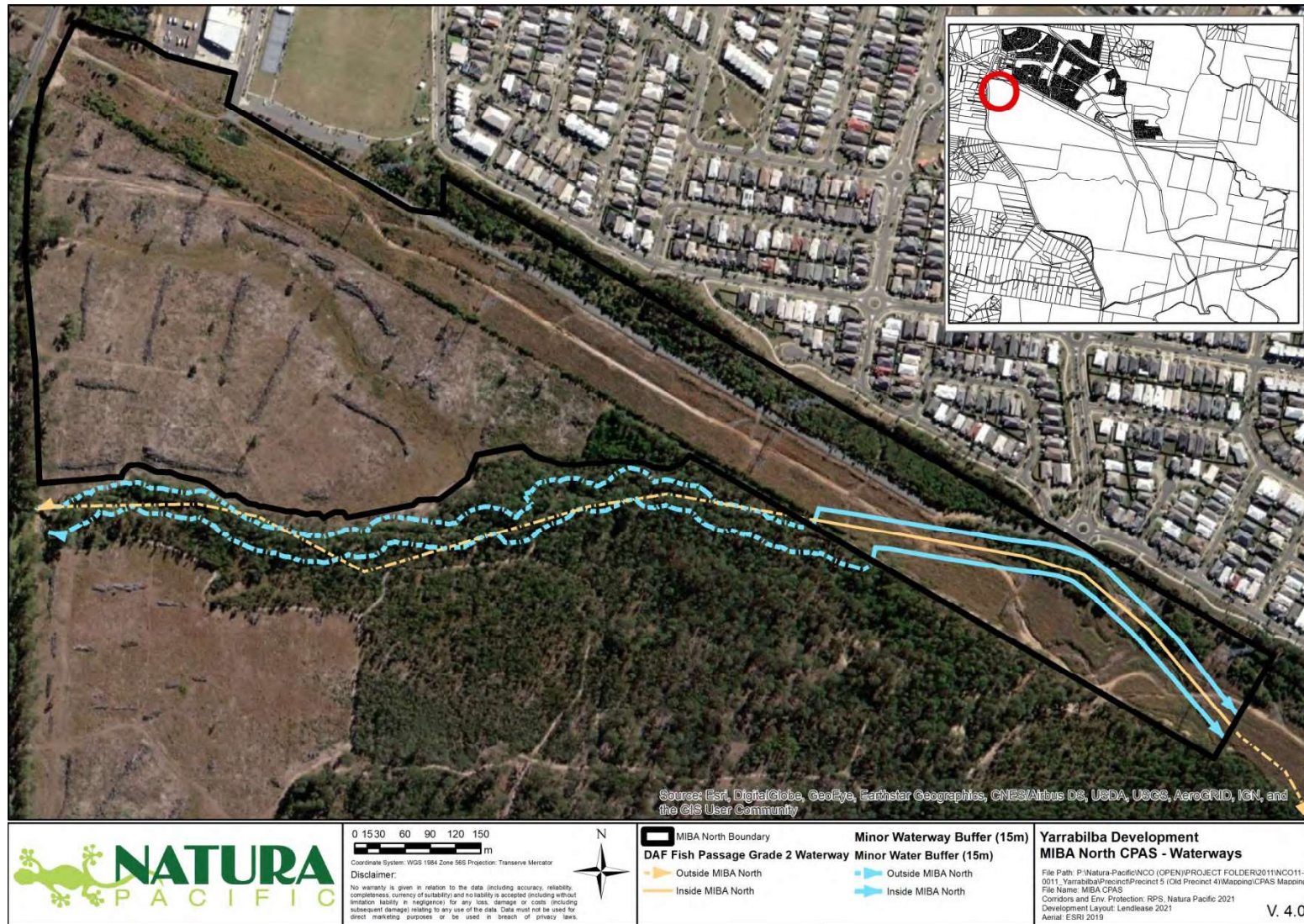
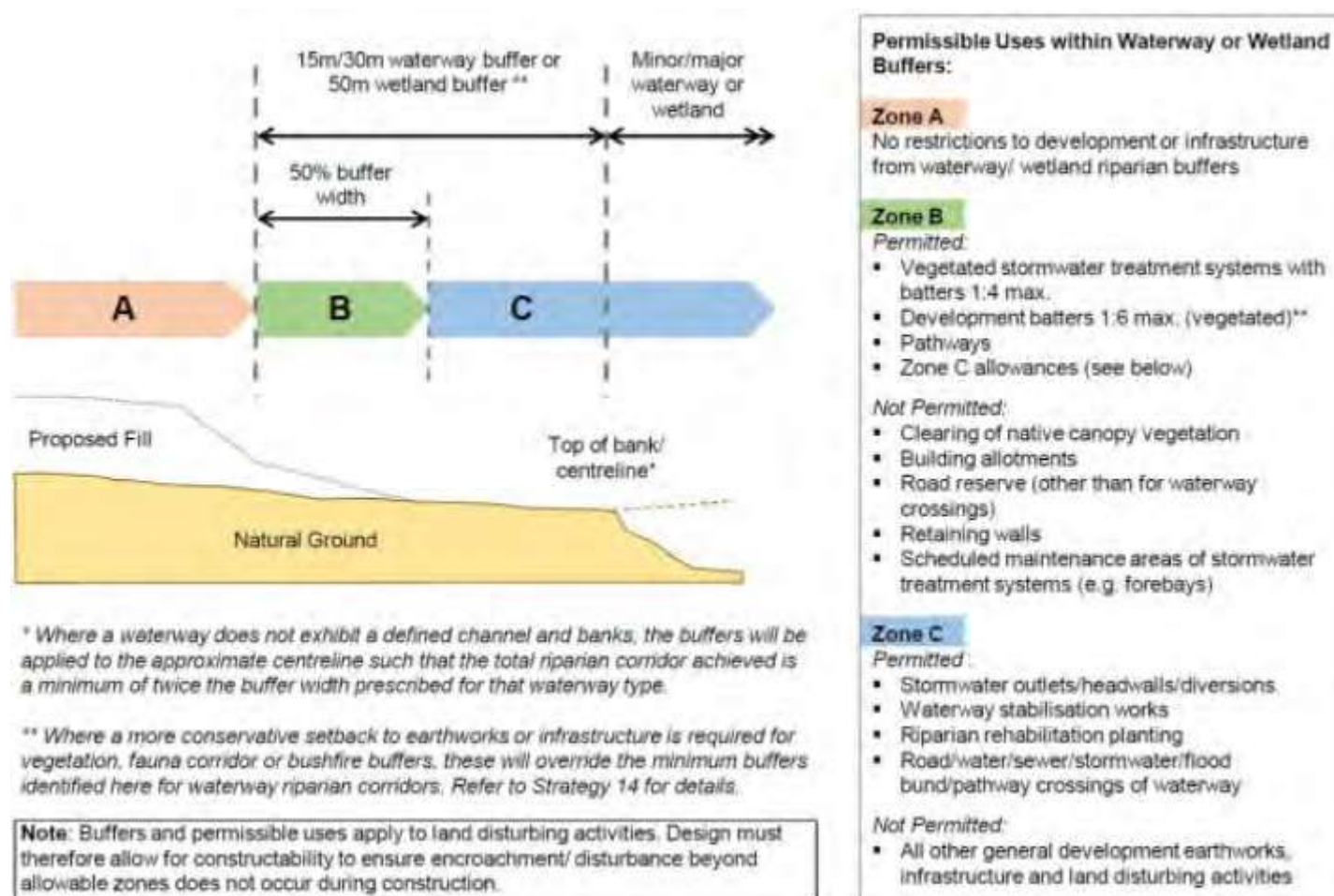


Figure 14.1

A summary of the permissible uses within waterway and other buffers is provided in the following cross section:



Note that mapping of the waterway setback within the Powerlink electrical corridor is not ground-truthed and so may well be inaccurate in terms of its location and corresponding 15m (minor waterway) buffer (see Figure 14.1).

The Fauna Corridor construction setbacks (section 4.3.1 of the Fauna Corridor Master Plan) are not considered within this CPAS as the boundary does not contain any components of the Yarrabilba Fauna Corridor within or adjacent to the CPAS area. Typically, for this area, there is a 10 m construction setback to mitigate damage to retained tree root shields within the fauna corridor. A number of additional setbacks/buffers, outside of those identified above, are however applied within this CPAS as identified in the following figures.

Figure 14.2: Retained vegetation construction setbacks:

- 10 m construction setback to mitigate damage to retained tree root shields; and
- Exceptions occur in instances such as parks where retained vegetation is incorporated with recreational areas or where other park infrastructure is approved. In these cases, tree protection zones (TPZs) are calculated for individual trees by the project arborist, in accordance with Australian Standard 4970:2009. Public safety takes precedence over retention of individual trees, however additional offset planting is to be undertaken where trees within an area of native vegetation are removed for the installation of recreational areas or other park infrastructure. This also applies for trees adjacent to the CPAS area (i.e. from the adjacent Waterford-Tamborine Road reserve).

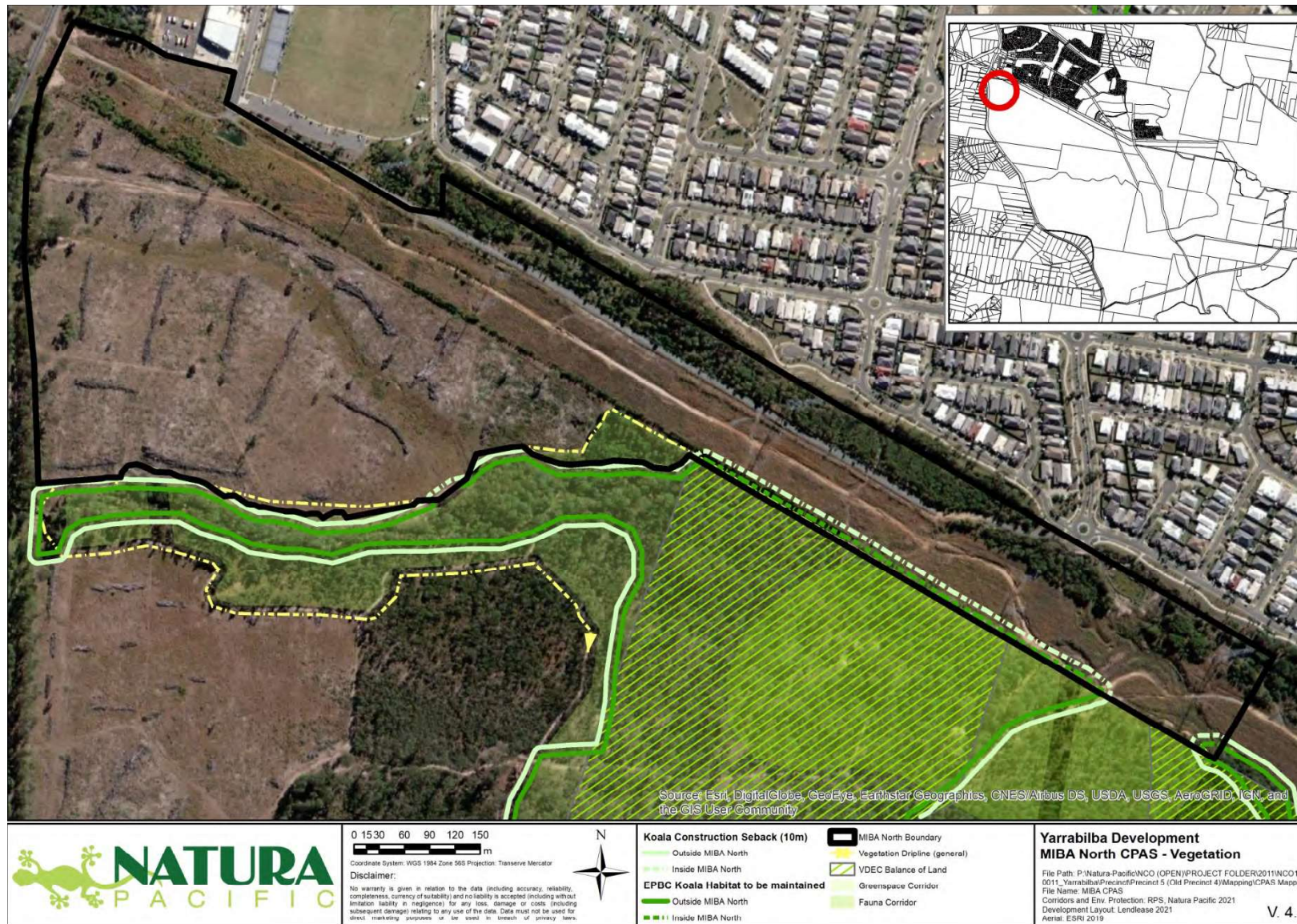


Figure 14.2

Figure 14.3 Bushfire setbacks (identified through expert advice from the Bushfire Management Consultant):

- 16 m building setback from bushland for bushfire buffer (<29k/Wm² radiant heat flux rating under SPP7/17 requirements);
- 38 m building setback from bushland for bushfire buffer to vulnerable uses, essential community infrastructure & hazardous material uses (<10k/Wm² radiant heat flux rating under SPP7/17 requirements).

Driveways and car parking may be located within building setback areas (Figure 14.3)

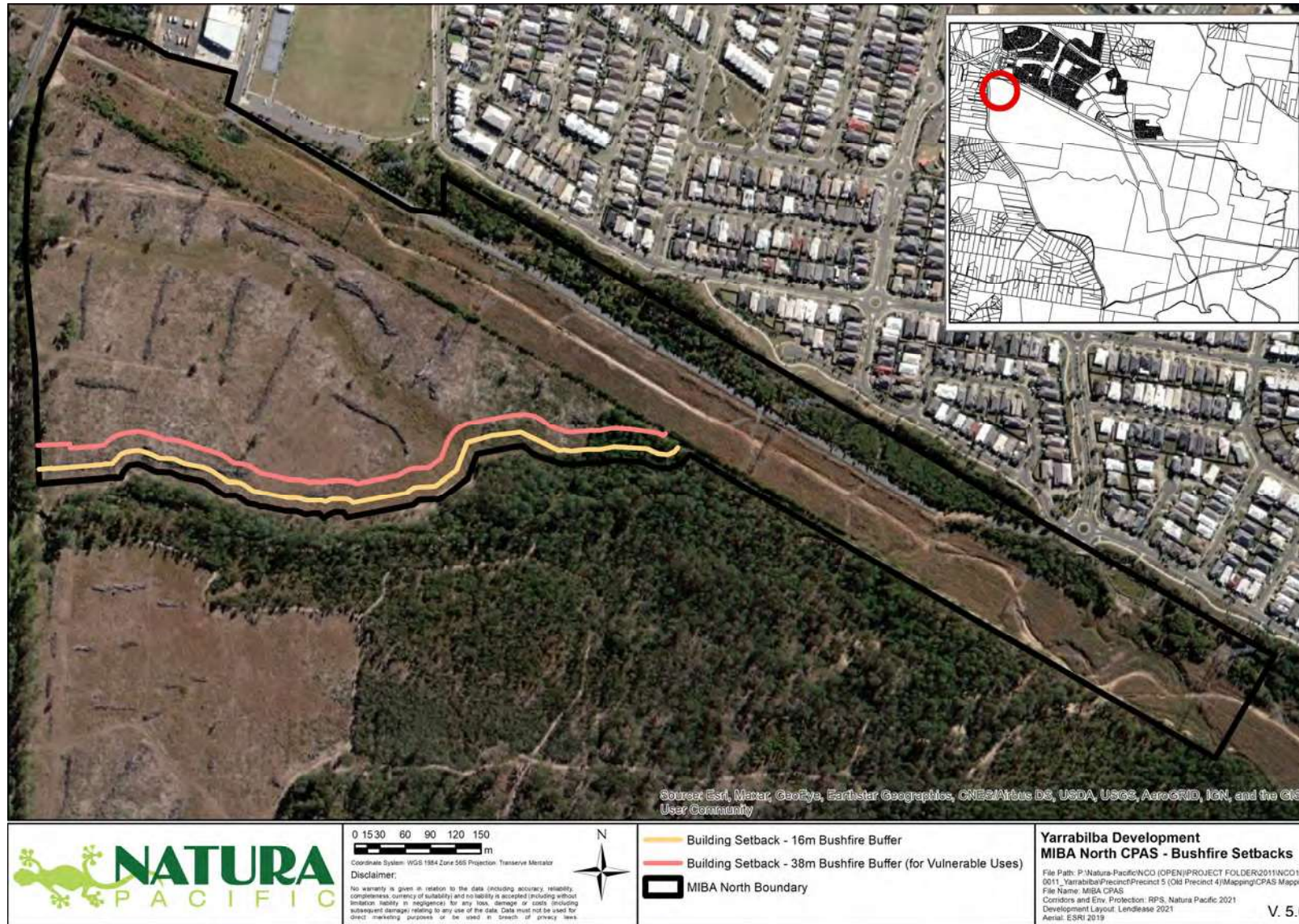


Figure 14.3

Figure 14.4: EPBC Koala Habitat to be maintained:

- 10 m construction setback to mitigate damage to retained tree root shields or Koala Habitat Trees (KAT's); and
- Exceptions occur in instances such as parks where retained vegetation is incorporated with recreational areas or where other park infrastructure is approved. In these cases, tree protection zones (TPZs) are calculated for individual trees by the project arborist, in accordance with Australian Standard 4970:2009. Public safety takes precedence over retention of KAT's, however additional offset planting is to be undertaken where KAT's are removed for the installation of recreational areas or other park infrastructure.

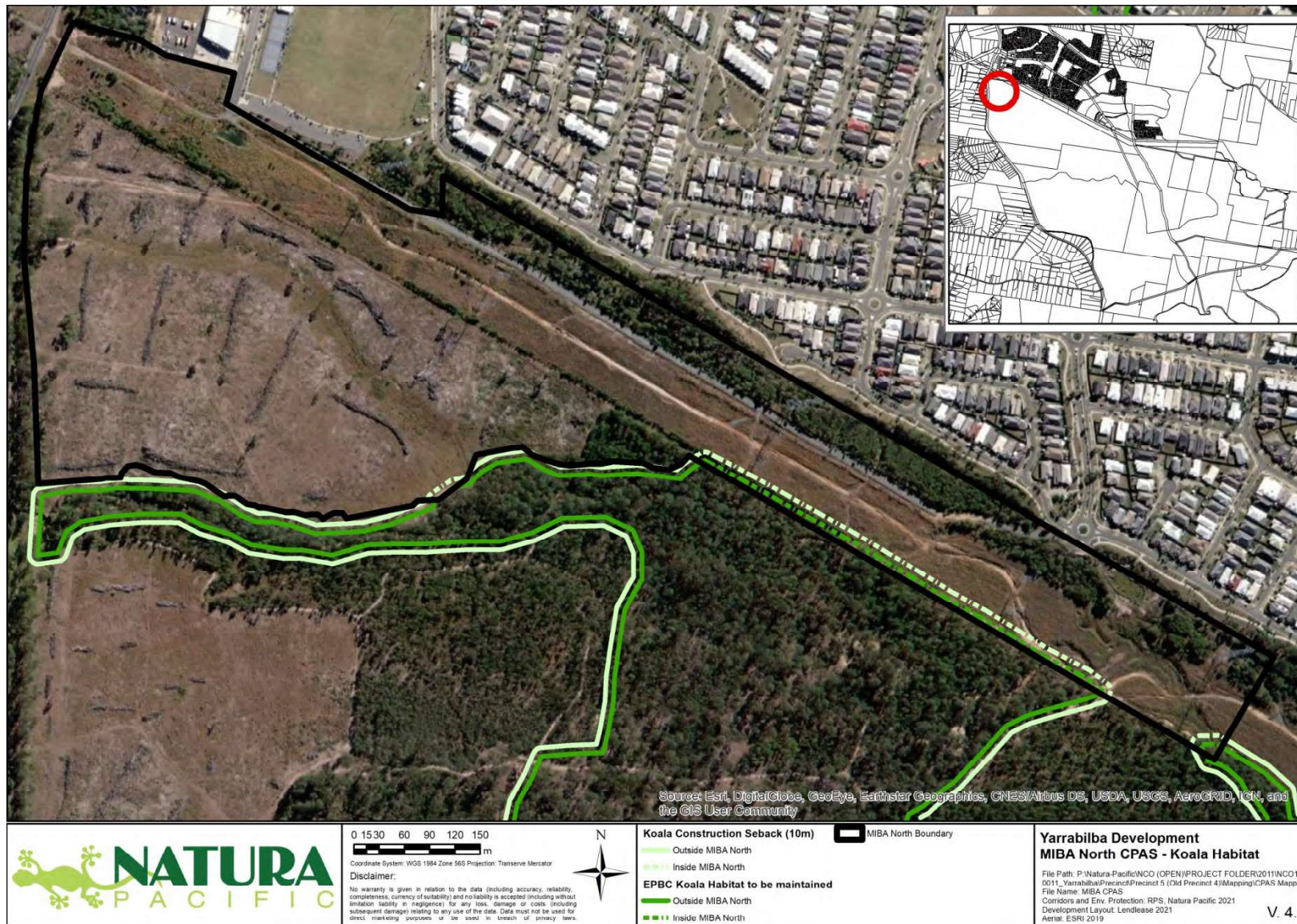


Figure 14.4

Figure 14.5: Overall Concept

- combined constraints for wetlands/waterways, Koala habitat to be maintained, Regional Ecosystems (and other vegetation) and Bushfire.

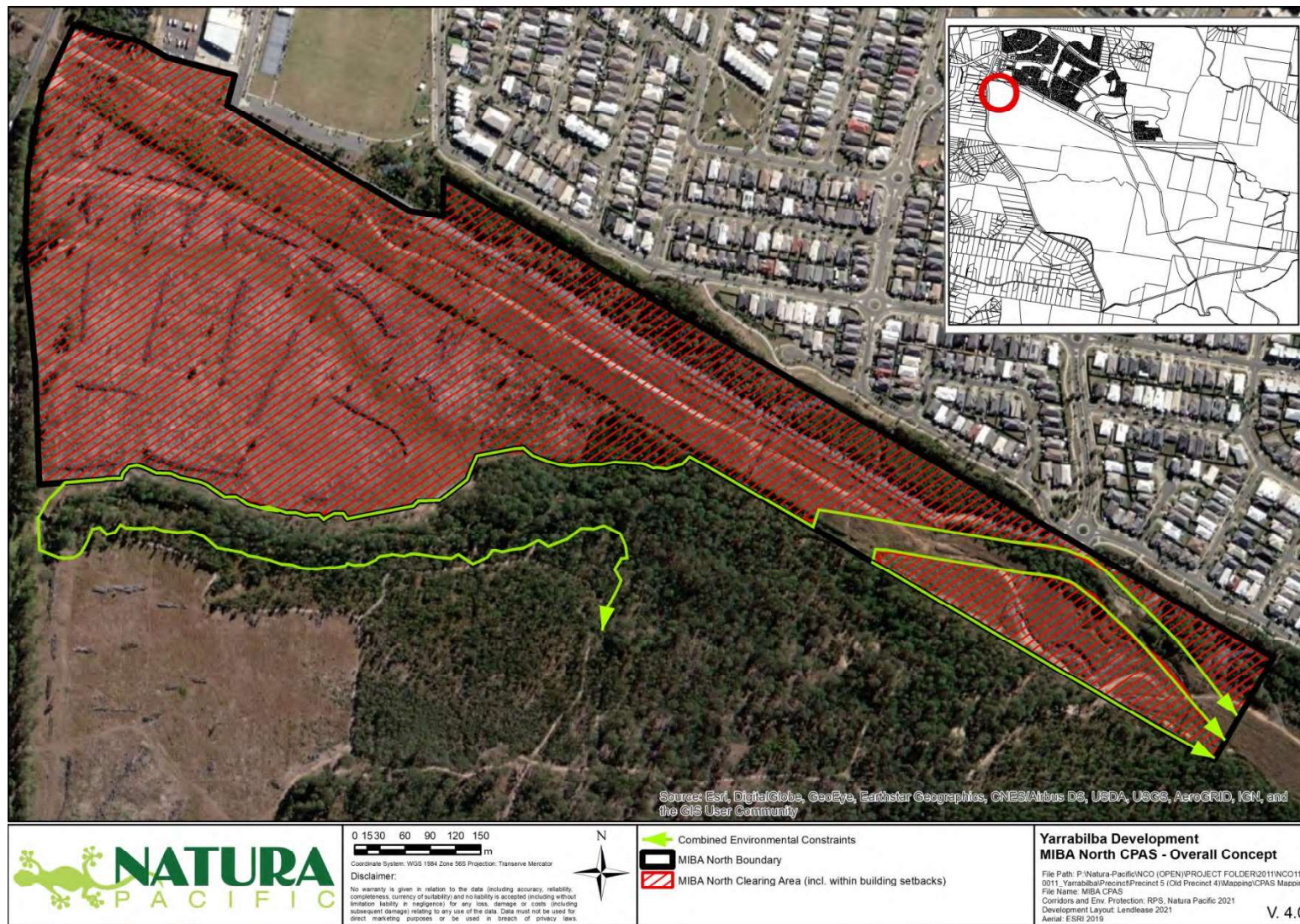


Figure 14.5

Overall Concept

Vegetation

Provide vegetation management actions which integrate the protection and enhancement of the floristic values associated with the fauna corridor, parks, waterways, electricity easement and natural open spaces, in order to meet the objectives identified in Natural Environment Overarching Site Strategy, including:

- Weed control (bio-security) and revegetation
- Protection and retention of significant trees
- Assessment for and management of (where identified on site) significant flora species
- Bushfire management
- Assessment and management of remnant vegetation (Regional Ecosystems)
- Rehabilitation, offsets and monitoring/compliance

Key Issues

Vegetation management actions to be provided within or associated with MIBA North are highlighted in the following areas:

- Setbacks between development footprint and:
 - Protected vegetation, including 10 m soft interface (incorporating a batter, park, stormwater treatment/flood detention, verge, walking trails, road etc) or minimum bushfire setback, whichever is greater.
 - Conservation areas, including 10 m soft interface (incorporating a batter, park, verge, walking trails, road etc) or minimum bushfire setback, whichever is greater, incorporating a number of recreational trail networks
 - Greenspace corridors, including retaining extent of mapped drip line vegetation and waterways setbacks as described in Section 4.4 of the Stormwater Infrastructure Master Plan (DesignFlow, 2012)
- Propagation and planting of local provenance significant and Endangered, Vulnerable and Near Threatened (EVNT) species, such as (but not limited to) *Melaleuca irbyana* and *Eucalyptus curtisii*.

Where relevant vegetation management within the buffer areas will generally be undertaken in accordance with the *Yarrabilba Development: Natural Environment Site Strategy* (Natura Consulting, 30 March 2016) which highlights vegetation management procedures with regards to clearing approvals, revegetation, monitoring/compliance and design requirements. For MIBA North, any required vegetation management associated with buffer areas is to consider connectivity and integration with waterways, passive/recreational space and Koala habitat protection measures to future MIBA Precinct/s to the south.

Consideration is to be given to the constraints associated with buffers to the Fauna Corridor to the south. It is also noted that the fauna corridor does not solely function as a requirement under the EDQ PDA but also provides Koala habitat offset under EPBC regulations for the whole site. Additional constraints for this and areas mapped as 'Koala Habitat to be maintained' (Figure 14.4) are highlighted under the EPBC conditions.

Consideration for gazetting future ownership of land:

- Greenspace corridor/other parks: should be dedicated as 'Open Space – Conservation or Recreation' to Logan City Council

Vegetation management shall be delivered in accordance with:

- Tree Retention in Residential Subdivisions - EDQ PDA Practice Note No. 6 (where applicable);
- Environmental values and sustainable resource use – EDQ PDA Guideline No. 14;
- Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs – EDQ PDA Guideline No. 17; and
- Development interfaces – EDQ PDA Guideline No. 18.

Vegetation management shall be coordinated with the bushfire management plan and documented with the Vegetation Management Plan (VMP) for each stage of clearing works. Each VMP will highlight relevant areas where a Rehabilitation Plan (RP) is required, based the presence of adjacent conservation/greenspace/park areas or vegetation/fauna habitat offsets associated with clearing for each stage of works.

Fauna

Provide fauna management actions which integrate fauna movement and habitat opportunities which improve or value add to adjoining fauna corridor, parks, waterways, and natural open spaces as identified in the Natural Environment Site Strategy and Fauna Corridor Master Plan. These include (where applicable):

- Habitat rehabilitation/offsets and monitoring/compliance (for native species but with a focus on Koala)
- Crossing design to allow fauna movement and fish passage (where applicable)
- Protection and retention of significant or specific habitat trees
- Assessment for and management of all fauna species throughout pre construction and construction periods; and
- Feral animal monitoring and management.

Certification of ecological compliance will be provided as part of each Development Application.

Key Issues

Fauna management actions and strategies associated with MIBA North include:

- Fauna friendly design aspects such as using food and shelter trees in parks and street scaping, use of fauna friendly fencing, fauna crossings and fauna/fish passage;
- Ensuring bushfire or bushfire management practices do not pose significant risk to fauna or fauna habitat;
- Fauna spotter-catching during clearing works; and
- Rehabilitation/revegetation of fauna corridors/waterways/greenspace corridors and monitoring/compliance
- Offsetting of lost fauna habitat through management practices such as installation and monitoring of nest boxes (1:1 ratio for key habitat features).

Fauna management will generally be undertaken in accordance with the Yarrabilba Development Natural Environment Site Strategy and Fauna Corridor Master Plan which highlight fauna management procedures with regards to clearing direction, revegetation, monitoring/compliance, design requirements and education. The Fauna Corridor Master Plan aims to integrate closely with the Natural Environment Site Strategy to achieve a range of goals while optimising use of space and resources available for fauna with vegetation management and stormwater quality/flood mitigation areas. For this CPAS, fauna management is largely connected to, and integrates with, retained vegetation areas which incorporate waterway setbacks, fish passage, passive/recreational space and Koala habitat protection measures.

The conservation area to the south of MIBA North are areas mapped as 'Koala Habitat to be maintained' and are highlighted under the EPBC conditions as 'offset areas'. Rehabilitation works in these areas are to address both the general fauna habitat requirements highlighted in EDQ plans and Koala habitat requirements identified in the EPBC approval conditions. To the south, and outside of, this CPAS area, a future road crossing will proposed in an area of EPBC vegetation to be managed. Consideration will be given within the design phase of this CPAS area to ensure that any future connections to road crossings reflect the outcomes of the EPBC approval in the area to the south.

Designs of road crossings and services are to be supported by ecological advice (i.e. arborist report, fauna assessment and vegetation management plan) and preliminary civil designs submitted as part of Development Applications. Additionally, waterway/fauna crossing design will incorporate vegetation retention (i.e. its placement will be provided in a location where minimal disturbance is required) and facilitate fauna movement and fish passage.

Fauna management shall be delivered in accordance with:

- Environmental values and sustainable resource use – EDQ PDA Guideline No. 14;
- Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs – EDQ PDA Guideline No. 17; and
- Development interfaces – EDQ PDA Guideline No. 18.

Certification of ecological compliance will be provided as part of each Development Application.

Supporting Information

Reporting Requirements and Timing

Documentation type	Details	Instances when required	Timing of delivery
Vegetation drip-line mapping	<ul style="list-style-type: none"> Ground-truthed vegetation extent mapping to determine setbacks to protect extant vegetation. 	Per context area	Prior to or in conjunction with initial design
Vegetation Management Plan	<p>Flora assessment and management including sections on (where applicable):</p> <ul style="list-style-type: none"> Tree survey of proposed clearing locations; Mapping of tree locations; Tree protection/retention measures and management of retained trees; Tables containing tree data; Other flora species management; and Implementation of recovery actions for any confirmed EVNT species. <p>Fauna assessment and management including sections on (where applicable):</p> <ul style="list-style-type: none"> Koala, kangaroo and other fauna species management; Feral animal management; Fish passage assessment where waterway crossing are required; and Implementation of recovery actions for any confirmed EVNT species. 	Per context area or per clearing area. Where clearing of native vegetation is required.	Prior to clearing works
Spotter Catcher Report	<ul style="list-style-type: none"> During clearing works, an EPA approved spotter catcher is to undertake onsite fauna management actions (i.e. fauna capture and translocation); and Post clearing reporting of results, fauna species translocated and outcomes of fauna management actions. 	Per context area or per clearing area. Where clearing of native vegetation is required.	During and after clearing works

Flora trigger map protected plant survey (as per requirements under the <i>Nature Conservation Act 1992</i> for Rare, Vulnerable Near Threatened species)	<ul style="list-style-type: none"> Follow survey and reporting methodology outlined in the Nature Conservation Act guidelines; Where EVNT species are identified, provide a Flora Management Plan and implement recovery actions, such as a Xanthorrhoea Management Plan; and Gain permits from Ecoaccess (DERM) for clearance of threatened flora (where applicable) and provide necessary offsets. 	Per context area or per clearing area. Where clearing of native vegetation is required.	Prior to and during OPW
Waterway and Fauna Corridor crossing/services design	<ul style="list-style-type: none"> Design road waterway and fauna corridor crossing to allow Koala and other fauna movement; Fish passage assessment and design; and Rehabilitation approaches to entry and exit points of underpasses. Review potential impact of crossing on extant vegetation long term health: <ul style="list-style-type: none"> Ground/storm water impact assessment; and Baseflow water level assessment of surface and ground water within fauna and waterway corridors. 	Where road or other crossings traverse waterways or Fauna Corridors	Conceptual fauna crossing during DA Detailed design and certification during OPW
Bushfire Management Plan	<p>Review potential impact of bushfire with a number of objectives:</p> <ul style="list-style-type: none"> Protect life and property; Minimise bushfire risk within the development footprint and neighbouring properties; Reduce unauthorised activities within the site through good management; Identify and manage future vegetation areas within the site to improve their ecological diversity and sustainability; Reduce the considerable incident of unplanned fire on the site by maintaining reduced fuel loads over future development areas within the site; and Have regard to the draft SPP model Code 	Per context area	At DA stage and have regard to the draft SPP model Code.

Rehabilitation Management Plan	<p>Fauna corridor, Regional Ecosystem, offset area and 'Koala Habitat to be maintained' rehabilitation:</p> <ul style="list-style-type: none"> • Strategic vegetation and habitat restoration methods and outcomes; • A focus on local provenance EVNT rehabilitation plantings • Fencing requirements; • Weed management; • Maintenance timing and schedules; • Rehabilitation monitoring plan • Nestbox/native bee installation and monitoring plan; and • 'As constructed' data demonstrating compliance with any offset requirements and certification of completion of works. 	Per context area or sub context area	Broad conceptual mapping during DA Detailed design and certification during OPW
Ecological equivalence assessment	<ul style="list-style-type: none"> • Undertaken where offsets are required for clearing 'significant vegetation' or other significant ecological value, which is otherwise unavoidable. 	Per context area	Prior to or in conjunction with OPW
Kangaroo management strategy	<ul style="list-style-type: none"> • Mitigation of impacts to kangaroos will be addressed within the construction site; • Review of security fencing location, access and release points; and • Contractor education. 	Per context area	During OPW
Koala habitat and offset area monitoring/ compliance report	<ul style="list-style-type: none"> • Long term monitoring of koala habitat and offset areas to ensure benchmarks are being met; • Certification of results; and • Reporting to EDQ and EPBC. 	Per context area	Post OPW (timing varies, outlined in approved Koala Habitat Rehabilitation Monitoring Plan)
Awareness and education	<p>Community and/or contractor education documentation:</p> <ul style="list-style-type: none"> • Interpretive signage; • Responsible pet ownership; • Responsible gardening and plant selection; and • Appropriate and inappropriate activities in and around fauna corridors. 	Per context area	Prior to and during OPW

Certification of ecological compliance	Provided within individual reports listed within this table or as a separate certification letter	Per context area or individual design component i.e. for the design of fauna passage within road crossings	As part of each Development Application
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