

## About this document

This document is the Draft Landscape Master plan for the Bangalow Sports Fields prepared by @leisure Planners and Jeavons Landscape Architects.

Previous documents related to this study include:

- Bangalow Sports Fields Plan of Management
- Bangalow Sports Fields Plan of Management and Landscape Master Plan Consultation Findings
- Bangalow Sports Fields Issues and Opportunities

The views expressed in the consultation section of this document are those provided by the Bangalow community. They do not necessarily reflect the views held by @leisure or Council.

## Acknowledgements

@leisure would like to acknowledge the support and assistance provided by:

- Malcolm Robertson, Manager Open Space and Facilities, Byron Shire Council
- Damian Kelly, Coordinator Sport and Recreation, Byron Shire Council
- Other staff who provided information assistance.
- The representatives of the sports clubs and user groups who were interviewed and those who commented on the project
- Jeavons Landscape Architects prepared the drawing and design concepts, assisted with the consultation and the site analysis
- Bennett and Bennett Pty Ltd prepared the feature survey of the site.

Byron Shire Council and @leisure Planners acknowledge the traditional owners of the land, the Arakwal people, the Minjungbal people and the Widjabul people of the Bundjalung Nation.

## What is a master plan?

A master plan is a blueprint for future development.

A master plan is an agreed direction by the landowner/manager and users about the best way to develop a site or a facility, based on the current demand and condition of facilities and context. It is not intended to be a commitment to fund development projects in the short term.

The intent is to direct a package of improvements over time and then develop components of that plan as and when funds become available.

Therefore, a master plan shows the broad concept and areas for development rather than specific design details.

These packages of improvements are often expressed as recommendations or potential future projects that are expected to improve the community access and use of a venue or facility over a period of 10 years+.

As recommended actions, they may not necessarily be delivered in the immediate or long term due to budget and other priorities or factors.



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## 1. Introduction

The project aim is to develop a Plan of Management (PoM) and Master Plan which provides the Byron Shire Council with:

- Collaborated approach between @leisure Planners, Council staff and community representatives to shape the Bangalow Sports Fields
- An updated PoM for the Bangalow Sports Fields
- A Landscape Master plan to support the PoM and guide the future development and upgrade of the site
- Ensure residents and visitors to Bangalow can enjoy attractive and accessible sports facilities that are inclusive, safe, comfortable, and enjoyable to be in and around and better accommodate passive recreation
- Evaluate the capacity of the site to meet the overall goals and needs of the community
- A framework and implementation plan development and upgrade in line with the Bangalow Village Plan and associated implementation plan
- Ensure the open Sports Fields within the township help maintain green vistas and the rural village feel. The community highly values these
- Allow for considered development on this site and prevent ad hoc development. An overall Landscape Master plan has been completed to provide direction.

### 1.1 Building on the Plan of Management

The Plan of Management (PoM) for the Bangalow Sports Fields provides the framework for development use and management of the Sports Fields. This Landscape Master Plan builds on the POM and provides more detail about the design of facilities on the Bangalow Sports Fields. The two plans were developed simultaneously to increase participation in sport, physical, social, and environmental activities and enhance the functionality and sustainability of developments and management facilities at the Bangalow Sports Fields.

### 1.2 Key tasks and methods

The brief identified the key tasks to be undertaken as:

- Review the Open Space and Recreation Needs Assessment and Action Plan in relation to the community's recreation and sporting needs, opportunities and relevant trends impacting recreation services or facility provision to make the facility a quality town/village sports park. See Appendix 1 and Appendix 2.
- Assess changing trends in community recreation and demand for recreation facilities and ensure the public spaces are accessible and inclusive, servicing the needs of Bangalow residents at all stages of their lives.
- Prepare a plan that contributes positively to the heritage, character, and rural amenity of the village.
- Identify upgrades to existing facilities to improve accessibility inclusivity and better accommodate passive recreation.
- Review the access road and car parking that could be formalised to improve safety for pedestrians (being conducted by others).

## 2. Objectives

The key objectives of the plan as identified in the project brief are:

1. To ensure residents and visitors to Bangalow can enjoy attractive and accessible sports facilities that are inclusive, safe, comfortable, and enjoyable to be in and around and better accommodate passive recreation
  2. To evaluate the capability of the site to meet the overall goals and needs of the Community
  3. To provide a framework and plan for future development and upgrades, in line with the Bangalow Village Plan
  4. To ensure these Sports Fields within the township help maintain green vistas and the rural village feel, which are so valued by the community
  5. To allow for considered development of the site and prevent ad-hoc development an overall Landscape master plan is required to provide direction.
5. Provide more shade trees between the fields, along the pathway network and around the skatepark
  6. Install shaded seating for greater comfort
  7. Provide picnic facilities along the creek
  8. Upgrade the children's play space
  9. Provide end-of-trip facilities for cyclists
  10. Provide a new walk/cycle path connection between Showgrounds and sports-fields, including a bridge across Byron Creek
  11. Ensure infrastructure is accessible and facilitates inclusive social interaction
  12. Identify needs for additional or upgraded infrastructure such as public toilets
  13. Ensure specific consideration of natural materials and use of natural landscaping so that any infrastructure aligns as much as possible both aesthetically and physically with the natural landscape.
  14. Identify opportunities for enhancement of the play space with imaginative and natural play elements
  15. Identify opportunities for safe and environmentally responsive recreational access to the Byron Creek
  16. Ensure a landscape design that allows for sustainable maintenance
  17. Ensure Sports Fields user safety including consideration of Crime Prevention Through Environmental Design (CPTED) principles, sightlines, lighting, secure location and passive surveillance
  18. Compliance with relevant Australian standards
  19. Development of a financially sustainable implementation plan including priority areas for improvement (Short-, Medium- and Long-term actions).

### 2.1 Specific objectives for change by area

Specific objectives for change by area are as follows:

1. Provide for an all-in-one facility with changerooms, clubhouse and canteen
2. Upgrade lighting on the fields to a training standard
3. Upgrade netball courts and associated facilities
4. Provide irrigation to Jeff Schneider Field

### 3. Master plan drawing

Figure 1. Bangalow Sports Fields landscape master plan



## 4. Key improvements

There are a range of improvements that have been identified for the Bangalow Sports Fields. These have been themed and summarised in the list below. See more detail about the issues in the Site Analysis and Issues and Opportunities Paper prepared for this project.

### Change rooms and toilets

1. Provide a code compliant, change room and small shared social space accessible to people of all genders and abilities, toilet and change facilities and storage, centrally located (in the current location). Provide a second storey as appropriate, for meeting/multi-purpose/social space
2. Ensure all infrastructure caters for all genders and abilities. Include an accessible toilet with an adult change table and hoist in the main amenities building
3. Redevelop of the tennis rooms as a small satellite facility for netball and tennis and provide toilets, shade, and storage for for cricket +rugby plus a Council maintenance area
4. Provide additional toilets and storage for soccer-football in the south.

### Lighting

1. Investigate and upgrade lights on the fields of play to be code complaint and enable competition games at night as appropriate
2. Rationalise old poles, provide energy efficient LED luminaires in accordance with codes for competition and training and ensure lights are easy to maintain
3. Reconfigure tennis lighting outside the fence.

### Accessibility

1. Provide an accessible path of travel onto the fields of play, to the play space, from the town and path down from road bridge
2. Resign the play spaces to include elements accessible to people with a disability and people of all ages
3. Provide improved pathways connecting the Sports Fields with the township and surrounding streets
4. Ensure toilets and change rooms provide for people of all ages gender and abilities
5. Upgrade surfaces, paths and play opportunities to remove barriers to inclusion
6. Address the issues on the brick veranda of the club rooms and the access down to the play space

### Turf quality and levels

1. Reconstruct the sports turf fields of play to enhance quality and safety
2. Where possible elevate the level of Sports Fields to reduce inundation. This would be subject to flood plain modelling, and approvals
3. Conduct significant drainage works to redirect water off the Sports Fields and address parking
4. Prepare new specifications for the management of turf with clear performance indicators and a maintenance regime that can be shared with clubs, so they know what to expect. This maintenance regime needs to be in keeping with an acceptable level of use, i.e., numbers of playing hours per week that it can be sustained and protect the turf quality
5. Match use with the carrying capacity of the turf
6. Avoid trees impacting on sports turf, and paths

### Shultz Oval, (Cricket No 1 + Rugby)

1. Improve the turf quality and drainage of the oval
2. Investigate the possibility of an all-weather wicket which maybe a better fit with rugby, or a turf wicket is this is feasible for the cricket club to maintain and share with a winter football user
3. Reconstruct the oval and rugby fields to provide a better level surface, soil profile, turf species and drainage and remove funnel ant and weeds

### Cricket nets

1. Relocate the cricket nets to the northwest of the ground, in accordance with the cricket Aust. Guidelines, and provide one additional bay. Retain nets open to the public
2. Introduce a new maintenance regime to keep the ground in a better condition and include the nets

### Rugby pitch

1. Consider options for a full-sized rugby pitch off a cricket wicket + a junior field beside (this only may be possible on Oval No. 2 for Junior rugby)
2. Manage the level of use, to match the carrying capacity of the turf
3. Provide some better spectator seating along the rugby sideline where possible

### Soccer-football fields

1. Reconstruct the playing fields to increase the carrying capacity of the fields and introduce a maintenance regime and level of use to ensure turf quality can be maintained
2. Refine contract conditions and monitor the performance of the mowing contractor and agree on maintenance tasks and use with user groups
3. Provide a small support facility with new toilets and storage on the end of the Jeff Schneider field in association with car park

4. Tennis
5. Rebuild the 3 tennis courts with reconfigured lights and a mowing edge, new surface, upgraded fence, covered viewing area, hit up wall and appropriate drainage etc.,
6. Provide access to one additional hard court in conjunction with netball. This will provide four courts for enhanced viability, and junior player development
7. Prepare a new licence arrangement with tennis and agree a maintenance regime
8. Provide parking to serve the new courts

### Access and parking

1. Provide a new car park in the north off Bangalow Road, to service cricket, tennis, netball, and rugby of approximately 100 spaces. This will require major cut and fill and a retention basin etc.)
2. Provide some parking within Council land, off the main public access road facing the central playing fields and tennis and provide maintenance access to the amenities building. Ensure this car park does not impact on the fields of play or the perimeter path. Design in conjunction with adjacent landowners and stakeholders
3. Provide a safe access across the road to the field of play from in front of the Bowlo i.e., where possible through a one-way road and a marked pedestrian crossing
4. Improve the drainage around the southern car park in the longer term and address the channel that runs across it

### Netball

1. Provide two netball courts for training, including lighting and fencing
2. Co-locate the netball courts with tennis courts to enable tennis to access a hard court, shared amenities, and other infrastructure etc.
3. Multi - mark at least one netball court for tennis and encourage use of the courts for wheelchair and other sports

### Trees/shade

1. Provide additional permanent shade along the field sidelines where don't obstruct flexible use and sightlines, and encroach the perimeter path or fields of play
2. Plant additional shade trees outside the perimeter path and along southern and new northern car park
3. Retain the high-quality amenity value of the site
4. Keep the tree canopy along the creek boundary intact
5. More planting on the edge of the south-eastern car park.

### Perimeter path

1. Consider naming the path
2. Keep the path free from obstructions, and tree root encroachments, and ensure drainage and car parking work do not impact on the location of the path.

### Skate park

1. Continue to regularly clean and maintain the skate park in a good condition
2. Provide a new accessible path of travel off the perimeter path to access the skate park
3. Ensure that there are opportunities for young people to learn to skate and progress their skill development at this park.

### Playgrounds

1. Upgrade in the current location
2. Create a new design, integrating wheelchair-accessible components
3. Ensure design unique to Bangalow and complement the other local play spaces
4. Contain soft fall and urgently fix levels
5. Risk issues with veranda edge.

### Creek crossing

1. Promote the electricity supply line or causeway as the best location to provide a pedestrian bridge across the Byron Creek from the Sports Fields to the Showground, where no canopy trees are affected. The previous crossing location would mean clearing of rainforest canopy and the one remaining indigenous tree.

### Signs

1. Rationalise /update signs for each sport
2. Include the name of the field and information to encourage participation
3. Manage/co-locate signs to keep them to a minimum
4. Keep the information relevant and readable.

### Revegetation corridor

1. Limit impacts from the Sports Fields on this corridor and wildlife
2. Manage the canopy of trees to minimise further encroachment on sports turf
3. Encourage Landcare and Rivercare to continue manage this vegetation
4. Protect and restored the windmill in a suitable location – possibly elsewhere.



## Bicycle parking

1. Retain bicycle parking in conjunction with the amenities and provide in conjunction with the car parks and support facilities adjacent to the fields of play.

## Bus stop

1. Provide a bus stop on Byron Bay Road outside the Sports Fields.

## Art and culture

1. Where possible the design of landscape, fixtures and fittings should include art and cultural references
2. Engage with indigenous artists in the preparation of designs.

## Seating

1. Provide several lightweight shade structures to support spectators on the Sports Fields perimeter and fields of play
2. Provide additional seating in conjunction with the playground
3. Additional seating recommended around the satiate facility near the netball/tennis courts.



## 5. Landscape character

### 5.1 The Bangalow Village Context















































































































This Bangalow Sports Fields Landscape Master Plan complements the Bangalow Village Plan and vision statement in many ways. These include:

- The Sports Fields offer a rich, green natural setting where families and other members of the community gather in large numbers for a wide variety of sporting and healthy outdoor activities.
- The landscape master plan builds on the sporting heritage of the village and enhances these opportunities by improving infrastructure to provide a wider variety of activities, inclusive of all genders and abilities. The plan seeks to provide higher quality playing fields and support facilities, rationalises and provides more car parking, improves access and capacity while improving safety and reducing congestion.

The plan reinforces the natural character of the site, with its important creek-side habitat and the natural beauty of the vegetation and wildlife. The green vistas are preserved, and the rural village feel is maintained in this plan.

- The corridor provides protection of the creek from nutrient runoff, as well as shading the creek from algal blooms and weed growth by planting of rainforest trees a significant part of the wildlife corridor from the old highway to the east and to Herman's remnant to the west of the town. It provides one of the few remaining remnants of the Big Scrub.
- This plan proposes a vital improvement in the physical link to the village itself, via a new wheelchair accessible route from the Sports Fields to the road bridge. This crosses a proposed new boardwalk through a new wetland/habitat area that provides visual and ecological interest along the journey.
- The alignment of a future link to the Showgrounds is also proposed, via a new bridge across Byron Creek.
- This improved connectivity strengthens the link between these three focal components of the township: the village, the Sports Fields, and the Showgrounds.
- In the future, a new pedestrian link that would enable a safe pedestrian route along the main road from the road bridge into the village, and for wheelchair users, would complete the vision for access and inclusion in Bangalow.



LEGEND	ITEM	DESCRIPTION	APPROVED CONSTRUCTED SAMPLE OR NOM SUPPLIER	LEGEND	ITEM	DESCRIPTION	APPROVED CONSTRUCTED SAMPLE OR NOM SUPPLIER	LEGEND	ITEM	DESCRIPTION	APPROVED CONSTRUCTED SAMPLE OR NOM SUPPLIER
<b>SCHEDULE OF RAMPS, HANDRAILS AND BRIDGE</b>											
	PROPOSED RAMP AND STAIRS	BOARDWALK	TBC		<b>SCHEDULE OF LIGHTING</b>						
	RAMP HANDRAIL WITH KERB RAIL	AR120 - DOUBLE OFFSET HANDRAIL / KERBRAIL SIZE: STANCHION AND RAILS - DIAMETER 48.3mm OD, 41.9mm ID. NOMINAL THICKNESS 3.2mm. KERB RAIL - HEIGHT:122mm, WIDTH:24mm. OVERALL HEIGHT: 950mm. FINISH: GALVANISED STEEL.	MODDEX OR SIMILAR APPROVED 								
	TGSI AND STAIR NOSING	ULTIMATE TACTILE HAZARD 300mm X 600mm BLACK COLOUR	SAFETY XPRESS OR SIMILAR APPROVED 		<b>SCHEDULE OF BIKE RACKS</b>						
	CREEK CROSSING	CONDAMINE SERIES - STEEL I-BEAM DECKING: HARDWOOD BALUSTER PANELS: PRE-ASSEMBLED HARDWOOD JOISTS: HARDWOOD BEAMS, BEARERS AND POSTS: HOT DIPPED GALVANISED STEEL BEAMS	LANDMARK OPEN SPACE STRUCTURES AND SOLUTIONS 								
	<b>SCHEDULE OF CAR PARKING</b>				<b>SCHEDULE OF SHELTER AND TOILETS</b>						
	<b>CAR PARK SURFACING</b>				<b>PLAYER SHELTER</b>						
	CAR PARK SURFACING	STANDARD BLACK ASPHALT FOR VEHICLE LOADING.	LOCAL SUPPLIER 								
	<b>CAR PARK LINE MARKING</b>				<b>TOILET BLOCK</b>						
	CAR PARKING BAY	WHITE LINE MARKING	ADVANCE LINEMARKING OR SIMILAR APPROVED								
	ACCESSIBLE PARKING BAY	LINE MARKING COLOUR AND SYMBOLS IN ACCORDANCE WITH STANDARDS.			<b>CURVE CUSTOM SHELTER</b>						
	ACCESSIBLE PARKING BAY BOLLARD	SYMBOLS AND LINE MARKING: - UNIVERSAL DISABILITY LOGO - SHARED SPACE									
		165mmx5mm THICKNESS HEAVY DUTY STEEL, 1300mm HIGH FROM FFL. SAFETY YELLOW POWDERCOAT, 75mm RED REFLECTIVE TAPE, DDA LOGO	BARRIER GROUP OR SIMILAR APPROVED 		<b>SCHEDULE OF LOOSE SURFACES</b>						
	<b>SCHEDULE OF PATH SURFACES</b>				<b>GARDEN BED MULCH</b>						
	PROPOSED PEDESTRIAN PATH	COLOUR: STANDARD GREY FINISH: BROOM FINISH NO TROWEL EDGES	EUREKA CONCRETE OR SIMILAR APPROVED LOCAL SUPPLIER 								
					<b>CHAIN MESH FENCE</b>						
											
					<b>NET TOWER WITH RING</b>						
											
					<b>SPORTING EQUIPMENT</b>						
											
					<b>SPORTING FENCE</b>						
											
					<b>BALL COURT SURFACING AND LINE MARKING</b>						
											
					<b>SPORTING FENCE</b>						
											
					<b>NET TOWER WITH RING</b>						
											
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PROPOSED PLANTING PALETTE					
ID	Botanical Name	Common Name	Height	Spread	Notes
<b>Trees</b>					
CasGI'G'	<i>Casuarina glauca</i> 'Greenwave'	Casuarina Greenwave	1500	1500	
Coco	<i>Cordyline congesta</i>	Narrow Leaved Palm Lily	10000	2000	
CuAn	<i>Cupaniopsis anacardioides</i>	Tuckeroo	13000	5500	
EIEu	<i>Elaeocarpus eumundi</i>	Smoothed leaved Quandong	8000	1300	
Er	<i>Elaeocarpus reticulatus</i>	Blueberry Ash	10000	5000	
Flbe	<i>Flindersia bennettiana</i>	Bennett's Ash	10000	10000	
FISc	<i>Flindersia schottiana</i>	Silver Ash, Cudgerie	35000	13500	
PoEle	<i>Polyscias elegans</i>	Celerywood, Silver Basswood, Black Pencil Ce	13000	5500	
StSi	<i>Stenocarpus sinuatus</i>	Firewheel Tree	23000	13500	
Sy'PC	<i>Syzygium</i> 'Pink Cascade'	Lilly Pilly	3000	2000	
Wf'W'	<i>Waterhousia floribunda</i> 'Whisper'	Weeping Lilly Pilly	8000	5000	
<b>Shrubs</b>					
As'FS'	<i>Acmena smithii</i> 'Fire Screen'	Lillypilly	3000	1200	
AuD	<i>Austromyrtus dulcis</i>	Midgen Berry	1000	1000	
CoPe	<i>Cordyline petiolaris</i>	Palm lily	4500	1800	
Hf'GN'	<i>Hymenosporum flavum</i> 'Gold Nugget'	Dwarf Native Frangipani	500	500	
LePe	<i>Lepidozamia peroffskyana</i>	Cycad Palm	5000	4000	
MeAf	<i>Melastoma affine</i>	Native Lasiandra, Blue Tongue	3000	1800	
Pto'MM	<i>Pittosporum tobira</i> 'Miss Muffet'	Pittosporum Miss Muffet	1000	1500	
<b>Ground Covers</b>					
Cgl	<i>Carpobrotus glaucescens</i>	Angular Pigface	200	2000	
ErMy	<i>Eriostemon myoporoides</i> (syn <i>Philotheca myoporoides</i> )	Long-Leaf Wax flower	800	500	
<b>Ferns</b>					
AsAu	<i>Asplenium australasicum</i>	Crow's Nest Fern	1300	1300	
BICa	<i>Blechnum cartilagineum</i>	Gristle Fern	1300	1300	
DoAs	<i>Doodia aspera</i>	Prickly Rasp Fern	700	200	
<b>Climbers</b>					
PaJa	<i>Pandorea jasminoides</i>	Bower Vine	4500	1300	

### 5.3 Play space concept

LEGEND	ITEM	DESCRIPTION	APPROVED CONSTRUCTED SAMPLE OR NOM SUPPLIER	LEGEND	ITEM	DESCRIPTION	APPROVED CONSTRUCTED SAMPLE OR NOM SUPPLIER
<b>SCHEDULE OF PLAYGROUND, EQUIPMENT AND SURFACES</b>							
<b>PLAYGROUND SURFACE</b>							
	PLAYGROUND SOFTFALL MULCH	NATURAL MULCH SOFTPLAY PLAYGROUND MULCH INSTALLED DEPTH: 350mm	LOCAL SUPPLIER OR SIMILAR APPROVED		WETPOUR SYNTHETIC SURFACE	PLAYKOTE TOP COAT RUBBER SBR COLOUR: SAND #816	RUBBER TOUGH INDUSTRIES OR SIMILAR APPROVED
	ROCK EDGING	MIN 500-750mm HONEY GRANITE MUDSTONE. ENSURE FLAT SIDE OF ROCK IS FACING UP.	LOCAL SUPPLIER OR SIMILAR APPROVED		PICNIC SETTING	PRODUCT: LINEA TABLE LIT 10 AND LBS DIMENSION: H:720mm; W:750mm; L:1500mm FIXING: STANDARD LEGS FREESTANDING FRAME: STAINLESS 304 POWDER COATED CHARCOAL BATTEN: ECO-CERTIFIED HARDWOOD OILED	STREET FURNITURE
	01	DOUBLE SWING	DOUBLE COMMUNITY SWING		DECKING	MIN CLASS 2 OR HAZARD RATING 3 TYPE: BLACKBUTT ROUGH SAWN.	LOCAL SUPPLIER
	02	ACCESSIBLE CAROUSEL	GALAXY WHEELCHAIR CAROUSEL		09	PLAYGROUND PERIMETER FENCE	LOW TIMBER FENCE LOCAL SUPPLIER
	03	CAR THEME PLATFORM	WHEELCHAIR ACCESSIBLE PLATFORM - CAR THEME				
	04	ROCKER	SEE SAW ROCKER - FLAT SEATS				
	05	JUNIOR HORIZONTAL BAR	JUNIOR HORIZONTAL BAR H: 1800mm				
	06	SENIOR HORIZONTAL BAR	SENIOR HORIZONTAL BAR H: 2000mm				
	07	CELLULA NET STRUCTURE	CELLULA NET STRUCTURE				
	08	PLAY STRUCTURE	PLAY STRUCTURE TO INCLUDE: - SLIDE - ACCESSIBLE UNDERNEATH - CUBBY HOUSE - CLIMBING NET				



1 Preliminary design of proposed playground  
Scale: 1:100@A1

**Note:**

- The intention is to create a more accessible, inclusive design that provides for a wide ranges of ages and play interests as well as for social interaction
- All levels, surfaces and materials to be further resolved

## 5.4 Water sensitive urban design

The Bangalow Sports Fields are located along the Byron Creek which floods periodically. Some sections of the Sports Fields are regularly inundated. Drainage from the main road exacerbates flooding onto the fields.

In order to address this problem, a schematic design for drainage is proposed. This schematic idea needs to be fully investigated by a qualified civil engineer.

There are three key areas that need to be addressed:

1. The area to the south at the end of the car park, close to the path towards the township
2. The entry road to the Bowling Club and to the tennis courts, and
3. The new overflow car park proposed uphill at the northern end of the site will require drainage.

**1. The area to the south at the end of the car park, close to the path towards the township.**

This is a boggy area, and it is proposed that a new extended wetland/ frog bog could be designed to enhance habitat, collect water, and shed it towards the creek. The plan for a new wheelchair accessible route up the embankment includes a section of boardwalk that would cross the wetland and provide observation and viewing points. The wetland could be fenced if required for safety. See image to the right.

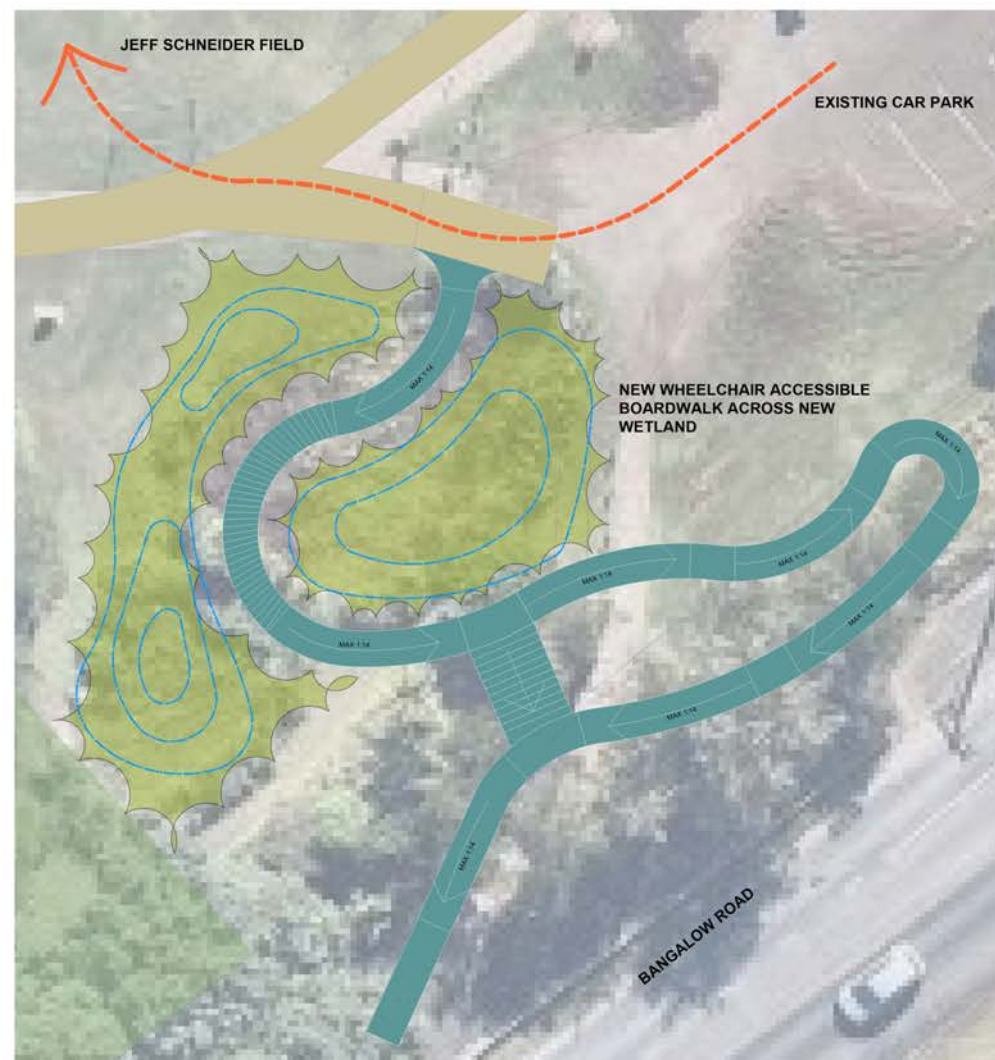


Figure 3. Concept for southern car park water sensitive urban design

2. **The entry road to the Bowling Club and to the tennis courts.**

This area has a drain that pools outside the tennis courts and disperses onto the sports field. This water needs to be collected into a swale or drain and to flow to the corner behind the proposed new cricket nets, where it will disperse into the area described in 3 below.

3. **The new overflow car park proposed uphill at the northern end of the site will require drainage.**

The water from this end of the site could be collected into a new wetland/swale at the lowest point on the north-western corner of the site and disperse into the creek. See image to the right.

The detailed design of these three areas should be further investigated and should help reduce the boggy conditions and will in turn enhance the amenity and habitat value of this rich natural environment.



Figure 4. Northern carpark water sensitive urban design concept



## 6. Implementation plan with opinion of costs

The following table shows actions, order of priority and an opinion of probable costs (Turner and Townsend) for each action.

Figure 5. Actions, order of priority and opinion of probable costs for Bangalow Sports Fields

Action	Priorities			Indicative cost \$
	High	Medium	Low	
<b>Skate park</b>				
Graded path to skate park		•		5,452
<b>Change rooms and toilets</b>				
Central change rooms – 4 change rooms (where possible), small canteen, accessible toilet with adult change table and hoist, refs change, first aid room. (Note the current costing does not include second storey require to provide social facilities)	•			2,086,859
Central change room veranda	•			111,288
Redevelopment of the tennis/netball pavilion as a small satellite facility. To include storage, 3 all gender accessible toilets, veranda, kitchenette, first aid room, small council maintenance area and hit up wall on end for tennis	•			1,944,391
Netball/tennis pavilion veranda	•			400,479
Provide addition set of toilets and storage for soccer-football in the south. To include 2 accessible toilets, storage, shade, drinking fountain	•			258,106
Southern toilet/storage /veranda	•			52,501
<b>Lighting</b>				
Solar sensor lights around the perimeter path (allowed one light per 30m)		•		278,871
<b>Accessibility</b>				

Action	Priorities			Indicative cost \$
	High	Medium	Low	
Access onto the fields of play – development of paths	•			330,042
<b>Playground</b>				
Upgrade playground	•			340,628
<b>Ovals</b>				
Elevate the fields of play slightly above the current levels to reduce inundation	•			3,801,399
Reconstruct all of the grounds to provide an adequate soil profile, drainage irrigation, appropriate turf	•			5,490,910
LED lighting	•			844,404
Replace cricket wickets with all-weather wickets in reconstruction	•			140,734
<b>Cricket nets</b>				
Demolish and relocate the cricket practice nets to the northwest of the ground, in accordance with the cricket Aust. 3 bays that are open to the public	•			211,101
<b>Tennis</b>				
Rebuild the 3 courts with a mowing edge, new surface, upgraded fence, covered viewing area and appropriate drainage	•			821,917
Hit up wall	•			14,072
LED Lighting	•			140,734
<b>Access and parking</b>				
Develop new car parking Approx. 100 spaces to the north (major cut and fill required as slope and retention basin etc.) and several spaces on the eastern side of the tennis courts and road entry	•			1,189,234

Action	Priorities			Indicative cost \$
	High	Medium	Low	
Extra for major cut and fill	•			297,300
Retaining walls	•			740,053
Road and accessible carparks	•			636,610
<b>Netball</b>				
Two netball courts with fencing, one multi-lined with tennis	•			515,512
LED lighting	•			140,734
<b>Shade</b>				
Shade structures for spectators	•			181,293
<b>Signs</b>				
Signs to name the Sports Fields and information to participate four signs (cricket/rugby, soccer-football, netball, and tennis)		•		16,888
<b>Bicycle parking</b>				
Install bike racks		•		10,977
<b>Water sensitive urban design</b>				
Water sensitive urban design for wetland habitat (north and south car parks)	•			357,495

Action	Priorities			Indicative cost \$
	High	Medium	Low	
Improved connection and pathways for the township -path in southwest incl ramps and steps	•			153,197
<b>Tree planting</b>				
Improve shade with additional tree planting		•		52,775
<b>Drainage</b>				
Investigate solutions to drainage problems and redesign stormwater drainage system across the precinct – drainage swale pipe	•			261,068
Bridge path over drainage swale	•			193,432
<b>Creek crossing</b>				
Preferred location of bridge along the power lines easement - assume 3m wide			•	341,857

## Assumptions

Costs (2022) include construction and sundry costs. These include:

- Construction costs
- Locality allowance Allow 5%
- Design contingency 10%
- Construction contingency 10%
- Sundry costs
- Professional fees 10%
- Authority fees and charges Allow 10%
- Fixtures fittings and equipment allow 0.3%

## Notes / exclusions

We have expressly not taken into account the impact of the COVID-19 pandemic (or any other matter coming to our attention after the date of this report) and accordingly have excluded from this report any implications in relation to programme, costs, supply shortages, performance of parties due to shortages of labour, and the inability to travel due to global and national travel restrictions etc .,

Turner and Townsend accept no liability for any loss or damage which arises because of such matters or any reliance on this report which assumes such matters have been taken into account.

## Exclusions

- GST
- Cost escalation beyond December 2022
- Upgrade or provision of authority services infrastructure external to the site
- Adverse soil conditions including excavation in rock, soft spot
- Asbestos and other hazardous material removal
- Latent conditions
- Excavation, removal, and disposal of contaminated soil
- Piling or Board pier Foundations
- Diversion / relocation of existing in-ground services
- Public art
- Land, legal, marketing and finance costs
- Items notice as “Excluded” in the detail of the cost plan.


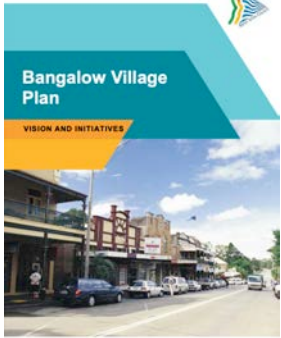


## 7. Appendices

### Appendix 1 Summary of key plans this plan aligns with

The table below summarises the documents that influence the development of the Sports Fields in the Byron Shire Council and have been reviewed.

**Table 1. Documents with which this plan aligns**

The Byron Shire Open Space and Recreation Needs Assessment and Action Plan	The Bangalow Village Plan
 <p>The Byron Shire Open Space and Recreation Needs Assessment and Action Plan provide the Byron Shire with a clear planning framework until 2036. The document considers the community's current and future recreation and sporting demands, existing options for meeting those demands, the nature of spaces required for particular activities, and the types of services that support specific activities.</p> <p>The Bangalow Sports Fields are classified as a village/town sports park; they are the only Sports Fields located within Bangalow.</p> <p>Infrastructure at the sports park supports tennis, soccer-football, rugby union, skating and informal sport and recreation pursuits.</p> <p>The report identifies a range of improvements required at the Bangalow Sports Fields; these include:</p> <ul style="list-style-type: none"> <li>▪ All in one facility with changerooms clubhouse and canteen</li> <li>▪ Upgrade lighting on the fields to training standard</li> </ul>	 <p>The Bangalow Village Plan sets out the vision for Bangalow residents from 2018-2033. A range of initiatives have been identified for the Bangalow Sports Fields; these include:</p> <ul style="list-style-type: none"> <li>▪ A review of the plan of management for the Bangalow Sports Fields</li> <li>▪ Improved connections between the Showgrounds and Sports Fields, i.e., the construction of a bridge across Byron Creek</li> <li>▪ Design a walking/cycling path along the rail corridor from Rifle Range Road to the Sports Fields</li> <li>▪ Modernise existing public amenities blocks to improve the safety and useability</li> <li>▪ Formalise car parking</li> <li>▪ Plant more shade trees between the fields, along the pathway and around the skatepark</li> <li>▪ Install more shaded seating</li> <li>▪ Provide picnic facilities along the creek close to car parking and toilets</li> <li>▪ Upgrade the children's playground</li> </ul>

The Byron Shire Open Space and Recreation Needs Assessment and Action Plan	The Bangalow Village Plan
<ul style="list-style-type: none"> <li>▪ Formalise the influence of Byron Bay Road next to the bowls club</li> <li>▪ Remove the price from the grass netball courts and redevelop the area as two informal netball basketball courts for the community and location netball club training</li> <li>▪ Irrigate Jeff Schneider Field</li> <li>▪ Develop a simple master plan to provide direction and prevent ad hoc development on the site</li> <li>▪ There has been a longstanding request from sections of the Bangalow community for a swimming pool to be constructed in Bangalow.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide end-of-trip facilities for cyclists</li> <li>▪ Undertake a feasibility analysis into the development of a multi-purpose facility at the eastern end of the Sports Fields.</li> </ul>

## Appendix 2. Key trends sports and park use

### Key trends

The image below provides, and overview of the key trends related to use of parks for social, physical land environmental activity, and sports



	<ul style="list-style-type: none"> <li>• <b>Dependence and 20 min neighbourhoods</b> Distance or lack of walkability mean some communities may be totally dependent on a space to meet everyday play sport and recreation needs.</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Wheels</b> Increased demand for bike facilities, wheeled toys and mobility devices.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Increasing demand and understanding of importance of green space and sport and development on sites with no natural environment features – green and communal spaces</b></li> </ul>		<ul style="list-style-type: none"> <li>• <b>The whole family needs to play together: all genders, ages and abilities included is ports, recreation and play</b></li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Access to nature for restorative values, play, diversity, shade, sustainability and perception of quality</b></li> </ul>		<ul style="list-style-type: none"> <li>• <b>Higher service and provision standards</b> to drive equity, ensure parks and sports facilities are safe, fit for purpose, and for asset management and budgeting.</li> <li>• <b>Increasing standards for support facilities, playing field size and female friendly facilities.</b></li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Less club sport, more social and individual sports</b> access for community and social sports and programs important.</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Inclusion and universal design</b> All play spaces, paths and facilities can be made inclusive of people with a disability not just regional, or "destination spaces," or special separate spaces.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Increasing demand for off road circuit trails for dog walking, running walking and wheeling</b> responding to more people working from home, increase pet ownership and need for exercise.</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Increasingly manicured design</b> promoted by developers in new development areas mean local parks have to consciously provide less structured environments with which to engage</li> <li>• <b>Wellbeing:</b> Physical activity, social connection and environmental lenses are needed in design.</li> </ul>



### Appendix 3. Fields of play

The following images show the main fields of play by code and the layout of the Summer 6's soccer-football.

Figure 6. Main fields of play - Bangalow Sports Fields



— Cricket — Rugby — Soccer-Football — Tennis

Figure 7. Fields of play - Bangalow Sports Fields Summer 6's tournament



## Appendix 4. Population and demographic profile

The key demographic factors that influence the demand for sports and recreation activities are population size, age, gender, income, education, cultural background, disability and location of residence and availability of facilities.

There are an estimated 6,605 residents in Bangalow and surrounding area likely to be serving the Sports Fields, comprising about 18.3% of Byron Shire's total population of 36,077 in 2022<sup>1</sup>.

The following figure shows there is projected to be an increase of people that reside in the Bangalow catchment between 2022 and 2041.

In 2022 the population of Bangalow is 6,605; this is forecasted to rise by 12.4% to 7,425 in 2031 and a further 11.8% to 8,303 in 2041.

**Figure 8. Bangalow catchment: projected population change 2022**

	2022	2031	2041
Population <sup>2</sup>	6,605	7,425	8,303
Change in population %	-	12.4	11.8

<sup>1</sup> NSW Department of Planning <https://pp.planningportal.nsw.gov.au/populations>

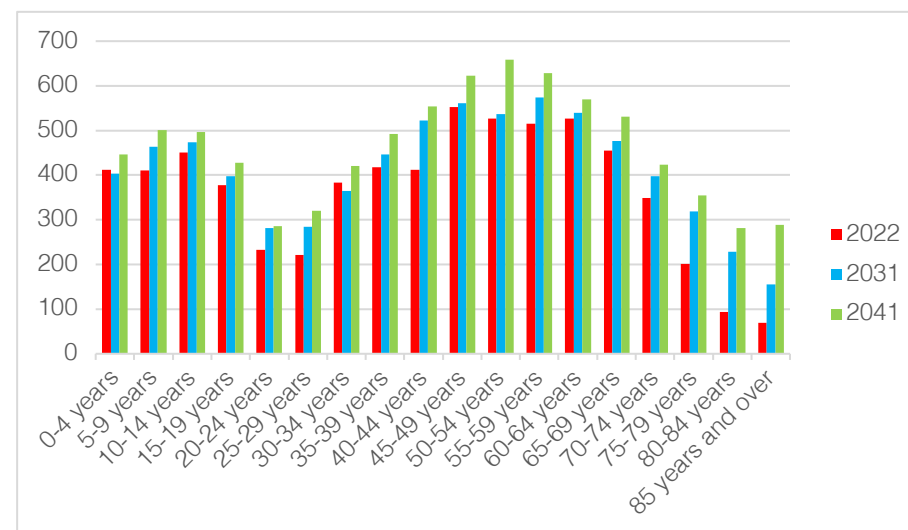
In 2022 the largest age group of Bangalow residents was 45 to 49 years (552 people).

In addition, there are 1,273 children between the ages of 0 and 14. It is anticipated that this population group will continue to grow over the coming 20 years.

There is expected to be an increase in population over every age group, with significant increases occurring in the older age groups. The average age in Bangalow in 2022 is 43 years. The median age for NSW is 39.

The following graph shows the number of people per 5-year age cohort, and that is projected for 2041.

**Figure 9. Projected Bangalow population from 2022 until 2041**



<sup>2</sup> Ibid

A small proportion of residents who speak another language or were born overseas are from a non-English speaking background. However, English is the only language spoken in 82% of the homes in Bangalow<sup>3</sup>.

A large proportion of Bangalow residents had both parents born in Australia, 49% compared to 43% in NSW. However, there is an increasing proportion of the population that are born overseas (18% compared to 12% for Northern Rivers and 11% for regional NSW), this suggests a diversity of active pursuits will be required, and demand for social sports and world games such as football are likely to continue to be strong. Some 48.7% of the population in Bangalow are male, and 51.3% are female.<sup>4</sup>

Females are not well represented in the sports of rugby and cricket in Bangalow.

Some 19.7% of the population completed secondary education compared to the rest of NSW (20.9%) but much less attend university (8.8% Bangalow and 15.3% for NSW)

Bangalow has the lowest level of disadvantage in the Byron Shire, with an index of 1054. This is slightly lower than Byron Shire, 1003. These rankings indicate a relatively low lack of disadvantage in the Bangalow and the Byron Shire.

Some 20.8% of Bangalow residents did voluntary work through an organisation or group in the last 12 months compared to 13% for NSW.<sup>5</sup>

### Implications of the demographic profile for sports demand

The demographic profile of Bangalow suggests that there is a relatively high propensity for residents to play sport due to:

- The projected population increase in the Bangalow catchment, particularly in pre-schoolers and primary school-aged children
- The small proportion of residents who speak another language or were born overseas from a non-English speaking background
- A relatively large (61.8%) of residents have reported that they do not have a long-term health condition.
- The low level of people experiencing social disadvantage.

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<sup>3</sup> Ibid

<sup>4</sup> quick states 2022

<sup>5</sup> Ibid

## Appendix 5. Estimates of existing and projected use of the Bangalow Sport Fields

### Estimate of use

The Bangalow Sports Fields are a central hub for organised and social sports for the residents of the Byron Shire, particularly, Bangalow.

The Bangalow Sports Fields are likely to receive between 107,000-143,000 visits per year, considering weather and other use variations.

To estimate usage of the Bangalow Sports Fields, data from clubs was taken a program of use prepared and an estimate of players and spectators per hour for different use types applied to the approximate number of weeks per year. Estimates for the playground, perimeter trail and skatepark are also included. The table below shows the likely number of visits<sup>6</sup> per year by facility.

Although considerable detail has been applied to each use type, hours per day and season this should be used as a rough estimate only.

<sup>6</sup> Visits is each time one person uses the facility. This is numbers of people (as one individual may visit multiple times per year).

<sup>7</sup> AusPlay is a national participation survey of adults aged 15 and over and children 0-14 about their participation in sports and physical activity.

**Table 2. Estimated number of visits by spectators and players**

Est. Use by facility	Realist annual visits
Outdoor playing fields	53,060
Netball (on Bowlo land)	2,050
Skate park	5,486
Perimeter trail	17,914
Playground	15,860
Tennis courts	9,600
Cricket nets	3,330
<b>Total</b>	<b>107,300</b>

### Demand for additional fields of play

Based on the potential number of participants in organised sports for the catchment applied to 2041 the number of existing facilities in Bangalow will not be sufficient to meet the state average participate rate from AusPlay for each sport.<sup>7</sup> No space for additional fields is possible, hence every effort to increase the carrying capacity of the existing fields should be made.

Each year, 20,000 adults aged 15 or over complete the survey. Apart from providing information about their own participation, parents/guardians of children under the age of 15 are asked about the physical activities undertaken by one of their children.

Two additional hard courts for netball are proposed and these should be marked for tennis (at least one) and additional use for at least social netball, casual basketball, and wheelchair sports should be investigated.

### Casual reserve use

The Sports Fields is a popular site for individuals to walk, run and socialise.

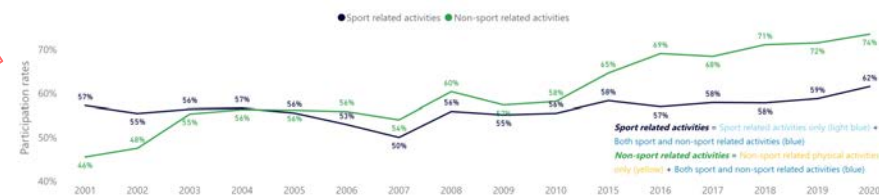
Calculations from the AusPlay participation data suggest that some 1,500 people are likely to use outdoor Sports Fields in the Bangalow catchment; at least once a year. This is projected to increase to 1,700 people in 2041.

In addition, 4,300 people are projected to use off-road trails once a year in 2022, and this is projected to increase by an additional 1,267 people to 5,567 in 2041. This rise in potential participation is in line with the growth trend of non-organised activity occurring in Australia.

Data from AusPlay shown in figure following shows how non-sport physical activities have grown significantly from 2001 to 2020.<sup>8</sup>

See following from data gathered by ERASS and AusPlay surveys.

**Figure 10. The growth in sport and non-sport-related activities from 2001 to 2020**



Although the reserve is predominately a sports reserve, it has an essential secondary open space function as a social/family recreation area. It accommodates a significant amount of unorganised physical and social activity. There are additional opportunities to include women and older adults who are an increasing proportion of persons who participate in non-organised physical activities and sports. Some facilities and fields of play do not meet accessibility requirements thus reducing the opportunity for use by people with a disability.

Additional facilities and improvements should be made to the Sports Fields to benefit a broader range of the community.

<sup>8</sup> Participation Trends In Australia. app.powerbi.com

### Existing Organised Sport at Bangalow Sports Fields

There are five established sporting clubs located at the Bangalow Sports Fields. These clubs include the Bangalow Rugby Club, the Bangalow Tennis Club, the Bangalow Bluedogs Soccer Club, the Bangalow Netball, and the Bangalow Cricket Club.

The Bangalow Netball Club has no courts located at the Bangalow Sports Fields. Currently, they train at the Bangalow Bowling Club on one of the old bowling greens. This location does not offer the club future security as the Bangalow Bowling Club is privately owned and is currently investigating future management arrangements. In addition to the sports clubs, there is a Summer 6's soccer-football competition that is run for 10 weeks from October–December.

All five clubs offer a range of sporting opportunities for the area providing well-recognised physical, social and mental health benefits for the participants.

The Bangalow Sports Fields is one of the only locations in Bangalow where such sporting activities can formally occur.

In addition to physical benefits, the sporting clubs provide members and the community opportunities for social contact and fostering community development.

The number of estimated participants based on club data has been compared with AusPlay data<sup>9</sup> for 2022. The data shows that Cricket, Tennis and Netball club membership ratios are below the AusPlay forecast participation levels for Bangalow and the wider catchment. The rates for tennis and netball are likely due to the lack/ nature of facilities.

This rate of participation is projected to continue until 2041 (refer to the following table). However, the participation for all these sports is expected to rise over the next 20 years due to population growth in the catchment.

The redevelopment of the Bangalow Sports Fields and ancillary amenities will likely assist local sports clubs to grow members, offering opportunities to a wider range of people, and developing increased community engagement.

Rugby has a participation rate well above the state average. The Bangalow Rugby Club has 163 members (51 senior and 112 junior) compared to the state average of 61 (refer table below). The club currently does not have any female teams, they have stated this is due to the lack of infrastructure to support female competition. The high participation rates in Rugby in Bangalow are projected to continue until 2041. There is little scope for additional capacity at the ground due to other sports use.

Soccer-football has a summer and winter competition at the Bangalow Sports Fields. The winter competition is run through the Bangalow Bluedogs Soccer Club. The club have 380 players that play in the miniroos, youth and senior competitions.

Summer 6's is played in the summer season (10 weeks), this is a commercially run six-a-side soccer-football competition that is run annually from October to December on a Thursday night. The Summer 6's competition has 960 players (720 senior and 240 junior) that come from the Byron and Ballina Shires.

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<sup>9</sup> AusPlay is a national population survey of adults aged 15 or over and children 0-14 about their participation in sport and physical activity. Each year, 20,000 adults aged 15 or over complete the survey. Apart from providing information about their own

participation, parents/guardians of children under the age of 15 are asked about the physical activities undertaken by one of their children.

The competition has high participation rates, well above the state participation averages. The competition has 72 senior and 25 junior teams making up a male and female senior and junior competition.

\*\*Club membership numbers apply to the Summer 6's competition. Data could not be obtained to understand the total number of people that play soccer-football at Bangalow.

### Existing and potential organised users

The following table shows estimate of organised use and potential use based on AusPlay state participation rate sand the projected population 2041.

**Figure 11. The number of club-based participants per sport at Bangalow Sports Fields compared to though projected from average State organised participation\***

Activity	Club membership 2022	Projected Participants		
		Based on State organised* 2021	Based on Club Memberships 2041	Based on State organised* 2041
Soccer-Football**	960	536	1,207	589
Cricket (outdoor)	123	180	155	202
Rugby	163	61	205	68
Tennis	160	322	201	362
Netball	65	129	82	141

\*Projected participation based on State organised participation is an activity formally organise by a club, association, school, or other type of facility organisation, outside of schools.

### Use by field

The Sports Fields at Bangalow are used for multiple sports.

See Appendix 3. for the current layout. The eastern and middle ovals accommodate sports that require oval and rectangular fields. The fields to the west are all rectangular fields and there are three tennis courts (yellow) are located to the east of the Sports Fields. There is no fit for purpose netball courts located in the Bangalow Sports Fields. Netball training occurs on the former bowls green in the adjacent private land.

### Ovals

The two Sports Fields with oval dimensions are used by cricket in the summer season (blue). These fields that have greater than 50m boundaries, they comply with Cricket Australia guidelines (refer below). Concrete wickets are located within both of these ovals and are used for both midweek training and weekend competition. The southern oval field is shared with the soccer-football Summer 6's competition in the summer season (October to December). While the clubs are very amicable and share resources, there are different grass lengths required for cricket, rugby, and soccer-football, that potentially could lead to future challenges and conflict. There is for outdoor playing fields (oval) that is in order of two additional grounds.

### Rectangular sports fields

The rectangular sports fields are used by the rugby club in the winter season (red) (oval no 1.) and the soccer-football club in summer and winter seasons (orange).

The rugby field is a full-sized ground that has a slight northeast orientation. This field complies with Rugby Union National Facility Guidelines (refer below) for club level facility dimensions, however, there is a concrete cricket pitch through the centre of the field that players must negotiate whilst playing. These obstacles increase the potential risk and severity of injury. Rugby use this field for midweek training and weekend competition.

The soccer-football fields for the winter competition are laid in a variety of north south and east west orientations, to accommodate space restrictions. There are two full size fields that are and six additional fields of various sizes to cater for younger age groups.

The rectangular fields for soccer-football are used for training on a Thursday night and on the weekend (Saturday and Sunday) for competition. There is a high demand for sports utilising rectangular fields of play within Bangalow. This is reflected in the variable sized and orientation of fields currently utilised. This is supported within the current and future Ausplay projected participation rates. This identifies the need for four additional rectangular fields in 2022 with a further one (total five) by 2041.

The Summer 6's soccer-football competition has 12 fields of play (extra are marked for use if needed). These are located across all of the sports fields at Bangalow (Refer below for the Summer 6's fields of play). The pitches are measured 50m x 35m and have a variety of orientations, however, as this game is played in the evening the fields are not affected by the sun.

As the summer 6's fields are unique fields that are played over the top of existing fields they are not represented in the AusPlay data, therefore there are no projected field of play data for these fields.

### Outdoor courts

Three outdoor sports courts (tennis) are located within the Sports Fields. These courts are used for coaching, competition and social tennis. The boundary from the proposed motel site encroaches 1.5m onto the tennis courts and will need to be resolved by Council.

Demand analysis has identified that to meet current demand one additional court is required. Additional courts could be required by 2041 to meet current state average participation rates and the projected population.

There is no fit for purpose netball court in the precinct. Two are required now for training. These could meet address demand for tennis and other sports.



### Current program of use

The figure below shows clubs' field bookings for summer (red) and winter (blue). The Sports Fields used in the summer and winter by the Bangalow Bluedogs Soccer Club, the Bangalow Rugby Club, and the Bangalow Cricket Club.

Figure 12. Current program of organised use; Bangalow Sports Fields

Club	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Bangalow Bluedogs Soccer Club	6.00pm – 8.00pm	6.00pm – 8.00pm	6.00pm – 8.00pm	3.30pm – 8.00pm	6.00 pm – 10.00 pm (occasional)	8.30am – 7.00pm	8.30 am – 4.30pm
Bangalow Rugby Club		4.00pm -8.00pm	4.00pm -6.00pm	6.00pm – 8.00pm	4.45pm – 9.00pm	1.15 pm – 5.00 pm (6 home games per year)	
Bangalow Cricket Club			4.00pm – 7.00pm	4.00pm – 7.00pm	4.00pm – 8.00pm	8.00am – 6.00pm	
Summer 6's				5.00pm – 9.00pm			

## Appendix 6. Facility requirements from the peak sports bodies

Figure 13. Community cricket facility guidelines

Pitch size	Required field size	Run out:	Associated structures to the field	Lighting Lux.	Club room / spectators / social	Toilet Change rooms	Gradient/ /Orientation	Car parking / access
<p>Synthetic pitch - The dimensions of a synthetic cricket pitch should be in the range of 25.0m to 28.0m long and 2.4m to 2.8m wide</p> <p>The dimensions of a turf pitch are 20.12m long (from stump to stump), plus a minimum of 1.22m behind the stumps to accommodate the return crease and bowler approach area. The width of a turf pitch is 3.05m wide.</p>	<p>Open Age (Community Club)</p> <p>Minimum 50m Recommended 60m from centre of pitch</p>	<p>Where multiple playing fields are provided within the one playing area, a minimum 2m buffer between boundaries is recommended</p>	<p>Ground fencing</p> <p>For a Club (home) or Club (satellite) cricket ground a cyclone mesh wire fence at either 900mm, 1050mm or 1200mm around the playing field is desirable.</p> <p>A minimum 60m<sup>2</sup> space is recommended for a Club (home) turf cricket pitch ground and 80m<sup>2</sup> for a Premier/Regional level facility. A 30m<sup>2</sup> curator storage facility is desirable at a Club (satellite) ground, if it's a turf pitch venue.</p> <p>Ensure the scoreboard is placed in a location that provides optimal visibility for spectators and players and if electronic (LED) consider the impacts of afternoon sun glare on its readability.</p>	<p>International, national – Centre square Av 750 lux. Outfield 500 lux.</p> <p>Regional, local - Centre square Av 500 lux. Outfield 300 lux.</p> <p>Training - Centre square Av 300 lux. Outfield 200 lux.</p>	<p>Social community or multipurpose room</p> <p>Premier/Regional 150sqm Club - home 100-150sqm Club – satellite 80sqm Kitchen and kiosk incl. store Premier/Regional 33sqm Club - home 23-33sqm Club – satellite 20sqm Admin – all levels - 15sqm</p>	<p>Change rooms Premier/Regional</p> <p>30-45sqm x 2 Club - home 20-30sqm x 2 Club – satellite 20-30sqm x 2 Amenities 25sqm x 2 Club - home 20-25sqm x 2 Club – satellite 15-20sqm x 2 Umpires Room inc. shower toilet All levels – 15sqm</p>	<p>Ideally, cricket playing fields should fall in all directions from the centre pitch area, but failing this, they should have a single-phase slope of 1% in any convenient direction.</p> <p>The slope of a turf pitch should not exceed 1% and follow the slope pattern of the oval.</p> <p>It is recommended that cricket grounds and pitches are orientated in a north-south direction to minimise the effect of a setting sun on players, with a suggested optimum orientation of 10-15 degrees east of north.</p> <p>Cricket training nets should have a north-south orientation, or a maximum of 30 degrees east or west of north</p>	<p>Change rooms Premier/Regional</p> <p>50 spaces minimum</p> <p>Club - home</p> <p>40 spaces minimum</p> <p>Club – satellite</p> <p>30 spaces minimum</p>

Source: Community Cricket Facilities Guidelines. Guidance Note 9. Support Infrastructure. September 2015

Figure 14. Rugby union sports fields guidelines - club level facility

Natural Turf Playing surface	Synthetic Playing surface	Required field size Length *width and height	Run out: Goal line and Sideline	Associated Structures	Lighting Lux.	Club room /social / Canteen	Toilet Change rooms / referee
<ul style="list-style-type: none"> <li>The permitted surface types are grass, sand, clay, snow or artificial turf (conforming to the World Rugby Regulation)</li> </ul>	<ul style="list-style-type: none"> <li>Rugby recommends (long) 65mm pile height, often with a shock pad.</li> <li>Min. changed to 60mm in 2012.</li> <li>Shock pad.</li> <li>The water permeability of the laid shock pad is greater than 500mm/hr.</li> </ul>	<ul style="list-style-type: none"> <li>The playing area is a rectangular shape</li> <li>Any variation to these dimensions must be approved by the relevant union for domestic competitions</li> <li>Where the field of play is less than 100 metres, the distance between the 10-metre lines and 22-metre lines is reduced accordingly</li> <li>Where the width of the playing area is less than 70 metres, the distance between the 10-metre lines is reduced accordingly</li> <li>The perimeter area should not be less than five metres wide where practical</li> </ul>	<ul style="list-style-type: none"> <li>3m-6m.</li> </ul>	<ul style="list-style-type: none"> <li>Storage: 10-15m<sup>2</sup> internal and external.</li> </ul>	<ul style="list-style-type: none"> <li>Amateur level of play</li> <li>Ball and physical training 50 lux</li> <li>Club competition and match practice 100 lux</li> </ul>	<p><b>Club/social room</b></p> <ul style="list-style-type: none"> <li>75 x 250m<sup>2</sup></li> <li>Facilitates opportunities for social interaction, community use, fundraising events and club financial sustainability. Spaces should be tailored to Club membership numbers, usage and local factors</li> <li>Should include bar facilities and/or access to appropriate kiosk/canteen/kitchen</li> </ul> <p><b>Change rooms</b></p> <ul style="list-style-type: none"> <li>30-45m<sup>2</sup> x 2 (4 is preferred)</li> <li>Each change room must be separate from the others with secure entry from toilets and other change rooms. Four change rooms allow 2 men's and 2 women's teams to play/change at the same time</li> <li>Change rooms must have capacity fit 28 people and include clothing/bag hooks and seating (bench) around the perimeter of the room</li> </ul> <p><b>Meeting room/administration</b></p> <ul style="list-style-type: none"> <li>15m<sup>2</sup></li> <li>Room to include table, chairs, internet connection, computer, printer, telecommunications and file storage</li> </ul>	<p><b>Toilets/Shower</b></p> <ul style="list-style-type: none"> <li>Toilets 10m<sup>2</sup></li> <li>Shower Area 10-25m<sup>2</sup></li> <li>Each changing room requires its own shower and toilet area</li> <li>Club level a minimum of 4 shower heads is required in each shower area</li> <li>Separate cubicles are recommended where possible for use by males or females</li> <li>Each change room should have a minimum of 2 toilets</li> </ul> <p><b>First aid/medical room</b></p> <ul style="list-style-type: none"> <li>15-20m<sup>2</sup></li> <li>Must include sink, wash basin, hot and cold taps, space for examination bench, sharp disposal container, disposal unit for bloodied dressings, soap dispenser, hand towel dispenser</li> <li>The room must be regularly cleaned, have adequate lighting (angle poise light/s), telephone (for use in emergency), first aid kit, emergency contacts for nearest hospital, doctor, dentist, etc</li> <li>Compliance with Rugby AU Medical &amp; Safety Recommendations Compliance with Safe Work Australia 's Model WHS Act.</li> </ul> <p><b>Referee change room</b></p> <ul style="list-style-type: none"> <li>12 - 20m<sup>2</sup></li> <li>Minimum of one shower with lockable cubicle (to accommodate both genders), one toilet, one hand basin, bag storage and clothing hooks - Preference is for unisex change rooms</li> </ul> <p><b>Strapping room</b></p> <ul style="list-style-type: none"> <li>10 -12m<sup>2</sup></li> <li>Two massage tables provided within a room immediately adjacent to each change</li> </ul>

Source: Rugby Australia National Facility Guidelines 2021 and World Rugby Laws of the Game 2022.

Figure 15. Facility guidelines summary from Football NSW

Natural turf playing surface	Required field size (length and width)	Run out: goal line and sideline	Associated structures to the field	Lighting Lux.	Other / Club room / spectators / social / Canteen	Toilet, Change rooms / referee	Gradient/ fall across playing surface /Orientation	Car parking / access
<ul style="list-style-type: none"> <li>The Playing Surface must be even and flat with a complete coverage of grass.</li> <li>Either natural grass or FIFA approved artificial grass pitches may be used.</li> <li>For natural turf pitches, the height of the grass may not exceed 30mm for competition play</li> <li>Cricket pitches of any type will not be permitted in the Competitions, but they may be allowed under exceptional circumstances in grassroots competitions,</li> <li>All lines must be of the same width - <u>not</u> exceed 12cm.</li> <li>Line markings must not harm users or damage grasses.</li> </ul>	<ul style="list-style-type: none"> <li>Length</li> <li>NPL - 100-105m x 60-68m</li> <li>Local and Community, Senior - 96-105m x 60-68m</li> <li>Junior - 90-105m x 50-68m</li> <li>Preferred 105 x 68m</li> </ul>	<ul style="list-style-type: none"> <li>Minimum buffer zone 3m to any structure/perimeter fence. 5m on Technical Side to allow for Team Benches.</li> </ul>	<ul style="list-style-type: none"> <li>Covered players race, no less than 2.2m (high) x 2m(w), from change rooms to playing field. (NPL only)</li> <li>A pathway for players between the dressing rooms and the field of play is clearly visible and defined.</li> <li>Pitch perimeter fence must be constructed of substantial material (<u>i.e.</u> cyclone wire) at least 1m high.</li> <li>Goal posts must not exceed 12cm</li> <li>Two covered team benches or equivalent seating with adequate seating for 9 people on each bench.</li> <li>A technical area must be marked for each team on opposite side of the halfway line, on the same side of the field.</li> <li>Permanent and fixed scoreboard.</li> </ul>	<ul style="list-style-type: none"> <li>NPL and NPL 2 - 200 lux for competition. 100 lux for practice match and training. All other competitions 100 lux minimum</li> </ul>	<ul style="list-style-type: none"> <li>Preferably, the pavilion is to be located on the western or south/western side of the pitch, with covered spectator areas between the building and the pitch.</li> <li>Where multiple pitches are proposed (refer to functional relationship diagram under Section 4.0), the pavilion may be located between the two pitches and running in a north-south direction, with the main pitch preferably to the east of the pavilion</li> <li>Multipurpose/social room - site dependent</li> <li>Kitchen Kiosk – site dependent</li> <li>A fully functional Public Address (PA) system must be provided</li> <li>Covered viewing area</li> <li>NPL 500 people seated (300sqm). Preferred tiered seating.</li> <li>Community senior 80-100sqm (approx. standing room for up to 200 people</li> <li>Junior</li> <li>25-50sqm</li> <li>Media viewing and Broadcast/filming – NPL only</li> <li>15sqm each</li> </ul>	<ul style="list-style-type: none"> <li>Change rooms NPL Min 4 change per pitch (min 35sqm each).</li> <li>Community senior and junior 2 x 25sqm.</li> <li>Officials 20sqm.</li> <li>Player amenities – NPL 4no. @ 25sqm (min. 3 pans, 3 showers in each)</li> <li>Community senior and junior</li> <li>Player amenities Officials NPL 12sqm (Dedicated toilet and shower required - 2 pans, 2 showers)</li> <li>Community senior and junior</li> <li>Dedicated amenities not required. Can be shared use with public DWC.</li> <li>Public Toilet blocks. NPL 45sqm. Community 20sqm. Public disabled 7sqm</li> <li>(no more than 100m from ground).</li> <li>First aid room. NPL 10sqm. Senior – no minimum. Junior - Screened off area, no dedicated area required</li> </ul>	<ul style="list-style-type: none"> <li>Max. gradient 1% of the pitch.</li> <li>Ideally playing pitches are to be orientated to be within 10 to 15 degrees of the north-south axis in order to reduce glare associated with players looking directly into the sun</li> </ul>	<ul style="list-style-type: none"> <li>Close proximity with pavilion and include drop off point and ambulance access. DDA compliant size. Lighting all hours</li> </ul>

Source: Football NSW- Field dimensions and pitch making guide

Figure 16. Facility guidelines for tennis

Natural Turf Playing surface	Synthetic playing surface	Required field size Length *width and height	Run out: Goal line and Sideline	Associated Structures	Lighting Lux.	Club room /social / Canteen	Toilet Change rooms / referee
<ul style="list-style-type: none"> <li>ITF Approved surfaces include lawn, cushioned acrylic hardcourt and clay (red porous)</li> <li>Courts should be oriented between 20 degrees west of north and 35 degrees east of north</li> </ul>	<ul style="list-style-type: none"> <li>Acrylic hard court (suitable for year-round use)</li> <li>Clay or red porous</li> <li>SFAG- is suitable only for community level play. It is not an ITF competition surface.</li> </ul>	<ul style="list-style-type: none"> <li>23.77m x 10.97m (to the end of the doubles lines)</li> </ul>	<ul style="list-style-type: none"> <li>3.05m from sideline, and 5.5m from baseline (club standard)</li> <li>Minimum distance between 2 courts – 3.66m</li> </ul>	<ul style="list-style-type: none"> <li>Adequate storage areas for court, coaching and maintenance equipment</li> <li>Fencing required – to an Australian standard of 3-3.6m height for club and public environments</li> </ul>	<ul style="list-style-type: none"> <li>250lux (social play)</li> <li>350lux (club competition)</li> <li>Outside the fenced enclosure</li> <li>No.s and configuration dependent on number of courts within the same fenced enclosure.</li> </ul>	<ul style="list-style-type: none"> <li>Clubhouse is required.</li> <li>Size dependent on the size of facility</li> <li>Canteen/kiosk with outside &amp; inside servery</li> </ul>	<ul style="list-style-type: none"> <li>Toilets, showers and change rooms that comply with the building code requirements.</li> </ul>

Source: Tennis Australia Infrastructure Planning Guide

Figure 17. Facility guidelines Netball Australia



**STANDARD REQUIREMENTS**

ITEM	LOCAL
<b>Number of courts</b>	1-3 courts
<b>Activities</b>	<ul style="list-style-type: none"> <li>- Modified games and programs</li> <li>- Junior participation and skill development</li> <li>- Training and Competition</li> <li>- Community use</li> <li>- Regional Victorian Netball League</li> </ul>
<b>Court specifications</b>	Compliant courts
<b>Surface type</b>	Acrylic, asphalt (outdoor), sprung timber (indoor)
<b>Multi-lined</b>	Yes
<b>Goal posts</b>	3.05m height 60mm-100mm diameter NetSetGO adjusted to 2.4m height
<b>Goal post padding</b>	3m high to full length and diameter of post. 2.4m length for NetSetGO
<b>Lights</b>	Indoor Lux: 300 training, 500 competition Outdoor Lux: 100 training, 200 competition
<b>Fencing around courts</b>	If required

**COURT AREAS**

ITEM	LOCAL
<b>Team bench</b>	2 team benches per court to accommodate min. of 10 people each. Recommend 6m length bench or tiered seating with 2 x 3m length benches, plus space for a wheelchair/standing area required (0.915m width min.)
<b>Team shelter (outdoor only)</b>	For outdoor courts only: 2 shelters per court Prefer 4.5m length x 2m depth (assumes tiered seating and includes space for a wheelchair/standing area min. 0.915m width x 1.525m* depth area).
<b>Officials bench</b>	1 bench per court to accommodate min. of 2 people. Recommend min. 1.2m length bench plus 0.915m for a wheelchair/standing area.
<b>Officials shelter (outdoor only)</b>	For outdoor courts only: 1 shelter per court Prefer min. 2.5m length x 1.6m depth (includes space for seating plus a wheelchair/standing area min. 0.915m width x 1.525m* depth area).
<b>Player amenities</b>	Min 2 areas, min 14m <sup>2</sup> each area Unisex facility – min 1 shower, 2WCs and 2HBs in each area

**SUPPORTING INFRASTRUCTURE & AMENITIES**

ITEM	LOCAL
<b>Player change rooms</b>	Min 2 rooms, min 20m <sup>2</sup> each room The 20m <sup>2</sup> floor area is a minimum size and based on 14 players using a room at the one time.
<b>First aid room</b>	1 room, min 10m <sup>2</sup>
<b>Umpires changerooms and amenities</b>	Min 3 unisex rooms. Min 2 changerooms: min 5m <sup>2</sup> each (1WC, 1HB in each) Min 1 changeroom: min 5m <sup>2</sup> each (1 shower)
<b>Umpire duty room</b>	1 room, min 10m <sup>2</sup>
<b>Public toilets in pavilion/stadium</b>	Guide: 2 rooms, min 12m <sup>2</sup> each room Min 2WCs, 2HBs in each room
<b>Accessible toilet/shower/ baby change area</b>	1 area – unisex, min 8m <sup>2</sup> 1WC, 1HB, 1 shower, 1 baby change table
<b>Spectator shelter (outdoor courts only)</b>	Min 20m <sup>2</sup> per court
<b>Spectator seating</b>	Bench seating or suitable spaces to accommodate approx. 30 – 50 people per court.

**PAVILION & CAR PARKING**

ITEM	LOCAL
<b>Administration office</b>	Min 1 office, min 12m <sup>2</sup>
<b>Tournament office</b>	–
<b>Canteen/kiosk/kitchen</b>	Min 1 area, min 14m <sup>2</sup>
<b>Multipurpose/social/function room</b>	Min 25m <sup>2</sup> Kitchenette/bar
<b>Storage</b>	Indoor and/or outdoor – min 20m <sup>2</sup>
<b>Media room</b>	–
<b>Car parking</b>	Type and number of spaces to be determined by a traffic/parking assessment. Pick up/drop off point provided within the car parking area. Bus facilities required. Accessible parking spaces to be provided.

### Appendix 7. Byron Shire streetscape plant list

#### Suggested Planting Palette Byron Town Centre 2019 (A. Erskine, Byron Shire)



Image	Plant name	Habit	Suited for
	Acmena smithii Lilly Pilly	Medium sized Lilly Pilly	Bears masses of red fruit at Christmas time
	Asplenium australasicum. Birdsnest fern	Epiphyte, lithophyte or ground dwelling	Hardy fern, good for areas where minimal soil.




Image	Plant name	Habit	Suited for
	Austromyrtus dulcis Midgen Berry	Local heath species	Useful low shrub, understorey plant. Edible fruit, has cultural significance
	Baeckia virgata Baeckia	Heath species	Forms low dense shrub
	Banksia 'Coastal Cushions'	Low shrub	Ornamental low shrub, long flowering time. Salt resistant. Needs good drainage






Image	Plant name	Habit	Suited for
	Banksia collina 'Little Eric'	Medium shrub	Salt resistant but can handle wet areas. Tolerates light frost
	Banksia integrifolia Coast Banksia	Local coastal tree	Salt resistant prefers sandy acidic soils. Prone to termites and breakage in old age.
	Banksia integrifolia 'Coastal Beacon'	Medium shrub	Hybrid prostrate form of B. integ. Can be used on embankment

Image	Plant name	Habit	Suited for
	Banksia spinulosa 'Bush Candles'	Small shrub	Mildly acid soil. Dry to moist if well drained soils
	Blechnum cartilagenium Gristle fern	Groundcover fern.	Will do best in semi-shade with plenty of organic matter
	Carpobrotus glaucescens. Pigface	Groundcover. Culturally significant.	Can be used on dunes or dry gardens. Can be prone to Cottony cushion scale or moth larvae.



Image	Plant name	Habit	Suited for
	Casuarina glauca 'Green Wave'	Selected prostrate form of Casuarina	Interesting and dense ground cover
	Conostylis 'Silver Sunrise'  Cotton heads	A heath species	Useful ground cover or understory species



Image	Plant name	Habit	Suited for
	Cordyline congesta  Clumping Cordyline	A self suckering Cordyline forming attractive clumps	Ok in garden beds will do best in moist areas
	Cordyline petiolaris  Broad-leaved Cordyline	Cordyline to 3m. Can be lopped and will regenerate with multiple heads	Suited to garden beds or against walls, bears attractive red fruit.

Image	Plant name	Habit	Suited for
	Cupaniopsis anacardioides.  Tuckeroo	Local rainforest tree.	Suited to street scape but may be affected by sooty mould at times
	Dianella caerulea	Dune and heath species	Useful alternative to Lomandra, bears purple and yellow flowers and blue fruit
	Doodia aspera  Prickly Rasp Fern	Groundcover fern.	Will do best in semi-shade with plenty of organic matter

Image	Plant name	Habit	Suited for
	Eremophylla sp.  Emu Bush	An arid land species	Growing surprisingly well in Byron planting trials. Drought resistant
	Elaeocarpus eumundi  Eumundi Quandong	Hybrids available of a local rainforest species	Column shaped tree with bronze coloured new foliage
	Elaeocarpus reticulatus  Blueberry Ash	Small tree tolerant of wet conditions	White or pink bell shaped flowers followed by small blue berries



Image	Plant name	Habit	Suited for
	Eriostemon myoperoides 'Profusion'  Long-leaf Wax Flower	Hybrid form of local heath species	
	Ficinea nodosa (syn Isolepis nodosa)  Nodding Club Rush	Sedge approx. .5 in height	Can be used on dunes or dry gardens



Image	Plant name	Habit	Suited for
	Flindersia bennettiana  Bennetts Ash	Local rainforest tree.	Medium sized with clusters of cream coloured flowers
	Flindersia schottiana  Cudgerie	Local rainforest tree. As seen in Jonson St south.	Best feature is its tiered shape. Cream flowers fairly inconspicuous.

Image	Plant name	Habit	Suited for
	Hymenosporum flavum dwarf variety.  Native Frangipani	Selected form of native frangipani	Highly perfumed flowers. Will flower in shade
	Lepidozamia peroffskyana  Shining Burrawang	A local cycad	Requires room as spread may be up to 3m
 <small>LIBERTIA GRANDIFLORA   SHRUBS AND PERENNIALS FOR SHADY AREAS</small>	Libertia paniculata  Grass Flag	A useful heath species	Will flower in shade. Groundcover

Image	Plant name	Habit	Suited for
	Lomandra 'Little Con'	Low tufting ground cover	Useful as an edge
	Melastoma affine  Blue tongue	Shrub to 2m	Useful plant for boggy areas
	Melaleuca linarifolia 'Little Red'  Snow in Summer	Hybrid native	Dwarf, hardy




Image	Plant name	Habit	Suited for
	Metrosideros excelsa  Pohutakawa	NZ Christmas tree	Very tough, salt resistant can be used in extreme locations
	Metrosideros vitiensis 'Fiji Fire'	A hybrid form of above	Features new red foliage
	Pandorea jasminoides 'Southern Belle'  Wonga Vine	Hybrid form of a local heath species	Can flower profusely in right conditions




Image	Plant name	Habit	Suited for
	Phormium tenax purpureum 'Bronze Baby'  Flax Lily	Native to NZ	A handsome linear species
	Pittosporum tobira "Miss Muffet"	Hybrid species	Useful low shrub, understorey plant
	Polyscias elegans  Celerywood	Local rainforest tree.	Interesting umbrella shape with dark green foliage

Image	Plant name	Habit	Suited for
	Stenocarpus sinuatus  Firewheel	Local rainforest tree.	Spectacular red wheel shaped flowers
	Syzygium leuhmanii  Riberry	Medium to large Lilly Pilly	Best feature is distinctive new pink growth





Image	Plant name	Habit	Suited for
	Syzygium 'Pink Cascade'	A small weeping Lilly pilli	Large pink flowers and pink new growth
	Tristaniopsis laurina  Water Gum	Medium sized compact tree	Well suited to street planting. Bears small yellow flowers

Image	Plant name	Habit	Suited for
	<p>Waterhousia floribunda</p> <p>Weeping Lilly Pilly</p>	<p>Local riparian species</p>	<p>Great street tree with well-behaved root system</p>
	<p>Tetratheca thymifolia</p> <p>Black-eyed Susan</p>	<p>Local heath species</p>	<p>Short but spectacular flowering</p>

Examples follow.





An affect like this can be achieved using the suggested suite of plants  
Some Landscape themes featuring native species suited to Byron Town Centre



A mixture of native and exotic species of complimentary textures



A xerophytic but evocative design featuring grass trees



Mass planting of Kangaroo Paw (*Anigozanthus*) complemented by native grasses



Native daisies and Anigozanthus, replanted gardens in Brunswick Heads feature this style



Concept for conversion of an urban drain to feature garden



A sub-tropical style featuring tree ferns, Cycad, and native ferns. Irrigation would be required to maintain this style of garden.



Many dwarf banksias have been planted through the town centre; they are yet to realise their full potential.



Another dwarf banksia that has been planted throughout town



Garden features grasses and linear species



These displays of paper daisies are popular and relatively low maintenance, it is likely that they will need to be replanted twice a year.



Mass planting of a single species can be more visually effective than multiple species in some situations.