PLANNING PROPOSAL

CITY OF COFFS HARBOUR

Reduce Minimum Lot Size
Lot 5 DP 563449, 19 Smiths Road, Emerald Beach

September 2024
VERSION 2 Exhibition

PLANNING PROPOSAL STATUS

Stage	**Version / Date** *(blank until achieved)*
Reported to Council – Initiate s3.33 **Version 1 - Pre_Exhibition**	***Version 1 – Pre-Exhibition*** ***25 July 2024***
Referred to DPHI s3.34(1) **Version 1 - Pre_Exhibition**	***Version 1 – Pre-Exhibition*** ***7 August 2024***
Gateway Determination s3.34(2) **Version 1 - Pre_Exhibition**	***Version 1 – Pre-Exhibition*** ***27 August 2024***
Amendments Required:	***No***
Public Exhibition – Schedule 1 Clause 4 **Version 2 - Exhibition**	***Version 2 - Exhibition***
Reported to Council – Initiate Revised PP s3.33 **Version x - Re_Exhibition**	
Revised PP Sent to the Minister - s3.35(1) **Version x - Re_Exhibition**	
Altered Gateway Determination s3.34(2) **Version x - Re_Exhibition**	
Public Exhibition – Schedule 1 Clause 4 **Version x - Re_Exhibition**	
Reported to Council – Endorsement (or Making of LEP if delegated) s3.36 **Version x - Post Exhibition**	
Endorsed by Council for Submission to Minister for Notification (or Making where not delegated) s3.36(2) **Version x – Post Exhibition**	

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APPENDICES

EXECUTIVE SUMMARY & EXHIBITION INFORMATION

What is a Planning Proposal?

A planning proposal is a document that explains the intended effect of a proposed local environmental plan (LEP) and sets out the justification for making that plan. Essentially, the preparation of a planning proposal is the first step in making an amendment to Coffs Harbour LEP 2013.

A planning proposal assists those who are responsible for deciding whether an LEP amendment should proceed and is required to be prepared by a relevant planning authority. Council, as a relevant planning authority, is responsible for ensuring that the information contained within a planning proposal is accurate and accords with the *Environmental Planning and Assessment Act 1979* and the NSW Department of Planning, Housing and Infrastructure's *Local Environmental Plan Making Guideline 2023.*

What is the Intent of this Planning Proposal?

The intent of this Planning Proposal is to amend the Lot Size Map Sheet LSZ_005E of Coffs Harbour LEP 2013, as it relates to Lot 5 DP 563449, 19 Smiths Road, Emerald Beach, from 1 hectare to 4,000m^2.

Public Exhibition

This planning proposal is on public exhibition in accordance with any Gateway Determination issued by NSW Department of Planning, Housing and Infrastructure. Copies of the planning proposal and supportive information can be viewed on the City of Coffs Harbour's Have Your Say Page https://haveyoursay.coffsharbour.nsw.gov.au/ for the duration of the exhibition period.

All interested persons are invited to view and make a submission on the planning proposal during the exhibition period. Issues raised by submissions will be reported to Council for a final decision. Submissions can be made online, or in writing by email or post to:

The General Manager
City of Coffs Harbour
Locked Bag 155
COFFS HARBOUR NSW 2450
Email: coffs.council@chcc.nsw.gov.au

Any questions, contact:
Joseph Kirwood on 6648 4628
or email joseph.kirwood@chcc.nsw.gov.au

Note: The City is committed to openness and transparency in its decision making processes. The Government Information (Public Access) Act 2009 requires the City to provide public access to information held unless there are overriding public interest considerations against disclosure. Any submissions received will be made publicly available unless the writer can demonstrate that the release of part or all of the information would not be in the public interest. However, the City would be obliged to release information as required by court order or other specific law.

Written submissions must be accompanied, where relevant, by a "Disclosure Statement of Political Donations and Gifts" in accordance with the provisions of the Local Government and Planning Legislation Amendment (Political Donations) Act 2008 No. 44 Disclosure forms are available from the City's Customer Service Section or on the City's website www.coffsharbour.nsw.gov.au/disclosurestatement.

BACKGROUND

Proposal	Reduce Minimum Lot Size
Property Details	Lot 5 DP 563449, 19 Smiths Road, Emerald Beach
Current Land Use Zone(s)	R5 Large Lot Residential
Proponent	Keiley Hunter Town Planning
Landowner	J Allen
Location	Figure 1: Location Map is included below

This planning proposal has been prepared in accordance with the *Environmental Planning and Assessment Act 1979* and *Local Environmental Plan Making Guideline 2023* (NSW Department of Planning, Housing and Infrastructure).

This planning proposal explains the intended effects of a proposed amendment to Coffs Harbour LEP 2013 to enable amendment of the Lot Size Map from 1 hectare to 4,000m^2 for Lot 5 DP 563449, 19 Smiths Road, Emerald Beach. The amendment will provide the ability for a development application to be made for subdivision of the site to create two additional lots as shown in Figure 2.

The Site

The site is located along Smiths Road, Emerald Beach and within a larger area largely developed for large lot residential purposes as shown in Figure 1 below.

The site contains a dwelling house with associated ancillary outbuildings, is largely cleared, and contains domestic landscaping. The site is located in close proximity to two man-made dams and has a gentle slope from the centre of the site to the western boundary.

The site has an area of 1.406 hectares and is zoned R5 Large Lot Residential under LEP 2013. The current minimum lot size for this area is 1 hectare as show in Part 4: Mapping – Figure 3.

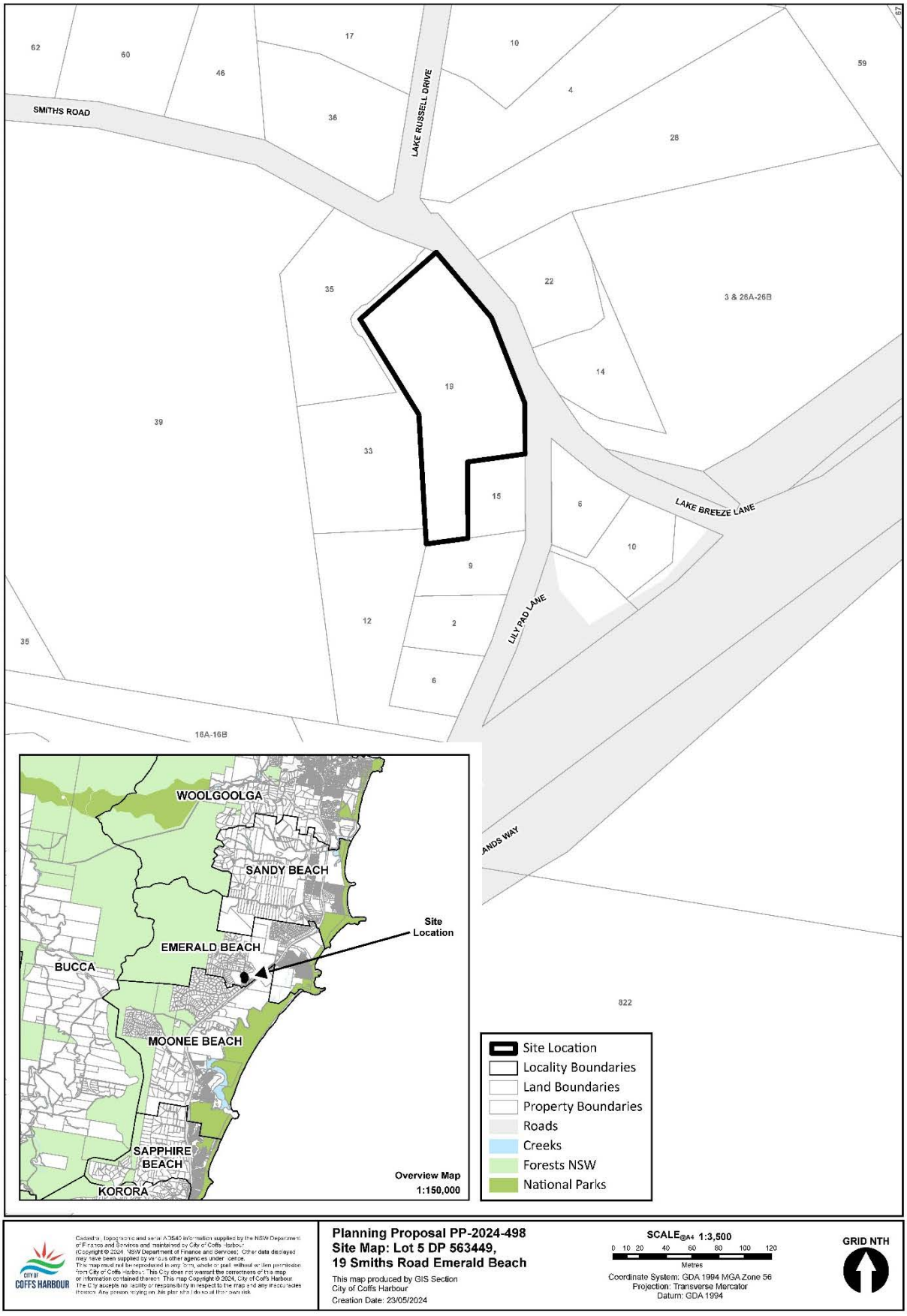


Figure 1: Location Map

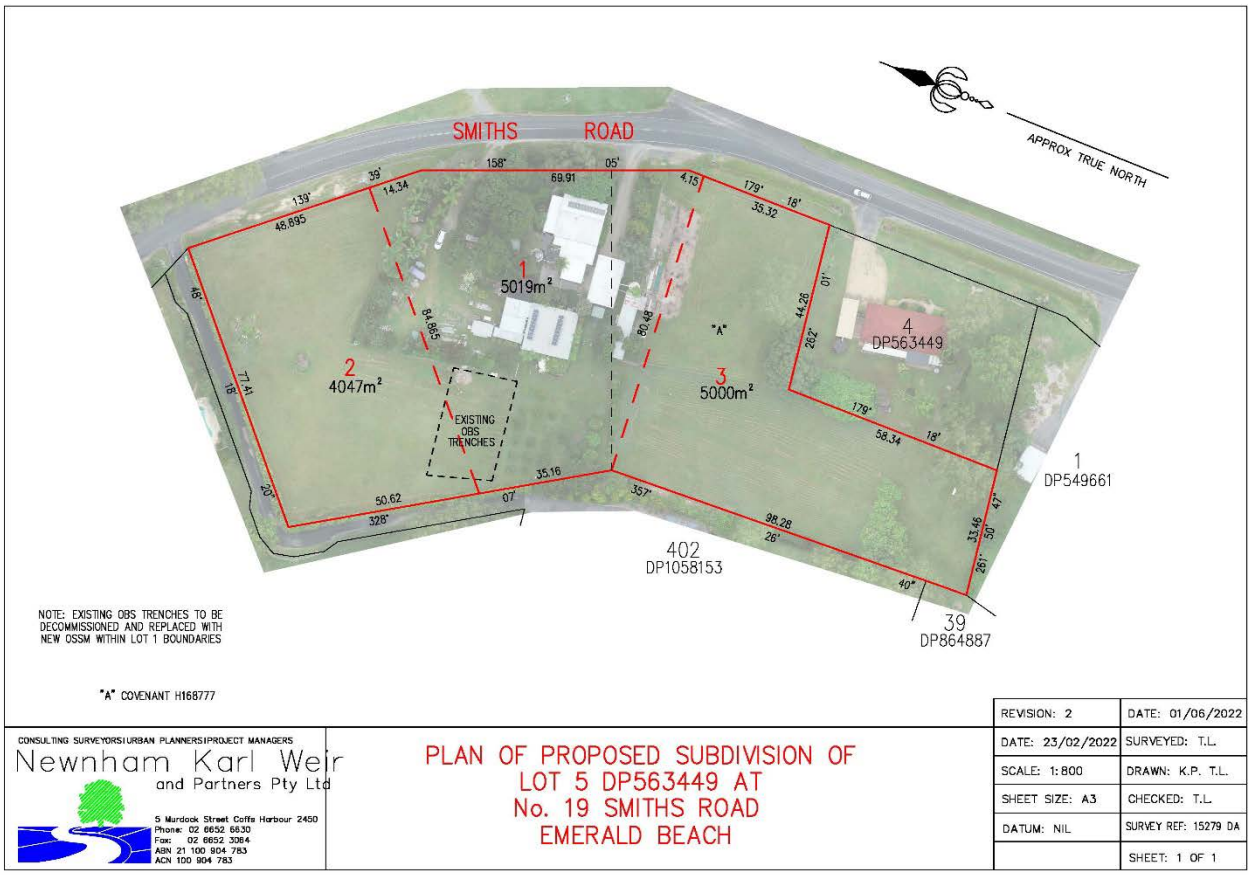


Figure 2: Concept Subdivision Layout

Note: In preparing this planning proposal, Council has not endorsed the proposed plan of subdivision, as this is subject to the development application process.

PART 1 – OBJECTIVES OR INTENDED OUTCOMES

The objective of this planning proposal is to amend the Lot Size Map (Sheet LSZ_005E) of Coffs Harbour LEP 2013 to reduce the minimum lot size on the site from 1 hectare to 4,000m^2 to enable an application to be made for subdivision of the site.

PART 2 – EXPLANATION OF PROVISIONS

The proposed amendment to Coffs Harbour LEP 2013 is to reduce the minimum lot size of 1 hectare to 4,000m^2 for Lot 5 DP 563449, 19 Smiths Road, Emerald Beach. This is to be achieved though the amendment of Sheet LSZ_005E (Lot Size Map) of LEP 2013.

PART 3 – JUSTIFICATION & SITE-SPECIFIC MERIT

This part provides a response to the following matters in accordance with the *Local Environmental Plan Making Guideline 2023* (NSW Department of Planning, Housing and Infrastructure):

- Section A: Need for the planning proposal
- Section B: Relationship to strategic planning framework
- Section C: Environmental, social and economic impact

Section A – Need for the planning proposal

1. Is the planning proposal a result of an endorsed local strategic planning statement, strategic study or report?

Yes. The site is included in an existing R5 Large Lot Residential zone and the City's Local Growth Management Strategy (LGMS) 2020, Chapter 6 – Large Lot Residential allows for the potential reduction of minimum lot size in the R5 zone, where sufficiently justified.

Coffs Harbour has a range of lot sizes in its large lot (rural residential) areas, which reflect varying minimum lot size standards that have changed over time. These varied lots sizes are apparent within the Emerald Beach large lot area on the western side of the Pacific Highway, and in close proximity to the site. A reduction in minimum lot size for the site would be consistent with the surrounding neighbourhood and its character, as smaller size lots are already present.

The proposed minimum lot size of 4,000m^2 will be sufficient to ensure that future lots might achieve a practical and efficient layout to meet their intended (rural residential) use. In this regard, the indicative layout in Figure 2 is demonstrative of this, achieving a practical and efficient layout in a rural residential context.

2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

Yes. The planning proposal is considered the best way to achieve the intended outcome and is consistent with the approach set out in the LGMS, which is set out above. It is also consistent with the manner in which Council has dealt with similar planning proposals.

3. Is there a net community benefit?

The Net Community Benefit Criteria is identified in the NSW Government's publication *The Right Place for Business and Services*. This policy document has a focus on ensuring growth within existing centres and minimising dispersed trip generating development. It applies most appropriately to planning proposals that promote significant increased residential areas or densities, or significant increased employment areas or the like. This planning proposal does not relate to ensuring growth within existing centres and minimising dispersed trip generating development; nor does it relate to promoting significant increased residential areas or densities, or significant increased employment areas or the like. The criteria in the Net Community Benefit test cannot be properly applied to this planning proposal.

Section B – Relationship to strategic planning framework

4. Will the planning proposal give effect to the objectives and actions contained within the North Coast Regional Plan 2041?

The proposed LEP amendment is considered to be consistent with the relevant goals, objectives, activities and actions within the North Coast Regional Plan 2041 as follows:

GOAL 1 – LIVEABLE, SUSTAINABLE AND RESILIENT

- ***Objective 1 – Provide well located homes to meet demand***

Strategy 1.1 A 10 year supply of zoned and developable residential land is to be provided and maintained in Local Council Plans endorsed by the Department of Planning, Housing and Infrastructure.

The proposed LEP amendment is not inconsistent with this strategy. As per Coffs Harbour Local Growth Management Strategy 2020, reduction of minimum lot size of land in Zone R5 Large Lot Residential is permitted where a land capability assessment supports a smaller lot size. The proposed amendment is contained within Zone R5 and is therefore consistent.

Action 1 Establish the North Coast urban housing monitoring program.

The proposed LEP amendment is not inconsistent with this action.

Strategy 1.2 Local Council plans are to encourage and facilitate a range of housing options in well located areas.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 1.3 Undertake infrastructure service planning to establish land can be feasibly serviced prior to rezoning.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment is supported by a Land Capability Assessment in Appendix 3, which indicates the on-site sewage management can be maintained at a reduced minimum lot size.

Strategy 1.4 Councils in developing their future housing strategies must prioritise new infill development to assist in meeting the region's overall 40% multi-dwelling / small lot housing target and are encouraged to work collaboratively at a subregional level to achieve the target.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 1.5 New rural residential housing is to be located on land which has been approved in a strategy endorsed by the Department of Planning, Housing and Infrastructure and is to be directed away from the coastal strip.

As per Coffs Harbour Local Growth Management Strategy 2020, reduction of minimum lot size of land in Zone R5 Large Lot Residential is permitted where a land capability assessment supports a smaller lot size. The proposed amendment is contained within an existing R5 Large Lot Residential Zone and shall only result in the potential for two additional allotments. As such, the proposed amendment is consistent with this strategy.

Strategy 1.6 Councils and LALCs can partner to identify areas which may be appropriate for culturally responsive housing on Country.

The proposed LEP amendment is not inconsistent with this strategy.

Action 2 Provide guidance to help councils plan for and manage accommodation options for seasonal and itinerant workers.

The proposed LEP amendment is not inconsistent with this action.

- ***Objective 2 – Provide for more affordable and low cost housing***

Action 3 Establish Housing Affordability Roundtables for the Mid North Coast and Northern Rivers subregions with councils, community housing providers, State agencies and the housing development industry to collaborate, build knowledge and identify measures to improve affordability and increase housing diversity.

The proposed LEP amendment is not inconsistent with this action.

- ***Objective 3 – Protect regional biodiversity and areas of high environmental value***

Strategy 3.1 Strategic planning and local plans must consider opportunities to protect biodiversity values by:

- focusing land-use intensification away from HEV assets and implementing the 'avoid, minimise and offset' hierarchy in strategic plans, LEPs and planning proposals;
- ensuring any impacts from proposed land use intensification on adjoining reserved lands or land that is subject to a conservation agreement are assessed and avoided;
- encouraging and facilitating biodiversity certification by Councils at the precinct scale for high growth areas and by individual land holders at the site scale, where appropriate;
- updating existing biodiversity mapping with new mapping in LEPs where appropriate;
- identifying HEV assets within the planning area at planning proposal stage through site investigations;
- applying appropriate mechanisms such as conservation zones and Biodiversity Stewardship Agreements to protect HEV land within a planning area and considering climate change risks to HEV assets;
- developing or updating koala habitat maps to strategically conserve koala habitat to help protect, maintain and enhance koala habitat; and
- considering marine environments, water catchment areas and groundwater sources to avoid potential development impacts.

The proposed LEP amendment is not inconsistent with this strategy. The site does not contain any mapped biodiversity values indicated by this strategy.

Strategy 3.2 In preparing local and strategic plans Councils should:

- embed climate change knowledge and adaptation actions; and
- consider the needs of climate refugia for threatened species and other key species.

The proposed LEP amendment is not inconsistent with this strategy.

Collaboration Activity 1:

Work with and assist councils to:

- review biodiversity mapping and related local environmental plan and development control plan provisions;
- improve access to data to enable identification of protected areas including NPWS Estate, Crown Reserves and in-perpetuity private land conservation agreements to inform local planning;
- ensure koala habitat values are included in land-use planning decisions through regional plans, local strategic planning statements and local environmental plans.

Lead Agency: NSW Biodiversity and Conservation Division

The proposed LEP amendment is not inconsistent with this activity.

- ***Objective 4 – Understand, celebrate and integrate Aboriginal culture***

Strategy 4.1 Councils prepare cultural heritage mapping with an accompanying Aboriginal cultural management plan in collaboration with Aboriginal communities to protect culturally important sites.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 4.2 Prioritise applying dual names in local Aboriginal language to important places, features or infrastructure in collaboration with the local Aboriginal community.

The proposed LEP amendment is not inconsistent with this strategy.

- ***Objective 5 – Manage and improve resilience to shocks and stresses, natural hazards and climate change***

Strategy 5.1 When preparing local strategic plans, councils should be consistent with and adopt the principles outlined in the Strategic Guide to Planning for Natural Hazards.

The proposed LEP amendment is not inconsistent with this strategy given that it seeks to….

Strategy 5.2 Where significant risk from natural hazard is known or presumed, updated hazard strategies are to inform new land use strategies and be prepared in consultation with emergency service providers and Local Emergency Management Committees (LEMCs). Hazard strategies should investigate options to minimise risk such as voluntary housing buy back schemes.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 5.3 Use local strategic planning and local plans to adapt to climate change and reduce exposure to natural hazards by:

- identifying and assessing the impacts of place-based shocks and stresses;
- taking a risk-based-approach that uses the best available science in consultation with the NSW Government, emergency service providers, local emergency management committees and bush fire risk management committees;
- locating development (including urban release areas and critical infrastructure) away from areas of known high bushfire risk, flood and coastal hazard areas to reduce the community's exposure to natural hazards;
- identifying vulnerable infrastructure assets and considering how they can be protected or adapted;
- building resilience of transport networks in regard to evacuation routes, access for emergencies and, maintaining freight connections;
- identifying industries and locations that would be negatively impacted by climate change and natural hazards and preparing strategies to mitigate negative impacts and identify new paths for growth;
- preparing, reviewing and implementing updated natural hazard management plans and Coastal Management Programs to improve community and environmental

resilience which can be incorporated into planning processes early for future development;

- identifying any coastal vulnerability areas;
- updating flood studies and flood risk management plans after a major flood event incorporating new data and lessons learnt; and
- communicating natural hazard risk through updated flood studies and strategic plans.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment shall be referred to NSW Rural Fire Service for further consideration, as the site is located within Bushfire Prone Land (Vegetation Category 3).

Strategy 5.4 Resilience and adaptation plans should consider opportunities to:

- encourage sustainable and resilient building design and materials (such as forest products) including the use of renewable energy to displace carbon intensive or fossil fuel intensive options
- promote sustainable land management including Ecologically Sustainable Forest Management (ESFM)
- address urban heat through building and street design at precinct scale that considers climate change and future climatic conditions to ensure that buildings and public spaces are designed to protect occupants in the event of heatwaves and extreme heat events
- integrate emergency management and recovery needs into new and existing urban areas including evacuation planning, safe access and egress for emergency services personnel, buffer areas, building back better, whole-of-life cycle maintenance and operation costs for critical infrastructure for emergency management
- adopt coastal vulnerability area mapping for areas subject to coastal hazards to inform the community of current and emerging risks
- promote economic diversity, improved environmental, health and well-being outcomes and opportunities for cultural and social connections to build more resilient places and communities.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 5.5 Partner with local Aboriginal communities to develop land management agreements and policies to support cultural management practices.

The proposed LEP amendment is not inconsistent with this strategy.

Collaboration Activity 2:

Work with councils and agencies and the Transition North Coast Working Group to deliver the North Coast Enabling Regional Adaptation report to provide opportunities for climate change adaptation pathways with the aim of transitioning key regional systems to a more resilient future.

Lead Agency: NSW Office of Energy and Climate Change

The proposed LEP amendment is not inconsistent with this activity.

- ***Objective 6 – Create a circular economy***

Strategy 6.1 Support the development of circular economy, hubs, infrastructure and activities and consider employment opportunities that may arise from circular economies and industries that harness or develop renewable energy technologies and will aspire towards an employment profile that displays a level of economic self-reliance, and resilience to external forces.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 6.2 Use strategic planning and waste management strategies to support a circular economy,

including dealing with waste from natural disasters and opportunities for new industry specialisations.

The proposed LEP amendment is not inconsistent with this strategy.

- ***Objective 7 – Promote renewable energy opportunities***

Strategy 7.1 When reviewing LEPs and local strategic planning statements:

- ensure current land use zones encourage and promote new renewable energy infrastructure;
- identify and mitigate impacts on views, local character and heritage where appropriate; and
- undertake detailed hazard studies.

The proposed LEP amendment is not inconsistent with this strategy.

- ***Objective 8 – Support the productivity of agricultural land***

Strategy 8.1 Local planning should protect and maintain agricultural productive capacity in the region by directing urban, rural residential and other incompatible development away from important farmland.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment is not located within proximity to any important farmland identified in the North Coast Regional Plan 2041.

- ***Objective 9 – Sustainably manage and conserve water resources***

Strategy 9.1 Strategic planning and local plans should consider:

- opportunities to encourage riparian and coastal floodplain restoration works;
- impacts to water quality, freshwater flows and ecological function from land use change;
- water supply availability and issues, constraints and opportunities early in the planning process;
- partnering with local Aboriginal communities to care for Country and waterways;
- locating, designing, constructing and managing new developments to minimise impacts on water catchments, including downstream waterways and groundwater resources;
- possible future diversification of town water sources, including groundwater, stormwater harvesting and recycling;
- promoting an integrated water cycle management approach to development;
- encouraging the reuse of water in new developments for urban greening and for irrigation purposes;
- improving stormwater management and water sensitive urban design;
- ensuring sustainable development of higher-water use industries by considering water availability and constraints, supporting more efficient water use and reuse, and locating development where water can be accessed without significantly impacting on other water users or the environment;
- identifying and protecting drinking water catchments and storages in strategic planning and local plans; and
- opportunities to align local plans with any certified Coastal Management Programs.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 9.2 Protect marine parks, coastal lakes and estuaries by implementing the NSW

Government's Risk-Based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions, with sensitive marine parks, coastal lakes and estuaries prioritised.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 9.3 Encourage a whole of catchment approach to land use and water management across the region that considers climate change, water security, sustainable demand and growth, the natural environment and investigate options for water management through innovation.

The proposed LEP amendment is not inconsistent with this strategy.

- ***Objective 10 – Sustainably manage the productivity of our natural resources***

Strategy 10.1 Enable the development of the region's natural, mineral and forestry resources by avoiding interfaces with land uses that are sensitive to impacts from noise, dust and light interference.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 10.2 Plan for the ongoing productive use of lands with regionally significant construction material resources in locations with established infrastructure and resource accessibility.

The proposed LEP amendment is not inconsistent with this strategy.

GOAL 2 – PRODUCTIVE AND CONNECTED

- ***Objective 11 – Support cities and centres and coordinate the supply of well-located employment land***

Strategy 11.1 Local council plans will support and reinforce cities and centres as a focal point for economic growth and activity.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 11.2 Utilise strategic planning and land use plans to maintain and enhance the function of established commercial centres by:

- simplifying planning controls
- developing active city streets that retain local character
- facilitating a broad range of uses within centres in response to the changing retail environment
- maximising the transport and community facilities commensurate with the scale of development proposals.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 11.3 Support existing and new economic activities by ensuring council strategic planning and local plans:

- retain, manage and safeguard significant employment lands
- respond to characteristics of the resident workforce and those working in the LGA and neighbouring LGAs
- identify local and subregional specialisations
- address freight, service and delivery considerations
- identify future employment lands and align infrastructure to support these lands
- provide flexibility in local planning controls
- are responsive to future changes in industry to allow a transition to new opportunities
- provide flexibility and facilitate a broad range of commercial, business and retail uses within centres

- focus future commercial and retail activity in existing commercial centres, unless there is no other suitable site within existing centres, there is a demonstrated need, or there is positive social and economic benefit to locate activity elsewhere
- are supported by infrastructure servicing plans for new employment lands to demonstrate feasibility prior to rezoning.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment does no intend to remove, add or otherwise impact employment land.

Strategy 11.4 New employment areas are in accordance with an employment land strategy endorsed by the Department of Planning, Housing and Infrastructure.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment only intends to enable the creation of two additional large lot residential lots.

- ***Objective 12 – Create a diverse visitor economy***

Strategy 12.1 Council strategic planning and local plans should consider opportunities to:

- enhance the amenity, vibrancy and safety of centres and township precincts;
- create green and open spaces that are accessible and well connected and enhance existing green infrastructure in tourist and recreation facilities;
- support the development of places for artistic and cultural activities;
- identify appropriate areas for tourist accommodation and tourism development;
- protect heritage, biodiversity and agriculture to enhance cultural tourism, agri-tourism and eco-tourism;
- partner with local Aboriginal communities to support cultural tourism and connect ventures across the region;
- support appropriate growth of the nighttime economy;
- provide flexibility in planning controls to allow sustainable agritourism and ecotourism;
- improve public access and connection to heritage through innovative interpretation; and
- incorporate transport planning with a focus on active transport modes to connect visitors to key destinations.

The proposed LEP amendment is not inconsistent with this strategy.

- ***Objective 13 – Champion Aboriginal self-determination***

Strategy 13.1 Provide opportunities for the region's LALCs, Native Title holders and community recognised Aboriginal organisations to utilise the NSW planning system to achieve development aspirations, maximising the flow of benefits generated by land rights to Aboriginal communities through strategic led planning.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 13.2 Prioritise the resolution of unresolved Aboriginal land claims on Crown land.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 13.3 Partner with community recognised Aboriginal organisations to align strategic planning and community aspirations including enhanced Aboriginal economic participation, enterprise and land, sea and water management.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 13.4 Councils consider engaging Aboriginal identified staff within their planning teams to facilitate strong relationship building between councils, Aboriginal communities and key stakeholders such as Local Aboriginal Land Councils and local Native Title holders.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 13.5 Councils should establish a formal and transparent relationship with local recognised Aboriginal organisations and community, such as an advisory committee.

The proposed LEP amendment is not inconsistent with this strategy.

Action 5 The Department of Planning, Housing and Infrastructure will work with LALCs, Native Title holders and councils by:

- meaningfully engaging with LALCs and Native Title holders in the development and review of strategic plans to ensure aspirations are reflected in plans;
- building capacity for Aboriginal communities, LALCs and Native Title holders to utilise the planning system; and
- incorporating Aboriginal knowledge of the region into plan.

The proposed LEP amendment is not inconsistent with this action.

- ***Objective 14 – Deliver new industries of the future***

Strategy 14.1 Facilitate agribusiness employment and income-generating opportunities through the regular review of council planning and development controls, including suitable locations for intensive agriculture and agribusiness.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment relates to rural residential land, and therefore will not result in any change to agribusiness opportunities.

Strategy 14.2 Protect established agriculture clusters and identify expansion opportunities in local plans that avoid land use conflicts, particularly with residential and rural residential land uses.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment is located approximately 400 metres from RU2 Rural Landscape zoned land in the locality. A large man-made dam is located within this distance. As the proposed amendment results in a minor increase (two additional lots), land use conflict is deemed to be unlikely.

- ***Objective 15 – Improve state and regional connectivity***

Strategy 15.1 Protect proposed and existing transport infrastructure and corridors to ensure network opportunities are not sterilised by incompatible land uses or land fragmentation.

The proposed LEP amendment is not inconsistent with this strategy.

Collaboration Activity 4:

To ensure that centres experiencing high growth have well planned and sustainable transport options, placed-based Transport Plans will be developed for key cities and centres across the North Coast region.

Lead Agency: Transport for NSW

The proposed LEP amendment is not inconsistent with this activity.

- ***Objective 16 – Increase active and public transport usage***

Strategy 16.1 Encourage active and public transport use by:

- prioritising pedestrian amenity within centres for short everyday trips
- providing a legible, connected and accessible network of pedestrian and cycling facilities
- delivering accessible transit stops and increasing convenience at interchanges to serve an ageing customer
- incorporating emerging anchors and commuting catchments in bus contract renewals
- ensuring new buildings and development include end of trip facilities

- integrating the active transport network with public transport facilities
- prioritising increased infill housing in appropriate locations to support local walkability and the feasibility of public transport stops

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 16.2 Local plans should encourage the integration of land use and transport and provide for environments that are highly accessible and conducive to walking, cycling and the use of public transport and encourage active travel infrastructure around key trip generators.

The proposed LEP amendment is not inconsistent with this strategy.

- ***Objective 17 – Utilise new transport technology***

Strategy 17.1 Councils should consider how new transport technology can be supported in local strategic plans, where appropriate.

The proposed LEP amendment is not inconsistent with this strategy.

Collaboration Activity 6:

Investigate public transport improvements including on-demand services.

Lead Agency: Transport for NSW

The proposed LEP amendment is not inconsistent with this activity.

GOAL 3 – GROWTH CHANGE AND OPPORTUNITY

- ***Objective 18 – Plan for sustainable communities***

Action 6 Undertake housing and employment land reviews for the Northern Rivers and Mid North Coast subregions to assess future supply needs and locations.

The proposed LEP amendment is not inconsistent with this action.

- ***Objective 19 – Public spaces and green infrastructure support connected and healthy communities***

Strategy 19.1 Councils should aim to undertake public space needs analysis and develop public space infrastructure strategies for improving access and quality of all public space to meet community need for public spaces. This could include:

- drawing on community feedback to identify the quantity, quality and the type of public space required
- prioritising the delivery of new and improved quality public space to areas of most need
- considering the needs of future and changing populations
- identifying walkable and cycleable connectivity improvements and quality and access requirements that would improve use and enjoyment of existing infrastructure
- consolidating, linking and enhancing high quality open spaces and recreational areas
- working in partnership with local Aboriginal communities to develop bespoke cultural infrastructure which responds to the needs of Aboriginal communities and

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 19.2 Public space improvements and new development should consider the local conditions, including embracing opportunities for greening and applying water sensitive urban design principles.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 19.3 Encourage the use of council owned land for temporary community events and creative practices where appropriate by reviewing development controls.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 19.4 Local environmental plan amendments that propose to reclassify public open space must consider the following:

- the role or potential role of the land within the open space network;
- how the reclassification is strategically supported by local strategies such as open space or asset rationalisation strategies;
- where land sales are proposed, details of how sale of land proceeds will be managed; and
- the net benefit or net gain to open space.

The proposed LEP amendment is not inconsistent with this strategy. The proposed amendment shall not reclassify public open space.

- ***Objective 20 – Celebrate local character***

Strategy 20.1 Ensure strategic planning and local plans recognise and enhance local character through use of local character statements in local plans and in accordance with the NSW Government's Local Character and Place Guideline.

The proposed LEP amendment is not inconsistent with this strategy.

Strategy 20.2 Celebrate buildings of local heritage significance by:

- retaining the existing use where possible
- establishing a common understanding of appropriate reuses
- exploring history and significance
- considering temporary uses
- designing for future change of use options.

The proposed LEP amendment is not inconsistent with this strategy. There are no buildings of local heritage significance on the site.

Coffs Harbour Narrative

Regional Priorities

- Manage and support growth in Coffs Harbour, anchored by the expanding health, education and creative industries sectors, and Coffs Harbour Airport Enterprise Park.
- Deliver suitable housing and job opportunities across the LGA including in Coffs Harbour, Woolgoolga, Moonee Beach, Toormina and Sapphire Beach.
- Protect environmental assets that sustain the agricultural and tourism industries.

Livable and Resilient

- Provide mitigation measures in response to climate change.
- Support environmentally sustainable development that is responsive to natural hazards.
- Retain and protect local biodiversity through effective management of environmental assets and ecological communities.

Productive and Connected

- Develop health, education and aviation precincts at the South Coffs Harbour Enterprise Area and Coffs Harbour Airport Enterprise Park, and new employment land at Woolgoolga and Bonville.

- Promote the sustainable use of important farmland areas through encouraging initiatives to support the development of the agricultural sector and agribusiness.
- Identify opportunities to expand nature based, adventure and cultural tourism assets including Solitary Islands Marine Park and other coastal, hinterland, and heritage assets, which will support the local ecotourism industry.

Housing and Place

- Enable 'better places' through placemaking initiatives, active transport, urban design specific to the North Coast, and facilitation of the '20 minute neighbourhood'.
- Deliver housing at Woolgoolga, North Boambee Valley and Bonville, and address the temporary worker housing needs associated with the Coffs Harbour Bypass.
- Enhance the variety of housing options available by promoting a compact urban form in and around the Coffs Harbour city centre and Park Beach.

Smart, Connected and Accessible (Infrastructure)

- Increase and strengthen social, economic and strategic links with the Mid North Coast subregion including Bellingen, Clarence Valley and Nambucca LGAs, particularly regarding the delivery of additional employment lands.
- Maximise opportunities associated with the increased connectivity provided by the new Coffs Harbour Bypass.

The proposed LEP amendment is not inconsistent with this narrative given it shall only result in a minor increase for large lot residential land. The reduction in minimum lot size will enable more efficient use of rural residential land and shall not negatively impact any biodiversity values. The proposed amendment is in keeping with the neighbourhood character, where other similarly sized lots can be found.

5. Is the planning proposal consistent with Council's endorsed local strategic planning statement, or another endorsed local strategy or strategic plan?

Council adopted its Local Strategic Planning Statement (LSPS) on 25 June 2020 for the whole of the Coffs Harbour LGA. The proposed LEP amendment accords with the vision and planning priorities within the Coffs Harbour LSPS, in particular:

Planning Priority	Action
5. Deliver greater housing supply, choice and diversity	A5.1 - Review and amend Council's local planning controls relating to housing supply, choice and diversity as outlined in the Local Growth Management Strategy
	A5.5 - Implement remaining actions from the Local Growth Management Strategy as funding allows

MyCoffs Community Strategic Plan 2032

The City's Community Strategic Plan is based on four overarching themes: Community Wellbeing; Community Prosperity; A Place for Community; and Sustainable Community Leadership. Within each theme there are a number of sustainable development objectives and outcomes.

The planning proposal supports the vision of the MyCoffs Community Strategic Plan 'connected, sustainable, thriving' and will assist in achieving the objectives of the Plan by: attracting people to work, live and visit; and by undertaking development that is environmentally, socially and economically responsible.

Theme	Objective	Outcome
A Place for Community: *Liveable neighbourhoods with a defined identity*	We are creating liveable places that are beautiful and appealing.	• The Coffs Harbour area is a place we are proud to call home. Our neighbourhoods have a strong sense of identity and are actively shaped by the local community. • Our neighbourhoods re people-friendly and liveable environments.
	We undertake development that is environmentally, socially and economically responsible.	• Population growth is focussed within the existing developed footprint.

Coffs Harbour Local Growth Management Strategy

The Planning Proposal is consistent with the Coffs Harbour Local Growth Management Strategy.

The site is included in an existing R5 Large Lot Residential zone, and the LGMS (Chapter 6 – Large Lot Residential Lands) addresses the potential reduction of minimum lot size in the R5 zone, where sufficiently justified. Section 6.7 within Chapter 6 of the LGMS states the following:

"It is also reasonable that if undeveloped land within zone R5 can justify a reduced lot size, then it should be considered through an applicant-initiated planning proposal. This would allow a merit case for a revised minimum lot size LEP amendment request to be submitted to Council, bearing in mind the underlying reasons for the standard in the first place and the objectives of zone R5."

The planning proposal is supported by Appendix 3 – Land Capability Assessment and Appendix 4 – Bushfire Risk Assessment, which indicate that the reduction of the minimum lot size is appropriate.

6. Is the planning proposal consistent with any other applicable State and Regional Study or Strategies?

Coffs Harbour Regional City Action Plan 2036

The NSW Government developed the Coffs Harbour Regional City Action Plan (the Plan) to provide a framework to manage and shape the city's future growth. The Plan was finalised in March 2021 and it identifies 5 overarching goals which incorporate objectives and related actions. This planning proposal is consistent with the following relevant goals, objectives and associated actions within the Plan:

Goal	Objective	Actions	
Live	17. Deliver a city that responds to Coffs Harbour's unique	17.1	Promote a sustainable growth footprint and enhance place-specific character and design outcomes.

	green cradle setting and offer housing choice.	17.4	Support a greater variety and supply of affordable housing.

7. Is the planning proposal consistent with applicable state environmental planning policies (SEPP)?

The table provided in Appendix 1 provides an assessment of consistency against each State Environmental Planning Policy relevant to the Planning Proposal.

8. Is the planning proposal consistent with applicable Ministerial Directions (s9.1 directions)?

The table provided in Appendix 2 provides an assessment of consistency against Ministerial Planning Directions relevant to the Planning Proposal.

Section C – Environmental, social and economic impact

9. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

No; there is little likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the planning proposal. The site is largely cleared, has been developed for rural residential purposes and does not contain any threatened species habitat.

Given the degraded and modified nature of the site, the lack of native vegetation and high conservation value habitat for flora and fauna, biodiversity values at the site are relatively low. Consequently, the planning proposal will have minimal impacts on biodiversity.

10. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

Yes, the following matters have been identified as considerations for the planning proposal and any resulting development application.

Bushfire Risk

Bushfire risk has been addressed in a Bushfire Risk Assessment (Appendix 4).

The report demonstrates that the planning proposal (and eventual three-lot large lot residential subdivision of the site) complies with relevant objectives (for the development type) and performance criteria within *Planning for Bushfire Protection 2019*.

Wastewater Capability Assessment

The Land Capability Assessment (Appendix 3) demonstrates that a minimum lot size of 4,000m^2 is suitable to accommodate the sustainable application of wastewater (on-site) from both future and existing residential development, considering the intended future subdivision of the site for large lot purposes.

Land Contamination

Contaminated land has been addressed in a Contaminated Assessment (Appendix 7). The report assessed the likelihood of soil contamination from a former banana plantation on the site. All samples gathered in the investigation were below the limits for reporting for Health Investigation Levels (HIL) and Ecological Investigation Levels (EIL) for heavy metals for arsenic, lead and DDT. No further investigation or remediation of the soil is required at this stage.

11. Has the planning proposal adequately addressed any social and economic effects?

Yes, the planning proposal is not likely to result in any adverse social or economic effects. Social benefits include a likely minor increase in housing stock in the Emerald Beach locality, which may have flow on benefits to local community activities. Economic benefits are limited to the likely construction of additional dwellings on the site, and minor flow on benefits to local businesses.

Section D – State and Commonwealth interests

12. Is there adequate public infrastructure for the planning proposal?

Yes, the planning proposal is unlikely to create significant additional demand on existing public infrastructure. The proposed LEP amendment will enable the creation of two additional lots, which shall each be serviced by on-site water collection and a waste-water treatment system, as there are no available City water and sewer mains. Vehicular access to the additional lots can be achieved from Smiths Road.

13. What are the views of State and federal public authorities and government agencies consulted in order to inform the Gateway determination?

The Department of Planning, Housing and Infrastructure issued a Gateway Determination for the planning proposal on 27 August 2024 (Appendix 8). The Gateway Determination requires consultation on the planning proposal with the following Government Agencies:

- NSW Rural Fire Service

Note: Following Exhibition this section of the planning proposal will be updated to include details of the community consultation.

PART 4 – MAPS

Proposed maps amendments to Coffs Harbour LEP 2013, as described in Part 2 of this planning proposal, are shown below.

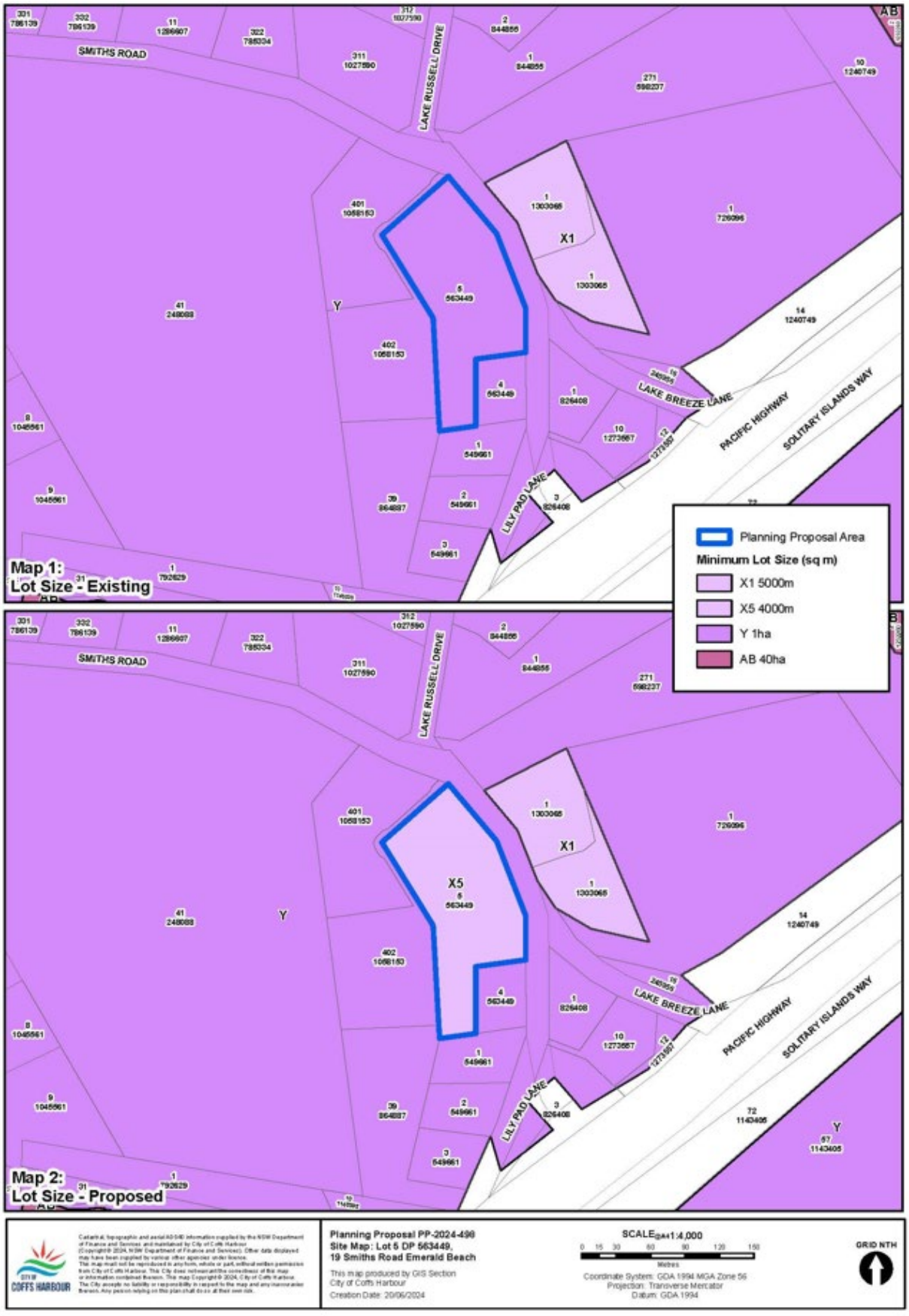


Figure 3: Existing and Proposed Amendments to the Minimum Lot Size Map (Sheet LSZ_005E)

Technical Notes:

- *An amended version of this map sheet will be created and supplied to NSW Department of Planning, Housing and Infrastructure if Council resolves to initiate the planning proposal.*

PART 5 – COMMUNITY CONSULTATION

The Gateway determination issued by the NSW Department of Planning, Housing and Infrastructure will specify the community consultation requirements that must be undertaken for the planning proposal. The City considers that the planning proposal should be exhibited for 28 days, given that it is not a principal LEP and does not seek to reclassify public land.

Public Exhibition of the planning proposal will include the following:

Advertisement

Placement of an online advertisement in the Coffs Newsroom.

Consultation with affected owners and adjoining landowners

Written notification of the public exhibition to the proponent, the landowner and adjoining/adjacent landowners.

Website

The planning proposal will be made publicly available on the City's Have Your Say Website at: https://haveyoursay.coffsharbour.nsw.gov.au/

Note: Following public exhibition, this section of the planning proposal will be updated to include details of the community consultation.

PART 6 –PROJECT TIMELINE

A project timeline is yet to be determined however the anticipated timeframes are provided below in Table 1, noting that the Gateway Determination issued by the NSW Department of Planning, Housing and Infrastructure will specify the date that the planning proposal is to be completed.

Table 1: Anticipated Timeline

Milestone	Anticipated Timeframe
Consideration by Council	July 2024
Commencement (date of Gateway determination)	August 2024
Pre-exhibition & agency consultation	September 2024
Consideration of submissions	November 2024
Post-Exhibition review and additional studies	November 2024
Reporting to Council for consideration	December 2024
Submission to Minister to make the plan (if not delegated) Submission to Minister for notification of the plan (if delegated)	January 2025
Gazettal of LEP Amendment	February 2025

APPENDIX 1 – CONSIDERATION OF STATE ENVIRONMENTAL PLANNING POLICIES

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Chapter 2 - Vegetation in Non-Rural Areas	No	N/A	The aims of this chapter of the Policy are: a) to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 3 - Koala Habitat Protection 2020	No	N/A	The aims of this chapter of the Policy are to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline: a) by requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat, and b) by encouraging the identification of areas of core koala habitat, and c) by encouraging the inclusion of areas of core koala habitat in environment protection zones. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 4 - Koala Habitat Protection 2021	Yes	Yes	The aims of this chapter of the Policy are to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline. The proposed LEP amendment applies to a site that does not include, or adjoin Koala Habitat that is either Primary, Secondary or Tertiary. As such, the proposed LEP amendment is consistent with the Koala Plan of Management that applies to the local growth management area.

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
	Chapter 6 – Water Catchments	N/A	N/A	The City of Coffs Harbour is not listed in the "land to which this chapter applies" and thus this chapter of the policy does not apply to the Coffs Harbour LGA at this point in time.
	Chapter 13 – Strategic Conservation Planning	N/A	N/A	The City of Coffs Harbour is not listed in the "land application map" and thus this chapter of the policy does not apply to the Coffs Harbour LGA at this point in time.
SEPP (Exempt and Complying Development Codes) 2008	N/A – this is a standalone State Environmental Planning Policy	No	N/A	This Policy aims to provide streamlined assessment processes for development that complies with specified development standards by: a) providing exempt and complying development codes that have State-wide application, and b) identifying, in the exempt development codes, types of development that are of minimal environmental impact that may be carried out without the need for development consent, and c) identifying, in the complying development codes, types of complying development that may be carried out in accordance with a complying development certificate as defined in the Act, and d) enabling the progressive extension of the types of development in this Policy, and e) providing transitional arrangements for the introduction of the State-wide codes, including the amendment of other environmental planning instruments. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this SEPP.
State Environmental Planning Policy (Housing) 2021	N/A – this is a standalone State Environmental Planning Policy	No	N/A	The principles of this Policy are: a) enabling the development of diverse housing types, including purpose-built rental housing, b) encouraging the development of housing that will meet the needs of more vulnerable members of the community, including very low to moderate income households, seniors and people with a disability, c) ensuring new housing development provides residents with a reasonable level of amenity, promoting the

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
				planning and delivery of housing in locations where it will make good use of existing and planned infrastructure and services, d) minimising adverse climate and environmental impacts of new housing development, e) reinforcing the importance of designing housing in a way that reflects and enhances its locality, f) supporting short-term rental accommodation as a home-sharing activity and contributor to local economies, while managing the social and environmental impacts from this use, g) mitigating the loss of existing affordable rental housing. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this SEPP.
State Environmental Planning Policy (Industry and Employment) 2021	Chapter 3 - Advertising and Signage	No	N/A	This aims of this chapter of the Policy are: a) to ensure that signage (including advertising): (i) is compatible with the desired amenity and visual character of an area, and (ii) provides effective communication in suitable locations, and (iii) is of high-quality design and finish, and b) to regulate signage (but not content) under Part 4 of the Act, and c) to provide time-limited consents for the display of certain advertisements, and d) to regulate the display of advertisements in transport corridors, and e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors. This Policy does not regulate the content of signage and does not require consent for a change in the content of signage. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
State Environmental Planning Policy	Chapter 2 -State and Regional Development	No	N/A	The aims of this chapter of the Policy are: a) to identify development that is State significant development,

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
(Planning Systems) 2021.				b) to identify development that is State significant infrastructure and critical State significant infrastructure, c) to identify development that is regionally significant development. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 3 - Aboriginal Land	No	N/A	The aims of this Chapter of the Policy are: a) to provide for development delivery plans for areas of land owned by Aboriginal Land Councils to be considered when development applications are considered, and b) to declare specified development carried out on land owned by Aboriginal Land Councils to be regionally significant development. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 4 - Concurrences and Consents	No	N/A	The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
State Environmental Planning Policy (Precincts—Central River City) 2021	Chapter 2 – State Significant Precincts	No	N/A	The aims of this chapter of the Policy are to: a) to facilitate the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant precincts for the benefit of the State, b) to facilitate service delivery outcomes for a range of public services and to provide for the development of major sites for a public purpose or redevelopment of major sites no longer appropriate or suitable for public purposes. The proposed LEP amendment does not contain provisions that contradict or

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
				hinder the application of this chapter of the SEPP.
State Environmental Planning Policy (Precincts—Eastern Harbour City) 2021	Chapter 2 -State Significant Precincts	No	N/A	The aims of this chapter of the Policy are to: a) to facilitate the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant precincts for the benefit of the State, b) to facilitate service delivery outcomes for a range of public services and to provide for the development of major sites for a public purpose or redevelopment of major sites no longer appropriate or suitable for public purposes. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
State Environmental Planning Policy (Primary Production) 2021	Chapter 2 - Primary Production and Rural Development	No	N/A	The aims of this chapter of the Policy are to: a) to facilitate the orderly economic use and development of lands for primary production, b) to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources, c) to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations, d) to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts, e) to encourage sustainable agriculture, including sustainable aquaculture,

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
				f) to require consideration of the effects of all proposed development in the State on oyster aquaculture, g) to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
State Environmental Planning Policy (Resilience and Hazards) 2021	Chapter 2 - Coastal Management	No	N/A	The aim of this chapter of the Policy is to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016, including the management objectives for each coastal management area, by: a) managing development in the coastal zone and protecting the environmental assets of the coast, and b) establishing a framework for land use planning to guide decision-making in the coastal zone, and c) mapping the 4 coastal management areas that comprise the NSW coastal zone for the purpose of the definitions in the Coastal Management Act 2016. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 3 – Hazardous and Offensive Development	No	N/A	The aims of this chapter of the Policy are: a) to amend the definitions of hazardous and offensive industries where used in environmental planning instruments, and b) to render ineffective a provision of any environmental planning instrument that prohibits development for the purpose of a storage facility on the ground that the facility is hazardous or offensive if it is not a hazardous or offensive storage establishment as defined in this Policy, and c) to require development consent for hazardous or offensive development proposed to be carried out in the Western Division, and

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
				d) to ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account, and e) to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact, and f) to require the advertising of applications to carry out any such development. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 4 – Remediation of Land	Yes	Yes	The aims of this chapter of the Policy are to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment— a) by specifying when consent is required, and when it is not required, for a remediation work, and b) by specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular, and c) by requiring that a remediation work meet certain standards and notification requirements. The proposed LEP amendment is accompanied by a Contamination Assessment (Appendix 7) which assessed the likelihood of soil contamination from a former banana plantation on the site. The results of the assessment determined that no further investigation or remediation of the soil is required at this stage. As a result, the proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
State Environmental Planning Policy (Resources and Energy) 2021	Chapter 2 - Mining, Petroleum Production and Extractive Industries	No	N/A	The aims of this chapter of the Policy are, in recognition of the importance to New South Wales of mining, petroleum production and extractive industries: a) to provide for the proper management and development of mineral, petroleum and extractive material resources for the purpose of promoting the social and economic welfare of the State, and b) to facilitate the orderly and economic use and development of land containing mineral, petroleum and extractive material resources, and b1) to promote the development of significant mineral resources, and c) to establish appropriate planning controls to encourage ecologically sustainable development through the environmental assessment, and sustainable management, of development of mineral, petroleum and extractive material resources, and d) to establish a gateway assessment process for certain mining and petroleum (oil and gas) development: (i) to recognise the importance of agricultural resources, and (ii) to ensure protection of strategic agricultural land and water resources, and (iii) to ensure a balanced use of land by potentially competing industries, and (iv) to provide for the sustainable growth of mining, petroleum and agricultural industries. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
State Environmental Planning Policy (Sustainable Buildings) 2022	Chapter 2 - Standards for residential development - BASIX	No	N/A	The aims of this SEPP are to encourage the design and delivery of sustainable buildings that minimise energy and water use. The proposed LEP amendment does not contain provisions that contradict or hinder the application of Chapter 2 of the SEPP.
	Chapter 3 - Standards for	No	N/A	The aims of this SEPP are to encourage the design and delivery of sustainable

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
	non-residential development			buildings that minimise energy and water use. The proposed LEP amendment does not contain provisions that contradict or hinder the application of Chapter 3 of the SEPP.
State Environmental Planning Policy (Transport and Infrastructure) 2021	Chapter 2 - Infrastructure	No	N/A	The aim of this chapter of the Policy is to facilitate the effective delivery of infrastructure across the State by: a) improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services, and b) providing greater flexibility in the location of infrastructure and service facilities, and c) allowing for the efficient development, redevelopment or disposal of surplus government owned land, and d) identifying the environmental assessment category into which different types of infrastructure and services development fall (including identifying certain development of minimal environmental impact as exempt development), and e) identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and f) providing for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing, and g) providing opportunities for infrastructure to demonstrate good design outcomes. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 3 - Educational Establishments and Child Care Facilities	No	N/A	The aim of this chapter of the Policy is to facilitate the effective delivery of educational establishments and early education and care facilities across the State by: a) improving regulatory certainty and efficiency through a consistent planning regime for educational

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
				establishments and early education and care facilities, and b) simplifying and standardising planning approval pathways for educational establishments and early education and care facilities (including identifying certain development of minimal environmental impact as exempt development), and c) establishing consistent State-wide assessment requirements and design considerations for educational establishments and early education and care facilities to improve the quality of infrastructure delivered and to minimise impacts on surrounding areas, and d) allowing for the efficient development, redevelopment or use of surplus government-owned land (including providing for consultation with communities regarding educational establishments in their local area), and e) providing for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing, and f) aligning the NSW planning framework with the National Quality Framework that regulates early education and care services, and g) ensuring that proponents of new developments or modified premises meet the applicable requirements of the National Quality Framework for early education and care services, and of the corresponding regime for State regulated education and care services, as part of the planning approval and development process, and h) encouraging proponents of new developments or modified premises and consent authorities to facilitate the joint and shared use of the facilities of educational establishments with the community through appropriate design. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.
	Chapter 4 – Major	No	N/A	The aims of this chapter of the Policy are:

State Environmental Planning Policy	Relevant Chapter	Applicable	Consistent	Comment
	Infrastructure Corridors			a) to identify land that is intended to be used in the future as an infrastructure corridor, b) to establish appropriate planning controls for the land for the following purposes— (i) to allow the ongoing use and development of the land until it is needed for the future infrastructure corridor, (ii) to protect the land from development that would adversely impact on or prevent the land from being used as an infrastructure corridor in the future. The proposed LEP amendment does not contain provisions that contradict or hinder the application of this chapter of the SEPP.

APPENDIX 2 – CONSIDERATION OF MINISTERIAL PLANNING DIRECTIONS

S9.1 Direction	Applicable	Consistent	Comment
Focus area 1: Planning Systems			
1.1 Implementation of Regional Plans	This direction applies to a relevant planning authority when preparing a planning proposal for land to which a Regional Plan has been released by the Minister for Planning and Public Spaces. Planning proposals must be consistent with a Regional Plan released by the Minister for Planning and Public Spaces. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary), that: (a) the extent of inconsistency with the Regional Plan is of minor significance, and (b) the planning proposal achieves the overall intent of the Regional Plan and does not undermine the achievement of the Regional Plan's vision, land use strategy, goals, directions or actions.	Yes	The North Coast Regional Plan 2041 (NCRP) applies to the Coffs Harbour LGA. The NCRP includes strategies and actions on environmental, economic and social (community) opportunities, as well as maintaining character and housing. Specific responses to relevant strategies and the associated actions and activities contained within the NCRP are provided in Part 3, Section B (4) above. It is considered that the planning proposal complies with the NCRP.
1.2 Development of Aboriginal Land Council land	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
1.3 Approval and Referral Requirements	This direction applies to all relevant planning authorities when preparing a planning proposal. A planning proposal to which this direction applies must: (a) minimise the inclusion of provisions that require the concurrence, consultation or referral of development applications to a Minister or public authority, and (b) not contain provisions requiring concurrence, consultation or referral of a Minister or public authority unless the relevant planning authority has obtained the approval of: i. the appropriate Minister or public authority, and ii. the Planning Secretary (or an officer of the Department nominated by the Secretary), prior to undertaking community consultation in satisfaction of Schedule 1 to the EP&A Act, and	Yes	The planning proposal does not include provisions that require the concurrence, consultation or referral of development applications to a Minister or public authority. It also does not identify development as designated development.

S9.1 Direction	Applicable	Consistent	Comment
	(c) not identify development as designated development unless the relevant planning authority: i. can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the class of development is likely to have a significant impact on the environment, and ii. has obtained the approval of the Planning Secretary (or an officer of the Department nominated by the Secretary) prior to undertaking community consultation in satisfaction of Schedule 1 to the EP&A Act. A planning proposal must be substantially consistent with the terms of this direction.		
1.4 Site Specific Provisions	This direction applies to all relevant planning authorities when preparing a planning proposal that will allow a particular development to be carried out. (1) A planning proposal that will amend another environmental planning instrument in order to allow particular development to be carried out must either: (a) allow that land use to be carried out in the zone the land is situated on, or (b) rezone the site to an existing zone already in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone, or (c) allow that land use on the relevant land without imposing any development standards or requirements in addition to those already contained in the principal environmental planning instrument being amended. (2) A planning proposal must not contain or refer to drawings that show details of the proposed development. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are of minor significance.	Yes	The planning proposal does not allow a particular development to be carried out, it shall only reduce the minimum lot size to enable subdivision.
1.4A Exclusion of Development Standards from Variation	This direction applies when a planning proposal authority prepares a planning proposal that proposes to introduce or alter an existing exclusion to clause 4.6 of a Standard	N/A	The planning proposal will not introduce or alter an existing exclusion to clause 4.6 of Coffs Harbour LEP 2013.

S9.1 Direction	Applicable	Consistent	Comment
	Instrument LEP or an equivalent provision of any other environmental planning instrument.		
Focus area 1: Planning Systems – Place Based			
Directions 1.5 – 1.22 do not apply to the Coffs Harbour LGA.			
Focus area 2: Design and Place			
Directions yet to be included.			
Focus area 3: Biodiversity and Conservation			
3.1 Conservation Zones	This direction applies to all relevant planning authorities when preparing a planning proposal. (1) A planning proposal must include provisions that facilitate the protection and conservation of environmentally sensitive areas. (2) A planning proposal that applies to land within a conservation zone or land otherwise identified for environment conservation/protection purposes in a LEP must not reduce the conservation standards that apply to the land (including by modifying development standards that apply to the land). This requirement does not apply to a change to a development standard for minimum lot size for a dwelling in accordance with Direction 9.3 (2) of "*Rural Lands*". A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary which: i. gives consideration to the objectives of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objectives of this direction, or	Yes	The site does not include any environmentally sensitive areas. The site does not contain land within a conservation zone or land otherwise identified for environment conservation/protection purposes.

S9.1 Direction	Applicable	Consistent	Comment
	(c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) is of minor significance.		
3.2 Heritage Conservation	This direction applies to all relevant planning authorities when preparing a planning proposal. A planning proposal must contain provisions that facilitate the conservation of: (a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area, (b) Aboriginal objects or Aboriginal places that are protected under the *National Parks and Wildlife Act 1974*, and (c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that: (a) the environmental or indigenous heritage significance of the item, area, object or place is conserved by existing or draft environmental planning instruments, legislation, or regulations that apply to the land, or (b) the provisions of the planning proposal that are inconsistent are of minor significance.	Yes	*European Heritage* The site does not contain any items listed as Heritage Items in Schedule 5 of Coffs Harbour LEP 2013 or the State Heritage Register. There are no European Heritage issues that would prevent a reduction in minimum lot size applying to the land. *Aboriginal Cultural Heritage* The site does not contain any mapped known or predictive Aboriginal Cultural Heritage (ACH), and an AHIMS search did not reveal any ACH sites on the site. Appendix 5 to the Planning Proposal provides an Aboriginal Cultural Heritage Assessment, as an AHIMS Search identified 3 previously recorded Aboriginal sites in proximity to the site, within the Pacific Highway corridor. The assessment concludes that future development is not likely to result in harm to Aboriginal objects.
3.3 Sydney Drinking Water Catchments	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
3.4 Application of C2 and C3	This direction does not currently apply to the Coffs Harbour LGA.	N/A	

S9.1 Direction	Applicable	Consistent	Comment
Zones and Environmental Overlays in Far North Coast LEPs			
3.5 Recreation Vehicle Areas	A planning proposal must not enable land to be developed for the purpose of a recreation vehicle area (within the meaning of the *Recreation Vehicles Act 1983*): (a) where the land is within a conservation zone, (b) where the land comprises a beach or a dune adjacent to or adjoining a beach, (c) where the land is not within an area or zone referred to in paragraphs (a) or (b) unless the relevant planning authority has taken into consideration: i. the provisions of the guidelines entitled Guidelines for the Selection, Establishment and Maintenance of Recreation Vehicle Areas, Soil Conservation Service of NSW, September 1985, and ii. the provisions of the guidelines entitled Recreation Vehicles Act 1983, Guidelines for Selection, Design and Operation of Recreation Vehicle Areas, State Pollution Control Commission, September 1985. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary which: i. gives consideration to the objective of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or (c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan	Yes	The planning proposal does not enable land to be developed for the purpose of a recreation vehicle area (within the meaning of the *Recreation Vehicles Act 1983*).

S9.1 Direction	Applicable	Consistent	Comment
	prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) of minor significance.		
3.6 Strategic Conservation Planning	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
3.7 Public Bushland	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
3.8 Willandra Lakes Region	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
3.9 Sydney Harbour Foreshores and Waterways Area	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
3.10 Water Catchment Protection	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
Focus Area 4: Resilience and Hazards			
4.1 Flooding	This direction applies to all relevant planning authorities that are responsible for flood prone land when preparing a planning proposal that creates, removes or alters a zone or a provision that affects flood prone land. (1) A planning proposal must include provisions that give effect to and are consistent with: (a) the NSW Flood Prone Land Policy, (b) the principles of the Floodplain Development Manual 2005, (c) the Considering flooding in land use planning guideline 2021, and (d) any adopted flood study and/or floodplain risk management plan prepared in accordance with the principles of the Floodplain Development Manual 2005 and adopted by the relevant council. (2) A planning proposal must not rezone land within the flood planning area from Recreation, Rural, Special Purpose or Conservation Zones to a Residential, Business, Industrial or Special Purpose Zones.	N/A	The site is not identified as flood prone land.

S9.1 Direction	Applicable	Consistent	Comment
	(3) A planning proposal must not contain provisions that apply to the flood planning area which: (a) permit development in floodway areas, (b) permit development that will result in significant flood impacts to other properties, (c) permit development for the purposes of residential accommodation in high hazard areas, (d) permit a significant increase in the development and/or dwelling density of that land, (e) permit development for the purpose of centre-based childcare facilities, hostels, boarding houses, group homes, hospitals, residential care facilities, respite day care centres and seniors housing in areas where the occupants of the development cannot effectively evacuate, (f) permit development to be carried out without development consent except for the purposes of exempt development or agriculture. Dams, drainage canals, levees, still require development consent, (g) are likely to result in a significantly increased requirement for government spending on emergency management services, flood mitigation and emergency response measures, which can include but are not limited to the provision of road infrastructure, flood mitigation infrastructure and utilities, or (h) permit hazardous industries or hazardous storage establishments where hazardous materials cannot be effectively contained during the occurrence of a flood event. (4) A planning proposal must not contain provisions that apply to areas between the flood planning area and probable maximum flood to which Special Flood Considerations apply which: (a) permit development in floodway areas, (b) permit development that will result in significant flood impacts to other properties, (c) permit a significant increase in the dwelling density of that land, (d) permit the development of centre-based childcare facilities, hostels, boarding houses, group homes, hospitals,		

S9.1 Direction	Applicable	Consistent	Comment
	residential care facilities, respite day care centres and seniors housing in areas where the occupants of the development cannot effectively evacuate, (e) are likely to affect the safe occupation of and efficient evacuation of the lot, or (f) are likely to result in a significantly increased requirement for government spending on emergency management services, and flood mitigation and emergency response measures, which can include but not limited to road infrastructure, flood mitigation infrastructure and utilities. (5) For the purposes of preparing a planning proposal, the flood planning area must be consistent with the principles of the Floodplain Development Manual 2005 or as otherwise determined by a Floodplain Risk Management Study or Plan adopted by the relevant council. A planning proposal may be inconsistent with this direction only if the planning proposal authority can satisfy the Planning Secretary (or their nominee) that: (a) the planning proposal is in accordance with a floodplain risk management study or plan adopted by the relevant council in accordance with the principles and guidelines of the *Floodplain Development Manual 2005*, or (b) where there is no council adopted floodplain risk management study or plan, the planning proposal is consistent with the flood study adopted by the council prepared in accordance with the principles of the *Floodplain Development Manual 2005* or (c) the planning proposal is supported by a flood and risk impact assessment accepted by the relevant planning authority and is prepared in accordance with the principles of *the Floodplain Development Manual 2005* and consistent with the relevant planning authorities' requirements, or (d) the provisions of the planning proposal that are inconsistent are of minor significance as determined by the relevant planning authority.		
4.2 Coastal Management	This direction applies when a planning proposal authority prepares a planning proposal that applies to land that is within the coastal zone, as defined under the *Coastal Management Act*	N/A	The site is not within the coastal zone, as defined under the Coastal Management Act 2016 – comprising the coastal

S9.1 Direction	Applicable	Consistent	Comment
	2016 -comprising the coastal wetlands and littoral rainforests area, coastal vulnerability area, coastal environment area and coastal use area -and as identified by chapter 3 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021.* (1) A planning proposal must include provisions that give effect to and are consistent with: (a) the objects of the *Coastal Management Act 2016* and the objectives of the relevant coastal management areas; (b) the NSW Coastal Management Manual and associated Toolkit; (c) NSW Coastal Design Guidelines 2003; and (d) any relevant Coastal Management Program that has been certified by the Minister, or any Coastal Zone Management Plan under the *Coastal Protection Act 1979* that continues to have effect under clause 4 of Schedule 3 to the *Coastal Management Act 2016*, that applies to the land. (2) A planning proposal must not rezone land which would enable increased development or more intensive land-use on land: (a) within a coastal vulnerability area identified by the *State Environmental Planning Policy (Resilience and Hazards) 2021*; or (b) that has been identified as land affected by a current or future coastal hazard in a local environmental plan or development control plan, or a study or assessment undertaken: i. by or on behalf of the relevant planning authority and the planning proposal authority, or ii. by or on behalf of a public authority and provided to the relevant planning authority and the planning proposal authority. (3) A planning proposal must not rezone land which would enable increased development or more intensive land-use on land within a coastal wetlands and littoral rainforests area identified by chapter 3 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021.* (4) A planning proposal for a local environmental plan may propose to amend the following maps, including increasing or decreasing the land within these maps, under the *State Environmental Planning Policy (Resilience and Hazards) 2021*:		wetlands and littoral rainforests area, coastal vulnerability area, coastal environment area or coastal use area – and as identified by *State Environmental Planning Policy (Biodiversity and Conservation) 2021.*

S9.1 Direction	Applicable	Consistent	Comment
	(a) Coastal wetlands and littoral rainforests area map; (b) Coastal vulnerability area map; (c) Coastal environment area map; and (d) Coastal use area map. Such a planning proposal must be supported by evidence in a relevant Coastal Management Program that has been certified by the Minister, or by a *Coastal Zone Management Plan* under the *Coastal Protection Act 1979* that continues to have effect under clause 4 of Schedule 3 to the *Coastal Management Act 2016*. A planning proposal may be inconsistent with the terms of this direction only if the planning proposal authority can satisfy the Planning Secretary (or their nominee) that the provisions of the planning proposal that are inconsistent are: (a) justified by a study or strategy prepared in support of the planning proposal which gives consideration to the objective of this direction, or (b) in accordance with any relevant Regional Strategic Plan or District Strategic Plan, prepared under Division 3.1 of the EP&A Act by the relevant strategic planning authority, which gives consideration to the objective of this direction, or (c) of minor significance.		
4.3 Planning for Bushfire Protection	This direction applies to all local government areas when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land. In the preparation of a planning proposal, the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a Gateway determination under section 56 of the Act, and prior to undertaking community consultation in satisfaction of section 57 of the Act, and take into account any comments so made. A planning proposal must: (a) have regard to *Planning for Bushfire Protection 2019*, (b) introduce controls that avoid placing inappropriate developments in hazardous areas, and (c) ensure that bushfire hazard reduction is not prohibited within the Asset Protection Zone (APZ).	No	The site is mapped as bushfire prone land. The Bushfire Risk Assessment (Appendix 4) demonstrates that future development of the site by way of subdivision can comply with Planning for Bushfire Protection 2019. Upon receipt of a Gateway Determination, the NSW Rural Fire Service shall be consulted to determine if the LEP amendment is justifiably inconsistent to this direction.

S9.1 Direction	Applicable	Consistent	Comment
	A planning proposal must, where development is proposed, comply with the following provisions, as appropriate: (a) provide an Asset Protection Zone (APZ) incorporating at a minimum: (i) an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and (ii) an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road, (b) for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under section 100B of the *Rural Fires Act 1997*), the APZ provisions must be complied with, (c) contain provisions for two-way access roads which link to perimeter roads and/or to fire trail networks, (d) contain provisions for adequate water supply for firefighting purposes, (e) minimise the perimeter of the area of land interfacing the hazard which may be developed, (f) introduce controls on the placement of combustible materials in the Inner Protection Area. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the council has obtained written advice from the Commissioner of the NSW Rural Fire Service to the effect that, notwithstanding the non-compliance, the NSW Rural Fire Service does not object to the progression of the planning proposal.		
4.4 Remediation of Contaminated Land	This direction applies when a planning proposal authority prepares a planning proposal that applies to: (a) land that is within an investigation area within the meaning of the *Contaminated Land Management Act 1997*,	Yes	The site is identified as land on which development for a purpose referred to in Table 1 of the Contaminated Land Planning Guidelines, has known to have been carried out (being

S9.1 Direction	Applicable	Consistent	Comment
	(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out, (c) the extent to which it is proposed to carry out development on it for residential, educational, recreational or childcare purposes, or for the purposes of a hospital – land: i. in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and ii. on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge). (1) A planning proposal authority must not include in a particular zone (within the meaning of the local environmental plan) any land to which this direction applies if the inclusion of the land in that zone would permit a change of use of the land, unless: (a) the planning proposal authority has considered whether the land is contaminated, and (b) if the land is contaminated, the planning proposal authority is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for all the purposes for which land in the zone concerned is permitted to be used, and (c) if the land requires remediation to be made suitable for any purpose for which land in that zone is permitted to be used, the planning proposal authority is satisfied that the land will be so remediated before the land is used for that purpose. In order to satisfy itself as to paragraph 1(c), the planning proposal authority may need to include certain provisions in the local environmental plan. (2) Before including any land to which this direction applies in a particular zone, the planning proposal authority is to obtain and have regard to a report specifying the findings of a preliminary investigation of the land carried out in accordance with the contaminated land planning guidelines.		agricultural/horticultural activities). The planning proposal includes Appendix 7 Contaminated Assessment. The report assessed the likelihood of soil contamination from a former banana plantation on the site. All samples gathered in the investigation were below the limits for reporting for Health Investigation Levels (HIL) and Ecological Investigation Levels (EIL) for heavy metals for arsenic, lead and DDT. No further investigation or remediation of the soil is required at this stage.

S9.1 Direction	Applicable	Consistent	Comment
4.5 Acid Sulfate Soils	This direction applies to all relevant planning authorities that are responsible for land having a probability of containing acid sulfate soils when preparing a planning proposal that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps held by the Department of Planning, Housing and Infrastructure. (1) The relevant planning authority must consider the Acid Sulfate Soils Planning Guidelines adopted by the Planning Secretary when preparing a planning proposal that applies to any land identified on the Acid Sulfate Soils Planning Maps as having a probability of acid sulfate soils being present. (2) When a relevant planning authority is preparing a planning proposal to introduce provisions to regulate works in acid sulfate soils, those provisions must be consistent with: (a) the Acid Sulfate Soils Model LEP in the Acid Sulfate Soils Planning Guidelines adopted by the Planning Secretary, or (b) other such provisions provided by the Planning Secretary that are consistent with the Acid Sulfate Soils Planning Guidelines. (3) A relevant planning authority must not prepare a planning proposal that proposes an intensification of land uses on land identified as having a probability of containing acid sulfate soils on the Acid Sulfate Soils Planning Maps unless the relevant planning authority has considered an acid sulfate soils study assessing the appropriateness of the change of land use given the presence of acid sulfate soils. The relevant planning authority must provide a copy of any such study to the Planning Secretary prior to undertaking community consultation in satisfaction of clause 4 of Schedule 1 to the Act. (4) Where provisions referred to under 2(a) and 2(b) above of this direction have not been introduced and the relevant planning authority is preparing a planning proposal that proposes an intensification of land uses on land identified as having a probability of acid sulfate soils on the Acid Sulfate Soils Planning Maps, the planning proposal must contain provisions consistent with 2(a) and 2(b). A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning	Yes	The site is identified as being underlain by Class 5 Acid Sulphate Soils. The planning proposal is supported by an Acid Sulphate Soils Assessment (Appendix 6). The assessment has indicated that Acid Sulphate Soils are not located within the upper 1m of the soil profile.

S9.1 Direction	Applicable	Consistent	Comment
	Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are: (a) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or (b) of minor significance.		
4.6 Mine Subsidence and Unstable Land	This direction applies when a relevant planning authority prepares a planning proposal that permits development on land that is within a declared mine subsidence district in the Coal Mine Subsidence Compensation Regulation 2017 pursuant to section 20 of the Coal Mine Subsidence Compensation Act 2017, or has been identified as unstable in a study, strategy or other assessment undertaken by or on behalf of the relevant planning authority or by or on behalf of a public authority and provided to the relevant planning authority. (1) When preparing a planning proposal that would permit development on land that is within a declared mine subsidence district, a relevant planning authority must: (a) consult Subsidence Advisory NSW to ascertain: i. if Subsidence Advisory NSW has any objection to the draft local environmental plan, and the reason for such an objection, and ii. the scale, density and type of development that is appropriate for the potential level of subsidence, and (b) incorporate provisions into the draft Local Environmental Plan that are consistent with the recommended scale, density and type of development recommended under 1(a)(ii), and (c) include a copy of any information received from Subsidence Advisory NSW with the statement to the Planning Secretary (or an officer of the Department nominated by the Secretary prior to undertaking community consultation in satisfaction of Schedule 1 to the Act. (2) A planning proposal must not permit development on land that has been identified as unstable as referred to in the application section of this direction. A planning proposal may be inconsistent with the terms of this direction only if the relevant	N/A	The planning proposal does not apply to land that: • is within a declared mine subsidence district, or • has been identified as unstable in a study, strategy or other assessment undertaken by or on behalf of a public authority or by or on behalf of a public authority and provided to the relevant planning authority.

S9.1 Direction	Applicable	Consistent	Comment
	planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary which: i. gives consideration to the objective of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or (c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) of minor significance.		
Focus Area 5: Transport and Infrastructure			
5.1 Integrating Land Use and Transport	This direction applies to all relevant planning authorities when preparing a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes. (1) A planning proposal must locate zones for urban purposes and include provisions that give effect to and are consistent with the aims, objectives and principles of: (a) Improving Transport Choice – Guidelines for planning and development (DUAP 2001), and (b) The Right Place for Business and Services – Planning Policy (DUAP 2001). A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary which: i. gives consideration to the objective of this direction, and	Yes	The proposal shall alter a provision relating to land zoned for residential, by reducing the applicable minimum lot size. The proposal is consistent with the Improving Transport Choice – Guidelines for planning and development (DUAP 2001), and The Right Place for Business and Services – Planning Policy (DUAP 2001). The proposal is deemed to be of minor significance as it accords with the City's Local Growth Management Strategy and will not result in a substantial increase of movement due to the potential of only two additional lots.

S9.1 Direction	Applicable	Consistent	Comment
	ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or (c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) of minor significance.		
5.2 Reserving Land for Public Purposes	This direction applies to all relevant planning authorities when preparing a planning proposal. (1) A planning proposal must not create, alter or reduce existing zonings or reservations of land for public purposes without the approval of the relevant public authority and the Planning Secretary (or an officer of the Department nominated by the Secretary). (2) When a Minister or public authority requests a relevant planning authority to reserve land for a public purpose in a planning proposal and the land would be required to be acquired under Division 3 of Part 2 of the Land Acquisition (Just Terms Compensation) Act 1991, the relevant planning authority must: (a) reserve the land in accordance with the request, and (b) include the land in a zone appropriate to its intended future use or a zone advised by the Planning Secretary (or an officer of the Department nominated by the Secretary), and (c) identify the relevant acquiring authority for the land. (3) When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal relating to the use of any land reserved for a public purpose before that land is acquired, the relevant planning authority must: (a) include the requested provisions, or (b) take such other action as advised by the Planning Secretary (or an officer of the Department nominated by the Secretary) with respect to the use of the land before it is acquired.	N/A	The planning proposal does not create, alter or reduce land reserved for a public purpose.

S9.1 Direction	Applicable	Consistent	Comment
	(4) When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal to rezone and/or remove a reservation of any land that is reserved for public purposes because the land is no longer designated by that public authority for acquisition, the relevant planning authority must rezone and/or remove the relevant reservation in accordance with the request. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that: (a) with respect to a request referred to in paragraph (4), further information is required before appropriate planning controls for the land can be determined, or (b) the provisions of the planning proposal that are inconsistent with the terms of this direction are of minor significance.		
5.3 Development Near Regulated Airports and Defence Airfields	This direction applies to all relevant planning authorities when preparing a planning proposal that will create, alter or remove a zone or a provision relating to land near a regulated airport which includes a defence airfield. (1) In the preparation of a planning proposal that sets controls for development of land near a regulated airport, the relevant planning authority must: (a) consult with the lessee/operator of that airport; (b) take into consideration the operational airspace and any advice from the lessee/operator of that airport; (c) for land affected by the operational airspace, prepare appropriate development standards, such as height controls. (d) not allow development types that are incompatible with the current and future operation of that airport. (2) In the preparation of a planning proposal that sets controls for development of land near a core regulated airport, the relevant planning authority must: (a) consult with the Department of the Commonwealth responsible for airports and the lessee/operator of that airport; (b) for land affected by the prescribed airspace (as defined in clause 6(1) of the	N/A	The planning proposal does not create, alter or remove a zone or a provision relating to land near a regulated airport including a defence airfield.

S9.1 Direction	Applicable	Consistent	Comment
	Airports (Protection of Airspace) Regulation 1996, prepare appropriate development standards, such as height controls. (c) not allow development types that are incompatible with the current and future operation of that airport. (d) obtain permission from that Department of the Commonwealth, or their delegate, where a planning proposal seeks to allow, as permissible with consent, development that would constitute a controlled activity as defined in section 182 of the *Airports Act 1996*. This permission must be obtained prior to undertaking community consultation in satisfaction of Schedule 1 to the EP&A Act. (3) In the preparation of a planning proposal that sets controls for the development of land near a defence airfield, the relevant planning authority must: (a) consult with the Department of Defence if: i. the planning proposal seeks to exceed the height provisions contained in the *Defence Regulations 2016 – Defence Aviation Areas* for that airfield; or ii. no height provisions exist in the *Defence Regulations 2016 – Defence Aviation Areas* for the airfield and the proposal is within 15km of the airfield. (b) for land affected by the operational airspace, prepare appropriate development standards, such as height controls. (c) not allow development types that are incompatible with the current and future operation of that airfield. (4) A planning proposal must include a provision to ensure that development meets *Australian Standard 2021 – 2015, Acoustic-Aircraft Noise Intrusion – Building siting and construction* with respect to interior noise levels, if the proposal seeks to rezone land: (a) for residential purposes or to increase residential densities in areas where the Australian Noise Exposure Forecast (ANEF) is between 20 and 25; or (b) for hotels, motels, offices or public buildings where the ANEF is between 25 and 30; or		

S9.1 Direction	Applicable	Consistent	Comment
	(c) for commercial or industrial purposes where the ANEF is above 30. (5) A planning proposal must not contain provisions for residential development or to increase residential densities within the 20 Australian Noise Exposure Concept (ANEC)/ANEF contour for Western Sydney Airport. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary, which: i. gives consideration to the objectives of this direction; and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objectives of this direction; or (c) in accordance with the relevant Regional Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objectives of this direction.		
5.4 Shooting Ranges	This direction applies to all relevant planning authorities when preparing a planning proposal that will affect, create, alter or remove a zone or a provision relating to land adjacent to and/ or adjoining an existing shooting range. (1) A planning proposal must not seek to rezone land adjacent to and/ or adjoining an existing shooting range that has the effect of: (a) permitting more intensive land uses than those which are permitted under the existing zone; or (b) permitting land uses that are incompatible with the noise emitted by the existing shooting range. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the	N/A	The planning proposal does not create, alter or remove a zone or provision relating to land adjacent to and/or adjoining an existing shooting range.

S9.1 Direction	Applicable	Consistent	Comment
	provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary, which: i. gives consideration to the objectives of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or (c) is of minor significance.		
Focus area 6: Housing			
6.1 Residential Zones	This direction applies to all relevant planning authorities when preparing a planning proposal that will affect land within an existing or proposed residential zone (including the alteration of any existing residential zone boundary), or any other zone in which significant residential development is permitted or proposed to be permitted. (1) A planning proposal must include provisions that encourage the provision of housing that will: (a) broaden the choice of building types and locations available in the housing market, and (b) make more efficient use of existing infrastructure and services, and (c) reduce the consumption of land for housing and associated urban development on the urban fringe, and (d) be of good design. (2) A planning proposal must, in relation to land to which this direction applies: (a) contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it), and (b) not contain provisions which will reduce the permissible residential density of land. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department	Yes	The planning proposal will enable the creation of two additional lots on the site. The potential for additional lots will broaden the locality for further housing development. The planning proposal relates to land that has infrastructure and services available to it that are suitable for rural residential purposes. Appropriate planning controls are also contained within Coffs Harbour DCP 2015 to ensure that future development is of good design.

S9.1 Direction	Applicable	Consistent	Comment
	nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary which: i. gives consideration to the objective of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or (c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) of minor significance.		
6.2 Caravan Parks and Manufactured Home Estates	This direction applies to all relevant planning authorities when preparing a planning proposal. This direction does not apply to Crown land reserved or dedicated for any purposes under the *Crown Land Management Act 2016,* except Crown land reserved for accommodation purposes, or land dedicated or reserved under the *National Parks and Wildlife Act 1974.* (1) In identifying suitable zones, locations and provisions for caravan parks in a planning proposal, the relevant planning authority must: (a) retain provisions that permit development for the purposes of a caravan park to be carried out on land, and (b) retain the zonings of existing caravan parks, or in the case of a new principal LEP zone the land in accordance with an appropriate zone under the *Standard Instrument (Local Environmental Plans) Order 2006* that would facilitate the retention of the existing caravan park. (2) In identifying suitable zones, locations and provisions for manufactured home estates (MHEs) in a planning proposal, the relevant planning authority must:	Yes	The planning proposal does not identify suitable zones, locations or provisions for caravan parks or manufactured home estates.

S9.1 Direction	Applicable	Consistent	Comment
	(a) take into account the categories of land set out in Schedule 6 of *State Environmental Planning Policy (Housing)* as to where MHEs should not be located, (b) take into account the principles listed in clause 9 Schedule 5 of *State Environmental Planning Policy (Housing)* (which relevant planning authorities are required to consider when assessing and determining the development and subdivision proposals), and (c) include provisions that the subdivision of MHEs by long term lease of up to 20 years or under the *Community Land Development Act 1989* be permissible with consent. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary which: i. gives consideration to the objective of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or (c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) of minor significance.		
Focus area 7: Industry and Employment			
7.1 Employment Zones	This direction applies to all relevant planning authorities when preparing a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary). A planning proposal must: (a) give effect to the objectives of this direction,	N/A	The planning proposal will not affect land within an existing or proposed employment zone (including the alteration of any employment zone boundary).

S9.1 Direction	Applicable	Consistent	Comment
	(b) retain the areas and locations of existing business and industrial zones, (c) not reduce the total potential floor space area for employment uses and related public services in business zones, (d) not reduce the total potential floor space area for industrial uses in industrial zones, and (e) ensure that proposed new employment areas are in accordance with a strategy that is approved by the Planning Secretary. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary, which: i. gives consideration to the objective of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study (prepared in support of the planning proposal) which gives consideration to the objective of this direction, or (c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) of minor significance.		
7.2 Reduction in non-hosted short-term rental accommodation period	This direction does not currently apply to the Coffs Harbour LGA.	N/A	
7.3 Commercial and Retail Development along the Pacific Highway, North Coast	Applies when a relevant planning authority prepares a planning proposal for land in the vicinity of the existing and/or proposed alignment of the Pacific Highway. (1) A planning proposal that applies to land located on "within town" segments of the Pacific Highway must provide that: (a) new commercial or retail development must be concentrated within district	N/A	The site is not located in the vicinity of the existing and/or proposed alignment of the Pacific Highway.

S9.1 Direction	Applicable	Consistent	Comment
	centres rather than spread along the Highway; (b) development with frontage to the Pacific Highway must consider impacts that the development has on the safety and efficiency of the highway; and (c) for the purposes of this paragraph, "within town" means areas which prior to the draft LEP have an urban zone (e.g. Village, residential, tourist, commercial and industrial etc.) and where the Pacific Highway is less than 80km/hour. (2) A planning proposal that applies to land located on "out-of-town" segments of the Pacific Highway must provide that: (a) new commercial or retail development must not be established near the Pacific Highway if this proximity would be inconsistent with the objectives of this Direction. (b) development with frontage to the Pacific Highway must consider the impact the development has on the safety and efficiency of the highway. (c) For the purposes of this paragraph, "out-of-town" means areas which, prior to the draft local environmental plan, do not have an urban zone (e.g.: "village", "residential", "tourist", "commercial", "industrial", etc.) or are in areas where the Pacific Highway speed limit is 80 km/hour or greater. (3) Notwithstanding the requirements of paragraphs (4) and (5), the establishment of highway service centres may be permitted at the localities listed in Table 1, provided that the Roads and Traffic Authority is satisfied that the highway service centre(s) can be safely and efficiently integrated into the highway interchange(s) at those localities. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are of minor significance.		
Focus area 8: Resources and Energy			

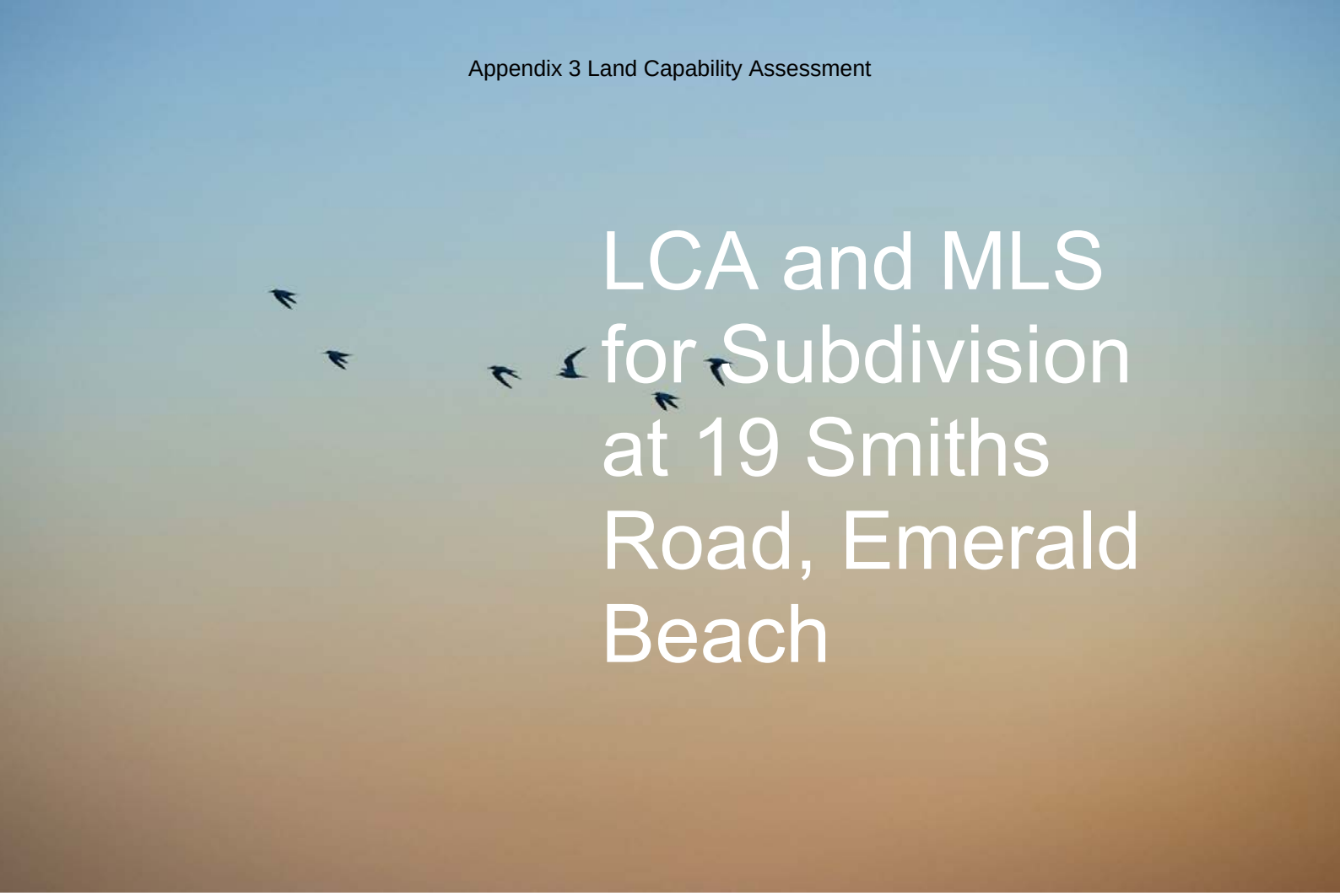
S9.1 Direction	Applicable	Consistent	Comment
8.1 Mining, Petroleum Production and Extractive Industries	This direction applies to all relevant planning authorities when preparing a planning proposal that would have the effect of: (a) prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or (b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development. (1) In the preparation of a planning proposal affected by this direction, the relevant planning authority must: (a) consult the Secretary of the Department of Primary Industries (DPI) to identify any: i. resources of coal, other minerals, petroleum or extractive material that are of either State or regional significance, and ii. existing mines, petroleum production operations or extractive industries occurring in the area subject to the planning proposal, and (b) seek advice from the Secretary of DPI on the development potential of resources identified under (1)(a)(i), and (c) identify and take into consideration issues likely to lead to land use conflict between other land uses and: i. development of resources identified under (1)(a)(i), or ii. existing development identified under (1)(a)(ii). (2) Where a planning proposal prohibits or restricts development of resources identified under (1)(a)(i), or proposes land uses that may create land use conflicts identified under (1)(c), the relevant planning authority must: (a) provide the Secretary of DPI with a copy of the planning proposal and notification of the relevant provisions, (b) allow the Secretary of DPI a period of 40 days from the date of notification to provide in writing any objections to the terms of the planning proposal, and (c) include a copy of any objection and supporting information received from the Secretary of DPI with the statement to the Planning Secretary (or an officer of the	N/A	The planning proposal will not prohibit the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials; or restrict the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance (by permitting a land use that is likely to be incompatible with such development).

S9.1 Direction	Applicable	Consistent	Comment
	Department nominated by the Secretary before undertaking community consultation in satisfaction of Schedule 1 to the Act. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary), that the provisions of the planning proposal that are inconsistent are of minor significance.		
Focus area 9: Primary Production			
9.1 Rural Zones	This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural zone (including the alteration of any existing rural zone boundary). A planning proposal must not rezone land from a rural zone to a residential, business, industrial, village or tourist zone. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary which: i. gives consideration to the objectives of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) justified by a study prepared in support of the planning proposal which gives consideration to the objectives of this direction, or (c) in accordance with the relevant Regional Strategy, Regional Plan or District Plan prepared by the Department of Planning, Housing and Infrastructure which gives consideration to the objective of this direction, or (d) is of minor significance.	N/A	The planning proposal will not rezone land from a rural zone to a residential, employment, mixed use, SP4 Enterprise, SP5 Metropolitan Centre, W4 Working Waterfront, village or tourist zone. The planning proposal does not include provisions that will increase the permissible density of land within a rural zone.
9.2 Rural Lands	This direction applies when a relevant planning authority prepares a planning proposal for land outside the local government areas of lake Macquarie, Newcastle, Wollongong and LGAs	N/A	The planning proposal will not affect land within an existing or proposed rural or conservation zone (including the alteration of

S9.1 Direction	Applicable	Consistent	Comment
	in the Greater Sydney Region (as defined in the *Greater Sydney Commission Act 2015*) other than Wollondilly and Hawkesbury, that: (a) will affect land within an existing or proposed rural or conservation zone (including the alteration of any existing rural or conservation zone boundary) or (b) changes the existing minimum lot size on land within a rural or conservation zone. (1) A planning proposal must: (a) be consistent with any applicable strategic plan, including regional and district plans endorsed by the Planning Secretary, and any applicable local strategic planning statement (b) consider the significance of agriculture and primary production to the State and rural communities (c) identify and protect environmental values, including but not limited to, maintaining biodiversity, the protection of native vegetation, cultural heritage, and the importance of water resources (d) consider the natural and physical constraints of the land, including but not limited to, topography, size, location, water availability and ground and soil conditions (e) promote opportunities for investment in productive, diversified, innovative and sustainable rural economic activities (f) support farmers in exercising their right to farm (g) prioritise efforts and consider measures to minimise the fragmentation of rural land and reduce the risk of land use conflict, particularly between residential land uses and other rural land use (h) consider State significant agricultural land identified *in* chapter 2 of the *State Environmental Planning Policy (Primary Production) 2021* for the purpose of ensuring the ongoing viability of this land (i) consider the social, economic and environmental interests of the community. (2) A planning proposal that changes the existing minimum lot size on land within a rural or conservation zone must demonstrate that it: (a) is consistent with the priority of minimising rural land fragmentation and land use conflict, particularly between residential and other rural land uses		existing rural or conservation zone boundaries) or change the existing minimum lot size within a rural or conservation zone.

S9.1 Direction	Applicable	Consistent	Comment
	(b) will not adversely affect the operation and viability of existing and future rural land uses and related enterprises, including supporting infrastructure and facilities that are essential to rural industries or supply chains (c) where it is for rural residential purposes: i. is appropriately located taking account of the availability of human services, utility infrastructure, transport and proximity to existing centres ii. is necessary taking account of existing and future demand and supply of rural residential land. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are: (a) justified by a strategy approved by the Planning Secretary and is in force which: i. gives consideration to the objectives of this direction, and ii. identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), or (b) is of minor significance.		
9.3 Oyster Aquaculture	This direction applies to any relevant planning authority when preparing a planning proposal in 'Priority Oyster Aquaculture Areas' and oyster aquaculture outside such an area as identified in the *NSW Oyster Industry Sustainable Aquaculture Strategy* (2006) ("the Strategy"), when proposing a change in land use which could result in: (a) adverse impacts on a 'Priority Oyster Aquaculture Area' or a "current oyster aquaculture lease in the national parks estate", or (b) incompatible use of land between oyster aquaculture in a 'Priority Oyster Aquaculture Area' or a "current oyster aquaculture lease in the national parks estate" and other land uses. (1) In the preparation of a planning proposal the relevant planning authority must: (a) identify any 'Priority Oyster Aquaculture Areas' and oyster aquaculture leases outside such an area, as shown the maps	N/A	This direction only applies to Priority Oyster Aquaculture Areas and oyster aquaculture outside such an area as identified in the NSW Oyster Industry Sustainable Aquaculture Strategy (2006).

S9.1 Direction	Applicable	Consistent	Comment
	to the Strategy, to which the planning proposal would apply, (b) identify any proposed land uses which could result in any adverse impact on a 'Priority Oyster Aquaculture Area' or oyster aquaculture leases outside such an area, (c) identify and take into consideration any issues likely to lead to an incompatible use of land between oyster aquaculture and other land uses and identify and evaluate measures to avoid or minimise such land use in compatibility, (d) consult with the Secretary of the Department of Primary Industries (DPI) of the proposed changes in the preparation of the planning proposal, and (e) ensure the planning proposal is consistent with the Strategy. (2) Where a planning proposal proposes land uses that may result in adverse impacts identified under (1)(b) and (1)(c), relevant planning authority must: (a) provide the Secretary of DPI with a copy of the planning proposal and notification of the relevant provisions, (b) allow the Secretary of DPI a period of 40 days from the date of notification to provide in writing any objections to the terms of the planning proposal, and (c) include a copy of any objection and supporting information received from the Secretary of DPI with the statement to the Planning Secretary before undertaking community consultation in satisfaction of Schedule 1 to the EP&A Act. A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the provisions of the planning proposal that are inconsistent are of minor significance.		
9.4 Farmland of State and Regional Significance on the NSW Far North Coast	This direction does not currently apply to the Coffs Harbour LGA.	N/A	



LCA and MLS for Subdivision at 19 Smiths Road, Emerald Beach

23 March 2023

For: Steven Sawtell: Jeffery Allen
Authored by: Strider Duerinckx

Ref	Ver	Date	Distribution
2223-101-02	A	23/3/23	Client, Planner
	B	6/3/24	Client, Planner

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1 Introduction

Earth Water Consulting Pty Limited (EWC) were engaged by Jeffery Allen to undertake a Minimum Lot Size (MLS) and Land Capability Assessment (LCA) for the proposed subdivision of 19 Smiths Road, Emerald Beach (Lot 5 DP 563449) (the 'Site'), as shown on Figure 1.

The purpose of the MLS and LCA are to show that wastewater from an On-site Sewage Management System (OSMS) can be sustainably applied on the proposed lots.

2 Proposed Development

Based on plans of the proposed subdivision layout (Ref: 15279 DA Newman Karl Weir and Partners Pty Ltd. Revised Plan of Proposed Subdivision. Dated: June 2022), it is understood that the Site is proposed to be subdivided from one (1) into three (3) lots.

Proposed Lot 1 will include the existing dwelling and buildings and be 5,019m^2, Proposed Lot 2 will have a new building entitlement of 400m^2 and be 4,047m^2 and proposed Lot 3 will have a new building entitlement of 400m^2 and be 5,000m^2(Figure 2).

3 Scope of Work

The MLS and LCA were undertaken by Strider Duerinckx of EWC.

3.1 Land Capability Assessment

The study methodology included:

- A desktop review of Site conditions including geology, hydrogeology, soils, and landscape features;
- A site inspection to map site and soil constraints plus an audit of the existing dwelling OSMS in relation to the proposed subdivision boundary;
- Drilling of three boreholes to assess soil conditions across the Site;
- Assessment of a range of site constraints including landform, slope, aspect, drainage, flooding and proximity to sensitive environments;
- Analysis of selected soil sample for a range of chemical properties including pH, EC, dispersibility, PSorp, CEC and ESP;
- Estimation of likely wastewater loads (quantity and quality) from future dwellings on the proposed lots, and undertake confirmation water and nutrient balance modelling to size suitable land application areas;
- Determining an appropriate level of wastewater treatment and the preferred method of land application of effluent to overcome the constraints on the proposed lots;
- Outlining any land improvement works or mitigation measures required to address particular constraints in the land application areas; and
- Provision of a written report, including site plans, describing the results and recommendations from our investigations.

3.2 Minimum Lot Size Analysis

The study methodology included:

- A comparison of nearby properties of a similar target area to confirm the typical available land for onsite effluent application.

4 Site Details

The Site is located on the western side of Smiths Road and is set on a low ridgeline with artificial dams to the east and west of the property (Figure 1). The Site is zoned R5 Large Lot Residential and is 1.406ha of mostly cleared paddocks and small agricultural plantings.

The Site sits on the southern side of a ridgeline that runs to the south towards the Pacific Highway. The ground surface slopes gently to the west towards two neighbouring Lots, which separate the property from the western artificial pond/dam.

4.1 Existing OSMS

The OSMS that services the existing four-bedroom dwelling consists of a round concrete septic tank, a concrete pumpwell and an unknown Effluent Management Area (EMA), approximately 170-300m^2 in size, located to the west of the dwelling (Figures 2 and 3). The existing EMA overlaps the proposed boundary between proposed Lots 1 and 2, as such, the OSMS will require an upgrade as part of the subdivision.

Photograph 1 – Looking towards the rainwater tank and existing septic tank on proposed Lot 1.

Photograph 2 – Looking south across the EMA of Proposed Lot 2 towards the existing EMA of Lot 1 in the background.

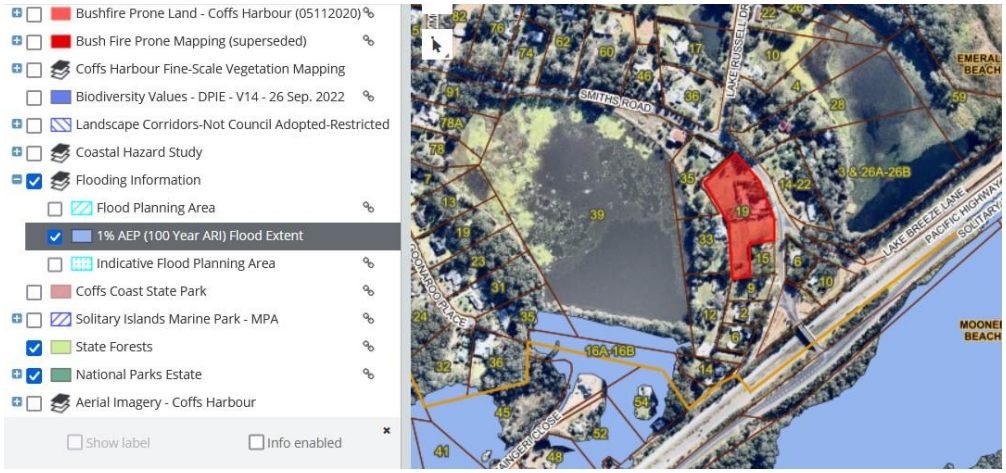
Photograph 3 – Looking north northeast over the proposed EMA and building envelope for Proposed Lot 3.

4.2 Site Constraints

Table 1 summarises the Site constraints for the primary and reserve EMAs for each of the proposed lots. These are discussed in terms of the degree of limitation they present (i.e. minor, moderate or major limitation) for on-site effluent application. Reference is made to the rating scale described in Table 4 of DLG (1998). Site features are presented in Figure 3.

Table 1: Site Constraints

Constraint	Degree of Limitation
Landform: Lot 1: Linear planar to slightly divergent upslope location. Lot 2: Linear planar upslope location Lot 3: Linear convergent upslope position.	Minor
Exposure: All Lots: Good exposure. Minimal trees near the proposed EMAs.	Minor
Slope: All Lots: slope of 9-13% to the west.	Moderate
Rocks and Rock Outcrops: No rock outcrops were observed on the Site.	Minor
Erosion Potential: No active erosion was noted during the site inspection. The gentle slopes combined with the highly erodible subsoils would give a moderate risk of erosion.	Moderate
Climate: The Site experiences a sub-tropical-temperate climate, typical of north-eastern NSW.	Moderate
Vegetation: Open grassland with minimal trees and shrubs.	Minor
Fill: None noted.	Minor
Surface Waters: The EMAs for the proposed Lots 2 and 3 will be more than 40m upslope from the western pond. The existing EMA for Lot 1 is approximately 50m to the east of the pond.	Minor
Groundwater: (NSW Office of Water: Groundwater Bore Search)	Major

Constraint	Degree of Limitation
The closest registered domestic bore (GW051796) is at 15 Smiths Road (DP563449), around 89m to the south southwest of the EMA on proposed Lot 1, 113m south southwest of the EMA on proposed Lot 2 and 31m south of the EMA on proposed Lot 3. The bore has a final drilled depth of 33m and water bearing zones between 21-22m and 27-29m in unconsolidated clay and fractured shale. Groundwater vulnerability? Clay subsoil, distance and deep groundwater depth indicate that the risk to groundwater would be minimal.	
Stormwater run-on and upslope seepage: The mid to upper slope position of the proposed EMAs would have moderate run-on from the ridgeline and house sites.	Moderate
Flood Potential: The Site is not impacted by 1:100 year flood extents on the CHCC flood mapping. 	Minor
Available Effluent Application Area All lots have sufficient area available for the application of effluent, and reserve EMAs.	Minor

4.3 Soil Survey and Description

4.3.1 Regional Soils

We reviewed the Soil Landscapes of the Coffs Harbour 1:100,000 Sheet (Milford, 1999) and the NSW DPI Soil Maps which indicate that the Site is part of the Ulong Soil Landscape, an erosional landscape located on undulating low hills, generally as lower slopes beneath steeper hills and mountains on late Carboniferous metasediments of the Coast Range and Gleniffer-Bonville Hills.

Soils are moderately deep to deep (>100cm), well-drained structured Red and Brown Earths, Red and Yellow Podzolic Soils, deep Krasnozems in moist areas and Yellow Earths and Yellow Podzolic Soils in drier areas.

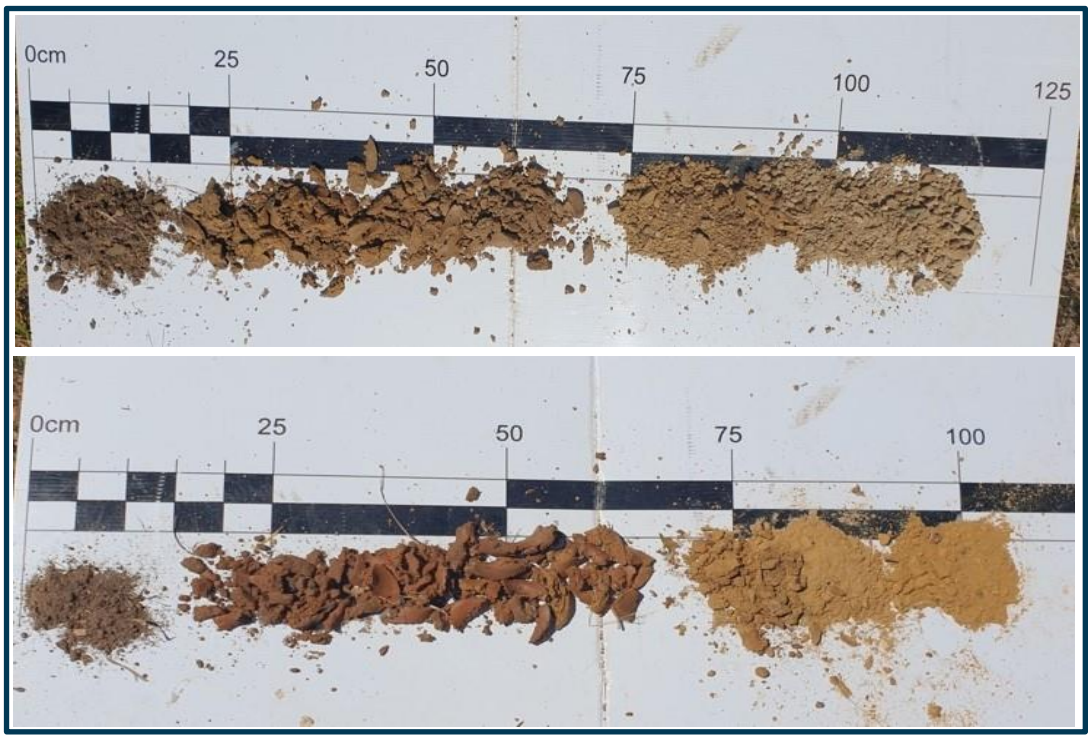
Limitations include strongly acid soils with low subsoil permeability and fertility and high erodibility. The soil is typically strong to very strongly acidic with low wet bearing strength, low fertility and potential aluminum toxicity. The dominant soil materials range from dark loams, clay loams to silty loams with some fine sand, moderately pedal and earthy, occasional bleached hardsetting clay loams; brown to reddish brown light and silty clay subsoils and reddish brown, pedal medium clays.

4.3.2 Site Soils

Site soils were assessed by drilling three (3) boreholes using a powered auger (Figure 3) to 1.2m depth. In general, these soils comprised:

- Approximately 100-150mm of sandy clay loam to clay loam topsoil, dark brown, some yellow orange mottling, with a strong structure and between 5-10% coarse fragments; overlying
- Approximately 600-700mm of light clay, bright brown, with some light grey mottling increasing with depth, strong structure and up to 10% coarse fragments; overlying
- Approximately 1050mm of sandy clay, dull brown to light grey, with light yellow orange to orange mottling increasing with depth, strong structure and up to 5% coarse fragments; overlying
- At least 400-500mm of silty clay to medium clay with silt, light yellow orange to light grey, with some orange mottling, strong structure and up to 5% coarse fragments.

Weathered bedrock was encountered at 1.1m in Borehole 2. The borehole logs are provided in Appendix A.



Photograph 4 – Borehole 1 (top image) Borehole 2 (bottom image)

Table 2 summarises the key soil physical and chemical assessments. Reference is made to the rating scale described in Table 6 of DLG (1998). Borehole logs are presented in Appendix A and soil chemistry in Appendix B.

Table 2: Soil Assessment

Parameter	Constraint
Depth to bedrock or hardpan (m): Boreholes 1 and 3 were terminated at 1.2m depth in sandy clay and medium clay. Borehole 2 refused at 1.1m in silty clay.	Moderate
Depth to high soil watertable: The depth of the vadose zone (i.e. non-saturated soil material above watertable) was greater than 1.2m at the time of the investigation. The depth to the permanent groundwater aquifer is expected to be more than 20m depth based on local groundwater bore (GW051796).	Minor
Coarse Fragments (%): The boreholes contained up to 10% coarse fragments.	Minor
Hydraulic loading rate: Soil structure: Strong	

Parameter		Constraint
Soil texture: **Permeability category:** Hydraulic loading recommended: 8mm/day for primary, and 12mm/day secondary treated effluent into an absorption bed field and 3mm/day for SSI. Reasons for the hydraulic loading recommendation: Strongly structured sandy to silty clay subsoils and acceptable point of application depth buffer to recorded medium clay in BH3.	Sandy to Silty clay 0.15/0.7-1.2m Category 5a	Moderate
pH: 4.08 pH Units from BH1 0.5-0.7m. Strongly acidic soils.		Major
Electrical Conductivity (dS/m): 0.404dS/m from BH1 0.5-0.7m. Not saline.		Minor
Dispersiveness: The Emerson Aggregate Test is a measure of soil dispersibility and susceptibility to erosion and structural degradation. It assesses the physical changes that occur in a single ped of soil when immersed in water, specifically whether the soil slakes and falls apart or disperses and clouds the water. An EAT was recorded as Class 3/6 (Slake 3) for BH1 0.5-0.7m. The instability of these aggregates is expected to increase slightly with the application of effluent.		Minor
Sodicity (ESP): The ESP is a measure of how readily the soils allow sodium from wastewater to be substituted in the soil lattice for other cations. Once accepted, the weak sodium bonds allow increased structural degradation of the soil, increasing the erosion risk. The ESP of BH1 0.5-0.7m was 1.0%. The ESP infers a minimal potential for structural degradation due to sodium salts already present.		Minor
Cation Exchange Capacity: Like ESP, the CEC is a measure of how easily the soils hold and exchange excess cations from the effluent. These cations, such as potassium, magnesium and calcium are used by plants as a nutrient source. The higher the CEC the more likely plant growth will be aided by the application of effluent. CEC was measured in BH1 0.5-0.7m at 16.8 cmol/kg, which indicates that this soil type has low ability to accept and release excess nutrients from effluent.		Minor
Phosphorus Adsorption: Phosphorus is a cation present in effluent. It is required only to a limited extent by plants as a trace nutrient, but if there is an excess of phosphorus in environments where other limiting factors are not present (such as waterways), excess phosphorus can result in very high plant growth. Typically, on land,		

Parameter	Constraint
excess phosphorus is taken up by soil adsorption, or is flushed out of the soil into groundwater or surface water bodies. The Site soils in BH1 0.5-0.7m has a Psorp of 2,606mg/kg (17,374 kg/ha) in the subsoil.	Minor

5 Minimum Lot Size (MLS) Analysis

A minimum lot size analysis and modelling were completed to determine the maximum lot density suitable for subdivision on the Site.

5.1 Methodology

When considering the suitability for a lot to sustainably manage wastewater on-site, we typically refer to 'available effluent management area'. This broadly refers to available areas (i.e. not built out or used for a conflicting purpose) where OSMS will not be unduly constrained by site and soil characteristics. Available area on a developed a lot is determined by the following factors:

- total building area (including dwellings, sheds, pools etc.) which includes a defined building envelope but may extend beyond with additional improvements to a property, such as driveways and paths (impervious areas), and gardens/vegetated areas unsuitable for effluent reuse;
- dams, intermittent and permanent watercourses running through lots;
- maintenance of appropriate buffer distances from property boundaries, buildings, driveways and paths, dams and watercourses;
- flood prone land;
- excessive slope;
- excessively shallow soils;
- heavy (clay) soils with low permeability;
- excessively poor drainage, shallow groundwater and/or stormwater run-on; and
- excessive shading by vegetation.

The residual areas (areas not otherwise occupied by improvements, buffers, restrictions or conservation vegetation) were then calculated for the selected lots (Figure 4), and the available area compared to the wastewater envelope required.

5.2 MLS Buffer Distances

Buffer distances from EMAs are typically enforced to minimise risk to public health, maintain public amenity and protect sensitive environments. Generally, adopted environmental buffers for primary treated effluent land applied into absorption trenches/ beds based on DLG (1998) are:

- 250m from domestic groundwater bores;
- 100m from permanent watercourses;
- 40m from intermittent watercourses and dams;
- 12m from downslope property boundaries and 6m from upslope property boundaries; and
- 6m from downslope buildings and 3m from upslope buildings.

Secondary treatment further reduces the buffers to property boundaries to 6m from downslope boundaries and 3m from upslope boundaries.

In addition, ASNZS1547:2012 provides suggested buffer distances that include buffers to inground water tanks and swimming pools, cuttings and recreation areas. In the comparative lot assessment by EWC these additional land use situations were also buffered.

5.3 MLS Treatment Sizing

Hydraulic and nutrient balance modelling was undertaken to size a typical primary treatment and absorption bed EMA. This is a conservative worst case approach. The modelling is included in Appendix C. Based on the modelling, an EMA of 672m^2 is required, and allowing for a reserve area equals 1,344m^2. We have utilised 1,344m^2 when comparing properties for suitable lot sizing.

5.4 MLS Comparative Lots Assessed

Four, nearby R5 zoned, representative lots were selected that have already been subdivided to an area similar to that proposed at the Site (Table 3) (Figure 4).

Table 3: Comparative Lots Assessed

MLS No.	Lot	DP	Address	Lot Area (m^2)
MLS 1	2	1043373	22 Skinner Close	6,185
MLS 2	2	803663	61 Lake Russell Drive	6,000
MLS 3	1	549661	9 Smiths Road	3,250
MLS 4	4	563449	15 Smiths Road	2,561

The properties typically included a dwelling, garage/shed, landscaped trees, shrubs and gardens, driveways, water tanks, and recreational space. This development style will be similar to that proposed for the Site and therefore minimum lot size and development potential should be consistent.

5.5 MLS Assessed Available EMA

Table 4 shows the assessment of available effluent management areas for each of the four lots.

From the sample selection of lots investigated, two of the lots are significantly smaller than the nominated 4,047-5019m^2 lot size proposed, being 2,561-3,250m^2 (MLS 3 and 4), and two are slightly larger being 6,000-6,185m^2 (MLS 1 and 2).

MLS 3 and 4, which are the smallest lots, are limited severely by restricted area due to the lot size and proportion of the lot utilised for development. As such, it is expected that standard primary treatment would not be applicable for these lots and a higher grade of treatment, such as secondary treatment, with a reduced footprint EMA and buffers would be applicable for these lots. MLS 1 and 2 though have sufficient available effluent application area to accommodate the maximum primary wastewater envelope of 1,344m^2 required.

The variability of lot sizes and on-lot improvements and restrictions of developed lots makes selection of a "typical" lot difficult, however comparison of the four lots with site and soil constraints at the Site indicates that lot size and presence of drainage alignments are the two major issues limiting onsite wastewater land application in this area.

Table 4: Minimum Lot Size Assessment Results

MLS No.	Lot Area (m^2)	Total Restricted Area (m^2)	Available Eff. Application Area (m^2)	Percent of Lot Available for Eff. Disp. (%)	>1,010m^2 Area Available for Primary Treatment?
1	6,185	4,321	1,860	30	Yes
2	6,000	3,638	2,362	40	Yes
3	3,250	2,458	792	24	No (secondary only)
4	2,561	2,026	533	21	No (secondary only)

5.6 Discussion

A comparison of nearby properties suggests that:

- Developed area on each of the lots ranges from 2,000-4,300m^2 in area;
- Available area for effluent land application ranged from 533-792m^2 for MLS3 and 4, and 1,860-2,362m^2 for MLS1 and 2.
- As such lot size is the dominant limiting factor for available footprint for effluent land application, and those compared lots at <4,000m^2 did not contain sufficient land area for primary treatment and land application whilst those lots with >4,000m^2 land area easily contained sufficient land area for secondary treated effluent;
- Though proposed Lot 1 is the largest of the three proposed lots with 5,019m^2 total lot area, the prexisting development of the property reduces the available area for effluent land application down to around 800m^2;
- The shape of proposed Lot 3 as an "L" and presence of adjacent water bores means that buffers / setbacks impact on effluent land application more than in Proposed Lot 2 with a more uniform rectangular shape; and
- A minimum lot size of 4,000m^2 is recommended for Proposed Lots 1-3, and secondary treated effluent.

6 Recommended OSMS Combination

Due to the cost of reticulated sewerage provision by Council, it is expected that the Site will not be sewered in the foreseeable future.

Based on the site and soil constraints and subdivision boundaries, the minimum treatment and land application combination selected for Proposed Lots 1-3 are:

- Treatment to a secondary standard and subsurface application into an appropriately sized absorption bed field or subsurface irrigation field.

7 Effluent Management Areas

7.1 Design Hydraulic Load

For hydraulic loading purposes a proposed dwelling of four bedrooms on tank water was assumed for the proposed lots. AS/NZS1547:2012 recommends that a wastewater generation load of 120L per person per day for households supplied by tank water be used as a basis for wastewater system design. The hydraulic load for the existing and proposed dwellings is based on 1.5 persons per bedroom. The design hydraulic loading for a four bedroom dwelling under full occupancy is presented in Table 5.

Table 5: Proposed Design Hydraulic Load

No. of Bedrooms	Design Wastewater Load (L/day)
4	720

7.2 Sizing of Effluent Management Areas

Water balance modelling was undertaken to determine sustainable effluent application rates, and from this estimate the necessary size of the EMA required for effluent to be applied from a secondary treatment system and SSI field.

A daily waterbalance model was utilised, that was developed for the NSW northern rivers area and adopted by multiple councils. The model utilised in this study has rainfall data from 1992 to 2013. And utilises a general water balance can be expressed by the following equation:

$$\text{Precipitation} + \text{Effluent Applied} = \text{Evapotranspiration} + \text{Percolation}$$

Storage has been set as 0mm, and the rainfall hydraulic load is incorporated into the water balance to ensure that runoff from the EMA will not occur under typical (design) climate conditions.

A conservative nutrient balance was also undertaken, which calculates the minimum area required for nutrients to be assimilated by the soils and vegetation.

The input data and results modelling are presented in Table 6, and calculation sheets in Appendix D.

Table 6: Modelling Inputs

Data Parameter	Units	Value	Comments
Hydraulic load	L/day	720	6 persons occupancy.
Precipitation	mm/month	Coff Harbour	BoM, daily.
Pan Evaporation	mm/month	Coffs Harbour MO	BoM, daily.
Design Irrigation Rate (DIR) - Secondary	mm/day	3	Maximum rate for design purposes, based on strongly structured sandy to silty light clay subsoils.
Nitrogen removal from raw effluent	%	20	
Soil phosphorus sorption capacity	mg/kg	2,606	Value based on soil testing.

Table 7: Results of Modelling

Parameter	Result
Minimum secondary treatment and SSI field area for hydraulic load (m^2)	304m^2
Minimum secondary treatment and SSI field area for total phosphorus load, without off-site export	66.5m^2
Minimum secondary treatment and SSI field area allowing 10.48kg/year export, without off-site export	282m^2

Based on modelling an EMA and reserve EMA of 304m^2 each have been nominated for a four bedroom dwelling for the proposed lots. The recommended locations of the EMAs are shown on Figure 5.

The actual size and configuration of the EMAs will be dependent on a wastewater management plan at the time of dwelling development planning and application to install or upgrade an OSMS.

8 Buffers

Buffer distances or setbacks from EMAs are required to minimise risk to public health, maintain public amenity and protect sensitive environments. The buffers from DLG (1998) are presented in **Table 8** below.

Table 8: Available Buffers

Site Feature	DLG (1998) Buffer	Achievable?
Intermittent watercourses, drainage channels and dams	40m	**Yes**
Permanent waterways	100m	**Yes**
Domestic groundwater bore	250m	**No, 30m (Lot 3)** Appendix R of AS/NZS1547:2012 allows for a risk assessment of buffers based on site and soil conditions.
Property boundary	3m downslope and sideslope, 6m upslope	**Yes**
Driveway and building	6m downslope of / 3m upslope	**Yes**

Although the EMAs fall within the 250m buffer to a domestic groundwater bore required by DLG (1998), a risk assessment to Appendix R of AS/NZS1547:2012 has been undertaken. The application of secondary treated effluent has been assessed as a low risk with a suitable buffer of 15m. The available 3m exceeds the risk assessed buffer to the nearest bore is suitable (Appendix E).

9 Conclusions & Recommendations

Having undertaken a land capability assessment for the proposed subdivision of 19 Smiths Road, Emerald Beach, EWC consider that there is the opportunity for the sustainable application of wastewater following subdivision of the existing lot into Proposed Lots 1-3.

We recommend that:

- A minimum lot size of 4,000m^2 for the proposed lots is suitable for the subdivision to allow for all reasonable development configurations (dwelling, shed, swimming pool, recreation, driveways etc) and sustainable wastewater application;
- Proposed Lot 1 – As the existing OSMS is affected by the proposed subdivision boundary, it is required that a new OSMS is installed to service the existing dwelling. It is recommended that wastewater from the existing dwelling will need to be treated to a minimum secondary level with subsurface soil absorption or subsurface irrigation (SSI) land application. For the purposes of this LCA an active and reserve EMA of 304m^2 based on absorption beds has been allowed for the existing four-bedroom dwelling. Final details are to be confirmed during design and s68 application for the replacement OSMS; and

- Proposed Lots 2 and 3 - Wastewater be treated to a minimum secondary standard with subsurface irrigation land application. An active and reserve EMA of 304m^2 minimum has been nominated for a future four bedroom dwelling.

For any future system we recommend that:

- A dwelling specific OSMS should be designed by an experienced professional, taking into account the assumptions and recommendations contained in this report; and
- An OSMS should be installed by a suitably qualified plumber, ensuring that effluent is distributed evenly across the entire area serviced.

10 References

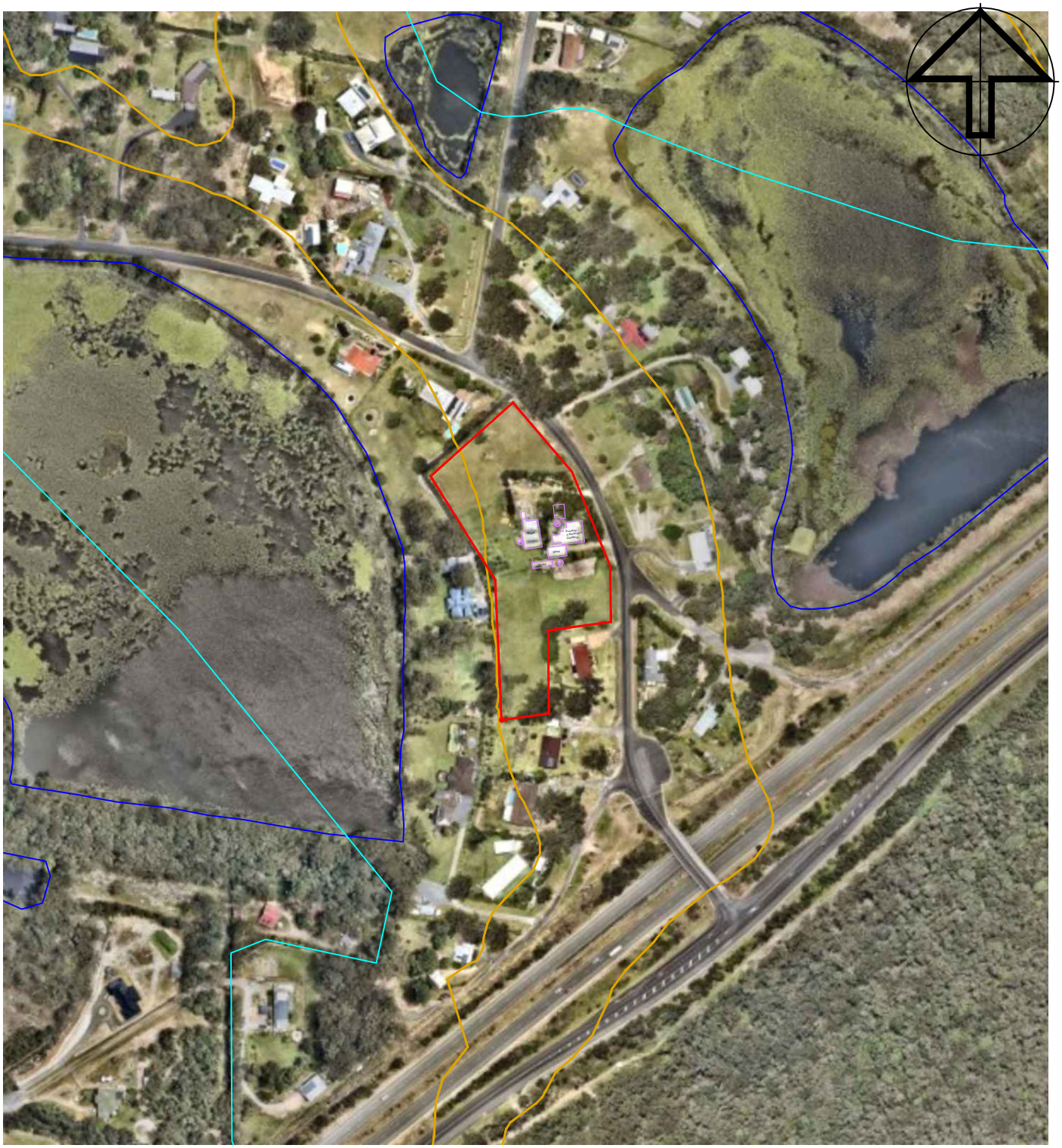
Coffs Harbour City Council (2015) *On-site Sewage Management Strategy 2015*, Coffs Harbour.

Department of Local Government et al. (1998). *Environment & Health Protection Guidelines: On-site Sewage Management for Single Households*.

Milford, H. B., (1999) *Soil Landscapes of the Coffs Harbour 1:100 000 Sheet*, Department of Land and Water Conservation Soil Landscape Series.

Standards Australia / Standards New Zealand (2012*). AS/NZS 1547:2012 On-site Domestic-wastewater Management*.

FIGURES



0 80 120 160

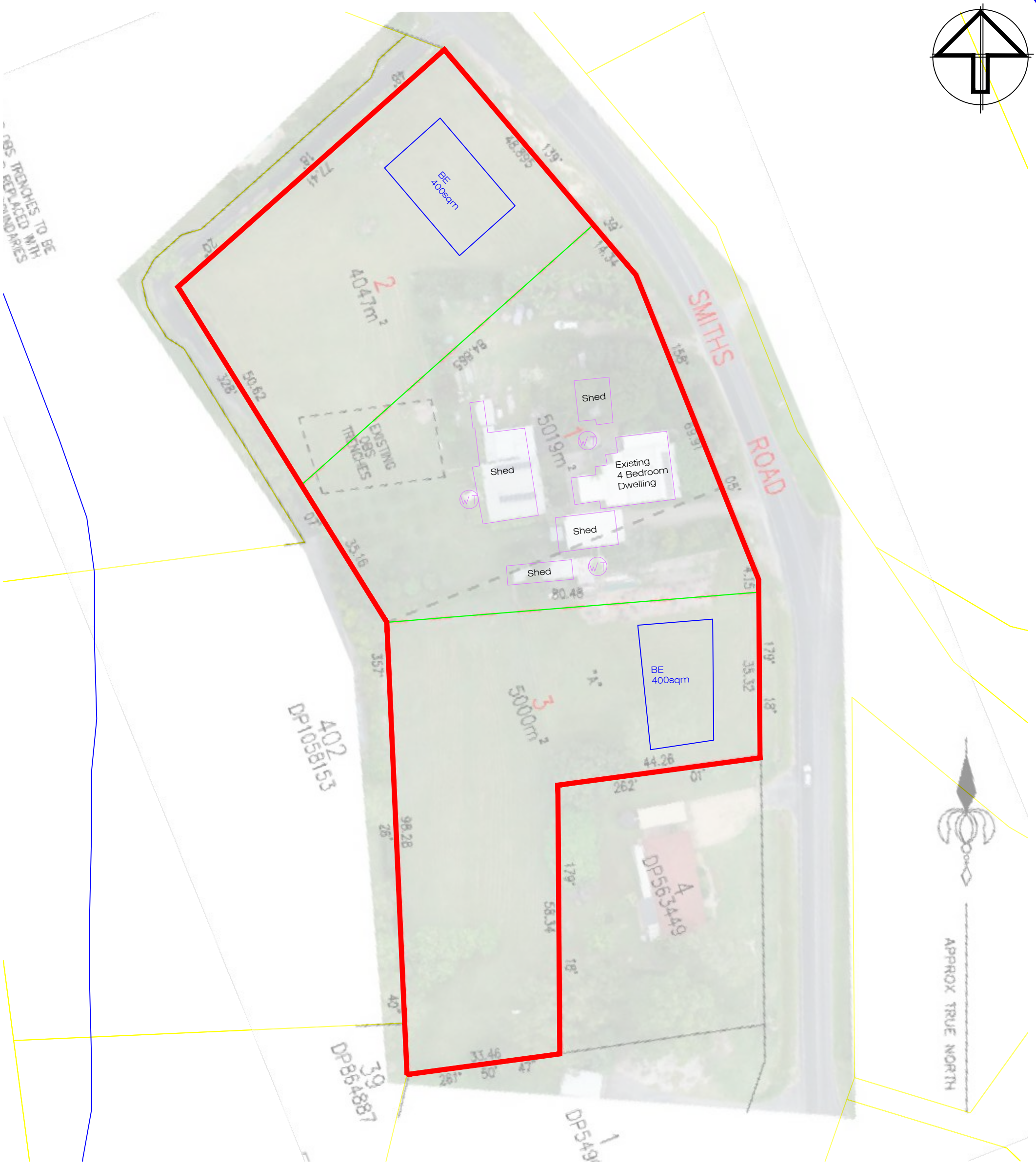
Horizontal Scale (metres) 1:4000

LEGEND

- Property Boundary
- Contour (10m)
- Drainage Alignment
- Surface Water
- Existing Building

EARTH WATER CONSULTING

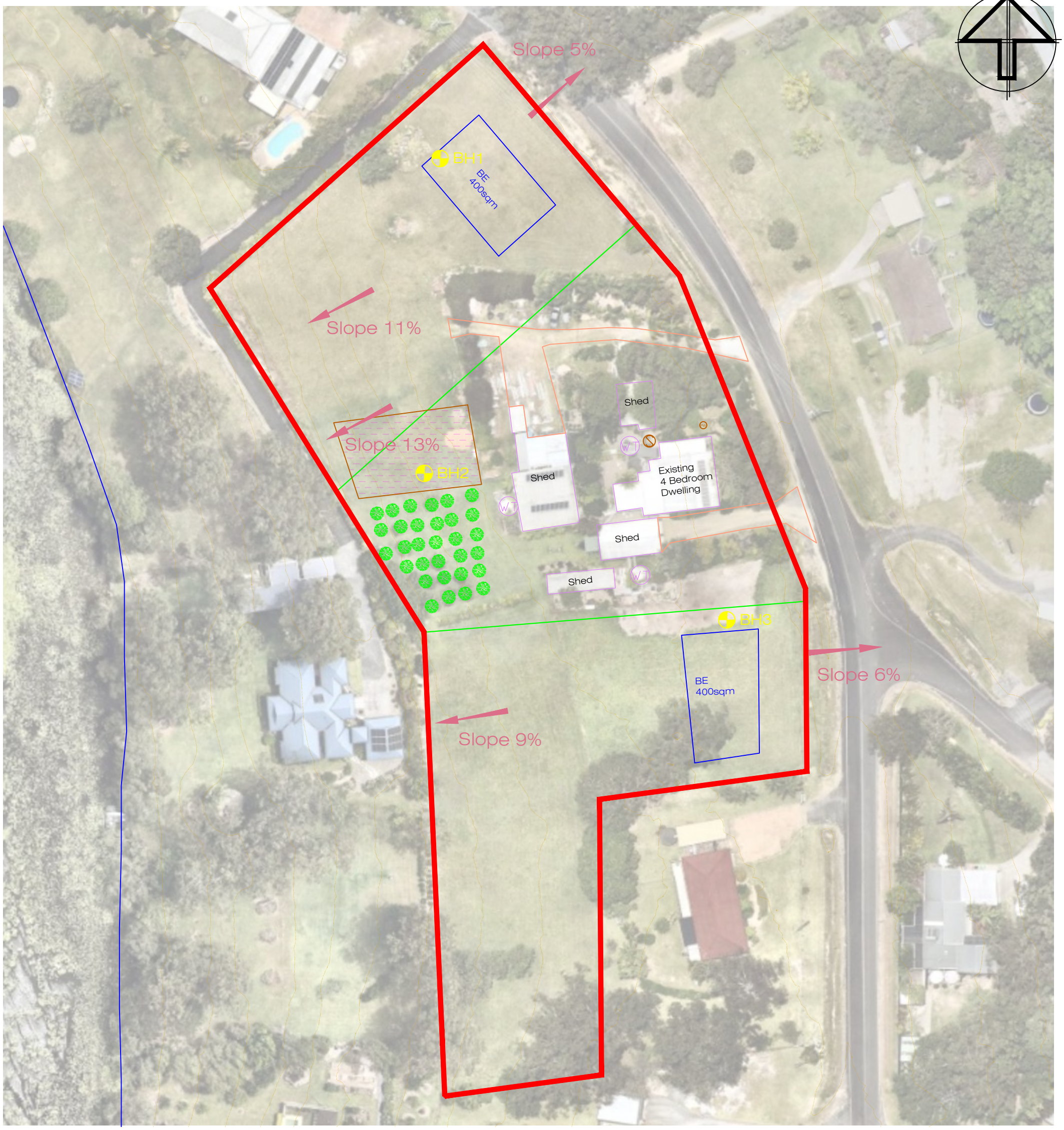
TITLE: Site Location			FIGURE: Figure 1
			SHEET: 1 OF 1 / ISSUE: A
PROJECT: LCA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 14/03/23	SCALE: 1:4000	PROJECT: 2223-101



LEGEND

- Property Boundary
- Subdivison Boundary
- Proposed Building Envelope
- Existing Building

TITLE: Proposed Development Layout			FIGURE: Figure 2
			SHEET: 1 OF1 ISSUE: A
PROJECT: LCA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 14/03/23	SCALE: 1:500	PROJECT: 2223–101



0 20 40

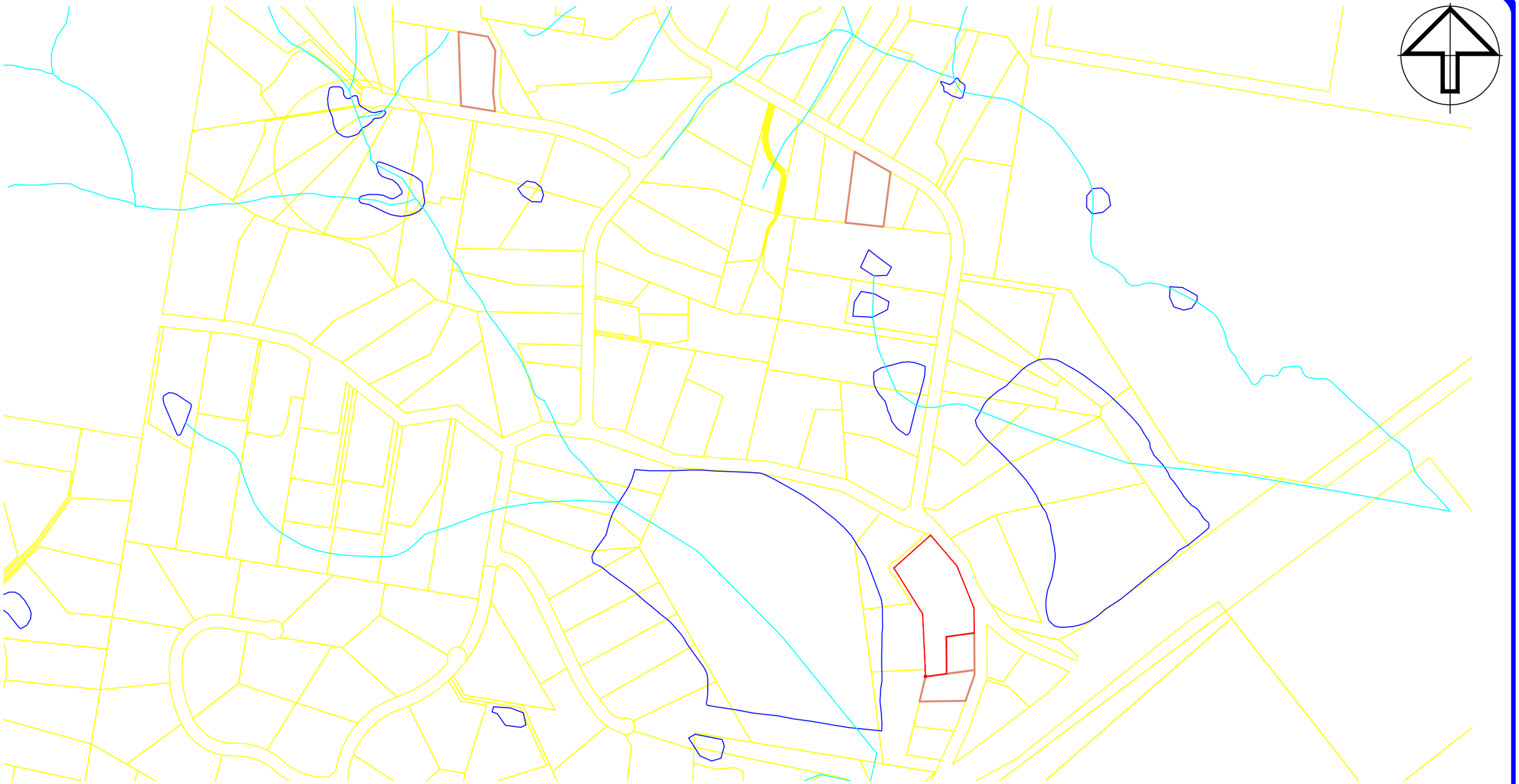
Horizontal Scale (metres) 1:800

LEGEND

- Property Boundary
- Proposed Subdivision Boundary
- Proposed Building Envelope
- Drainage Alignment
- Existing Building
- Existing OSMS
- Contour Line (1m)
- Slope % — Slope Direction and Extent
- Approximate Borehole Location

EARTH WATER CONSULTING

TITLE: Existihg Site Layout			FIGURE: Figure 3
			SHEET: 1 OF1 ISSUE: A
PROJECT: LCA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 16/03/23	SCALE: 1:800	PROJECT: 2223-101



0 100 200 300

Horizontal Scale (metres) 1:6000

LEGEND

- Property Boundary
- Adjacent Lot
- Drainage Alignment
- MLS Properties Assessed

TITLE: Minimum Lot Size Comparison			FIGURE: Figure 4
			SHEET: 1 OF 2 / ISSUE: A
PROJECT: LCA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 14/03/23	SCALE: 1:6000	PROJECT: 2223-101

22 Skinner Close

61 Lake Russell Drive

15 & 9 Smiths Road

EARTH WATER CONSULTING

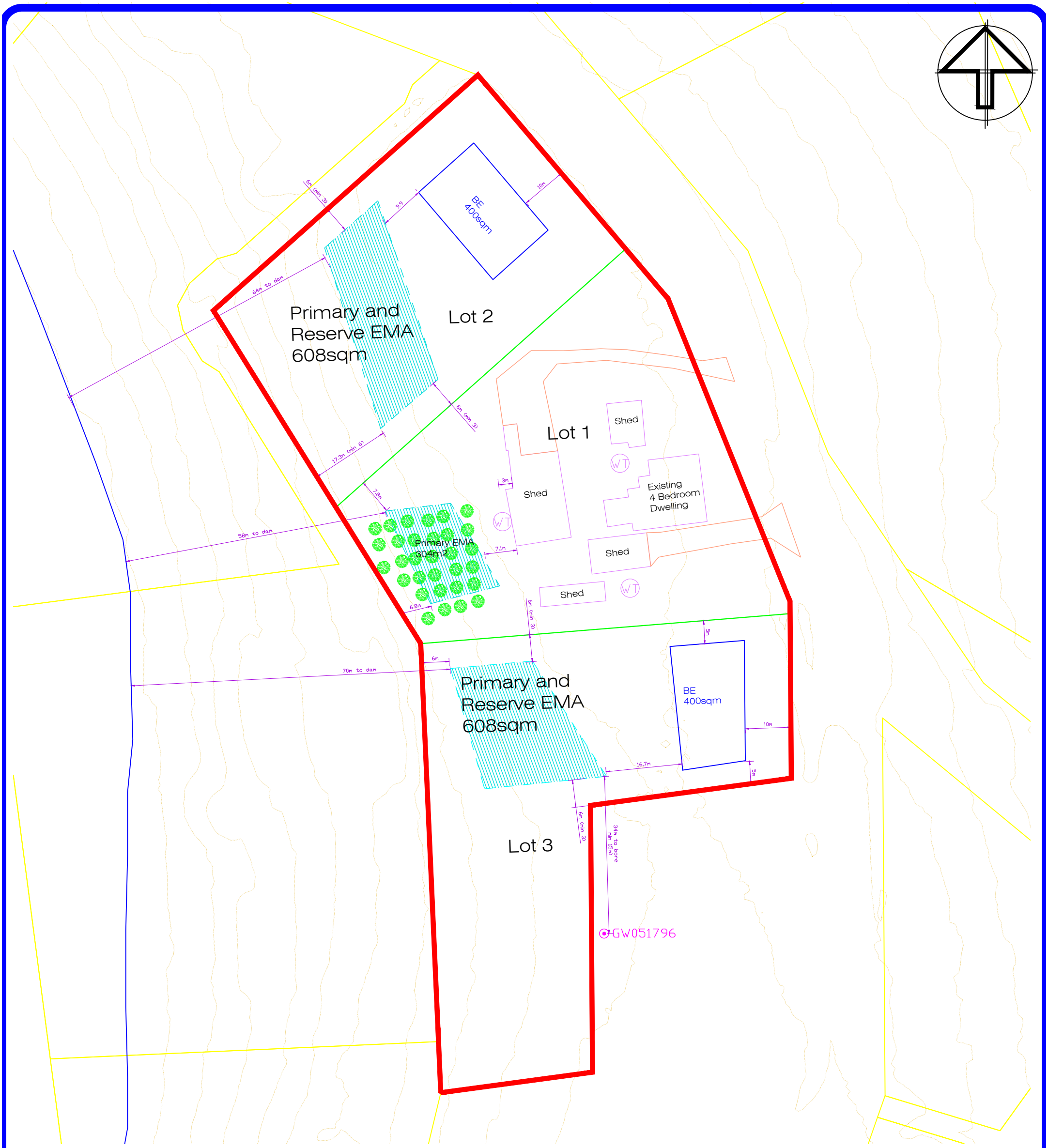
0 10 20 30

Horizontal Scale (metres) 1:600

LEGEND

- MLS Property Boundary
- Adjacent Lot
- Drainage Alignment
- EMA Restricted Area
- EMA Available Area

TITLE: Minimum Lot Size Comparison			FIGURE: Figure 4
			SHEET: 2 OF 2 / ISSUE: A
PROJECT: LCA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 14/03/23	SCALE: 1:600	PROJECT: 2223-101



EARTH WATER CONSULTING

TITLE: Recommended EMA Locations			FIGURE: Figure 5
			SHEET: 1 OF1 ISSUE: B
PROJECT: LCA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 6/3/24	SCALE: 1:800	PROJECT: 2223-101

APPENDIX A

Soil Borelog

Borehole No:	**BH1**
Logged by:	RL
Drilling date:	27/02/2023
Drilling method:	Powered Auger
Borehole location:	Figure 2
Borehole coords:	515959, 6662054

Project ref:	2223-101
Client:	Jeffery Allen
Address:	19 Smiths Road, Emerald Beach

PROFILE DESCRIPTION

Depth (m)	Sampling depth/name	Graphic Log	Horizon	Texture	Structure	Colour	Mottles	Coarse Fragments	Moisture Condition	Comments
0.1	BH1/1		A1	Sandy Clay Loam	Strong	Dark Brown	Yellowish Orange	5 - 10%	SM	Topsoil
0.2			B1	Sandy Clay	Strong	Dull Brown	Light Yellowish Orange to Orange at depth	5 - 10%	SM	Residual
0.3										
0.4										
0.5										
0.6	BH1/2									
0.7										
0.8			B2	Sandy Clay	Strong	Light Grey	Light Yellowish Orange	10 - 20%	SM	Residual
0.9										
1.0										
1.1										
1.2										
1.3					Borehole terminated at 1.2m					
1.4										
1.5										

Moisture condition

D	Dry	M	Moist	W	Wet / saturated
SM	Slightly moist	VM	Very moist		

Soil Borelog

Borehole No:	**BH2**
Logged by:	RL
Drilling date:	27/02/2023
Drilling method:	Powered Auger
Borehole location:	Figure 2
Borehole coords:	515955, 6661988

Project ref:	2223-101
Client:	Jeffery Allen
Address:	19 Smiths Road, Emerald Beach

PROFILE DESCRIPTION

Depth (m)	Sampling depth/name	Graphic Log	Horizon	Texture	Structure	Colour	Mottles	Coarse Fragments	Moisture Condition	Comments
0.1			A1	Clay Loam	Strong	Dark Brown	Nil	< 5%	SM	Topsoil
0.2			B1	Light Clay	Strong	Bright Brown	Nil	10 - 20%	SM	Residual
0.3										
0.4										
0.5										
0.6										
0.7										
0.8			B2	Silty Clay	Strong	Light Yellow Orange	Nil	< 5%	D	Residual
0.9										
1.0										
1.1										
1.2					Borehole terminated at 1.1m					
1.3										
1.4										
1.5										

Moisture condition

D	Dry	M	Moist	W	Wet / saturated
SM	Slightly moist	VM	Very moist		

Soil Borelog

Borehole No:	**BH3**
Logged by:	RL
Drilling date:	27/02/2023
Drilling method:	Powered Auger
Borehole location:	Figure 2
Borehole coords:	516019, 6661957

Project ref:	2223-101
Client:	Jeffery Allen
Address:	19 Smiths Road, Emerald Beach

PROFILE DESCRIPTION

Depth (m)	Sampling depth/name	Graphic Log	Horizon	Texture	Structure	Colour	Mottles	Coarse Fragments	Moisture Condition	Comments
0.1			A1	Clay Loam	Strong	Dark Brown	Nil	< 5%	SM	Topsoil
0.2			B1	Light Clay	Strong	Bright Brown	Light Grey	< 5%	SM	Residual
0.3										
0.4										
0.5										
0.6										
0.7										
0.8										
0.9			B2	Medium Clay	Moderate	Light Grey	Orange	Nil	SM	Residual
1.0										
1.1										
1.2										
1.3					Borehole terminated at 1.2m					
1.4										
1.5										

Moisture condition

D	Dry	M	Moist	W	Wet / saturated
SM	Slightly moist	VM	Very moist		

APPENDIX B

WASTEWATER DISPOSAL SOIL ASSESSMENT

1 sample supplied by Earth Water Consulting Pty Ltd on 02/03/2023 - Lab Job No. N8170
Analysis requested by Strider Duerinckx. - **Customer Reference: 2223-101**
PO Box 50 BELLINGEN NSW 2454

	SAMPLE 1 2223-101
Job No.	*N8170/1*
Description	Medium Clay
Moisture Content (% moisture)	23
Emerson Aggregate Stability Test (SAR 5 Solution) note 12	EAST Class 3/6, slake 3[see note 12]
Soil pH (1:5 $CaCl_2$)	4.08
Soil Conductivity (1:5 water dS/m)	0.047
Soil Conductivity (as EC_e dS/m)[note 10]	0.404
Native NaOH Phosphorus (mg/kg P)	30.40

Residual phosphorus remaining in solution from the initial phosphate phosphorus	
Initial Phosphorus concentration (ppm P)	**37.5**
72 hour - 3 Day (ppm P)	9.00
120 hour - 5 Day (ppm P)	8.91
168 hour - 7 Day (ppm P)	8.45
Equilibrium Phosphorus (ppm P)	8.22

EXCHANGEABLE CATIONS	
Calcium ($cmol_+/kg$)	2.36
Magnesium ($cmol_+/kg$)	2.05
Potassium ($cmol_+/kg$)	0.30
Sodium ($cmol_+/kg$)	0.17
Aluminium ($cmol_+/kg$)	9.30
Hydrogen ($cmol_+/kg$)	2.59
ECEC (effective cation exchange capacity)($cmol_+/kg$)	16.8
Exchangeable Calcium %	14.0
Exchangeable Magnesium %	12.2
Exchangeable Potassium %	1.8
Exchangeable Sodium % (ESP)	1.0
Exchangeable Aluminium %	55.4
Exchangeable Hydrogen %	15.4
Calcium/ Magnesium Ratio	1.15

Notes:

1: ECEC = Effective Cation Exchange Capacity = sum of the exchangeable Mg, Ca, Na, K, H and Al

2: Exchangeable bases determined using standard Ammonium Acetate extract (Method 15D3) with no pretreatment for soluble salts. When Conductivity ≥0.25 dS/m soluble salts are removed (Method 15E2).

3. ppm = mg/kg dried soil

4. Insitu P determined using 0.1 M NaOH and shaking for 24 h before determining phosphate

5. Soils were crushed using a ceramic grinding head and mill; five 1 g subsamples of each soil were used to which 40 mL of 0.1 M NaCl with 30 ppm phosphorus was added to each. The samples were shaken on an orbital shaker

6. Exchangeable sodium percentage (ESP) is calculated as sodium ($cmol_+/kg$) divided by ECEC

7. All results as dry weight DW - soils were dried at 60°C for 48 h prior to crushing and analysis.

8. Phosphorus Capacity method from Ryden and Pratt, 1980.

9. Aluminium detection limit is 0.05 $cmol_+/kg$; Hydrogen detection limit is 0.1 $cmol_+/kg$. However for calculation purposes a value of 0 is used.

10. For conductivity 1 dS/m = 1 mS/cm = 1000 µS/cm; EC_e conversions: sand loam 14, loam 9.5; clay loam 8.6; heavy clay 5.8

11. 1 $cmol_+/kg$ = 1 meq/100g

12. Emerson Aggregate Stability Test (EAST) for Wastewater applications (see Sheet 3 - Patterson, 2015). EAST Class 1: Slaking, complete dispersion; Class 2: Slaking, some dispersion; Class 3-6*: Slaking 1 slight to 3 complete, No dispersion; Class 7: No slaking, yes swelling; Class 8: No slaking, no swelling.

13. Analysis conducted between sample arrival date and reporting date.

14. .. Denotes not requested.

15. This report is not to be reproduced except in full.

16. All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer scu.edu.au/eal or on request).

17. This report was issued on 20/03/2023

NATA
WORLD RECOGNISED ACCREDITATION
Accreditation No. 14960
Accredited for compliance with ISO/IEC 17025 - Testing

Checked:.....

PHOSPHORUS SORPTION TRIAL

1 sample supplied by Earth Water Consulting Pty Ltd on 02/03/2023 - Lab Job No. N8170

Analysis requested by Strider Duerinckx. - Customer Reference: 2223-101

PO Box 50 BELLINGEN NSW 2454

Calculations for Equilibrium Absorption Maximum for Soil provided

I.D.	JOB NO.	Equilibrium P mg P/L (in solution)	Added P mg P/L	P Sorb at Equil. mg P/kg	Native P mg P/kg	Equilibrium P Sorption Level µg P/g soil	Divide Θ (from Table)	Equilibrium Absorption Maximum (B) µg P/g soil
2223-101	**N8170/1**	8.2	37.53	1172	30	1203	0.74	**1,627**

Calculations for phosphorus sorption capacity

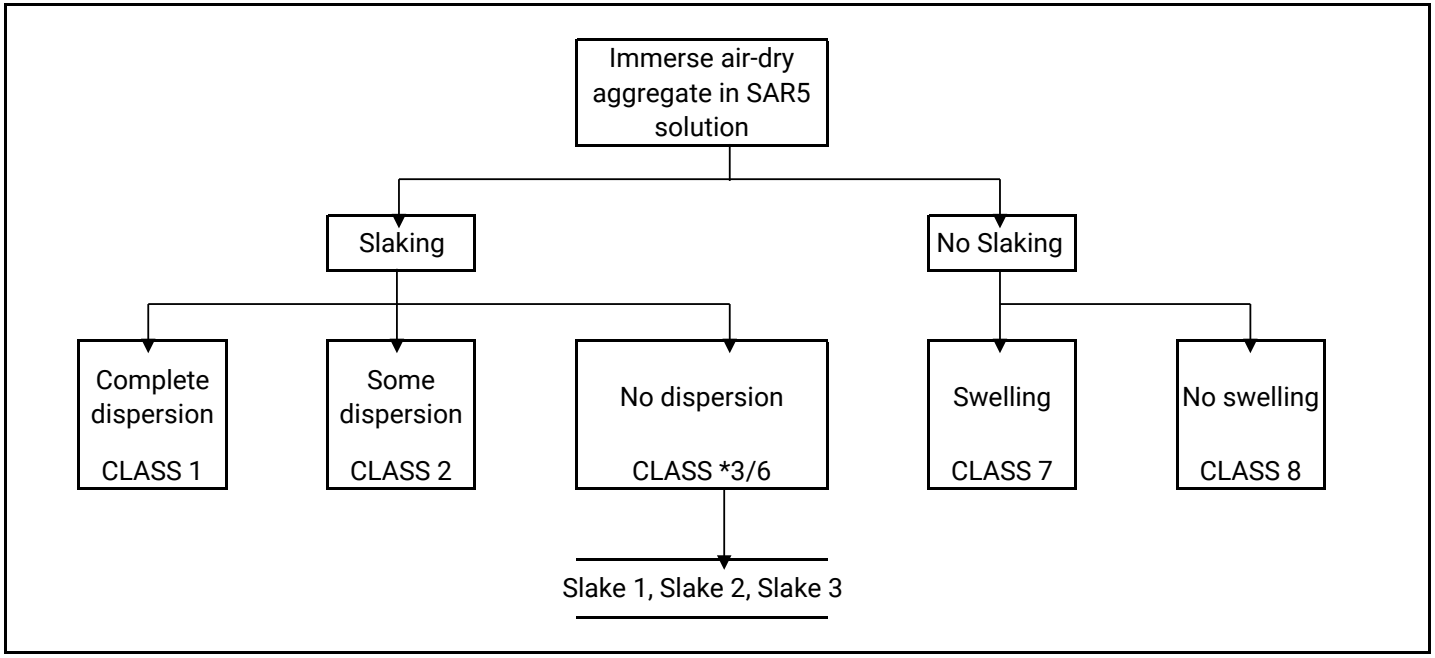
	JOB NO.	Equilibrium Absorption Maximum (B) µg P/g soil	multiply by theta of wastewater to be applie (=X)	minus the native P (=Y)	**kg P sorption / hectare (to a depth of 15 cm)** (1.95 is a correction factor for density, etc	**kg P sorption / hectare (to a depth of 100 cm)** (1.95 is a correction factor for density, etc)
2223-101	*N8170/1*	1627	(=B x theta)	(=X -native P)	(=Y x 1.95)	(=Y x 1.95 x 100/15)

EXAMPLE 1 - Calculations for phosphorus sorption capacity using a wastewater phosphorus of 15 mg/L P

	JOB NO.	Equilibrium Absorption Maximum (B) µg P/g soil	multiply by theta of wastewater to be applie (ie. 0.84)	minus the native P (=Y)	**kg P sorption / hectare (to a depth of 15 cm)** (1.95 is a correction factor for density, etc	**kg P sorption / hectare (to a depth of 100 cm)** (1.95 is a correction factor for density, etc)
2223-101	*N8170/1*	1627	1367	1336	**2,606**	**17,374**

Checked:.....

Emerson Aggregate Stability Test for Wastewater



CLASS 1 : severe dispersion, maybe related to high sodicity which forces the clay particles apart in water. Amerlioration with lime or gypsum may improve structural stability by increasing EC. Class 1 soils have a major limitation to wastewater application because of reduced permeability and potential to compact as the pores block.

CLASS 2 : moderate dispersion, maybe related to high sodicity. Amelioration may be effective by increasing EC. Without amelioration, this class has a major limitation to wastewater application as for Class 1.

CLASS *3/6 : remoulding, and 1:5 soil:water suspension tests are irrelevant to wastewater assessment, but can be reported as Slake 1 (slight), Slake 2 (moderate) or slake 3 (completely slumped). Slake 1,2 or 3 - no limitation to wastewater application, but may benefit from additional organic matter fr surface irrigated soils.

CLASS 7 : these soils are water stable, but may swell. There is no limitation to wastewater application.

CLASS 8 : these soils retain their original size and shape. There is no limitation to wastewater application.

Method reference: Patterson, R. 2015. *Emerson aggregate stability test for wastewater.* Lanfax Laboratories: Armidale.

APPENDIX C

		Default	User-defined
1 Client			
2 Address	Smiths Road, Moonee		
3 User info	○ Simplified (casual user) ◉ Advanced (consultants)		
4 Site	Block size (m2)		4000
	Buffer (m) from land application area to Gully (Intermittant)	>40	
	Water (L/p.d) from Reticulated supply (bore,spring,creek)	180	120
	Bedrooms		4
5 Wastewater components	Toilet ☑		
	Bathroom ☑		
	Laundry ☑		
	Kitchen ☑		
	Total wastewater flow (L/d) [needs caution if user-defined]	720	
6 Soil info	ch; all; Clay; Grafton Formation.....Ashby		
Likely dispersive soil	Phosphorus sorption (kg/ha.m) calc. from Morand 2001 data	6300	17374
	Depth to water table (m) reference Morand 2001	2.0	
	Depth to bedrock (m) reference Morand 2001	1.0	2.0
	Light clays - strongly structured — DLR (mm/d)	5.0	5.0
7 Treatment system	Primary only (e.g. Septic, only on lots>10000m2)		
	Nitrogen removal % (default gives BOD 20mg/L treatment)	0%	
8 Land application system	Septic absorption trench		
	Depth of trench (mm)	600	
9 Land Application Area required	Hydraulic area (m2)*	283.2	
	Nitrogen area (m2)	0.0	
	Phosphorus area (m2)	66.5	
	Required land application area (LAA) (m2)	**283.2**	
	Land application area including area of trench separation (m2)	672.125	

APPENDIX D

		Default	User-defined
1 Client			
2 Address	Smiths Road, Moonee		
3 User info	○ Simplified (casual user) ◉ Advanced (consultants)		
4 Site	Block size (m2)		4000
	Buffer (m) from land application area to Gully (Intermittant)	>40	
	Water (L/p.d) from Reticulated supply (bore,spring,creek)	180	120
	Bedrooms		4
5 Wastewater components	Toilet ☑		
	Bathroom ☑		
	Laundry ☑		
	Kitchen ☑		
	Total wastewater flow (L/d) [needs caution if user-defined]	720	
6 Soil info	ch; all; Clay; Grafton Formation.....Ashby		
Likely dispersive soil	Phosphorus sorption (kg/ha.m) calc. from Morand 2001 data	6300	17374
	Depth to water table (m) reference Morand 2001	2.0	
	Depth to bedrock (m) reference Morand 2001	1.0	2.0
	Light clays - strongly structured — DIR (mm/d)	4.3	3.0
	Please read note ==>		
7 Treatment system	Secondary: AWTS		
	Nitrogen removal % (default gives BOD 20mg/L treatment)	20%	
	Maximum N allowed to percolate down from system (kg/yr)	15	
8 Land application system	Subsurface drip irrigation (SDI)		
	Depth of root zone (mm)	300	
9 Land Application Area required	Hydraulic area (m2)* (or enter SSI industry estimate)	303.7	
	Nitrogen area (m2) [allowing export of 10.48 kg/yr]	282.3	
	Phosphorus area (m2)	66.5	
	Required land application area (LAA) (m2)	**303.7**	

APPENDIX E

AS1547:2012 Table R1 and R2 Buffer Risk Assessment

Client Jeffery Allen
Property 19 Smiths Road, Emerald Beach
Job Number 2223-101

Feature	Setback Distance Range (m)	Constraint	Constraint Scale			Risk Assessment				Adopted Buffer Distance	
			Low Constraint	High Constraint	Applicable Constraint	Low = 1 Point	Mod = 2 Points	High = 3 Points	Overall Risk Rating	Accept Buffer (m)	Minimum Available Buffer (m)
Groundwater Bores	30-50	Microbial Quality of Effluent	Secondary treated effluent with disinfection	Primary treated effluent	Secondary	X			Low	15	30
		Groundwater	Category 5 and 6 soils, low resource/environmental value	Category 1 and 2 soils, gravel aquifers, high resource/ environmental value	Cat5 soil, domestic bores	X					
		Geology and Soils	Cateogry 3 and 4 soils, low porous regolith, deep, uniform soils	Category 1 and 6 soils, fractured rock, gravel aquifers, highly porous regolith	Cat5 soil, low porous regolith		X				
		Application Method	Drip irrigation or subsurface application of effluent	Surface/above ground application of effluent	Subsurface	X					

BUSHFIRE RISK ASSESSMENT

INFILL RESIDENTIAL SUBDIVISION

19 SMITHS ROAD EMERALD BEACH

Date: 28 February 2024

Prepared by Keiley Hunter

Background

The proposal is for an infill subdivision of Lot 5 DP 563449 to create two (2) additional vacant large residential lots suitable for detached housing. The proposed subdivision is integrated development and requires and approval from the NSW Rural Fire Service, specifically a Bushfire Safety Authority under Section 100B of the *Rural Fires Act 1997.*

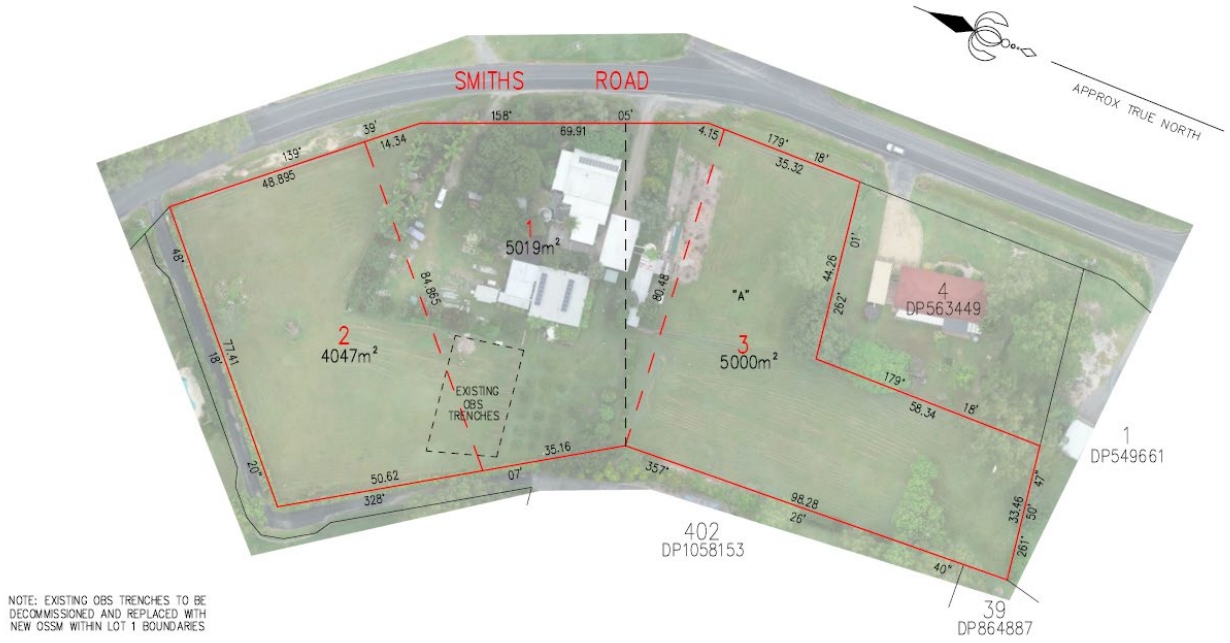
The following risk assessment is prepared in accordance with Section 4.46 and Section 4.47of the *Environmental Planning & Assessment Act (1979)*, Section 100b of the *Rural Fires Act (1997)* and the guidelines set forth by the NSW RFS *Planning for Bushfire Protection 2019.*

The purpose of this document is to assess the bushfire risk of an infill subdivision shown in the attached Plan of Proposed Subdivision prepared by Newnham Karl Weir & Partners. This assessment is for the purpose of determining whether a dwelling can be situated within each proposed resultant Lot in accordance with the requirements of *Planning for Bushfire Protection 2019.*

The is a single storey detached dwelling located within the subject land that was erected prior to the introduction of NSW Planning for Bushfire Protection guidelines commencing in 2001.

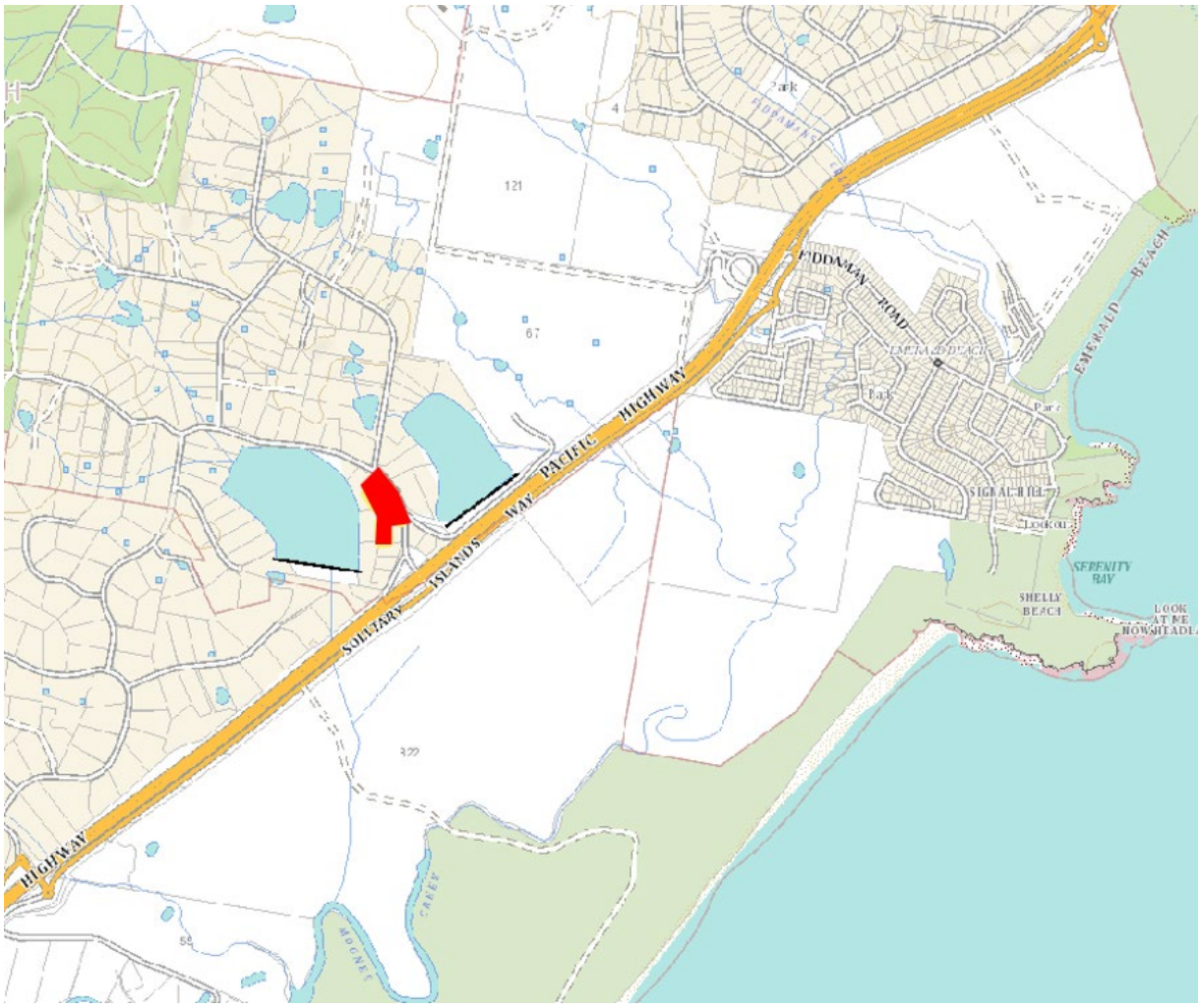
The subject land has an area of 1.406 hectares and is managed land. The subject land is not mapped as Biodiversity Values, Koala habitat or prescribed vegetation. Vegetation within the site is exotic planted domestic species and lawn.

Proposed Subdivision



Source: NKWP, Plan of Proposed Subdivision, 1/6/22, Rev 2

Locality Sketch



Planning for Bushfire Protection 2019

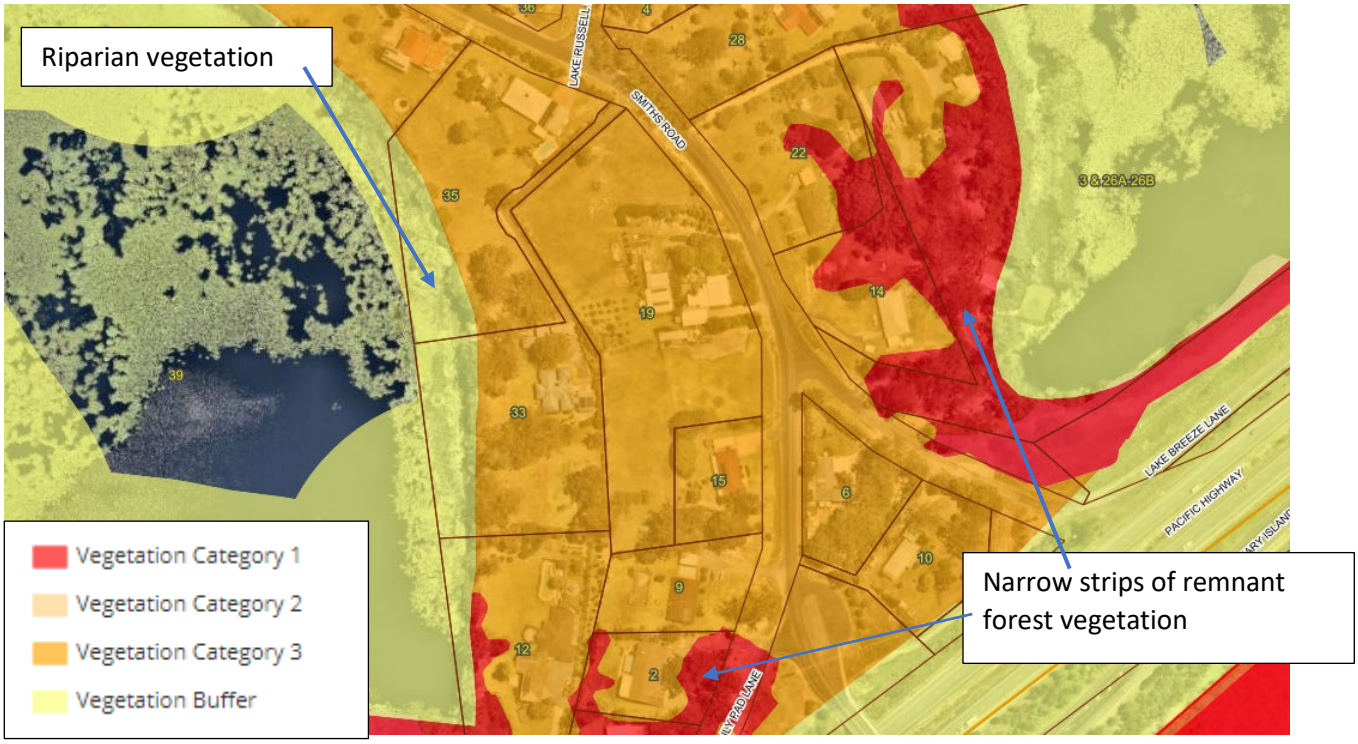
Infill development proposals on bushfire prone land must be accompanied by bush fire assessments and reports demonstrating compliance with *Planning for Bushfire Protection 2019*. In particular, the following must be addressed:

- a statement that the site is BFPL;
- the location, extent and vegetation formation of any bushland on or within 140 metres of the site;
- the slope and aspect of the site and of any BFPL within 100 metres of the site; any features on or adjoining the site that may mitigate the impact of a bush fire on the proposed development;
- a statement assessing the likely environmental impact of any proposed BPMs (bushfire protection measures);
- a site plan showing access, water supplies, APZs, BAL requirements and building footprint in relation to the bush fire hazards; and calculated BAL construction levels.

Bushfire Mapping

The subject land is mapped as Vegetation Category 3 as the vegetation within and surrounding the land is identified as grasslands with narrow strips of remnant forest vegetation.

Bushfire Mapping



Source: City of Coffs Harbour, 2024

Servicing and Access

The land has frontage to Smiths Road, a public road. Driveway access to the existing dwelling is via a concrete driveway 20 m from the edge of bitumen. Driveway access to the proposed vacant lots has not been constructed, however they will be constructed in accordance with Coffs Harbour City Council's standard drawing for rural driveways.

Reticulated water supply is not available to the property. A 10,000L fire fighting water supply will be available to each dwelling and the owners also advise that the NSW Rural Fire Brigade drafts water out of the large dams nearby the subject land.

Electrical transmission is connected to the existing dwelling from an existing overhead supply located along Smiths Road and will be extended underground to the proposed vacant lot.

Large Dams (manmade) nearby the subject land:

CHCC, 2024

Slope Assessment

Planning for Bushfire Protection (RFS, 2019) recommends that slopes should be assessed, over a distance of at least 100m from a development site and that the dominant gradient of the land should be determined on the basis of which will most significantly influence the fire behaviour at the site.

The onsite bushfire hazard assessment identified the terrain for a distance greater than 100 metres in all directions from the development property as being slightly sloping to generally flat.

As shown on the Contour Map the land slopes east to west from 19 m AHD at the street frontage to 15 m AHD at the rear of the land.

The subject land has a lateral separation greater than 80 metres to the nearest forest vegetation (Category 1) mapped over the rear of the property described as 14 and 22 Smiths Road. This vegetation is narrow and separated from the subject land by managed land and road.

Direction	**Vegetation Type**	**Approx. Distance**	**Approx. Slope**
North	Managed Land	N/A	N/A
East	Managed Land Forest	80 m 80 – 140 m	0.5 % downslope
West	Managed Land	N/A	N/A
South	Managed Land	N/A	N/A

Assessment

Surrounding Vegetation Types & Slope

Direction (140m)	Vegetation Type(s)	
	CHCC Mapping	Keith (2004)
North	Managed Land	Managed Land
East	Managed Land (80 m) Grasslands / Dry Sclerophyll Forest (80 – 140 m)	Managed Land Forest
West	Managed Land	Managed Land
South	Managed Land	Managed Land

Surrounding Vegetation

Nearmaps 2024

Site Photos

Smiths Road frontage looking north

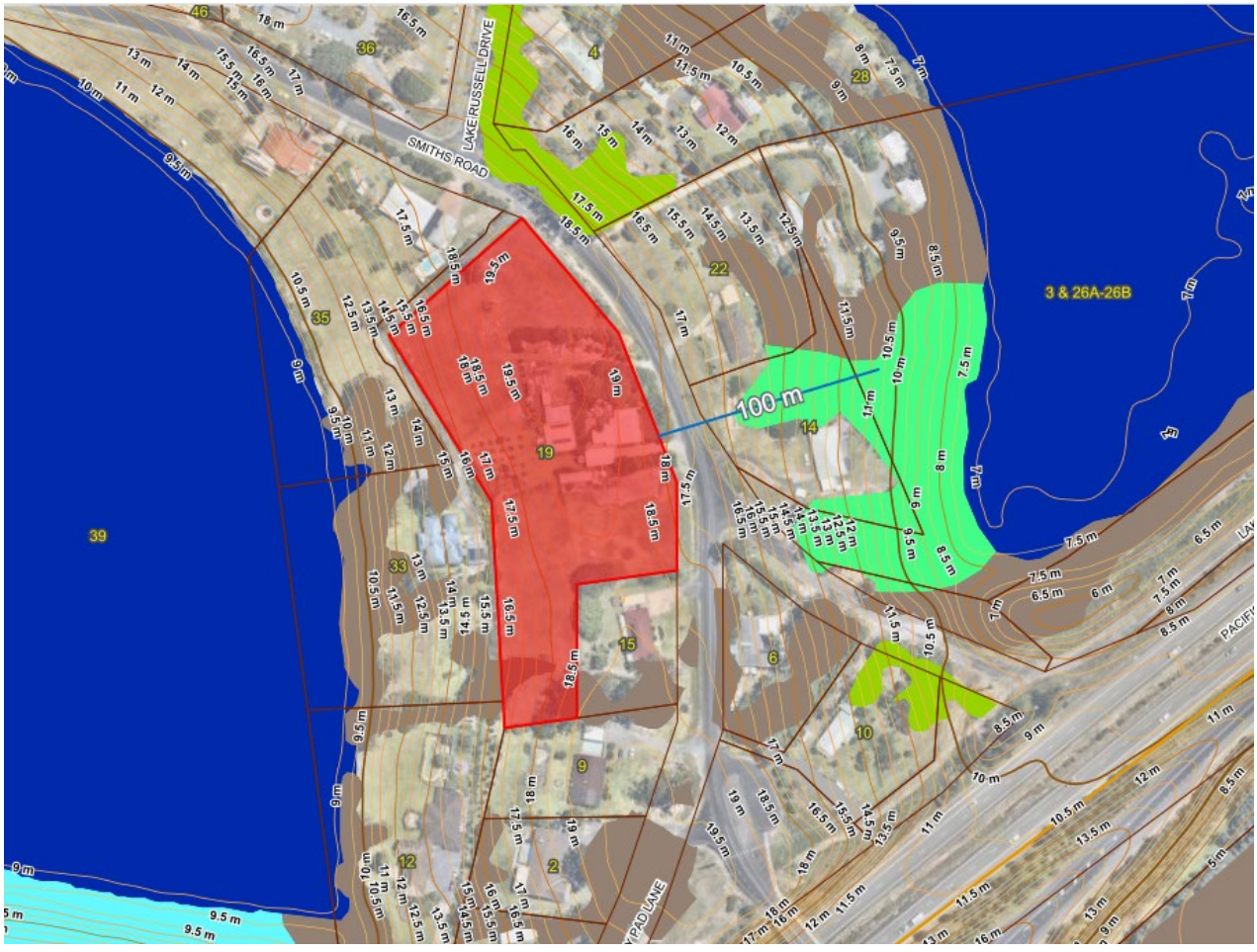
Rear of dwelling looking north

Looking north west towards large dam

Looking south west towards dwelling at #33 Smiths Road

Looking south east from western boundary

Contours



CHCC 2024

Fire Danger Index (FDI)

The FDI for the Coffs Harbour LGA is 80.

Bushfire Attack Level

All of the building areas within the proposed subdivision is identified as being within a BAL-12.5 Bushfire Attack Level based on the following table:

Table 4

Determination of bush fire attack level, FDI 80

KEITH VEGETATION FORMATION		BUSH FIRE ATTACK LEVEL (BAL)				
		BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
		Distance (m) asset to predominant vegetation class				
ALL UPSLOPE AND FLAT LAND	Rainforest	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 15	15 -< 20	20 -< 29	29 -< 40	40 -< 100
	Grassy and Semi-Arid Woodland (including Mallee)	< 8	8 -< 11	11 -< 16	16 -< 22	22 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 6	6 -< 8	8 -< 12	12 -< 18	18 -< 100
	Tall Heath	< 12	12 -< 16	16 -< 23	23 -< 32	32 -< 100
	Short Heath	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
	Arid-Shrublands (acacia and chenopod)	< 5	5 -< 6	6 -< 9	9 -< 14	14 -< 100
	Freshwater Wetlands	< 4	4 -< 5	5 -< 7	7 -< 11	11 -< 100
	Grassland	< 7	7 -< 10	10 -< 14	14 -< 20	20 -< 50
> 0 > 5 DEGREES – DOWNSLOPE	Rainforest	< 9	9 -< 12	12 -< 17	17 -< 25	25 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 19	19 -< 25	25 -< 35	35 -< 47	47 -< 100
	Grassy and Semi-Arid Woodland (including Mallee)	< 10	10 -< 13	13 -< 19	19 -< 28	28 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 8	8 -< 10	10 -< 15	15 -< 22	22 -< 100
	Tall Heath	< 13	13 -< 18	18 -< 26	26 -< 36	36 -< 100
	Short Heath	< 8	8 -< 10	10 -< 15	15 -< 22	22 -< 100
	Arid-Shrublands (acacia and chenopod)	< 5	5 -< 7	7 -< 11	11 -< 16	16 -< 100
	Freshwater Wetlands	< 4	4 -< 6	6 -< 8	8 -< 12	12 -< 100
	Grassland	< 8	8 -< 11	11 -< 16	16 -< 23	23 -< 50
> 5 > 10 DEGREES – DOWNSLOPE	Rainforest	< 11	11 -< 15	15 -< 22	22 -< 32	32 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 24	24 -< 31	31 -< 43	43 -< 57	57 -< 100
	Grassy and Semi-Arid Woodland (including Mallee)	< 12	12 -< 17	17 -< 24	24 -< 34	34 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 10	10 -< 13	13 -< 20	20 -< 28	28 -< 100
	Tall Heath	< 15	15 -< 20	20 -< 29	29 -< 40	40 -< 100
	Short Heath	< 9	9 -< 12	12 -< 18	18 -< 25	25 -< 100
	Arid-Shrublands (acacia and chenopod)	< 6	6 -< 8	8 -< 12	12 -< 18	18 -< 100
	Freshwater Wetlands	< 5	5 -< 6	6 -< 10	10 -< 14	14 -< 100
	Grassland	< 9	9 -< 12	12 -< 18	18 -< 26	26 -< 50
OPE	Rainforest	< 14	14 -< 20	20 -< 29	29 -< 40	40 -< 100
	Forest (wet and dry sclerophyll) including Coastal					

Asset Protection Zone (APZ)

The following table determines the required APZ areas of future dwellings within FDI 80 areas. As shown in the table below, future dwellings within proposed Lots 2 and 3 requires a 25 m APZ, or to the boundary. It is recommended that all areas of the site not utilised for building and ancillary infrastructure should be maintained to the standard of an Inner Protection Area.

Table A1.12.3

Minimum distances for APZs – residential development, FFDI 80 areas (≤29kW/m², 1090K)

KEITH VEGETATION FORMATION	EFFECTIVE SLOPE				
	Up slopes and flat	>0°-5°	>5°-10°	>10°-15°	>15°-20°
	Distance (m) from the asset to the predominant vegetation formation				
Rainforest	9	12	15	20	25
Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	20	25	31	39	48
Grassy and Semi-Arid Woodland (including Mallee)	11	13	17	21	27
Forested Wetland (excluding Coastal Swamp Forest)	8	10	13	17	22
Tall Heath	16	18	20	22	25
Short Heath	9	10	12	13	15
Arid-Shrublands (acacia and chenopod)	6	7	8	9	10
Freshwater Wetlands	5	6	6	7	8
Grassland	10	11	12	14	16

Strategic planning in bush fire prone areas

Section 4.2 of *Planning for Bush Fire Protection 2019* requires that strategic development proposals, Planning Proposals, in bush fire prone areas require the preparation of a Strategic Bush Fire Study. The level of information required for such a study will be dependent upon the nature of any planning instrument changes, scale of the proposal, the bush fire risk and its potential impact upon the wider infrastructure network.

The Strategic Bush Fire Study provides the opportunity to assess whether new development is appropriate in the bush fire hazard context. It also provides the ability to assess the strategic implications of future development for bush fire mitigation and management. A Strategic Bush Fire Study must include, as a minimum, the components in Table 4.2.1.

Once these strategic issues have been addressed, an assessment of whether the proposal can comply with this document should be carried out. If the strategic issues cannot be resolved, then the proposal cannot comply with PBP and will not be supported by the NSW RFS.

Ministerial Directions

Direction 4.3 *Planning for Bush Fire Protection* applies to Planning Proposals that affect, or are in close proximity to, land mapped as Bush Fire Prone Land (BFPL).

Direction 4.3

(1) In the preparation of a planning proposal the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway

determination under section 3.34 of the Act, and prior to undertaking community consultation in satisfaction of clause 4, Schedule 1 to the EP&A Act, and take into account any comments so made.

Consultation with the NSW RFS will occur at the Public Exhibition phase of the Planning Proposal.

(2) A planning proposal must:

(a) have regard to Planning for Bushfire Protection 2019,

(b) introduce controls that avoid placing inappropriate developments in hazardous areas, and

(c) ensure that bushfire hazard reduction is not prohibited within the Asset Protection Zone (APZ).

A Bushfire Strategic Assessment has been prepared that has regard for *Planning for Bushfire Protection 2019*. The subject land is mapped BFPL however it is managed land that is over 80 m from Category 1 or Category 2 vegetation and is not a hazardous area. All of the subject land will be managed as an IPA.

(3) A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:

(a) provide an Asset Protection Zone (APZ) incorporating at a minimum:

i. an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and

ii. an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road,

All of the subject land will be managed as an IPA.

(b) for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with,

The proposed subdivision is infill development. An appropriate APZ can be achieved,

(c) contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,

Smiths Road is a two-way public road.

(d) contain provisions for adequate water supply for firefighting purposes,

Each resultant lot will be supplied with a 10,000 litres of dedicated firefighting water supply.

(e) minimise the perimeter of the area of land interfacing the hazard which may be developed,

The subject land is surrounded to the north, south and west by managed urban land to at least 140 m and is separated 80 m by managed land from threat forest vegetation 80 m to the east.

(f) introduce controls on the placement of combustible materials in the Inner Protection Area.

All of the subject land will be managed as an inner protection area.

As part of the consultation process with the NSW RFS, a bush fire assessment is required to be submitted to demonstrate compliance with the Section 9.1(2) Directions and NSW Rural Fire Services, *Planning for Bushfire Protection*, 2019. Where the proposal is of a strategic nature, this should take the form of a Strategic Bush Fire Study. This will occur post Gateway Determination during the agency consultation and public exhibition phase of the Planning Proposal.

Conclusion

- Proposed Lots 2 and 3 are capable of siting a dwelling in compliance with *Planning for Bushfire Protection 2019.*
- The BAL construction rating for proposed Lots 2 and 2 is BAL-12.5.
- The existing dwelling was constructed prior to the introduction of *Planning for Bushfire Protection 2001*. It is recommended that the existing dwelling is upgraded in accordance with the Rural Fire Services: Best Practice Guide to Bushfire Protection-Upgrading of Existing Buildings (minimal Protection Measures).
- All areas of the resultant lots not utilised for building and ancillary infrastructure should be maintained to the standard of an Inner Protection Area.
- The services provided for the proposed development will meet the Measures and Performance Criteria for access, water, electricity and gas in *Planning for Bushfire Protection 2019.*
- A 10,000 litre firefighting water supply is required for each lot in accordance with Table 7.4a of *Planning for Bush Fire Protection 2019.*

- Property access is to be via a hard surface driveway in accordance with Table 5.3b (General Requirements) and (Property Access) of *Planning for Bush Fire Protection 2019.*

Appendices

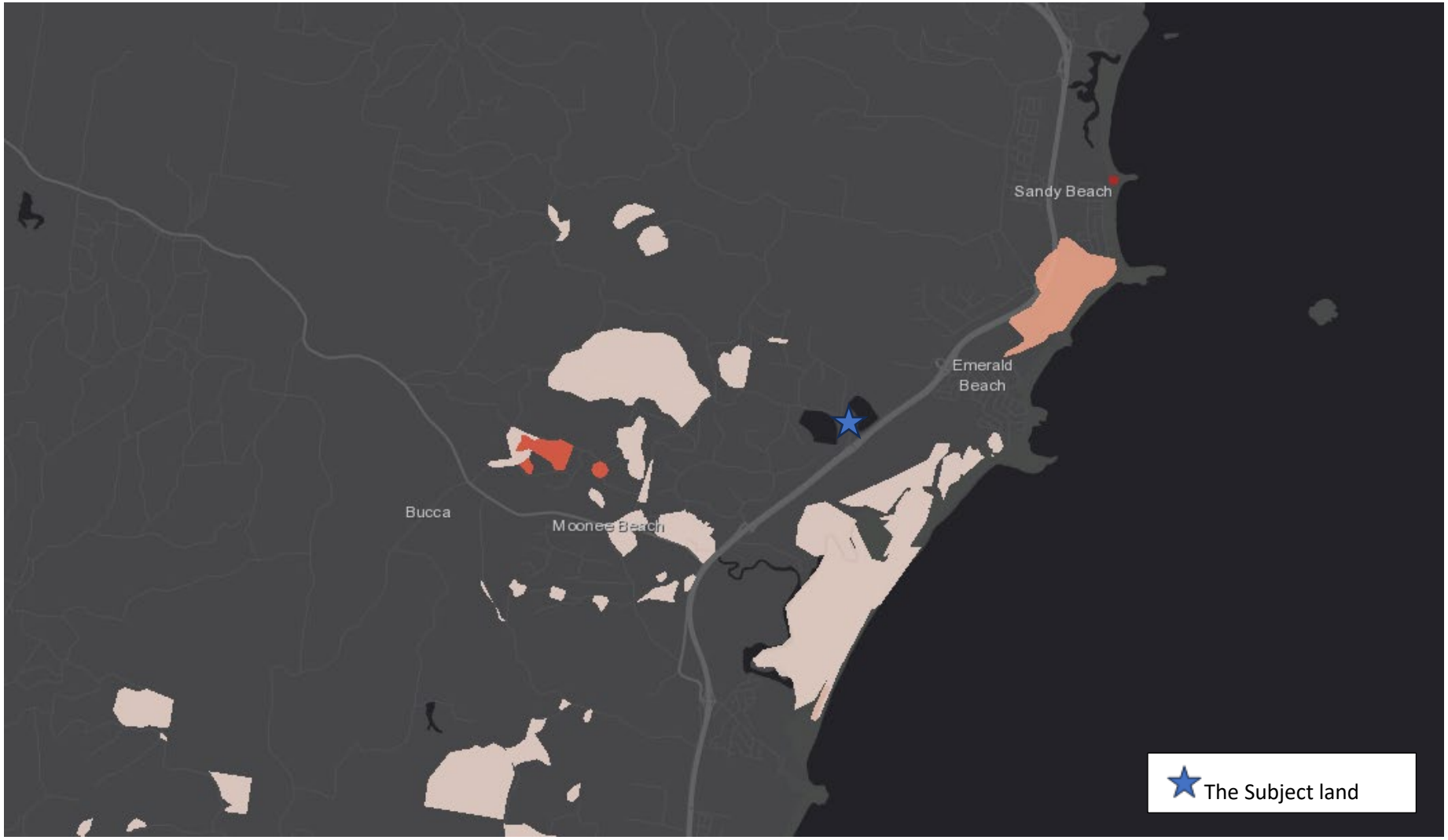
- Plan of Proposed Subdivision
- Strategic Bush Fire Study

Plan of Proposed Subdivision

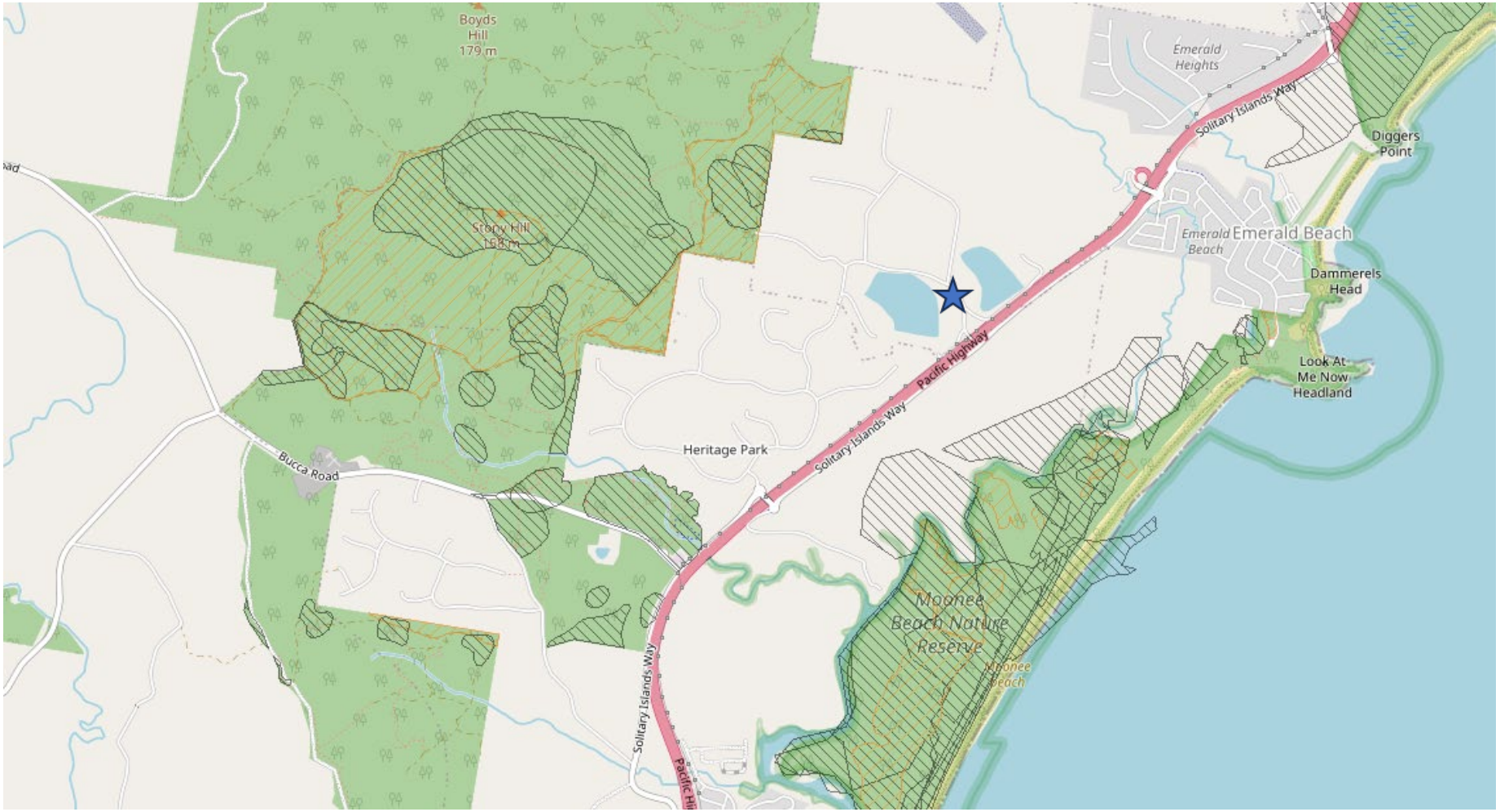
Strategic Fire Study

Planning for Bush Fire Protection 2019: Table 4.2.1 Bush Fire Strategic Study

ISSUE	DETAIL	ASSESSMENT CONSIDERATIONS	PLANNING PROPOSAL RESPONSE
Bushfire landscape assessment	*A bush fire landscape assessment considers the likelihood of a bush fire, its potential severity and intensity and the potential impact on life and property in the context of the broader surrounding landscape.*	• *The bush fire hazard in the surrounding area, including:* o *Vegetation* o *Topography* o *Weather* • *The potential fire behaviour that might be generated based on the above;* o *Any history of bush fire in the area;* o *Potential fire runs into the site and the intensity of such fire runs; and* • *The difficulty in accessing and suppressing a fire, the continuity of bush fire hazards or the fragmentation of landscape fuels and the complexity of the associated terrain.*	**Topography and Vegetation:** Managed residential land. Gentle slope from the Smiths Road frontage to the rear (west boundary) of the land. **Climate:** **T**he nearest Bureau of Metrology (BoM) weather station to the Site is Coffs Harbour MO (opened 1943, closed 2015) (BoM number 59040) which is approximately 6 km north-northwest of the Site. Coffs Harbour MO experiences a mean annual rainfall of 1,699 mm, with a monthly high of 234.6mm in March and monthly low of 59.9mm in September. Coffs Harbour experiences mean annual pan evaporation of 1,606mm, with a monthly high of 192.2 mm in January and December and a monthly low of 69mm in June. **Fire History** No known history of bushfire activity in the Avocado Heights locality.



Source: Bushfire Dashboard, UNSW, (fires over time 1950 to 2020) accessed 28 February 2024.

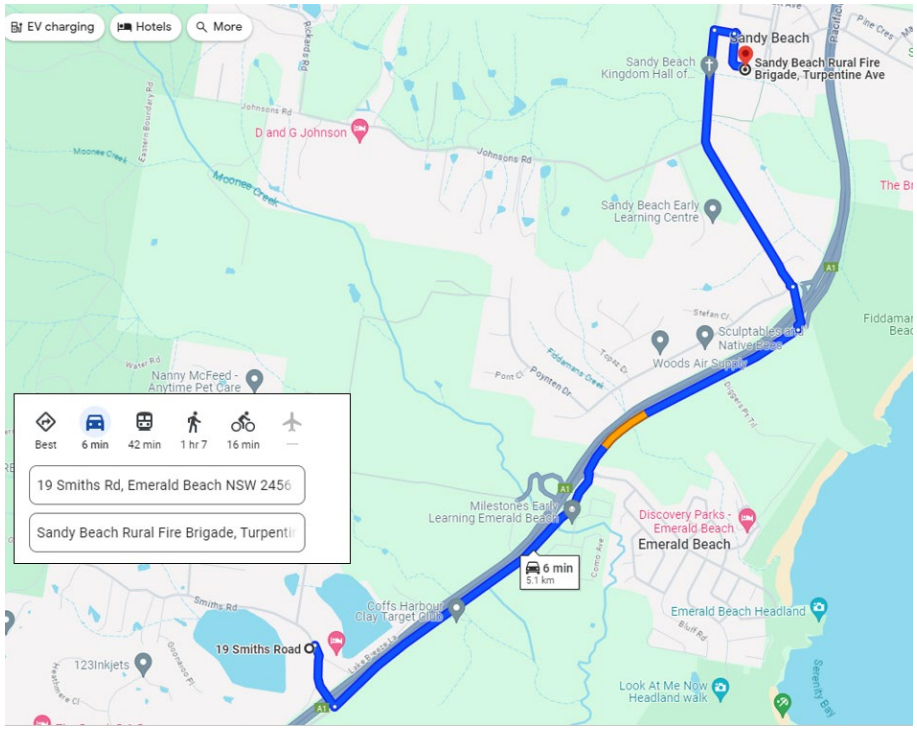

Boyds Hill 179 m
Stony Hill 158 m
Emerald Heights
Solitary Islands Way
Diggers Point
Emerald Beach
Emerald Beach
Dammerels Head
Look At Me Now Headland
Pacific Highway
Solitary Islands Way
Heritage Park
Bucca Road
Moonee Beach Nature Reserve
Moonee Beach
Solitary Islands Way
Pacific Hi
NPWS Fire History
Prescribed Burn
Wildfire
The Subject land

Land use assessment	*The land use assessment will identify the most appropriate locations within the masterplan area or site layout for the proposed land uses.*	• *The risk profile of different areas of the development layout based on the above landscape study;* • *The proposed land use zones and permitted uses;* • *The most appropriate siting of different land uses based on risk profiles within the site (i.e. not locating development on ridge tops, SFPP development to be located in lower risk areas of the site); and* • *The impact of the siting of these uses on APZ provision.*	The risk profile of the proposed reduction in minimum lot size and infill subdivision to create one additional lot suitable for housing is low. There is no change to the R5 Large Lot Residential zone. The R5 zone permits a reduced range of residential accommodation land uses to maintain the low density character of R5 areas. Dwellings, dual occupancies (attached) and secondary dwellings are permissible with consent in the R5 zone. Medium density residential land uses are prohibited in the R5 zone. Building envelopes have been nominated in the proposed infill lots in a suitable location.
Access and egress	*A study of the existing and proposed road networks both within and external to the masterplan area or site layout.*	• *The capacity for the proposed road network to deal with evacuating residents and responding emergency services, based on the existing and proposed community profile;* • *The location of key access routes and direction of travel; and*	The Avocado Heights (Emerald Beach west) area has an established network of public roads leading to the Pacific Highway with the capacity to accommodate traffic arising from two proposed infill lots.

		• *The potential for development to be isolated in the event of a bush fire.*	The Orara East State Forest is located over 1 km to the west of the site. The Moonee Beach Nature Reserve is located 1 kms to the east of the site. There is established urban land, included roads and dwellings and cleared farmland, between the site and a potential fire front within the Forestry Lands or the Moonee Beach Nature Reserve. There is a public road for evacuation away from potential fire fronts towards the Pacific Highway and the Moonee, Coffs Harbour and Woolgoolga urban areas. The surrounding area is well established with emergency services, including the Woolgoolga Rural Fire Brigade, Sandy Beach Rural Fire Brigade (6 mins or 5.1 kms away) and the Coffs Harbour Fire Control Centre. The development should not impact the ability of emergency services to carry out fire suppression activities. The development is minor and will result in two additional residential lots. There are fire

			stations from both the Rural Fire Service (RFS) and Fire Rescue NSW (FRNSW) in the surrounding areas and no additional services would be required.

Nearest Rural Fire Brigade



Public road network:

Emergency services	*An assessment of the future impact of new development on emergency services.*	• *Consideration of the increase in demand for emergency services responding to a bush fire emergency including the need for new stations/ brigades; and* • *Impact on the ability of emergency services to carry out fire suppression in a bush fire emergency.*	The development will result in two additional infill lots suitable for housing. The parent lot and the resultant lots will require 10,000 litres of firefighting water supply. The land has a wide 175 m frontage to Smiths Road enabling emergency services access to all parts of the subject land from the road frontage. Additionally, there is a sealed driveway along the northern and western boundaries of the land within a right of carriageway providing vehicular access to the rear of the subject land.
Infrastructure	*An assessment of the issues associated with infrastructure and utilities.*	• *The ability of the reticulated water system to deal with a major bush fire event in terms of pressures, flows, and spacing of hydrants; and* • *Life safety issues associated with fire and proximity to high voltage power lines, natural gas supply lines etc.*	There is no reticulated water in the locality, therefore all residential dwellings will rely on tank water. The existing overhead electrical service is located within the road reserve and is extended overhead to the existing dwelling. An underground service will be extended to the proposed vacant lots.

			The locality is not serviced with reticulated gas supply lines.
Adjoining land	*The impact of new development on adjoining landowners and their ability to undertake bush fire management.*	• *Consideration of the implications of a change in land use on adjoining land including increased pressure on BPMs through the implementation of Bush Fire Management Plans.*	The development will not impact the ability of adjoining landowners to undertake bushfire management.

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19 SMITHS ROAD, EMERALD BEACH

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

November 2023

Mr. Jeff Allen, 19 Smiths Road Emerald Beach NSW

DOCUMENT CONTROL	
Report Reference	Hill, T. 2023. *19 Smiths Road, Emerald Beach: Aboriginal Cultural Heritage Assessment.* Unpublished report for Mr. Jeff Allen 19 Smiths Road Emerald Beach NSW.
Number	TH072
Author	Tim Hill
Client	Mr. Jeff Allen, 19 Smiths Road Emerald Beach NSW.
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Status	Draft
Date	29 November 2023
Version	2a

CONTENTS

FIGURES

Tables

ABBREVIATIONS

ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
DA	Development Application
DCP	Development Control Plan
DEECW	Department of Environment, Climate Change and Water (now Heritage NSW)
EPA	Environmental Planning and Assessment
LALC	Local Aboriginal Land Council
LEP	Local Environment Plan
NP&W	National Parks and Wildlife
PAD	Potential Archaeological Deposit
Project	The proposed 3 lot rural residential subdivision with a reduced minimum Lot size (4000m^2) at 19 Smiths Road Emerald beach, NSW.
SU	Survey Unit
Study Area	Lot 5 DP563449 located at 19 Smiths Road Emerald Beach, NSW.

1 INTRODUCTION

1.1 Background

Heritage Management & Planning Pty Ltd has been commissioned by Mr. Jeff Allen to undertake a Aboriginal Cultural Heritage Assessment (ACHA) to support the planning proposal to amend the Coffs Harbour Local Environmental Plan (2013) (LEP) at Lot 5 DP563449, being 19 Smiths Road Emerald Beach NSW (the Study Area), to reduce the minimum Lot size to 4000m^2 (**Figure 1** and **Figure 2**). The assessment has been commissioned to consider the potential impacts of the rezoning proposal on Aboriginal objects and cultural values, including potential impacts to the cultural landscape. The ACHA has been informed by consultation with Coffs Harbour and District Local Aboriginal Land Council (LALC) and the Garby Elders Group.

1.2 Brief & Methodology

The brief for the ACHA was to undertake an archaeological and cultural landscape in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010A) (Due Diligence Code of Practice) and *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DEECW 2010B) (CoPAI). The methods employed in this assessment include:

- a description of the planning proposal and potential impacts to the ground surface that might reasonably result in Harm to Aboriginal objects from a future rural residential subdivision
- a search of the Aboriginal heritage Information Management System (AHIMS).
- a review of environmental information relevant to the assessment
- a review of relevant archaeological and cultural heritage assessments in the local area and region
- development of an archaeological predictive model to inform the field survey and impact assessment
- consultation with the Coffs Harbour and District LALC and Garby Elders Group including documentation of the consultation process and how the consultation informed the outcomes of the assessment
- completion of archaeological investigations and provision of technical information to inform the impact assessment including:
    i. a summary of the assessment methodology
    ii. a description of results of the assessment including statements on the local and regional significance of archaeological sites identified within the Study Area, and
    iii. statements on the adequacy of the assessment and the requirement for additional archaeological investigation/ excavation, and
- measures to mitigate the impacts of any future residential development on cultural values and management recommendations to inform the planning proposal application, including any conditions/ management recommendations to be incorporated into future project approvals.

Figure 1: 19 Smiths Road- Study Area location

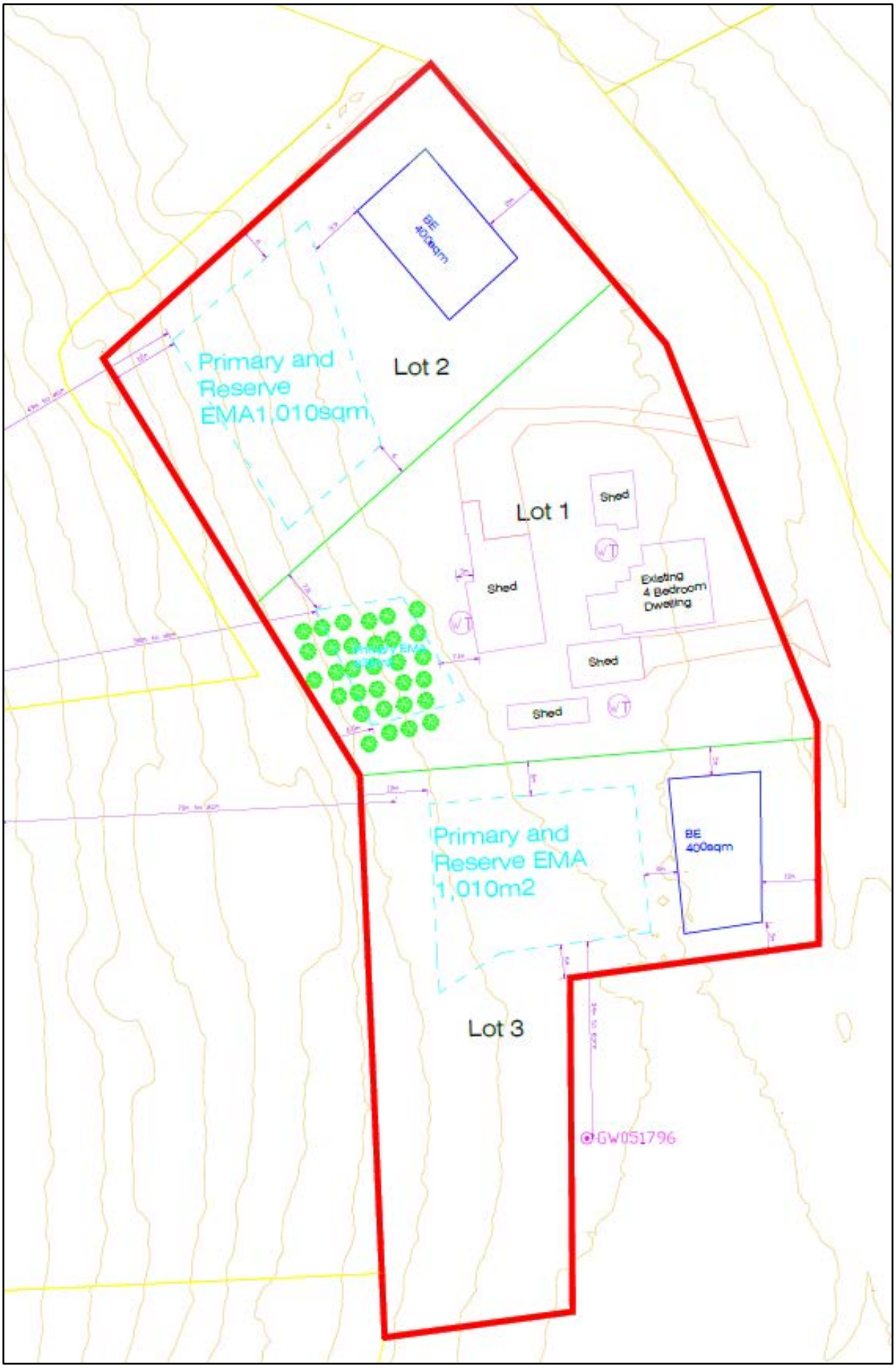

Figure 2: 19 Smiths Road- Summary of the proposed lot layout

2 LEGISLATIVE AND PLANNING CONTEXT

2.1 Environmental Planning and Assessment Act (1979)

The Environmental Planning and Assessment Act (NSW) (1979) (EPA Act) provides a framework to environmental assessment and approvals in NSW. The EPA Act includes three parts relevant to ACHA assessments:

Part 3- Planning instruments which include Local Environment Plans (LEPs), Development Control Plans (DCPs) and other strategic planning controls.

Part 4- Development assessment and consent controls including approvals by local Councils and Regional Planning Panels.

Part 5- Self assessment and approvals by a government agencies, or Determining Authorities, for infrastructure and environmental proposals, and for the approval of State Significant Infrastructure by the Planning Minister.

The Planning Proposal will be assessed under Part 3 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act). Any future works will be subject to approval by City of Coffs Harbour Council under Part 4 of the EP&A Act.

2.2 National Parks and Wildlife Act 1974 (NSW) and Regulations 2019 (NSW)

The National Parks and Wildlife Act 1974 (NSW) (NPW Act) is the primary legislation concerning the identification and protection of Aboriginal cultural heritage in New South Wales. Section 86 of the NPW Act provides offense provisions for Aboriginal objects, Aboriginal skeletal remains and Aboriginal places in NSW (see the definition of 'Harm' above). Three key definitions in the NPW Act which are relevant to this assessment include:

- Aboriginal object means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.
- Aboriginal remains means the body or the remains of the body of a deceased Aboriginal person, but does not include—

  (a) a body or the remains of a body buried in a cemetery in which non-Aboriginal persons are also buried, or

  (b) a body or the remains of a body dealt with or to be dealt with in accordance with a law of the State relating to medical treatment or the examination, for forensic or other purposes, of the bodies of deceased persons.
- Harm an object or place includes any act or omission that—

  (a) destroys, defaces or damages the object or place, or

(b) in relation to an object—moves the object from the land on which it had been situated, or

(c) is specified by the regulations, or

(d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c),

but does not include any act or omission that—

(e) desecrates the object or place, or

(f) is trivial or negligible, or

(g) is excluded from this definition by the regulations.

Section 87 of the NPW Act outlines defences against prosecution relating to Aboriginal objects, skeletal remains and Aboriginal places. These include:

- Acting in accordance with an Aboriginal Heritage Impact Permit (AHIP) issued under Section 90 of the NPW Act
- Demonstrating that the "defendant exercised due diligence to determine whether the act or omission constituting the alleged offence would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed"
- The activity was prescribed as a "low Impact" activity or an "omission" under the NPW Regulations (2019), and
- Was undertaken in compliance with a Code of Practice adopted or prescribed by the NPW Regulations (2019).

The application of the *CoPAI* is considered an appropriate approval pathway as the Proposal does not meet the criteria of a 'low impact activity' as defined by the NPW Act and Regulations.

2.3 Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW

The purpose of the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DEECW 2010A) is to establish a defence against prosecution in the event that Aboriginal objects may be inadvertently harms during an activity (DEECW 2010A: 1 & 2). The Due Diligence Code of Practice:

…sets out the reasonable and practicable steps which individuals and organisations need to take in order to:

1. identify whether or not Aboriginal objects are, or are likely to be, present in an area
2. determine whether or not their activities are likely to harm Aboriginal objects (if present)
3. determine whether an AHIP application is required (DEECW 2010A:2).

The Due Diligence Code of Practice makes the following statement on the requirement for an AHIP (DECCW 2010A:2):

If Aboriginal objects are present or likely to be present and an activity will harm those objects, then an AHIP application will be required.

However, the practical application of the Due Diligence Code of Practice is that it is a process of establishing whether additional assessment is required. In the event that the Due Diligence assessment concludes that harm to Aboriginal objects is likely, additional archaeological investigation, including Aboriginal community consultation, in accordance with CoPAI is required. A key limitation of the Due Diligence Code of Practice is that they do not clearly define the thresholds of "likely" or "highly likely". To assist the assessment, the Merriam Webster dictionary definition (www.merriam-webster.com/dictionary) of "likely" is:

"Having a high probability of occurring or being true: very probable"

The Due Diligence Code of Practice makes an additional statement which removes the requirement to undertake additional investigation where there has been significance ground disturbance. The Due Diligence Code of Practice includes the following definition of 'disturbed land' (DEECW 2010A: 12, 18).

"Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable".

2.4 Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW

The CoPAI provides the following statement on the application of the Code:

"This Code has been developed to support the process of investigating and assessing Aboriginal cultural heritage by specifying the minimum standards for archaeological investigation undertaken in NSW under the NPW Act. Where an Aboriginal cultural heritage assessment requires an archaeological investigation to be undertaken, this must be done in accordance with the requirements of this Code." (DEECW 2010B:2).

The purpose of this CoPAI is to (DEECW 2010B:1):

1. establish the requirements for undertaking test excavation as a part of archaeological investigation without an AHIP. If you comply with these requirements and you harm an Aboriginal object when undertaking test excavations, your actions will be excluded from the definition of harm and as such you will not be committing an offence of harm to an Aboriginal object.
2. establish the requirements that must be followed when carrying out archaeological investigation in NSW where an application for an AHIP is likely to be made. Under the NPW Act, the Director General can require that certain information accompany an application for an AHIP. This Code explains what that information is in relation to archaeological investigations.

Section 3.1 of the CoPAI (DEECW 2010B:24) makes the following comment on the requirement archaeological test-excavations as part of the assessment:

Archaeological test excavation will be necessary when (regardless of whether or not there are objects present on the ground surface) it can be demonstrated through Requirements 1, 2, 3, 4, and 5 that sub-surface Aboriginal objects with potential conservation value have a high probability of being present in an area, and the area cannot be substantially avoided by the proposed activity.

In this instance the term 'high-probability' is taken as being equivalent to 'likely' as used in the Due Diligence Code of Practice (DECCW 2010A). Although there is not a direct relationship between the requirement to apply for a AHIP and the requirement for archaeological test excavation, where the AHIP includes disturbance of soils which are also archaeological deposits test excavation is required to demonstrate the nature and extent of the archaeological site for the purposes of informing the significance and impact assessment.

2.5 Coffs Harbour Local Environmental Plan 2013

The Coffs Harbour Local Environmental Plan (LEP) (2013) provides a framework to determine activities which require development consent and outlines considerations for the determination process. This includes the following general classes of heritage:

- Items on the NSW State heritage Register
- Items of local heritage significance listed on Schedule 5 of the Uralla LEP, and
- Aboriginal objects and Places as defined by the NPW Act.

The Coffs Harbour LEP (2013) sets out provisions to control activities at "Aboriginal Places of heritage significance", which include places which do not meet the definition of an Aboriginal object or Aboriginal places under the NPW Act but are listed under the LEP. Part 5.10.8 of the Coffs Harbour LEP (2013) requires that City of Coffs Harbour Council:

> "… must, before granting consent under this clause to the carrying out of development in a place of Aboriginal heritage significance:
>
> a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place, and
>
> b) notify the local Aboriginal communities (in such way as it thinks appropriate) about the application and take into consideration any response received within 28 days after the notice is sent.

The Planning Proposal does not impact any areas identified as items of local heritage significance under the Coffs Harbour LEP (2013).

3 ENVIRONMENTAL REVIEW

3.1 Landform information

The following statements are provided in relation to the potential that the landform setting of the Study Area increases the likelihood that Aboriginal archaeological sites will occur within the Study Area:

- The Study Area comprises a portion of the ridge crest and the southern slope of a broad spurline that connects to the Coast Range- the creek to the south of the Study Area forms part of the headwaters of the Moonee Creek (Figure 3)
- The geology of the Study Area comprises the Coramba beds, which comprise metamorphosed sedimentary rocks from the carboniferous age (358-298 million years) and comprise lithic feldspathic wacke, siltstone, meta basalt, chert and jasper- the Coramba beds are generally not conducive to the extraction of stone material for tool production as the sedimentary nature of the rocks typically expresses as shales or highly fractured rock which does not break consistently (Figure 4)
- The Study Area is mapped as part of the Ulong soil landscape and generally comprises low rolling hills with moderately broad ridge crests and spurs (Figure 5)- the vegetation model for the Ulong soil landscape includes tall, closed forests dominated by Blackbutt, Spotted gum and iron bark
- the adjacent floodplain of Moonee Creek is mapped as part of the Newports Creek soil landscape which comprises "low, level to gently undulating coastal back-barrier floodplains on Pleistocene estuarine sediments"- the back barrier floodplains are dominated by Swamp Mahogony, Red Bloodwood, Broad Leaved Paperbark and Swamp Oak.
- the 1922 Crown Plan includes the following annotation of vegetation which is relevant to the ACHA "timbered with Gum Oak, Blackbutt and Ironbark – Loamy soil. Clay sub-soil" se (Figure 6 and Figure 7 for the 1882 and1922 Crown Plans)- this is consistent with the soil landscape modelling.

Based on the preliminary investigation of the environmental attributes of the Study Area there is the potential that Aboriginal archaeological sites are located along the elevated spurs and ridges above the low-lying sub-coastal floodplain. However, use of the sub-coastal forests would be secondary to the primary occupation sites at Moonee Beach and Emerald Beach which are known to occur in close proximity to the estuary and coastal/ marine resources including rocky shelf habitats. The available archaeological evidence indicates that the sub-coastal tall-closed forests were primarily utilised for hunting and resource collection- which accounts for the overall high proportion of isolated stone artefacts throughout the low-lying hills and spurs.

3.2 Historic ground disturbance

The Due Diligence Code of Practice includes the following definition of 'disturbed land' (DEECW 2010A: 12, 18).

"Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable".

The application of the previous disturbance provisions must be considered on a case-by-case basis. However, the general application of the existing disturbance defenses outlined in the Due Diligence Code of Practice is that the ground disturbance must have removed the portion of the soil profile likely to contain Aboriginal objects from the local area or be of a nature whereby the ground disturbance would significantly reduce the likelihood of finding Aboriginal objects as part of a Due Diligence/ archaeological investigation. This is primarily because the assessment procedures assume that the likelihood that an activity will impact Aboriginal objects can be determined using standard archaeological investigation methods. Archaeological investigation requires a sample survey to determine/ infer the likelihood that Aboriginal objects are present and the confidence in results from archaeological investigations is significantly reduced where the land has been subject to ground disturbance.

The following statements summarises the history of ground disturbance across the Study Area base don available historic aerial photos and the 1922 Crown Plan:

- 1882/ 1922 (see Figure 6 and Figure 7)- the 1922 Crown Plan indicates that the Study Area has been ringbarked- this was a typical practice post World War 1 as primary industry on the north coast switched from forestry to agriculture- Smiths Road is visible as a road reserve in its current alignment
- 1955 (Figure 8)- assuming that the land had been ringbarked it is reasonable to assume that the forest visible in the image comprised regrowth hardwoods and possibly formed a private forest plantation- a narrow track to the north of the Study Area is visible but it is north of the current alignment of Smiths Road
- 1963 (Figure 9)- the aerial image shows significant clearing of the forest and the there is a small structure in the location of the current residential dwelling- Smiths Road is visible and connects with the Coast Road to the south-east of the Study Area
- 1968 (Figure 10) the Study Area has been completely cleared and the small structure is reasonably obvious with a second structure to the west- the intersection of Smiths Road and the Coast Road has been upgraded with the new northern intersection clearly visible
- 1973 (Figure 11)- the current residential dwelling is clearly visible and a vehicle turn-around is visible to the west of the Study Area indicating some form of agricultural/ industrial use- the main change is the construction of the large dams on either side of the ridge

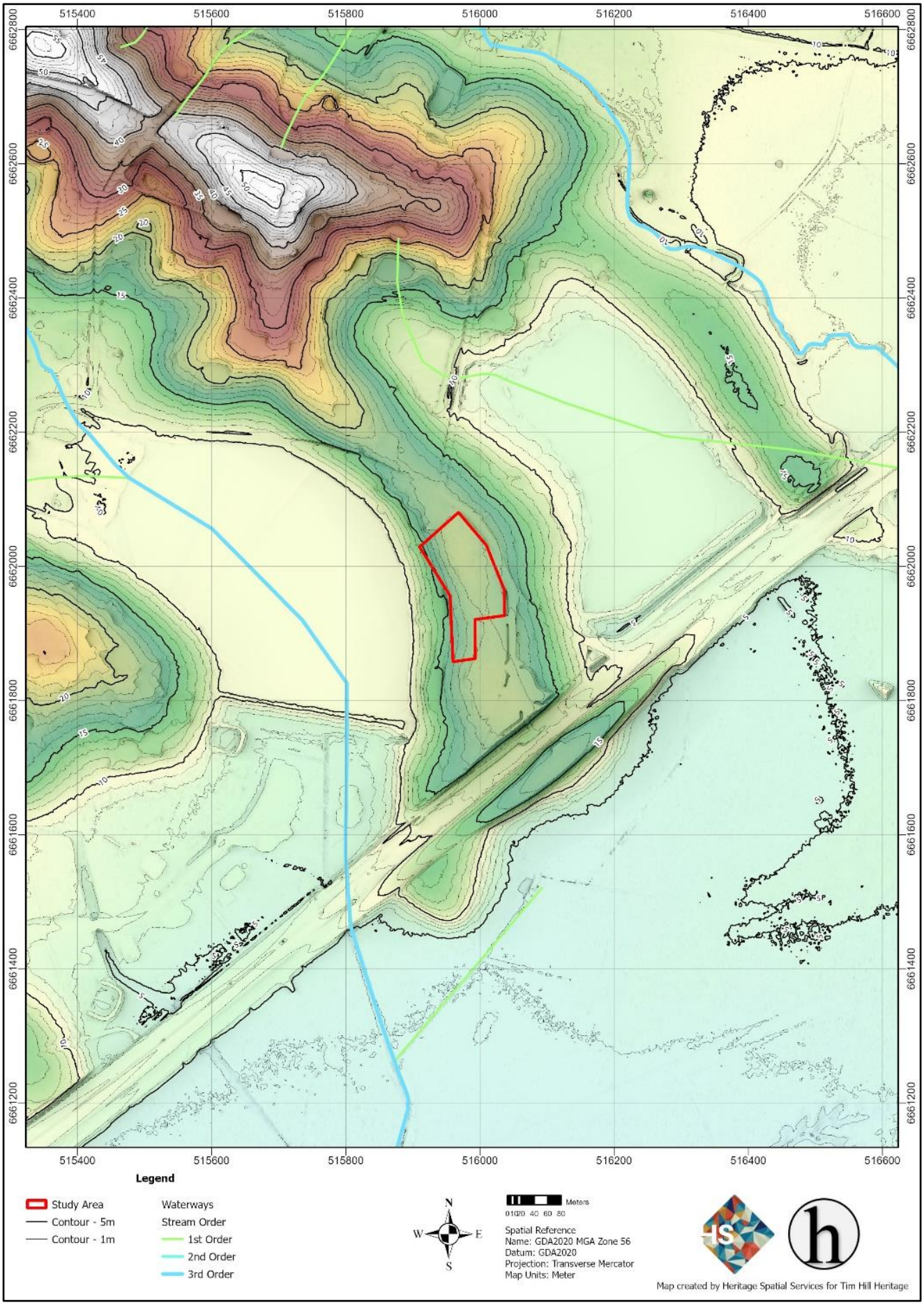

Figure 3: 19 Smiths Road- Topography and hydrology (source Six Maps)

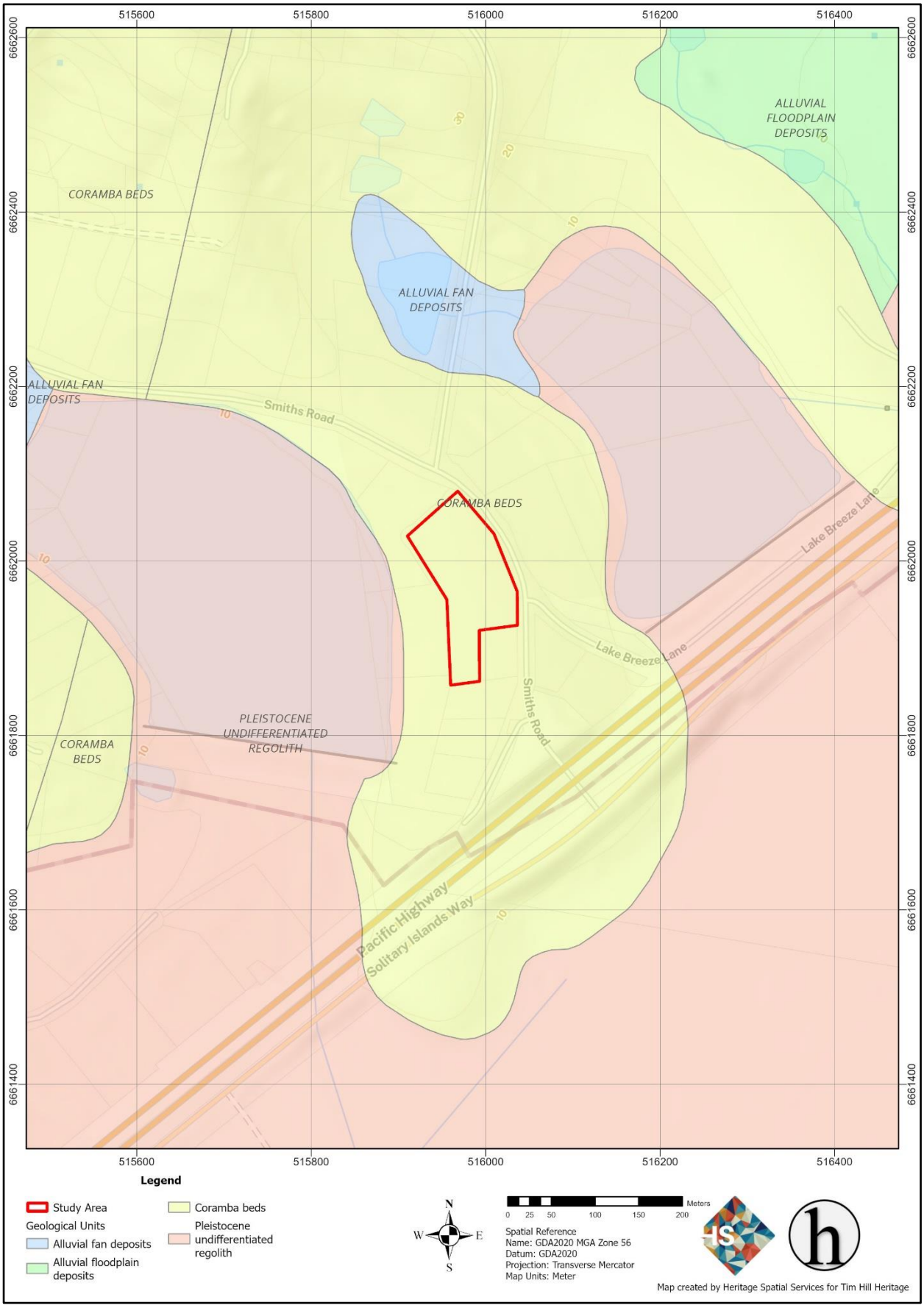

Figure 4: 19 Smiths Road- Geological model (source Geological Survey of NSW)

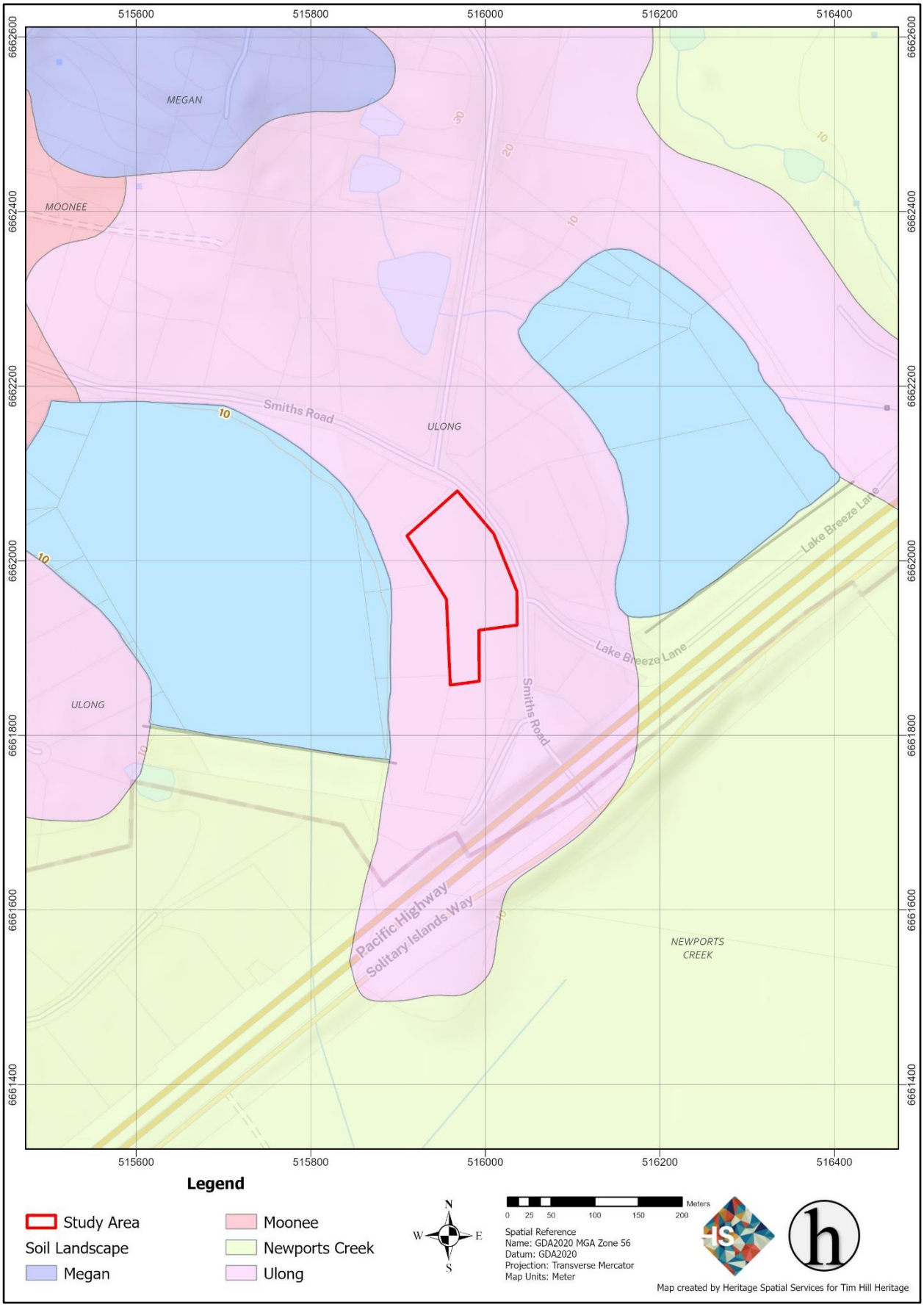

Figure 5: 19 Smiths Road- Soil landscapes (espade.nsw.gov.au)

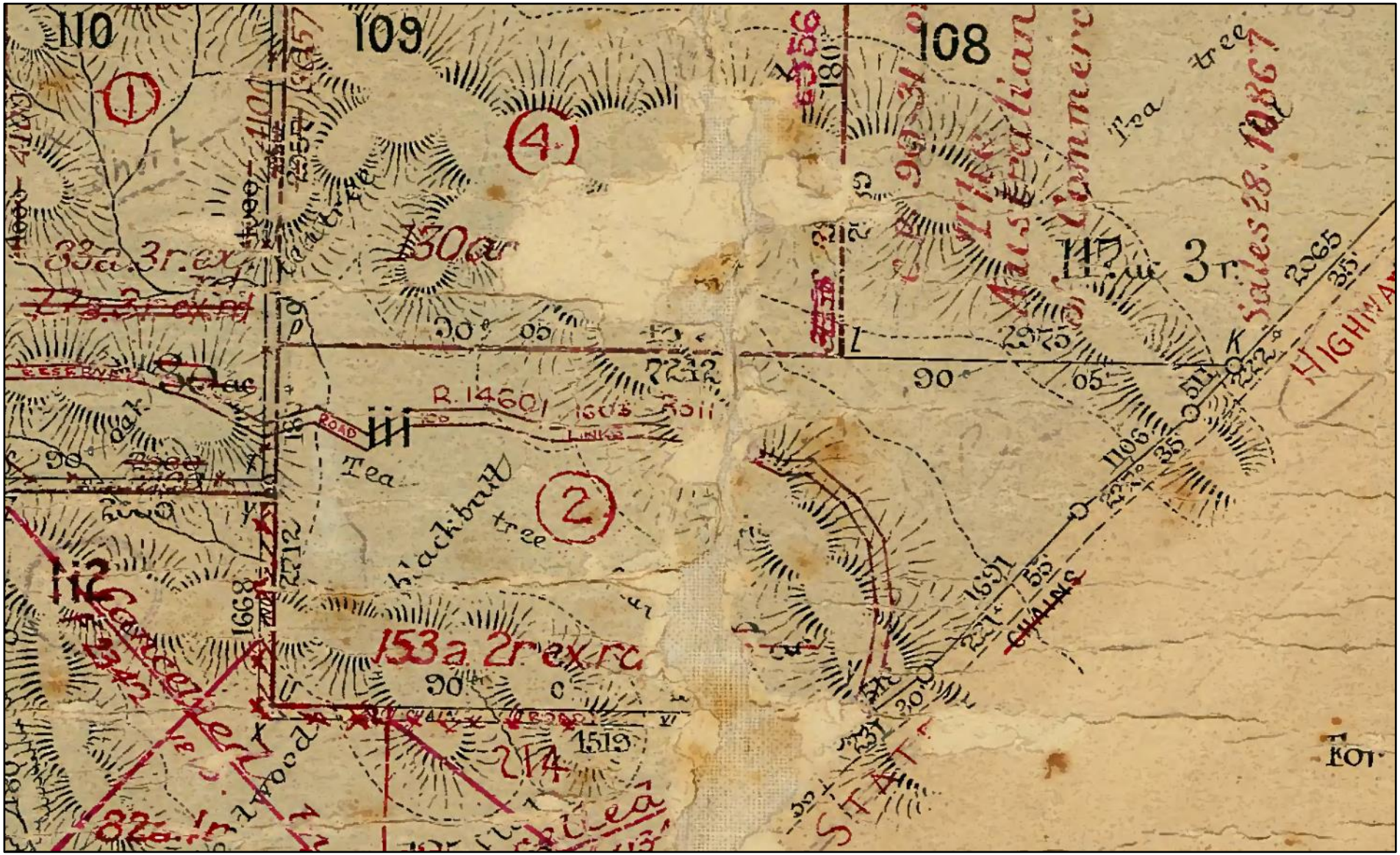

Figure 6: 19 Smiths Road- 1882 Crown plan

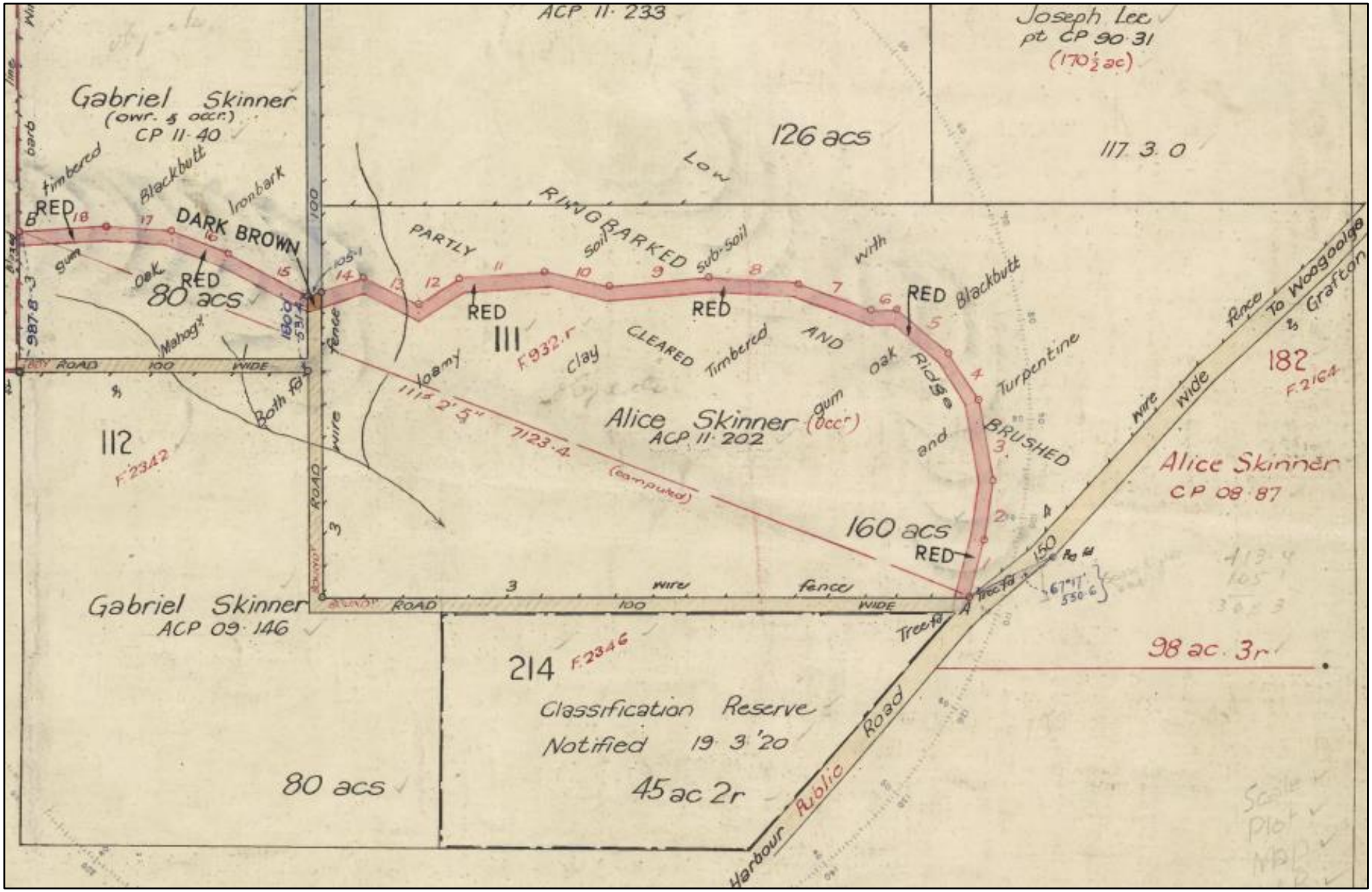

Figure 7: 19 Smiths Road- 1922 Crown plan

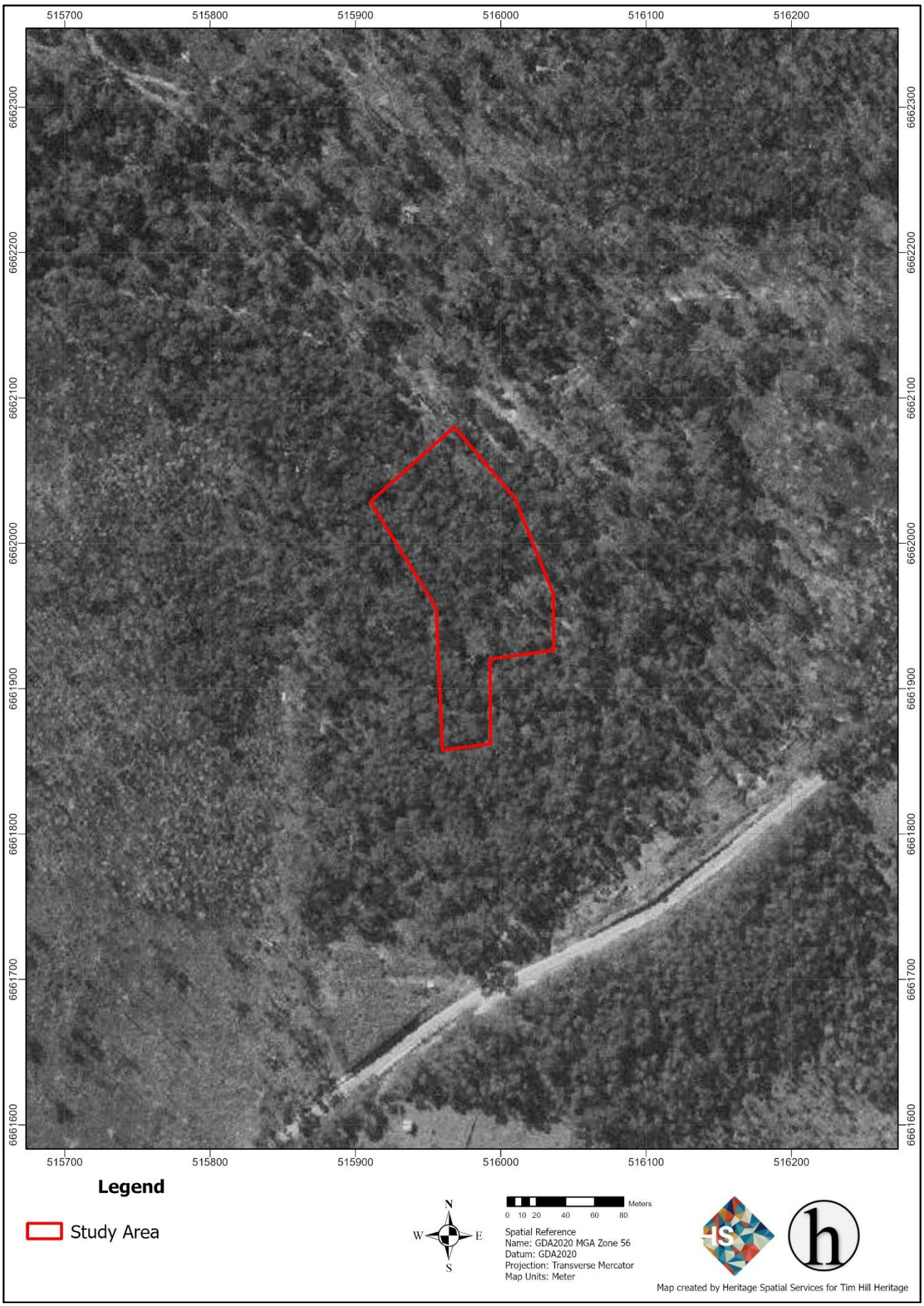

Figure 8: 19 Smiths Road- 1955 aerial photo

Figure 9: 19 Smiths Road- 1963 aerial photo

Figure 10: 19 Smiths Road- 1968 aerial photo

Figure 11: 19 Smiths Road- 1973 aerial photo

Figure 12: 19 Smiths Road- 1988 aerial photo

4 ARCHAEOLOGICAL SYNTHESIS AND PREDICTIONS

4.1 Aboriginal Heritage Information Management System (AHIMS)

The Aboriginal Heritage Information Management System (AHIMS) provides a list of previously recorded Aboriginal sites in NSW. A search of the AHIMS database is a condition of compliance with the CoPAI and provides information on the types of sites which will be located within and around the Study Area. A search was undertaken on 18 October 2023 for the area "Lat, Long From: -30.1828, 153.152 - Lat, Long to : -30.1642, 153.1829." (**Table 1** and **Figure 17**).

The AHIMS search identified 3 previously recorded Aboriginal sites to the east of the Study Area which result from investigations within the Pacific Highway corridor, being the investigations of the highway corridor and works during upgrade of underground infrastructure. The Study Area is on a ridge crest which is contiguous with the Pacific Highway 3 site (#22-1-0456). The sites comprise stone artefact scatters- these types of sites/ finds are common around Moonee and Emerald Beach. Based on the AHIMS search results it is reasonable to proceed on the basis that Aboriginal stone tools/ isolated finds are the most likely Aboriginal archaeological site to occur in the sub-coastal zone west of Moonee Beach.

Table 1: Summary of AHIMS search results by site type (AHIMS # 830158)

Site ID	Site Name	Easting	Northing	Type	Status
22-1-0420	S2W-24	516360	6661890	Artefact	Valid
22-1-0456	Pacific Highway Site 3	515896	6661642	Artefact	Partially Destroyed
22-1-0455	Pacific Highway Site 2	515360	6661207	Artefact	Partially Destroyed

4.1.1 S2W-24 artefact scatter

The S2W24 artefact scatter was recorded on the eastern side of the pacific Highway at the Gun Club (**Figure 13**). The following site description is provided:

> Redeposited material along eastern edge of Pacific Highway reserve, extending for 200 metres south from the adjacent southern boundary of Lot 2 DP245956 (Coffs Harbour Clay Target Club property) at Moonee, opposite Lake Russell.
>
> ADDITIONAL SITE INFORMATION- Site S2W-24 (AHIMS # not currently known) The 49 stone artefacts collected from the stockpile (see S2W-24 site recording form for background information) were redeposited in a clearly marked (engraved) PVC container with inside information, on the 14/02/2014. Redeposited within the already registered S2W-24 area, at GDA map grid reference 516397 E 6661935 N

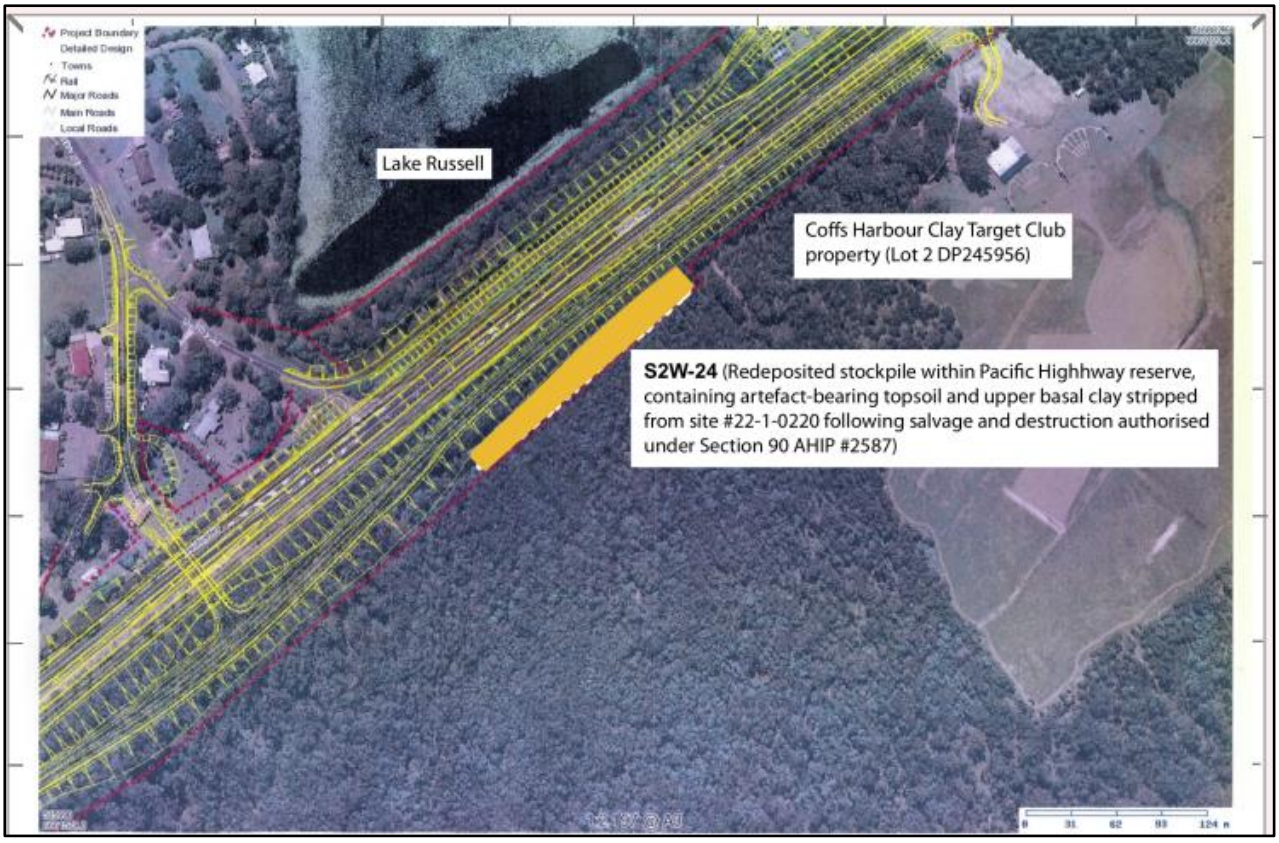

Figure 13: S2W24 stone artefact scatter- Site location (AHIMS site record form)

4.1.2 Pacific Highway Site 2

The Pacific Highway Site 2 was recorded as part of infrastructure upgrades along the Pacific Highway- the following site location is provided by the site record form (see Figure 14):

> Crest of spur on which is situated Lot 11 DP 1009914. Artefacts located on the eastern boundary adjacent to the Pacific Highway

Based on the site location this artefact scatter is located to the south of the Study Area and in accessed from Kumbaingeree Close.

4.1.3 Pacific Highway Site 3

The Pacific Highway Site 3 was recorded as part of infrastructure upgrades along the Pacific Highway at the Smith Road entrance. The following site location is provided by the site record form (see Figure 15):

> Crest of spur on which is situated Lot 11 DP 1009914. Artefacts located on the eastern boundary adjacent to the Pacific Highway

Based on the site location this artefact scatter is located to the east of the Study Area and is contiguous with the ridge landform. The description of the artefacts include the following:

> 1 x coarse grained greywacke cobble end scraper with retouch
>
> 1 x mudstone core with platform preparation technique
>
> 1 x mudstone flake piece
>
> 1 x indurated stone –

flake with platform preparation technique Stakeholders suggest the material is associated with other sites found on similar landforms from Emerald Beach in the north to Moonee Beach in the south.

Figure 14: Pacific Highway Site 2- Location

Figure 15: Pacific Highway Site 3- Location

Figure 16: Pacific Highway Site 3- Photo of the stone core

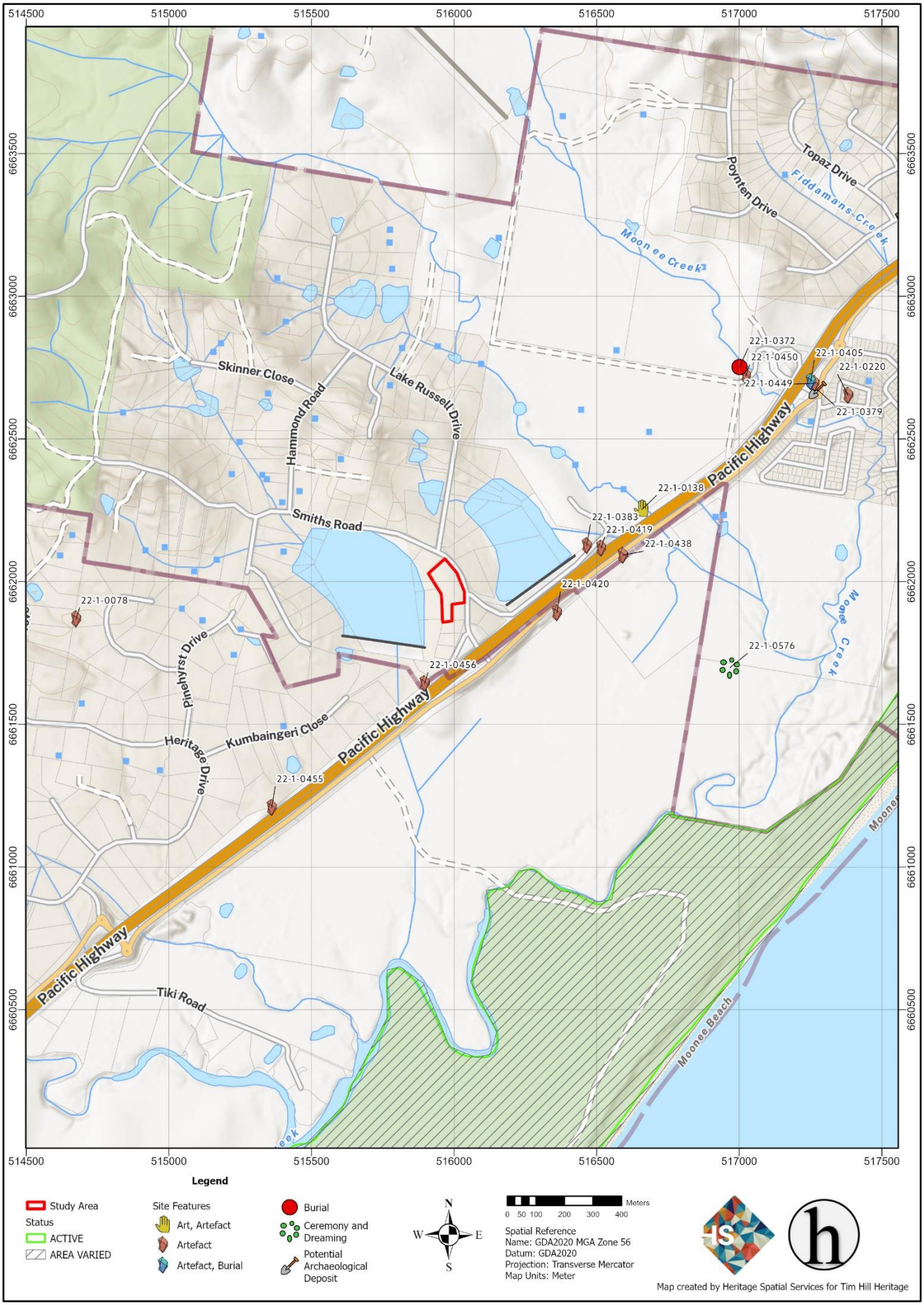

Figure 17: 19 Smiths Road- AHIMS search results (AHIMS # 830158)

4.2 Ethnohistory

The Study Area is located within the Gumbaynggirr Nation/ Language area, which is broadly known to include lands south of the Clarence River, west up to the Great Dividing Range and as far south as Nambucca Heads/ north of the Nambucca River (Thomas 2013:1; Tindale 1974). However, it is noted the exact boundaries of Aboriginal groups would have been more fluid as opposed to academic linguistic models which are quite fixed (see Kelleher Nightingale 2019). Gumbaynggirr language itself is believed to comprise as many as three, possibly four, distinct dialects according to linguistic methodologies that tend to contrive very dynamic systems (Dixon and Blake 1979).

A unique aspect of the Coffs Harbour area is the close proximity of the Great Dividing Range and the absence of a major river system. No other district in the North Coast of NSW has such a narrow coastal zone nor such a short distance between the differing environments of the lower coast and elevated / cooler forests that occur at 700 metres above sea level. Despite the absence of a major river system, there are numerous creek and estuary systems within the Coffs area that run directly into the Pacific Ocean such as Coffs Creek, Corindi River, Stingray Creek and Moonee Creek. There is a great potential for traditional pathways and routes linking the coast and the escarpment / hinterland to the west. However, traditional pathways are not often represented archaeologically through factors of disturbance, low rates of discard of Aboriginal objects and few are noted in early ethno-histories by European settlers which tended to focus observations on the main campsites.

The earliest accounts of the daily activities, ways of life and ceremonies of Northern NSW Aboriginal groups are provided by early European settlers and surveyors from the early-mid 1800s. As such there is a wealth of written information, relative to the western slopes as an example, on the lifeways of Aboriginal groups post-European settlement (Lane 1970, Thomas 2013).

The landscape of Northern NSW, and particularly the Coffs Harbour region, provided an abundance of terrestrial and marine resources for Aboriginal groups and early observations consistently document the health, strength, and physical stature of Aboriginal people in the region. Rainforest timbers for example were used for a variety of purposes, clubs, spears and shields albeit the latter were not typically ornately carved as demonstrated elsewhere by other Aboriginal groups through Australia (Thomas 2013:3). Fishing was highly important to the diet of the Gumbaynggirr people which predominately exploited the resource rich coastline (Lane 1970). Men would fish for species such as snapper, bream, mullet, whiting and flathead off rocks or the beach fronts utilizing hooks manufactured from shells of turban snails or 'gugumbal', abalone and nutrient rich coastal molluscs. Species of shellfish were harvested as a core part of the diet, with remaining shells sometimes used for tools for cleaning of marine species prior to consumption and fishing hooks (English 2002).

Arboreal species such as opossums, flying foxes, koalas and native bees also complemented the diet, in addition to native bee honey (Thomas 2013:4). Local Aboriginal people developed methods to climb trees to great heights to hunt and gather these resources (Thomas 2013). Other terrestrial species in

the diet included bandicoot, wallaby, kangaroo, snakes, goannas, birds. Echidna was considered a delicacy and cooked by rolling the carcass in clay before being cooked with ash so the quills would be removed with the outlying clay once complete (Thomas 2013).

4.3 Local archaeological studies

4.3.1 Sapphire to Woolgoolga Pacific Highway Duplication (Collins 2004 and 2007B)

Collins (2004 and 2007B) undertook an archaeological assessment of route options for the Sapphire to Woolgoolga Pacific Highway Duplication which identifies three broad landscapes, being (Collins 2007B:27,28):

> Coastal alluvial plains … those with highest archaeological sensitivity are well-drained swamp and estuary banks, and the level to low-gradient crests of low rises and spurs. Elements of lowest archaeological sensitivity are valley flats, plains and open depressions. Irrespective of their landscape context, areas developed for residential uses or otherwise intensively disturbed (eg road and services easements) will also have low archaeological sensitivity.
>
> Most likely site types are isolated stone artefacts, small low-density scatters of stone artefacts, and shallow midden scatters composed solely of estuarine mollusc species. However, some large artefact scatters and stratified midden deposits containing a range of shellfish species and other cultural materials are associated with the coastal alluvial plains. Scarred trees may occur in any parts of the landscape where mature trees survive.
>
> Coastal ramp- Predictions for the coastal ramp indicate that landform elements of highest archaeological sensitivity are the level to gently-inclined crests of low ridges, spurs and hills, particularly crests between 10 and 30 metres AHD supporting coastal sclerophyll forest. Elements of lowest archaeological sensitivity are hillslopes with gradients greater than 10 degrees and valley flats supporting swamp forests. Irrespective of its topographic context, land developed for residential uses or otherwise intensively disturbed (e.g. road and services easements, banana plantations) will also have low archaeological sensitivity.
>
> Site types most likely to occur are isolated stone artefacts and small low-density scatters of stone artefacts, although some small single-species shell scatters, large stratified midden deposits and large artefact scatters are associated with this land system. Scarred trees may occur anywhere mature trees survive.
>
> Escarpment foothills- Predictions developed on the basis of existing site information indicate that landform elements of highest archaeological sensitivity are level to gently-inclined ridge and spur crests, especially dry forested crests with open or east to north-east aspects. Landscapes of lowest archaeological sensitivity are those featuring dissected terrain, comprising hillslopes (particularly slopes above 10 degrees with southerly aspects), gullies and small streams.

Irrespective of its topographic context, intensively disturbed land (eg road and services easements, banana plantations) will also have a low level of archaeological sensitivity.

4.3.2 North Moonee Beach Golf Course and Resort (Navin 1991)

Kerry Navin undertook a cultural heritage assessment for a Golf Course and Report immediately west of Moonee Beach 1, including the current aerodrome and Kumbaingeri Animal Park north of Tiki Road (Navin 1991) and the west bank of Moonee Creek in the upper part of catchment including mostly low-lying swamp and heathland. The study located a scar tree (Moonee Creek 1) (Navin 1991:14) (see **Figure 18**) which is understood to be site #22-1-0053.

> The site is a scarred tree located in the southern section of the study area. The tree is situated approximately 130m south of the gate on the main track into the south-eastern section of the study area, and is 30m north of the track…Most of the surrounding vegetation appears to be forest regrowth, however there are a number of old trees in the vicinity…the tree is alive and appears healthy. It has been tentatively identified as *Eucalpytus robust*- Swamp Mahogony, sometimes referred to as messmate. There is some minor damage to the dead wood within the scarred area. The scar occurs on the southern side of the tree and there is no evidence of axe marks.

Figure 18: Moonee Creek 1 Scar Tree (22-1-0053) (source Navin 1991)

4.3.3 Moonee Beach Holiday Park (Ainsworth Heritage 2014, Hill et al 2016)

Ainsworth (2014) completed an archaeological study for the Moonee Beach Holiday Park, which identified 5 archaeological sites and confirmed the presence of the Stingray Creek Midden and Green

Bluff ceremonial site. Archaeological sites within the Moonee Beach Holiday Park comprises stone artefact scatters and isolated artefacts. The assemblages typically consisted of included mudstone and greywacke flakes and cores. The report makes the following note on the Stingray Creek Midden (Ainsworth Heritage 2014:41)

> The Stingray Creek midden consisted of a spatially dispersed and stratified midden of approximately 100m long x15m wide by 0.15m thick deposit. Shell species were predominately Whelk with a lower (<20%) proportion of the midden. Numerous stone flakes and several cores were also viewed, mainly along the track which crosses the midden. Additionally, due to the erosional processes of Stingray Creek, the north face of the midden is eroding and much shell is visible along the cobble bank of the creek, both above and below the high water mark.

A total of 77 artefacts were salvaged during the Moonee Reserve site salvage works (AHIP #C0000530) (Hill et al 2016). The artefact assemblage comprised of Cores, Flakes, Flake pieces and Hammer stones. Flake pieces comprised the largest portion of the assemblage (36.8%) however this was not considered significantly greater than Cores or Flakes. The majority of artefacts (74%) were produced from locally available Greywacke. A number (9) of artefacts could not be positively identified, however were all typically sedimentary with varying grain size and uniformity. A smaller percentage of Chert (9%) and Mudstone (5.1%) flakes and flake pieces were also identified in the overall assemblage. Artefacts were typically large in size and had a high degree of variance across the entire assemblage. For example the variance in flake length (549) and width (1748) which indicates a significant amount of variability in flake morphology. The amount of cortex across the assemblage was very high, however was significantly higher in Greywacke and 'Unknown' raw material types. The similarities in this attribute are likely due to the similar structural characteristics of the Unknown raw material to Greywacke and that both raw material sources have a similar geomorphological history. Mudstone and Chert had an overall very low percentage cortex.

4.3.4 Sandy Beach North (Mary Dallas Consulting Archaeologists 2008)

Mary Dallas undertook an archaeological assessment for the Sandy Beach North residential subdivision at Hearnes Lake (Mary Dallas Consulting Archaeologists 2008). The report summarises the outcomes of the assessment:

> The archaeological survey identified an artefact scatter and an area of potentially artefact bearing deposit on slightly elevated areas of ground at the southern end of Hearnes Lake on the land to the east of the Pacific Highway. The artefact scatter is dispersed over an area of 50x500m which has been subject to some degree of disturbance relating to timber clearance and stump removal. The artefact scatter is coded SBN 1 and is assessed to be the disturbed remains of a camp site.

Hearnes Lake is a small coastal lake and estuary system which is comparable to the MBNR and the location of the campsite on elevated ground around the fringe of the lake is consistent with a pattern

of use of the northern beaches where relatively large stone artefact scatters are common on elevated ground.

4.3.5 Moonee Axe Factory (North 1964)

The observations of the Axe Factory by W.I North were undertaken in the late 1959, 1962 and twice in 1963. The report describes the location of the axe factory as (Figure 19, Figure 20 and Figure 21):

> The site consists of an extensive area of wind -eroded high dunes situated immediately behind the present 12-15 foot beach dunes. These inner dunes are covered by low bushes. Where intact, they are 30-40 feet high and where deflation has taken place show a layered implement bearing midden horizon some 10 or 15 feet below their former summits. The moving sand has buried the heavily wooded scrub as far as 150 years inland, and exposed an implement bearing AREA approximately 400 years long by 70 yards wide: roughly six acres in extent (North 1964:634).

The observations make specific notes on a particular type of stone tools, which is now relatively widely known along the Coffs Coast (North 1964:639):

> This interesting and extremely well-made implement, of which I have not seen a previous description, has been for obvious reasons called the “Moonee Adze”.
>
> It consists of a float oval pebble or slice fully flaked on one side only, with secondary flaking along the margins. Twenty-five of these were found intact. The remaining 30 showed varying degrees of reworking by step flaking at one end, up to three fifths of the original oval being flaked away. Four were worked back at both ends.

North makes the following additional comments on the axe factory (North 1964:642):

> A representative series of the implements listed herein has been lodged in the South Australian Museum, where data is available under number A/54565.
>
> The evidence shows so far that the implements are associated only with the older fixed dunes, thought to be those forms 3,700 years ago or earlier. Implements are in situ in the highest parts of the eroded ridge and can also be seen buried in the upper slopes of the old dined in association with blackened sand and shell fragments.

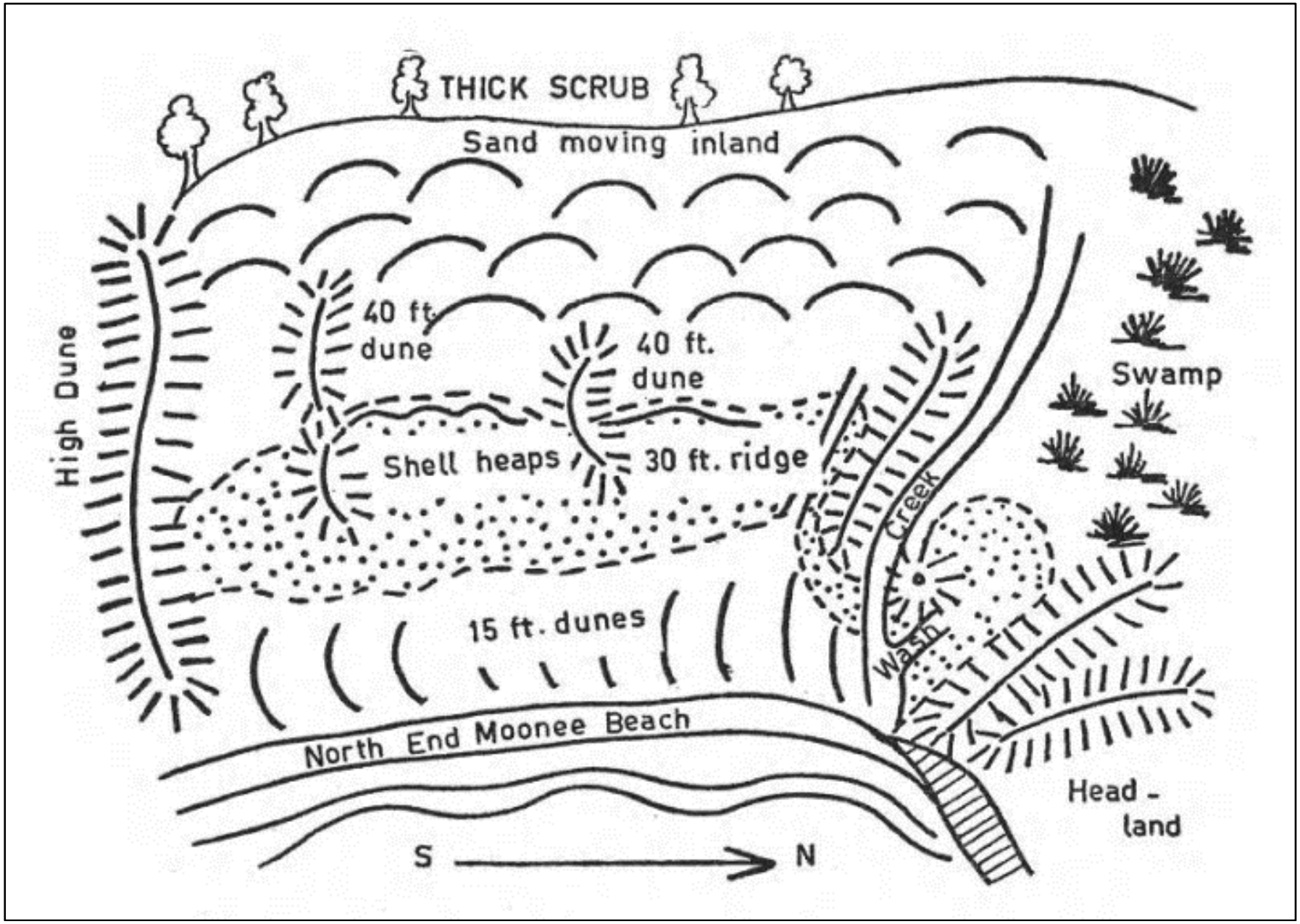

Figure 19: Plan of the Moonee Axe Factory (source North 1964)

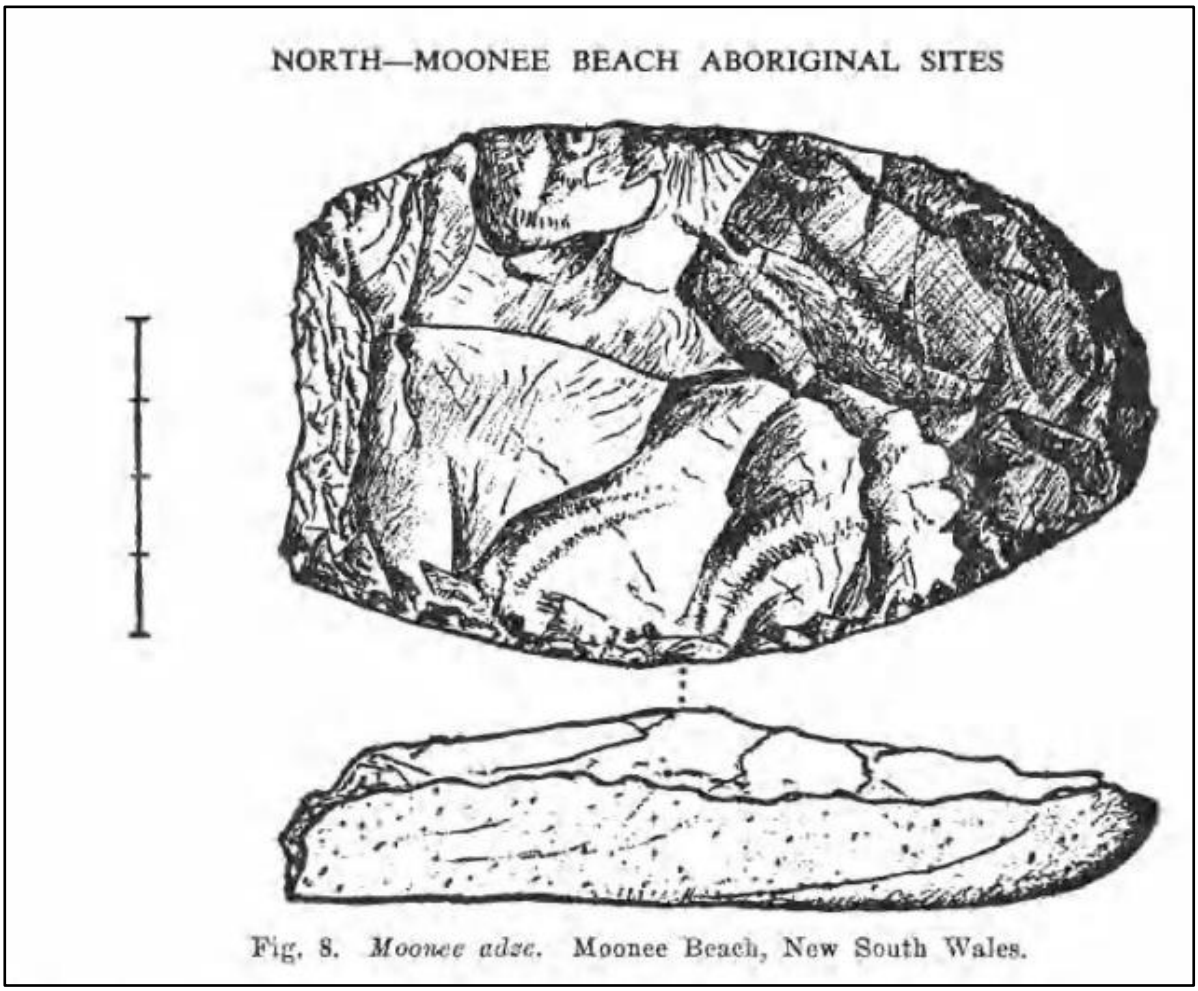

Figure 20: Moonee Adze illustration (source North 1964:639)

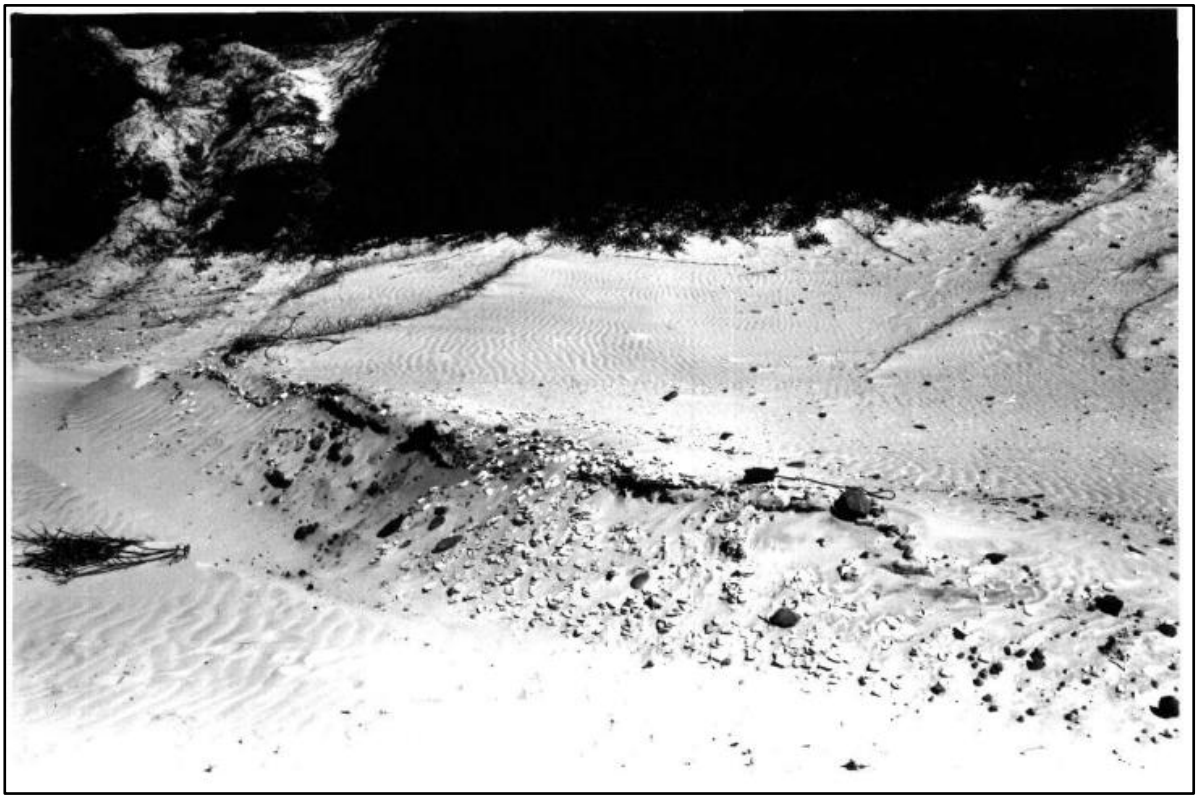

Figure 21: Photos of a lens of midden eroding out of the dune (source North 1964)

4.4 Regional archaeological studies

4.4.1 McBryde (1974) and Coleman (1982)

McBryde (1974) proposes that groups ranged between the seacoast and foothills of the coastal ranges on a seasonal basis (i.e. McBryde 1974) utilising the immediate coast and main rivers as the focus of occupation. Early sources support this view to some extent as there are records describing the movement of inland groups of the Clarence River to the coast during winter. Coleman (1982) proposes an alternate model where it is suggested that movement of coastal people was not frequent, and that semi sedentary groups moved north and south within the coastal plain rather than to the upper rivers (Coleman 1982). The model is based on reports of numbers of small villages composed of dome shaped weatherproof huts between the mid- NSW coast and Moreton Bay. Flinders described a small group of huts in the vicinity of Yamba in 1799, and Perry described two villages on the banks of the lower Clarence in 1839 (McBryde 1974:9). Similar sightings were reported by Rous on the Richmond (McBryde 1974), Oxley on the Tweed (Piper 1976) and in Moreton Bay (Hall 1982). The 'solid' construction methods described for these huts seem to suggest the occupation of a base camp for periods of months rather than a constant wide-ranging pattern of low-level land use.

4.4.2 Byrne (1987)

Denis Byrne was engaged by the Forestry Commission of NSW to undertake a review of ethnohistorical and archaeological records relating to the use of rainforests in NSW (Byrne 1987). This was the first major synthesis of records relating to rainforests in northern NSW and is directly relevant to the Study as Casino is located around the western edge of the Big Scrub rainforests which dominate the volcanic plateaus around Lismore, Wollongbar and Mullumbimby.

> "The lowland rainforests were situated within what might be termed the core areas of the coastal lowland tribes…the foci of settlement of these tribes were the immediate coastal strip, the estuaries and valleys of the major rivers. The key attribute of the lowland rainforests was their proximity to the main areas of settlement, and, hence, the accessibility or casually, could be easily scheduled within the mainstream economy.
>
> Most of these rainforests could be exploited from bases in other and neighbouring environments. It is likely that the major campsites were located close to the productive margins of these rainforests. Campsites may also have been situated in clearings within rainforests where they acted as bases for the exploitation of core areas of extensive forests and as staging camps for travel through such forests (Byrne 1987:54-55).

The report makes the following conclusions from the case-study at Nullum State Forest to the north-east of Casino (Byrne 1987:71)

> The evidence of the sites in Nullum S.F. indicate that Aborigines (sic.) were operating in areas where rainforest occupies many of the gullies. The open sites are along the hardwood ridges. It is suggested that the gully rainforests were exploited from these sites but it is stressed that the

rainforests were only part of a mosaic of forest types surrounding the sites all of which offered resources to the Aborigines (sic). These sites cannot, therefore, be regarded as 'rainforest sites'.

However, the Byrne report (197:98) makes an important note on the relationship between rainforests and sacred/ significant sites from which had implications for the low-lying river country and woody hills of the river valleys:

> By way of a conclusion, it may be said that the rainforests of New South Wales, particularly those on the Far North Coast, have a relatively high incidence of sacred/significant sites, which consisted of natural landscape features. In the far North Coast are there is a tendency for these sites to be concentrated in rainforest environments: of the 34 sites of this type in a rough rectangle between Tweed Head, Ballina, Tabulam, and Woodenbong 15 are in rainforest contexts and a further three are on land likely to have formerly have been rainforest. It might also be stressed that three of the sacred/ significant mountain sites are held by Aborigines (sic) in the areas where they are known to be most important, if not the most important, sacred sites known to them…

4.4.3 Godwin (1999)

Godwin (1999a and 1999b) argues that the 'models' proposed by McBryde and Coleman are not supported by the archaeological record and that local conditions dictated exploitation strategies on the north coast of NSW. In this model:

> Amongst coastal groups proper there was no movement from the coast back into the sub-coastal river valleys and foothills. These people were semi-sedentary and lived close to the coast the whole year round. Movement associated with the subsistence round involved travelling only short distances away from the littoral. There were instances of long distance travel associated with ceremonial gatherings. However, such movement was generally parallel to the coast (i.e. north-south along the coast rather than east-west from coast to the hinterland).
>
> Sub-coastal groups journeyed to the coast, but only in small numbers: there was not the large-scale migration of people posited by McBryde. The data suggests that this took place throughout the year and could have been for both ritual and secular reasons. Groups also journeyed through the "Falls" country throughout the year. There are also reports of movement in a north-south direction along the sub-coastal strip from river valley to river valley, and from the sub-coastal zone to the tablelands which appears to have been associated with ceremonial gatherings. These ranged from clan-sized gatherings through to inter-tribal meetings (Godwin 1990:123).

4.4.4 Hall and Lomax (1998)

Hall and Lomax (1998) undertook a major review of archaeological assessments undertaken across NSW as part of the NSW Forestry Corporation assessments for logging operations. The Study reviewed and summarised data which included hundreds of recorded Aboriginal sites in forest environments which had generally not been subject to significant ground disturbance when compared to urban and agricultural landscapes. The study makes the following comment on the relationship between site size and diversity and the inferred function of archaeological sites across forest environments:

> Archaeological evidence in the form of stone artefact scatters is present in all forest types and in many if not most areas occurs more or less continuously across the landscape. Data from recent regional scale archaeological studies that employed similar survey methodologies across a range of diverse forest types including coastal, sub-tropical and subalpine forested areas are presented in Table 1. The data show that on average approximately one to three artefact occurrences can be expected to occur for each linear kilometre of forest environment regardless of type. The term artefact occurrence refers to one or more stone artefacts at least 100 m from the next artefact.
>
> A range of stone artefact site types has been located during forest surveys. In the broadest possible sense these sites can be characterised as ranging from small simple sites 2451, Australia. to larger and more diverse sites…with increasing site diversity roughly corresponding to the stone artefact occurrence…The larger and more diverse sites generally represent occupation sites. These are sites that would have had a generalised function and where a range of activities were carried out. Large but less diverse sites are more likely to represent locations where specific activities were undertaken such as quarry or primary reduction sites where stone raw materials were principally worked. Smaller sites of low diversity represent the debris from activities away from main occupation sites…(Hall and Lomax 1998:35-36).

The study makes additional comments on the relationship between sites and landforms, particularly proximity to water and ridges crests/ spurs:

> Analysis indicated that there was a high positive correlation between site location and ridgelines in some land systems but not in others. Further analysis indicated that one of the major factors determining the strength of this correlation would appear to be fairly subtle differences in the level of constraint imposed on human movement by terrain. For example, in hilly areas of low relief there was not the same constraint to use ridge tops for pathways as there was in areas of high relief.
>
> …there is a much higher positive correlation between site location and ridges for the ranges land system than for the lowland hills land system. Other factors which are likely to have influenced this positive correlation is the relative abundance of stone artefact raw materials in high relief means relative to areas of low relief where artefact raw materials are less common (Hall and Lomax 1998:37-38).

4.4.5 Stubbs (1999)

Based on an extensive literature review form the Richmond and Tweed Valleys, Stubbs (1999) proposed that within the former Big Scrub and riverine context of the Lismore area the natural clearings known to Europeans as “Grasses”, that is grass or sedge lands otherwise surrounded by rainforest, were permanent Aboriginal campsites.

> A remark by Flick (***c***.1935) that ‘a piece of clear, naturally grassed land… encircled by overhanging trees’ would be chosen as the site of great ‘marriage feasts’ is one of very few known references.

Stitt (1953) also noted that the 'grasses' tended to be used as Aboriginal ceremonial grounds. The fact that so many of these features had Aboriginal names, as recorded by the early surveyors, also suggests that they were of importance to the Aboriginal people (see, for example, Mitchell 1978, pp. 129–35). Here it is notable that the hilltop area near Lismore which Ramsay (1865) referred to as First Grass (Table 1) has an Aboriginal name—Goonellabah—which is said to mean 'a grassy hill surrounded by forest' (Bray 1929, p. 251).

If these models are applied to MBNR it is reasonable to expect that the littoral rainforest would not have been used for larger permanent and semipermanent campsites, which would have been located on the estuary and exposed coastal hills where rainforests did not grow. The distribution of rainforests along the hinterland and sub-coastal strip increases the likelihood that MBNR contained large village like campsites.

4.4.6 Predictive model for the Study Area

The following landscape features are influential in the distribution of Aboriginal archaeological sites on the NSW North Coast:

- elevated ridges and ridge crests where the forest is more open and soils are free draining
- elevated landforms which provide access to a range of physical/ environmental resources
- lands which have not been exposed to repeated and/or significant disturbance
- areas in the vicinity of sacred/ significant cultural sites, and
- areas around the periphery of the lowland rainforests.

As a general pattern of use spurs and ridgelines above the water line would have formed the main areas of occupation. Secondary creeks and adjacent ranges would have been utilized as traditional pathways, however the archaeological signature of this type of use typically comprises isolated artefacts and low-density stone artefact scatters. The archaeological signature of the river/floodplain is typically associated with hunting and gathering and includes low density artefact scatters, isolated artefacts and scarred trees. Archaeological sites associated with consumption of foods, such as hearths and middens, rarely survive in soils subject to flooding and intensive agriculture.

The following specific comments are provided to inform the ACHA:

- the Study Area is not located on the banks of the Moonee Creek and is not on the coastal strip or an attached lagoon or swampland which would have increased local resource diversity
- the Study Area is located on the crest of large and expansive ridge crest that terminates on the Moonee Creek floodplain east of the Study Area- the termination of the ridge would provide which direct access to a significant wetland and the mosaic of resources around Moonee Creek, Moonee Beach and Look At Me Know headland but has subsequently become disconnected by the Pacific Highway
- the Moonee Beach Axe Factory and headland is a regionally significant ceremonial and archaeological site is located to the east of the Study Area- the Study Area may have been used for

hunting and collection associated with this significant site but would not likely have been used as part of activities directly associated with the headland, and

- the Study Area is located in an area which has been subject to significant historic ground disturbance which has removed most of the topsoils and all original forests, mostly as a result of erosion.

As such it is considered that there is a low-moderate potential that the Study Area will contain Aboriginal archaeological sites.

5 FIELD SURVEY: ABORIGINAL CULTURAL HERITAGE

5.1 Consultation with the Aboriginal community

The following summarises the consultation with Coffs Harbour and District LALC and Garby Elders group to support the ACHA:

- 13 November 2023- a email notification was issued via email to Aunty Deb Dootson (Garby Elders), Darren Skinner, and Uncle Ian Brown (Coffs Harbour and District LALC), and
- 13 November 2023- a email was received from Aunty Deb Dootson confirming that Matt Dootson would be available for the site inspection.

The site inspection was undertaken on 21 November 2023 with Senior Aboriginal sites officer Mr Ian Brown (Coffs Harbour and District LALC) and Matt Dootson (Garby Elders).

5.2 Pedestrian survey

An assessment of the constraints to site detection is made to assist in formulating a view as to the effectiveness of the field inspection to find Aboriginal sites and cultural materials and is a requirement of the CoPAI (DEECW 2010A). For the Study Area this included (**Figure 22**- **Figure 27**):

- Clearing of all native forests-
- Construction of the primary dwelling at least prior to the 1970s, and
- Maintenance and horticulture including orchards and small market garden plots

Table 2 presents information on the extent to which survey data provides sufficient evidence for an evaluation of the extent and nature of disturbance across the area and the potential of identifying archaeological materials should they occur. Based on the calculation of survey coverage it is reasonable to proceed on the basis that the archaeological survey was constrained by grass cover and gravel from access tracks and laydown areas.

Table 2: Calculation of survey coverage/ effectiveness by Survey Unit

Survey Unit (SU)	Landform	Survey Area (m^2)	Visibility	Exposure	Effective coverage area (m^2)	Effective coverage %	No. of sites
1 (Eastern Lot)	Ridge	2400	40	20	192	8	0
2 (Western Lot)	Ridge	1600	40	20	128	8	0

Figure 22: Survey Unit 1 (east) showing open paddock (looking north-west to the building envelope)

Figure 23: Survey Unit 1 (east) showing open paddock (looking south to chicken shed and gardens)

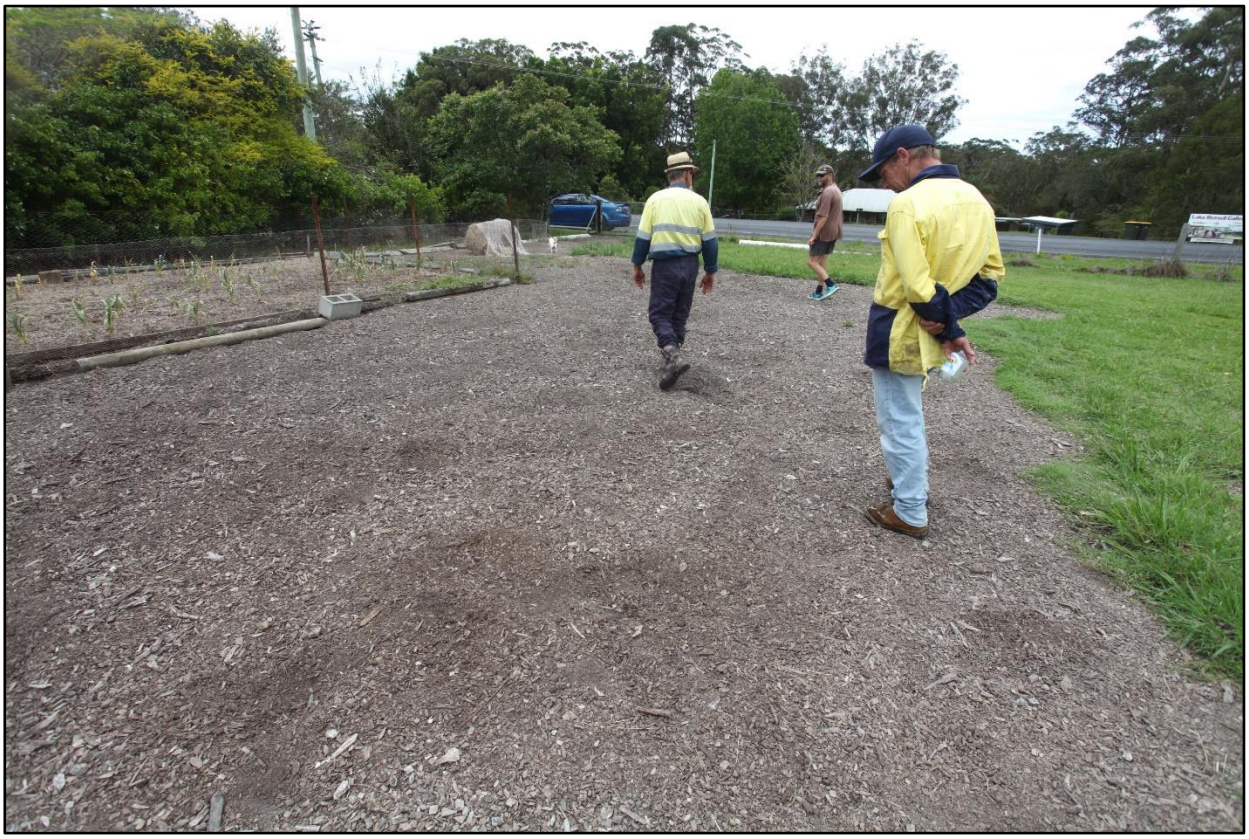

Figure 24: Survey Unit 1 (east) showing open paddock (looking towards Smiths Road)

Figure 25: Survey Unit 2 (west) showing open paddock (east to the orchard/ upper slope)

Figure 26: Survey Unit 2 (west) showing open paddock (looking west to the building envelope)

Figure 27: Survey Unit 2 (west) showing the edge of the ridge crest and curent home site/ yards

5.3 Survey Results

For the purposes of the ACHA the following describe the outcomes of the archaeological investigations of to inform the cultural heritage impact assessment:

- the archaeological survey comprised a pedestrian transect across of sample of the Study Area which would reasonable to subject to ground disturbance from future residential development
- no stone artefacts were identified on the ground surface during the site inspection
- the Study Area was identified to be moderately disturbed, mostly from the ongoing horticulture and grass maintenance/ mowing, and
- the ground surface visibility was generally good due to the improved grass/ lawns- however there were very few intact soil profiles which were eroding and exposing the subsoil/ 'B' horizon.

The primary observation of the site inspection and consultation was that the sub-coastal tall open/ hardwood forests where marginal hunting grounds when compared to the estuary, beachfront and headlands which would have offered a greater diversity of food resources. The main campsites are expected to be fringing the estuary on elevated terminating spurs and ridges near Moonee and Emerald Beach. It was agreed that isolated artefacts could occur throughout the ridges and spurs and that the known stone artefact sites east of the Study Area were typically low-density scatters which spread out over quite large areas but were secondary to the main axe factory and midden site at Look at Me Now Headland.

5.4 Requirement for archaeological test excavation

Section 3.1 of the CoPAI (DEECW 2010B:24) makes the following comment on the requirement archaeological test-excavations as part of the assessment:

> Archaeological test excavation will be necessary when (regardless of whether or not there are objects present on the ground surface) it can be demonstrated through Requirements 1, 2, 3, 4, and 5 that sub-surface Aboriginal objects with potential conservation value have a high probability of being present in an area, and the area cannot be substantially avoided by the proposed activity.

The following comments are provided to address the requirements for archaeological excavation for future ground disturbance that would reasonably arise from the future subdivision of the Study Area:

5.4.1 Probability that artefacts will occur within the Study Area

The results of the archaeological survey are within the range of 'normal' for archaeological investigations on the NSW north coast where the ability to identify sites closely correlates with landforms, the amount of grass cover and the extent of historic disturbance to topsoils. Archaeological test excavation in the Coffs Harbour/ Northern Beaches area have demonstrated that topsoils do contain Aboriginal artefacts which are consistent with the manufacture and maintenance of hunting tools. However, the nature of the Study Area, being a broad ridge in relatively open country, the distance from the estuary and the history of ground disturbance means that there is not a "high probability" that the Study Area will contain stone artefacts. Stone artefacts, if they occurred, would typically be classified as 'isolated artefacts' and result from the discard of tools and waste material during hunting activities in quite a sporadic manner across the sub-coastal forests. The S2W24 artefact scatter and the Pacific Highway Site 3 artefact scatter are typical of the archaeological landscape around coastal estuaries and it is expected that the likelihood of identifying additional artefacts would decrease with distance from the alluvial plain.

5.4.2 Potential conservation value

In northern NSW, sites which are considered to have 'conservation value' include, for example, bora/ stone arrangement sites, modified trees, rock art, historic sites associated with former Aboriginal reserves and missions and Aboriginal burials. Stone artefact scatters are relatively common and would not be considered to be of high conservation value- both the Pacific Highway Site 3 and the S2W24 artefact scatter were subject to approvals for harm and did not meet the threshold for conservation in-situ based on standard assessment criteria. There are established precedents on the Coffs Coast/ Northern Beaches whereby low-density artefact scatters and isolated artefacts have been relocated under an AHIP- this management response has received support from the Coffs Harbour and District LALC and Garby Elders during the site inspection.

5.4.3 Substantial avoidance

The third consideration is that the proposed amendment to the LEP is to reduce the Lot size to 4000m^2 to provide for a building envelope and onsite waste management systems. Having consideration for the landform and potential for isolated artefacts the proposed additional Lots provide sufficient space to manage any future unexpected finds/ isolated artefacts that might occur within the Study Area. This includes:

- Relocation of the building envelopes and onsite waste management systems down slope and off the ridge crest
- Reduction of the size of the building envelope from 400m^2 to 200m^2 so that the ridge crest is substantially retained as open space, or
- Adoption of an alternative footing design whereby the dwellings are constructed using piers instead of slab footings to reduce the requirement for mechanical disturbance of the topsoil.

5.5 Cultural Values of the Study Area

The following summarises the observations and comments relating to the cultural landscape values of the Study Area:

- The primary cultural site within local area is Look at Me Now Headland and the Moonee Axe Factory- this was noted as one of the most significant cultural sites for Gumbayngirr people and is the "Dreamtime landing place" of the Gumbayngirr ancestors
- it was agreed that the Study Area would be marginal hunting country- it would have been used for marsupials and larger animals, but the best hunting grounds were down around the estuary/ creek flats where there was a range of better resources including birds, fish, shellfish and turtles, and
- the land had been significantly disturbed as it was close to the original dwellings- it was noted that the removal of the original forests had made a significant impact on the cultural landscape and that Aboriginal people were moved off the hunting grounds when farmers settled.

Uncle Ian and Matt did not raise any specific objections to the proposal for rural residential subdivision within the Study Area and did not raise any broader concerns about rural residential development generally in the Coffs Harbour Coast/ Northern Beaches.

5.6 Assessment of Harm

5.6.1 Likely impacts

The following activities would reasonably result from the future residential subdivision of the Study Area (see Figure 2):

- Excavation of pads for building envelopes which would require cut and fill earthworks
- Excavation of the driveway from Smiths Road including drains and water diversions as required
- Installation of mains power
- Installation of onsite waste management system, including tanks and evaporative trenches, and
- Construction of ancillary structures including sheds, pools and gardens.

5.6.2 Impact Avoidance and Assessment

The following statements are provided to inform the Impact Assessment and outline measures to avoid or mitigate the consequences of harm.

- the Study Area is on a contiguous landform with a known low density artefact scatter (Pacific Highway Site 3) and it is possible that isolated artefacts associated with previously recorded sites recorded during the Pacific Highway upgrade extend across the topsoil of the ridge crest
- there are no old growth trees and none of the mature trees have evidence of anthropogenic modification, and
- as the proposal involves rural residential development any future development is not constrained and there will be sufficient space within each Lot to manage Aboriginal archaeological sites through design and engineering modifications.

The assessment has concluded that the Study Area does not meet the threshold for archaeological excavation or an AHIP and the representatives of the Aboriginal community have provided in principle support for the proposal on the condition that an Unexpected Find Procedure is in place with spotters employed to assist with the identification and management of any isolated finds, if present.

6 MANAGEMENT RECOMMENDATIONS

The ACHA has concluded that the future development of the Study Area as a rural residential subdivision will not likely result in harm to Aboriginal objects. As such any future works can proceed without an AHIP in accordance with the Due Diligence defense provisions (NP&W Act Section 87(2)). Mitigation and management recommendations primarily relate to unexpected finds and Aboriginal skeletal remains.

6.1.1 Recommendation 1: Aboriginal Objects Find Procedure

It is recommended that if it is suspected that Aboriginal objects have been uncovered as a result of ground disturbance within the Study Area:

a) work in the surrounding area is to stop immediately and records are made of the finds via project reporting procedures
b) a temporary fence is to be erected around the site and appropriate controls put in place to ensure that no additional ground disturbance happens in the vicinity of the find
c) an appropriately qualified archaeological consultant and a representative of the Coffs Harbour and District Local Aboriginal Land Council/ Garby Elders Group are to be engaged to identify the material and provide an initial assessment of the significance of the object and the likely nature and extent of any associated archaeological sites
d) if the material is found to be of Aboriginal origin, the find must be reported on the AHIMS database
e) In the event that the Aboriginal objects are considered to have been damaged or disturbed, the incident must be reported through the NSW Enviro Hotline, and
f) works may only recommence after advice from Heritage NSW on the requirement for an AHIP or where design, engineering or construction measures are identified to mitigate further damage to the Aboriginal site (i.e. site avoidance).

6.1.2 Recommendation 2: Aboriginal Human Remains

It is unlikely that human remains will be located at any stage during ground works within the Project Area. However, should this event arise, all works must halt in the immediate area to prevent any further impacts to the remains. The burial site should be cordoned off and the remains themselves should be left untouched. The nearest police local area command (Coffs Harbour), Coffs Harbour and District LALC/Garby Elders Group and Heritage NSW (Parramatta) are all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the site for criminal activities, the Aboriginal community and the Heritage NSW should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all parties, provided it is in accordance with all parties' statutory obligations.

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< https://portal.spatial.nsw.gov.au/download/historic/2256/2256_03_162.jp2.jpeg>
1988 aerial photo
< https://portal.spatial.nsw.gov.au/download/historic/3678/3678_05_125.jp2.jpeg>

Office of Environment and Heritage

2011 *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*

Stubbs, B.J.

1999 The 'Grasses' of the Big Scrub District, North-eastern New South Wales: their recent history, spatial distribution and origins. *Australian Geographer*, Vol. 32, No. 3. :295-319

Thomas, L.

2013. *Aboriginal History of the Coffs Harbour Region. Special Collections:* Coffs Harbour City Library.

APPENDIX A: AHIMS EXTENSIVE SEARCH RESULTS

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Smiths Road Emerald Beach

Client Service ID : 830158

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
22-1-0419	S2W-19 Re-deposit	GDA	56	516515	6662116	Open site	Valid	Artefact : -		103091
	Contact	Recorders	ADISE Pty Ltd					Permits		
22-1-0450	S2W-13 Redeposit	GDA	56	517023	6662720	Open site	Valid	Artefact : -		103091
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0405	S2W-13	GDA	56	517250	6662700	Open site	Partially Destroyed	Artefact : 1, Burial : 1		103091
	Contact	Recorders	ADISE Pty Ltd					Permits	3778	
22-1-0078	MS 4;	AGD	56	514570	6661680	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0449	S2W-12 Redeposit	GDA	56	517263	6662694	Open site	Valid	Artefact : -		103091
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0420	S2W-24	GDA	56	516360	6661890	Open site	Valid	Artefact : -		103091
	Contact	Recorders	ADISE Pty Ltd					Permits		
22-1-0220	Emerald Beach 1	AGD	56	517277	6662464	Open site	Destroyed	Artefact : 5		100223
	Contact Searle	Recorders	Ian Brown					Permits	2587	
22-1-0379	S2W-12:PAD 8	GDA	56	517275	6662670	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		103091
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0456	Pacific Highway Site 3	GDA	56	515896	6661642	Open site	Partially Destroyed	Artefact : -		103429
	Contact	Recorders	Ms.nat redman					Permits	3778	
22-1-0138	CHSS-11	AGD	56	516554	6662063	Open site	Partially Destroyed	Art (Pigment or Engraved) : 1, Artefact : 16		103091
	Contact	Recorders	ADISE Pty Ltd,Ms.Jacqueline Collins					Permits	3778	
22-1-0576	Coffs Harbour Gun Club South	GDA	56	516967	6661697	Open site	Valid	Aboriginal Ceremony and Dreaming : -		
	Contact	Recorders	Coffs Harbour City Council - cnr Coff and Castle Streets,Mr.Marten Bouma					Permits		
22-1-0372	S2W-13 PAD 8	GDA	56	517000	6662750	Open site	Valid	Burial : 1		103091
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0383	S2W-19	GDA	56	516465	6662125	Open site	Partially Destroyed	Artefact : 1		103091
	Contact	Recorders	Ms.Jacqueline Collins					Permits	3778	
22-1-0438	S2W-4 Redeposit	GDA	56	516591	6662091	Open site	Valid	Artefact : -		103091
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0406	S2W 13	GDA	56	517250	6662700	Open site	Valid	Artefact : 1, Burial : 1		103091
	Contact	Recorders	ADISE Pty Ltd					Permits		

Report generated by AHIMS Web Service on 18/10/2023 for Tim Hill for the following area at Lat, Long From : -30.1828, 153.152 - Lat, Long To : -30.1642, 153.1829. Number of Aboriginal sites and Aboriginal objects found is 16

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Smiths Road Emerald Beach

Client Service ID : 830158

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
22-1-0455	Pacific Highway Site 2	GDA	56	515360	6661207	Open site	Partially Destroyed	Artefact : -		103429
	Contact	**Recorders**	Ms.nat redman					**Permits**	3778	

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 18/10/2023 for Tim Hill for the following area at Lat, Long From : -30.1828, 153.152 - Lat, Long To : -30.1642, 153.1829. Number of Aboriginal sites and Aboriginal objects found is 16

APPENDIX B: CONSULTATION WITH THE ABORIGINAL COMMUNITY

13 November 2023- Garby Elders confirmation of attendance from

From: Deborah Dootson Reply <garbyelders@outlook.com>

Sent: Monday, November 13, 2023 2:01 PM

To: timhill.heritage@gmail.com; 'Darren Skinner' <programs@coffsharbourlalc.com.au>

Cc: kingbrown024@gmail.com

Subject: RE: ACHA site inspection- 19 Smiths Road Emerald Beach

Afternoon Tim

Thank you for your email and information, if all good with Darren and Brownie Garby (Matt D) will be there.

Regards

Aunty Deb

Garby Elders

13 November – Notification of the ACHA site inspection

From: timhill.heritage@gmail.com <timhill.heritage@gmail.com>

Sent: Monday, November 13, 2023 1:50 PM

To: 'Deborah Dootson Reply' <garbyelders@outlook.com>; 'Darren Skinner'

<programs@coffsharbourlalc.com.au>

Cc: kingbrown024@gmail.com

Subject: ACHA site inspection- 19 Smiths Road Emerald Beach

Giinagaay Aunty Deb & Darren

I have a client who is looking to subdivision two additional rural residential Lots from his property at Smiths Road, Emerald Beach. It is the old farmhouse- there are two isolated artefacts recorded nearby from the Pacific Highway upgrade.

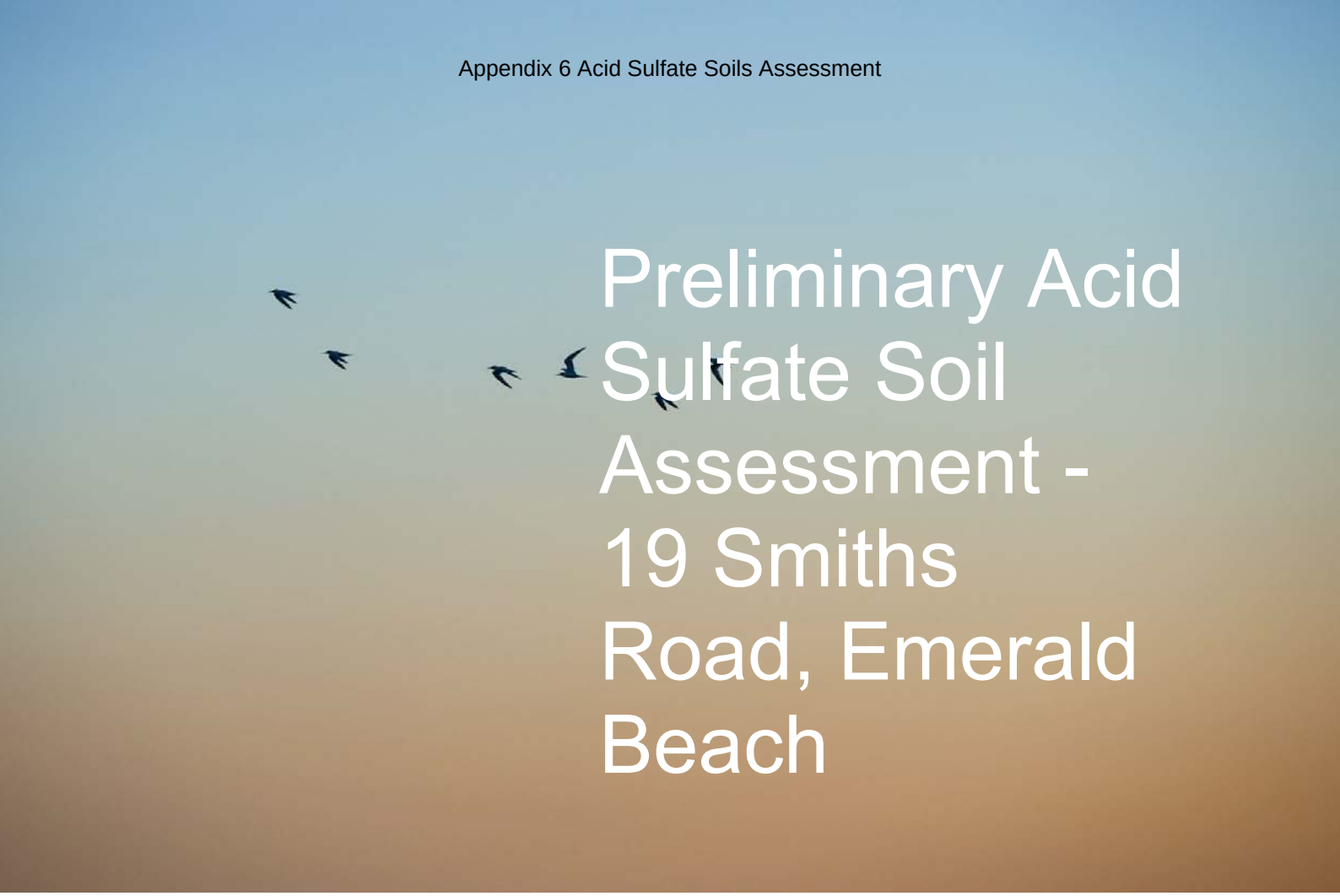
We have a morning booked in next Tuesday (21st) at south Woolgoolga- I was hoping we could drop into Smiths Road after we finish up? I think it will take only 30-45 minutes.

Ta

Tim Hill

Heritage Management & Planning

0473033615



Preliminary Acid Sulfate Soil Assessment - 19 Smiths Road, Emerald Beach

24 March 2023

For: Jeffery Allen

Authored by: Strider Duerinckx

Ref	Ver	Date	Distribution
2223-101-04	A	24/3/23	Client

Table of Contents

Figures

Appendices

1 Introduction

Earth Water Consulting Pty Limited (EWC) was engaged by Jeffery Allen (the "Client") to undertake a preliminary Acid Sulfate Soil Assessment (PASS) for 19 Smiths Road, Emerald Beach (the "Site") (Figure 1).

2 Proposed Development

Based on plans of the proposed subdivision layout (Ref: 15279 DA Newman Karl Weir and Partners Pty Ltd. Revised Plan of Proposed Subdivision. Dated: June 2022), it is understood that the Site is proposed to be subdivided from one (1) into three (3) lots.

Proposed Lot 1 will include the existing dwelling and buildings and be 5,019m^2, proposed Lot 2 will have a new building entitlement and be 4,047m^2 and proposed Lot 3 will have a new building entitlement and be 5,000m^2 (Figure 2).

Soil disturbance for the proposed residential redevelopment is expected to be confined generally to the upper 1m of the soil profile.

3 Scope of Work

This report presents the results of PASS investigations, undertaken in reference to the Acid Sulfate Soil Manual (ASSMAC, 1998), and BSC LEP Part 7 Acid Sulfate Soils. The scope of work included:

- A desktop review of surface, geology, hydrogeology, geomorphic and ASS risk conditions;
- A site inspection;
- Drilling of three boreholes to 1.2m depth;
- Collection of 4-6 soil samples of the various soil profiles present and field screening for potential and actual ASS;
- Preparation of a Preliminary ASS report.

4 Site Description

The Site is located on the western side of Smiths Road and is set on a low ridgeline with artificial ponds to the east and west of the property (Figure 1). The Site is zoned R5 Large Lot Residential and is 1.406ha of mostly cleared paddocks and small agricultural plantings.

The Site sits on the western side of a low ridgeline that runs to the south towards the Pacific Highway. The ground surface slopes gently to the west towards two neighbouring Lots, which separate the property from the western artificial pond.

The lowest groundsurface height is 14.5m in the northwestern corner of the Site, with the groundsurface rising to 19.5m at the existing dwelling on Proposed Lot 1.

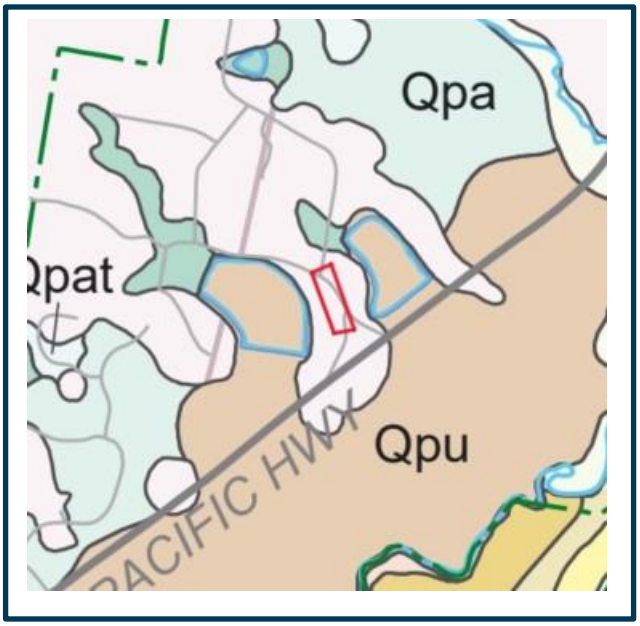
Photograph 1. Looking south west from proposed Lot 2 across the boundary of proposed Lot 1.

Photograph 2. Looking east from the western portion of Proposed Lot 1 towards the sheds.

5 Geology and Hydrogeology

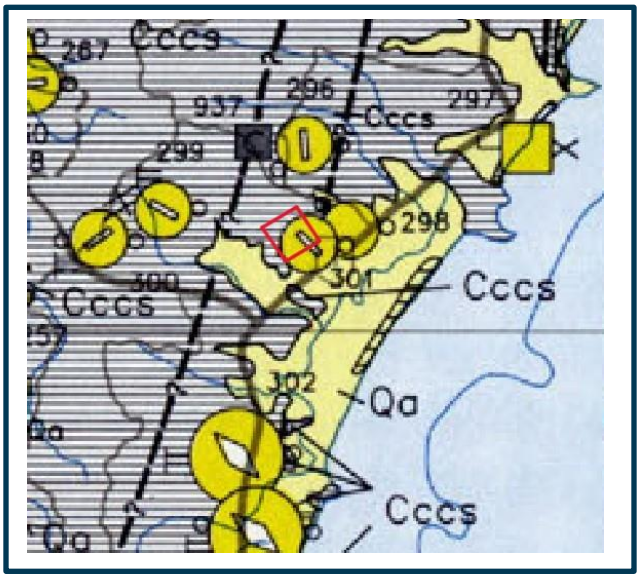
5.1 Geology

We reviewed the Coffs Harbour 1:100 000 and 1:25 000, Coastal Quaternary Geology Map Series which indicate the Site is underlain by Cambro-Ordovician, Devonian and Carboniferous sedimentary and minor volcanic rocks (**Photograph 3**). Alluvial soils are mapped downslope at the man made pond location.



Photograph 3. Mapped Quaternary geological formation and subject property location (Red outline).

We also reviewed the Dorrigo-Coffs Harbour 1:250 000 Metallogenic Series Sheet SH/56 10-11 which showed the Bedrock underlying the Site are typically lithofeldspathic wacke, minor and siliceous siltstone, mudstone, metabasalt, chert and jasper, rare calcareous siltstone and felsic volcanics **(Photograph 5).**



Photograph 4. Mapped geology with subject location within red outline.

5.2 Soils

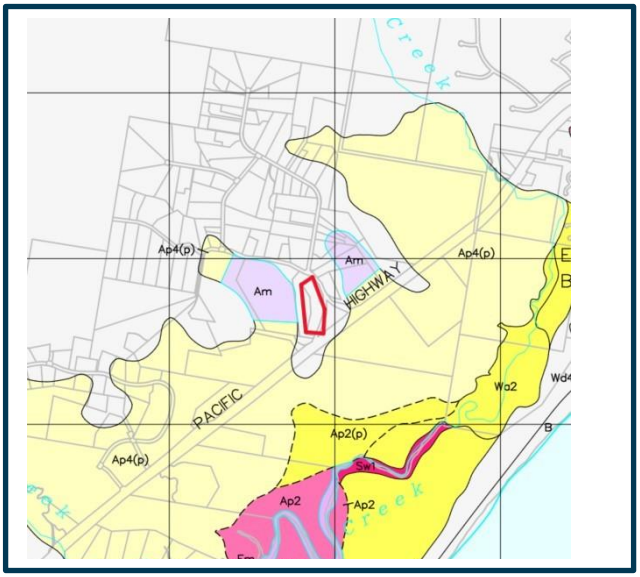
We reviewed the Soil Landscapes of the Coffs Harbour 1:100,000 Sheet (Milford, 1999) and the NSW DPI Soil Maps which indicate that the Site is part of the Ulong Soil Landscape, which is an erosional landscape located on undulating low hills, generally as lower slopes beneath steeper hills and mountains on late Carboniferous metasediments of the Coast Range and Gleniffer-Bonville Hills.

Soils are moderately deep to deep (>100cm), well-drained structured Red and Brown Earths, Red and Yellow Podzolic Soils, deep Krasnozems in moist areas and Yellow Earths and Yellow Podzolic Soils in drier areas.

6 Acid Sulfate Soils

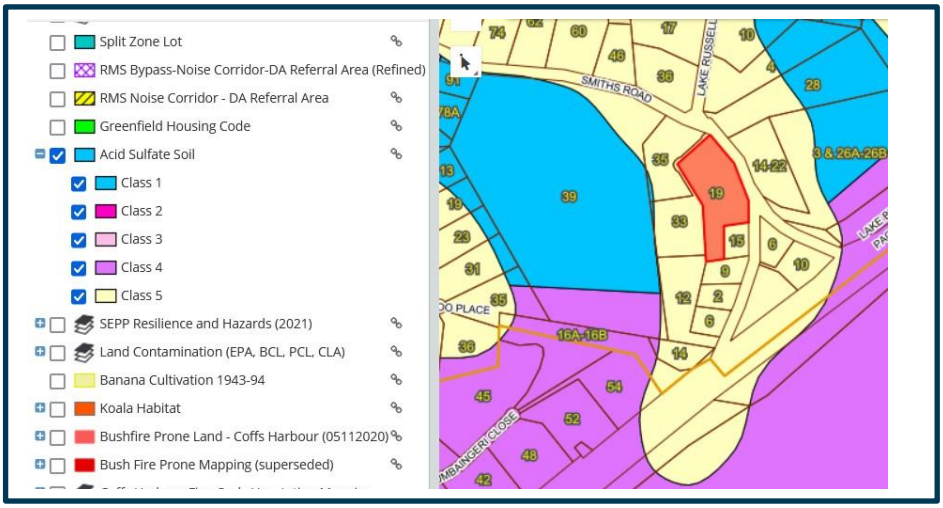
6.1 Mapped Occurrences of ASS

The published Moonee Beach 1:25,000 ASS Risk Map indicates that ASS are not expected or known to occur at the Site (**Photograph 5**).The surrounding area downslope of the Site is mapped as low probability of ASS Ap4(p) on an alluvial plain at >4m AHD within Pleistocene aged sediments.



Photograph 5. Mapped ASS risk and subject property location.

Council's Acid Sulphate Soils mapping (2018) indicates that all sections of the Site is within the “Class 5” buffer area. The buffer is a 500m envelope surrounding mapped low probability mapped ASS soils **(Photograph 6)**.



Photograph 6: CHCC ASS mapping showing Class 5 risk to the subject property.

7 Subsurface Conditions

Site soils were assessed by drilling three (3) boreholes using a powered auger (Figure 2) to 1.2m depth. In general, these soils comprised:

- Approximately 100-150mm of sandy clay loam to clay loam topsoil, dark brown, some yellow orange mottling, with a strong structure and between 5-10% coarse fragments; overlying
- Approximately 600-700mm of light clay, bright brown, with some light grey mottling increasing with depth, strong structure and up to 10% coarse fragments; overlying
- Approximately 1050mm of sandy clay, dull brown to light grey, with light yellow orange to orange mottling increasing with depth, strong structure and up to 5% coarse fragments; overlying
- At least 400-500mm of silty clay to medium clay with silt, light yellow orange to light grey, with some orange mottling, strong structure and up to 5% coarse fragments.

Weathered bedrock was encountered at 1.1m in Borehole 2. The borehole logs are provided in Appendix A.

Natural residual soil profiles were observed in the borehole, and were found to be representative of the Ulong Soil Landscape, mid slope (dry) position.

Jarosite mineralogy was not observed in the natural soils. No rotten egg odours, shell pieces, dark grey to black anaerobic soils or muds were encountered.

No groundwater inflow was observed in the boreholes to the maximum depth drilled.

7.1 Biophysical Indicators

The proposed development is situated above 10mAHD on a moderately sloping, grassed land surface underlain by residual clays.

No swamp type vegetation was observed. No surface water seepage, standing water on swampy ground or salt/acid scalded bare soils were observed.

7.2 ASS Screening Test Results

Two soil samples collected from BH1 at 0.25-0.5m and 0.8-1.0m and two soil samples collected from BH2 at 0.3-0.5m and 0.8-1.0m intervals and selected for field screening tests to determine their likelihood of containing Potential or Actual ASS (Pass/Aass) and whether further laboratory analyses would be necessary. The selected soil samples were placed in a chilled container (~4 C) and shipped to Eurofins for screening analysis.

The screening report is included in Appendix B and summarised in **Table 1**.

Table 1 – Summary of Field Screening

Sample Location	Sample Depth (m)	pH_f (1:5)	pH_{fox} (1:5)	pH Change	Reaction
BH1	0.25-0.5	6.0	4.8	1.2	2
	0.8-1.0	6.1	4.7	1.4	2
BH2	0.3-0.5	5.8	4.9	0.9	2
	0.8-1.0	5.7	4.7	1.0	2

Typically, pHf readings <4.0-4.5 indicate the presence of Aass.

Typically, pHfox readings of <3.0-3.5 can indicate the presence of Potential Acid Sulfate Soils (Pass).

Typically changes of >1 pH unit and preferably >2 pH units can indicate the presence of Pass.

Oxidation reaction rate and intensity can be indicators of Pass.

In summary, the pH_f and pH_{fox} of all analysed samples were found to be below the AASS and PASS indicator threshold limits. Though the pH changes in BH1 were just above 1 and some reactivity was recorded, the pH values suggest non ASS reasons for these parameters (eg. organic acids).

8 Conclusions and Recommendations

Broadscale ASS risk mapping shows a no ASS risk at the Site, with only Class 5 (buffer) reasons for undertaking an ASS investigation.

The site inspections of biophysical indicators, borehole drilling and screening indicates that ASS soils are not located beneath the Site.

As such ASS are not present at the Site that would be impacted by the proposed subdivision, and no further investigations or plans of management are required.

If on the low chance that dark grey to black, odorous or waterlogged alluvial sands or clays are encountered during development, then works should be halted until confirmation of the presence of ASS is undertaken and/or remedial strategies developed.

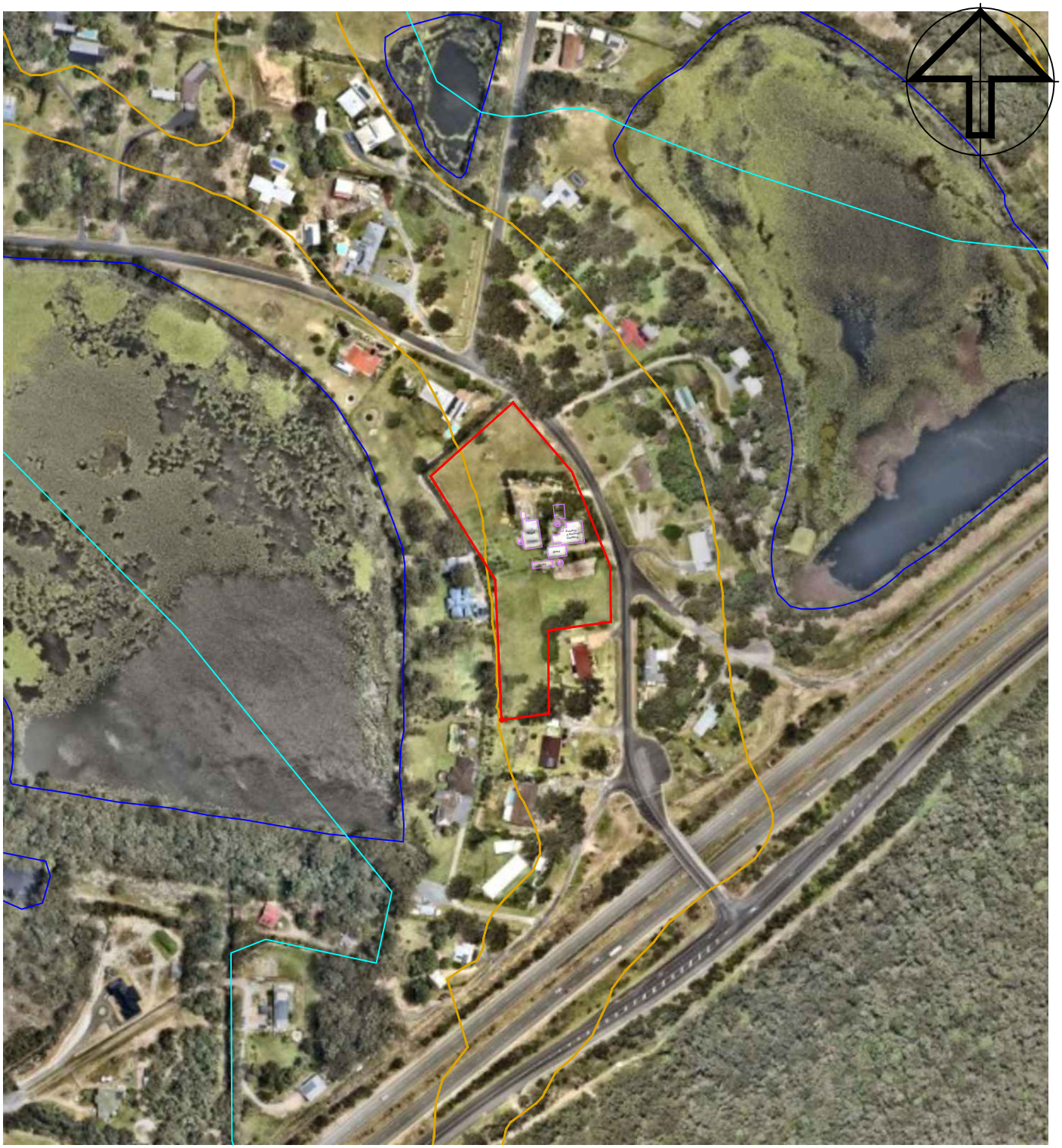
9 References

Coffs Harbour City Council ASS Mapping, 2018.

Soil Landscapes of the Coffs Harbour 1:100,000 Sheet (Milford, 1999)

Stone Y, Ahern C.R., and Blunden B (1998), *Acid Sulfate Soil Manual 1998*. Acid Sulfate Soil Management Advisory Committee (ASSMAC), Wollongbar, NSW, Australia.

FIGURES



0 80 120 160

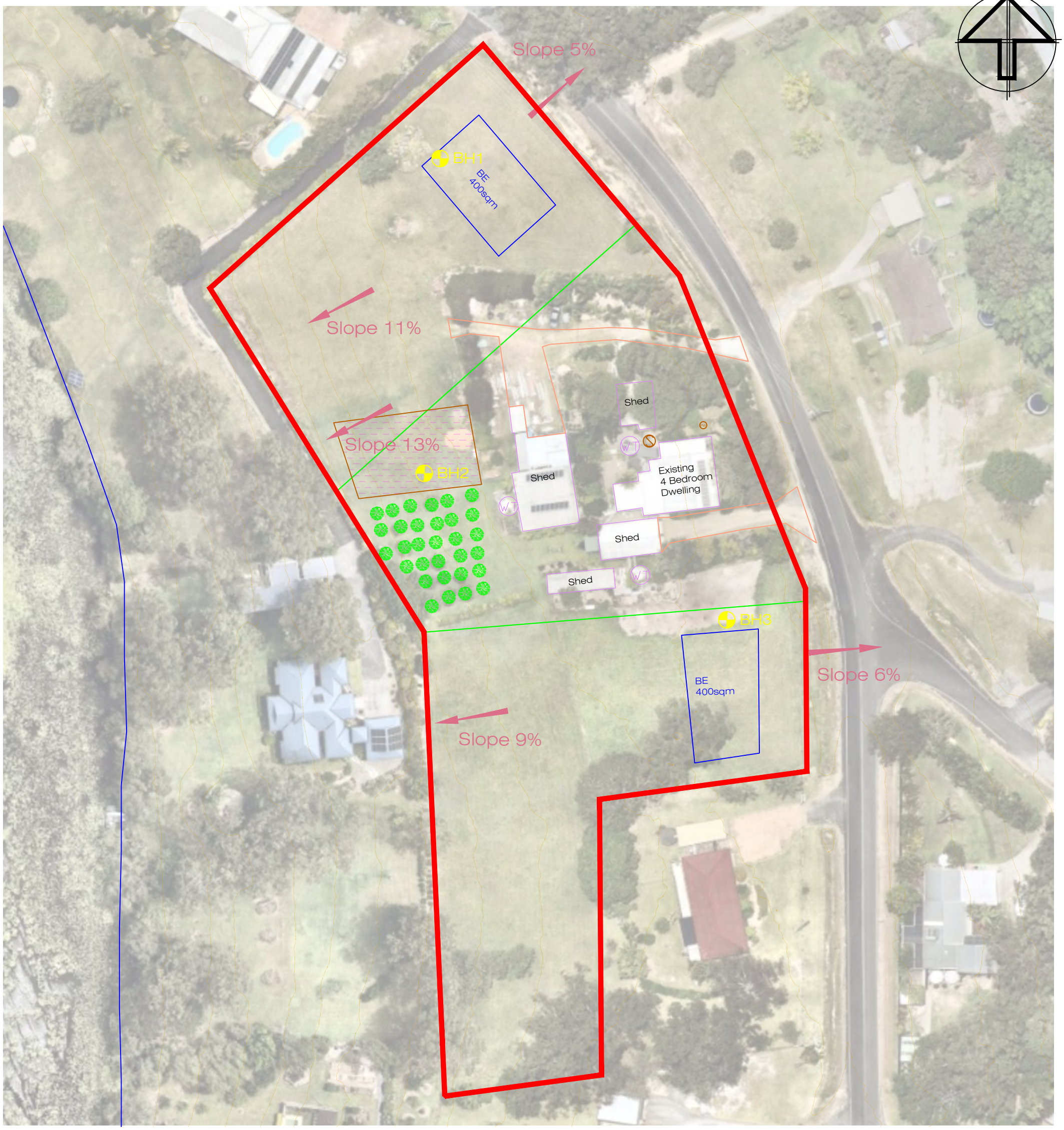
Horizontal Scale (metres) 1:4000

LEGEND

- Property Boundary
- Contour (10m)
- Drainage Alignment
- Surface Water
- Existing Building

EARTH WATER CONSULTING

TITLE: Site Location			FIGURE: Figure 1
			SHEET: 1 OF1 / ISSUE: A
PROJECT: ASS for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 14/03/23	SCALE: 1:4000	PROJECT: 2223-101



0 20 40

Horizontal Scale (metres) 1:800

LEGEND

- Property Boundary
- Proposed Subdivision Boundary
- Proposed Building Envelope
- Drainage Alignment
- Existing Building
- Existing OSMS
- Contour Line (1m)
- Slope % — Slope Direction and Extent
- Approximate Borehole Location

EARTH WATER CONSULTING

TITLE: Site Layout			FIGURE: Figure 2
			SHEET: 1 OF1 ISSUE: A
PROJECT: ASS for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 16/03/23	SCALE: 1:800	PROJECT: 2223-101

APPENDIX A

Soil Borelog

Borehole No:	**BH1**
Logged by:	RL
Drilling date:	27/02/2023
Drilling method:	Powered Auger
Borehole location:	Figure 2
Borehole coords:	515959, 6662054

Project ref:	2223-101
Client:	Jeffery Allen
Address:	19 Smiths Road, Emerald Beach

PROFILE DESCRIPTION

Depth (m)	Sampling depth/name	Graphic Log	Horizon	Texture	Structure	Colour	Mottles	Coarse Fragments	Moisture Condition	Comments
0.1	BH1/1		A1	Sandy Clay Loam	Strong	Dark Brown	Yellowish Orange	5 - 10%	SM	Topsoil
0.2			B1	Sandy Clay	Strong	Dull Brown	Light Yellowish Orange to Orange at depth	5 - 10%	SM	Residual
0.3										
0.4										
0.5										
0.6	BH1/2									
0.7										
0.8			B2	Sandy Clay	Strong	Light Grey	Light Yellowish Orange	10 - 20%	SM	Residual
0.9										
1.0										
1.1										
1.2										
1.3					Borehole terminated at 1.2m					
1.4										
1.5										

Moisture condition

D	Dry	M	Moist	W	Wet / saturated
SM	Slightly moist	VM	Very moist		

Soil Borelog

Borehole No:	**BH2**
Logged by:	RL
Drilling date:	27/02/2023
Drilling method:	Powered Auger
Borehole location:	Figure 2
Borehole coords:	515955, 6661988

Project ref:	2223-101
Client:	Jeffery Allen
Address:	19 Smiths Road, Emerald Beach

PROFILE DESCRIPTION

Depth (m)	Sampling depth/name	Graphic Log	Horizon	Texture	Structure	Colour	Mottles	Coarse Fragments	Moisture Condition	Comments
0.1			A1	Clay Loam	Strong	Dark Brown	Nil	< 5%	SM	Topsoil
0.2			B1	Light Clay	Strong	Bright Brown	Nil	10 - 20%	SM	Residual
0.3										
0.4										
0.5										
0.6										
0.7										
0.8			B2	Silty Clay	Strong	Light Yellow Orange	Nil	< 5%	D	Residual
0.9										
1.0										
1.1										
1.2					Borehole terminated at 1.1m					
1.3										
1.4										
1.5										

Moisture condition

D	Dry	M	Moist	W	Wet / saturated
SM	Slightly moist	VM	Very moist		

Soil Borelog

Borehole No:	**BH3**
Logged by:	RL
Drilling date:	27/02/2023
Drilling method:	Powered Auger
Borehole location:	Figure 2
Borehole coords:	516019, 6661957

Project ref:	2223-101
Client:	Jeffery Allen
Address:	19 Smiths Road, Emerald Beach

PROFILE DESCRIPTION

Depth (m)	Sampling depth/name	Graphic Log	Horizon	Texture	Structure	Colour	Mottles	Coarse Fragments	Moisture Condition	Comments
0.1			A1	Clay Loam	Strong	Dark Brown	Nil	< 5%	SM	Topsoil
0.2			B1	Light Clay	Strong	Bright Brown	Light Grey	< 5%	SM	Residual
0.3										
0.4										
0.5										
0.6										
0.7										
0.8										
0.9			B2	Medium Clay	Moderate	Light Grey	Orange	Nil	SM	Residual
1.0										
1.1										
1.2										
1.3					Borehole terminated at 1.2m					
1.4										
1.5										

Moisture condition

D	Dry	M	Moist	W	Wet / saturated
SM	Slightly moist	VM	Very moist		

APPENDIX B

Earth Water Consulting Pty Limited
2-16 Lourdes Avenue
Urunga
NSW 2455

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Strider Duerinckx**

Report **968654-S**
Project name SMITHS ROAD
Project ID 2223-101
Received Date Mar 01, 2023

Client Sample ID			**BH1 250-500**	**BH1 800-1000**	**BH2 300-500**	**BH2 800-1000**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Ma0006753**	**S23-Ma0006754**	**S23-Ma0006755**	**S23-Ma0006756**
Date Sampled			**Feb 27, 2023**	**Feb 27, 2023**	**Feb 27, 2023**	**Feb 27, 2023**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	6.0	6.1	5.8	5.7
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.8	4.7	4.9	4.7
Reaction Ratings*[S05]	0	-	2.0	2.0	2.0	2.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Sydney	Mar 08, 2023	7 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: Earth Water Consulting Pty Limited
Address: 2-16 Lourdes Avenue
Urunga
NSW 2455

Project Name: SMITHS ROAD
Project ID: 2223-101

Order No.:
Report #: 968654
Phone: 0402 6083 96
Fax:

Received: Mar 1, 2023 10:15 AM
Due: Mar 8, 2023
Priority: 5 Day
Contact Name: Strider Duerinckx

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Acid Sulfate Soils Field pH Test
Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH1 250-500	Feb 27, 2023		Soil	S23-Ma0006753	X
2	BH1 800-1000	Feb 27, 2023		Soil	S23-Ma0006754	X
3	BH2 300-500	Feb 27, 2023		Soil	S23-Ma0006755	X
4	BH2 800-1000	Feb 27, 2023		Soil	S23-Ma0006756	X
Test Counts						4

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	S23-Ma0016669	NCP	pH Units	6.5	6.5	pass	20%	Pass	
pH-FOX (Field pH Peroxide test)*	S23-Ma0016669	NCP	pH Units	4.9	4.9	pass	0%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Andrew Black — Analytical Services Manager

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

- [ ] Sydney Laboratory — Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 — 02 9900 8400 EnviroSampleNSW@eurofins.com
- [ ] Brisbane Laboratory — Unit 1 21 Smallwood Place Murarrie QLD 4172 — 07 3902 4600 EnviroSampleQLD@eurofins.com
- [ ] Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105 — 08 9251 9600 EnviroSampleWA@eurofins.com
- [x] Melbourne Laboratory — 2 Kingston Town Close Oakleigh VIC 3166 — 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited
Address	Unit 6 / 1A MArina Crescent, Urunga NSW 2455
Contact Name	Strider Duerinckx
Phone №	0402608396
Special Directions	
Purchase Order	~~2021~~ 2223-101
Quote ID №	Earth Water Consulting
Project №	~~2021~~ 2223-101
Project Name	Smiths Road
Project Manager	SD
EDD Format (ESdat, EQuIS etc)	
Sampler(s)	Rob.
Handed over by	SD
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: ASS pH field screen. pHf + pHfox.

Containers: 500mL Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL Vial, 500mL PFAS PET, Jar (Glass or HDPE)

Required Turnaround Time (Default will be 5 days if not ticked; ♦Surcharge will apply):
- [ ] Overnight (reporting by 9am)♦
- [ ] Same day♦
- [ ] 1 day♦
- [ ] 2 days♦
- [ ] 3 days♦
- [x] 5 days (Standard)
- [ ] Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	ASS pH field screen. pHf + pHfox.	Sample Comments / Dangerous Goods Hazard Warning
1	BH1 250-500	27/2	S	✓	
2	BH1 800-1000	↓	↓	✓	
3	BH2 300-500	↓	↓	✓	
4	BH2 800-1000	↓	↓	✓	
5					
6					
7					
8					
9					
10					
	Total Counts				

Method of Shipment: [ ] Courier (#) [ ] Hand Delivered [ ] Postal — Name — Signature — Date — Time

Eurofins | mgt Laboratory Use Only — Received By: SYD | BNE | MEL | PER | ADL | NTL | DRW — Signature — Date — Time — Temperature; Received By: SYD | BNE | MEL | PER | ADL | NTL | DRW — Signature — Date — Time — Report №

968654

Banana Plantation Contamination Assessment - 19 Smiths Road, Emerald Beach

24 March 2023

For: Jeffery Allen

Authored by: Strider Duerinckx

Ref	Ver	Date	Distribution
2223-101-04	A	24/3/23	Client, Planner

Table of Contents

Attached Tables

Figures

Appendices

1 Introduction

Earth Water Consulting Pty Limited (EWC) was engaged by Jeffery Allen (the "Client") to undertake a contamination assessment of former banana plantation land at 19 Smiths Road, Emerald Beach) (the "Site") (Figure 1).

1.1 Objectives

The objective of this investigation was to undertake an assessment of the property to CHCC and NSW EPA (1997) requirements to ensure that potential soil contamination as a result of former banana cultivation would not limit the proposed residential land use.

1.2 Suitability to Undertake Works

Strider Duerinckx has project managed and signs off on this investigation. Strider is an environmental geologist with 25 years experience in contaminated sites investigations including numerous banana plantation assessments. Strider is a CEnvP (Site Contamination Specialist) accredited.

2 Proposed Development

Based on plans of the proposed subdivision layout (Ref: 15279 DA Newman Karl Weir and Partners Pty Ltd. Revised Plan of Proposed Subdivision. Dated: June 2022), it is understood that the Site is proposed to be subdivided from one (1) into three (3) lots.

Proposed Lot 1 will include the existing dwelling and buildings and be 5,019m^2, proposed Lot 2 will have a new building entitlement and be 4,047m^2 and proposed Lot 3 will have a new building entitlement and be 5,000m^2(Figure 2).

3 Scope of Work

The assessment included:

- A desktop review, including
- Historical aerial photographs;
- NSW EPA notices;
- Interviews if available with the owner/employees;
- A site walkover of the property to visually assess the current site layout and surface conditions;
- Soil sampling to NSW EPA (1997) Guidelines, and analysis of for arsenic, lead, DDT, dieldrin and aldrin; and
- Preparation of an ESA report to NSW EPA (1997) Guidelines detailing the results of the desktop review and site walkover, and assessment of contamination risks, presentation of the analytical results, conclusions regarding the contamination status of the Site, and recommendations for further investigations or remediation (if required).

4 Site Description

4.1 Site Identification

The Site is known as Lot 5 DP 563449 and is approximately 14,060m^2 in area.

4.2 Location and Features

The Site is located on the southern Smiths Road and is set on a low ridgeline with artificial ponds to the east and west of the property (Figure 1). The Site is zoned R5 Large Lot Residential, and is 1.406ha of mostly cleared paddocks and small agricultural plantings.

The Site sits on the southern side of a ridgeline that runs to the south towards the Pacific Highway. The ground surface slopes gently to the west towards two neighbouring Lots, which separate the property from the western artificial pond.

Photograph 1 – Looking southwest across the western edge of proposed Lots 1 and 2 towards the pond.

Photograph 2 – Looking south across the EMA of Proposed Lot 2 towards the existing EMA of Lot 1 in the background.

4.3 Surrounding Land Use

The surrounding land use includes developed Large Lot (R5) residential land in all directions. The property is bordered by Smiths Road to the east.

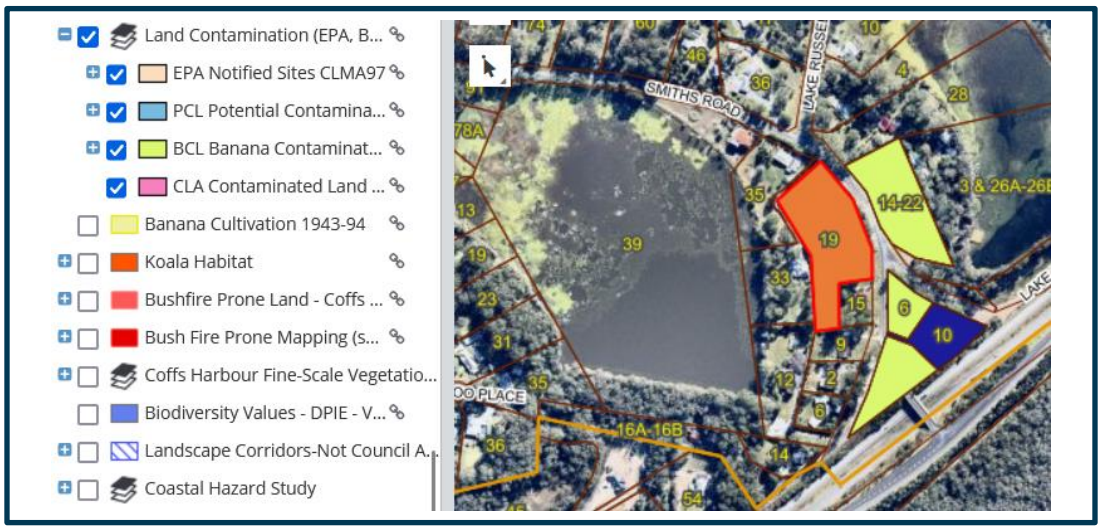
5 Site History

5.1 Mapped BP Land

A review of the Coffs Harbour City Council LEP mapping indicates that the Site and surrounding properties to the east and southeast are mapped as having been under banana cultivation between 1943 and 1994 (Photograph 3). The mapped banana cultivation does not extend to the full extent of Proposed Lot 3.

Photograph 3 – CHCC mapped Banana Cultivation.

A review of the Coffs Harbour City Council LEP mapping indicates that the Site has a BCL1 coding attached, which means mapped previous banana cultivation with no clearance environmental assessments completed.



Photograph 4 – CHCC Contamination Mapping.

5.2 Previous Environmental Investigations

No previous environmental investigations are known to have been undertaken on the Site.

5.3 Aerial Photographs

A review of aerial photographs from 1956-1994 indicate that the Site was located on cultivation area only, with no sheds (Photograph 5). The banana cultivation on the property was present in 1964 and 1974, but not present prior to 1964 or later than 1989.

A residence is present on the property, however no sheds were noted until 1989 by which time banana cultivation had ceased and the sheds are associated with other landuses.

Photograph 5: 1974 view of locality with Site boundary highlighted by red outline.

Photograph 3: 1989 image showing addition of outbuildings near the residence with banana cultivation no longer present.

5.4 NSW EPA Records

A search of the NSW EPA's contaminated land record revealed no investigation or remediation notices have been issued on the Site or adjacent properties for contamination or 'significant risk of harm' under Section 58 of the Contaminated Land Management Act 1997.

A search of the public register under Section 308 of the Protection of the Environment Operations Act indicated that no current and recently surrendered licenses have been held for potentially contaminating activities on the Site or adjacent properties.

5.5 Summary of Site History

The historical review confirmed that agricultural activities occurred on the Site from at least 1964 to 1974. No sheds or other hotspot activities are known to have been present on the Site at that time. Since the 1980's the Site has been utilised for rural-residential activities.

6 Potential Areas and Contaminants of Concern

Based on the site history and a walkover, Areas of Environmental Concern (AECs) and associated Contaminants of Concern (CoC) were identified for the Site. These are presented in Table 1.

Table 1: Potential AEC and CoC

AEC	Potential Contaminating Activity	CoC	Likelihood of Contamination	Comment
1	Broadscale shallow contamination from banana cultivation	OCP (Aldrin, dieldrin and DDT), heavy metals (arsenic and lead)	Moderate for OCP (dieldrin) and metals (arsenic and lead)	In 1994, the NSW EPA, Department of Agriculture and Coffs Harbour City Council undertook a study of banana plantations in the Coffs Harbour area, and developed a specific set of guidelines to assess these former agricultural properties. A number of typical CoC were identified and contaminant distribution models developed.
Notes **OCP = Organochlorine Pesticides**				

7 Investigation Criteria

The soil investigation levels for banana plantation contamination (OCP, arsenic and lead) were adopted from the NSW EPA (1997) Guidelines. These are comparable to health-based investigation levels for residential sites with access to soil for home grown vegetables at less than the 10% of the daily intake, that are provided in NEPM (NEPC 2013) Guidelines. The investigation criteria are shown in the attached Table LR1.

8 Sampling Program

The sampling program was based on the NSW EPA (1997) Guidelines which were developed specifically for former banana plantation properties.

Rather than clearing a reduced 1,500m2 envelope per proposed Lot, in accordance with NSW EPA (1997) Guidelines the entire property was assessed. This will enable the BCL1 mapping to be removed and replaced with BCL2a (cleared no further works required).

In accordance with s2.1.1 for an undisturbed banana-growing property of between 3,000 and 20,000m^2, 32 samples are required at about a 20m grid, composited with a maximum of 4 subsamples per composite.

The Site has about 9,000m^2 of undisturbed paddock area, the remaining ~5,000m^2 has been redeveloped for residential use. Section s2.1.2 requires for redeveloped areas a minimum of 5 evenly surface samples be collected and analyses, with no compositing.

A total of 28 sample locations were collected in a grid from Proposed Lots 2 and 3 and the undisturbed portion of Proposed Lot 1 and composited into 7 composites, and a further 4 discrete samples from Proposed Lot 1 developed area for analysis.

All samples both composite and discrete were analysed for Arsenic (As), Lead (Pb) and OCP pesticides.

9 Results

9.1 Sample Descriptions

Sampling was undertaken on 27 February by a trained EWC environmental scientist.

The sampling locations are presented in Figure 2, with sample details provided in Table 2.

Table 2: Sample Descriptions

Sample ID	Depth	Description	Composite ID
S-1	0-75mm	Topsoil, dark clay loam	C-1
S-2	0-75mm	Topsoil, dark clay loam	C-1
S-3	0-75mm	Topsoil, dark clay loam	C-1
S-4	0-75mm	Topsoil, dark clay loam	C-1
S-5	0-75mm	Topsoil, dark clay loam	C-2
S-6	0-75mm	Topsoil, dark clay loam	C-2
S-7	0-75mm	Light clay	C-2
S-8	0-75mm	Topsoil, dark clay loam	C-2
S-9	0-75mm	Topsoil, dark clay loam	C-3
S-10	0-75mm	Topsoil, dark clay loam	C-3
S-11	0-75mm	Fill, roadbase	Discrete
S-12	0-75mm	Light clay	Discrete
S-13	0-75mm	Dark friable loam	Discrete
S-14	0-75mm	Topsoil, dark clay loam	Discrete
S-15	0-75mm	Topsoil, dark clay loam	C-3

Sample ID	Depth	Description	Composite ID
S-16	0-75mm	Topsoil, dark friable loam	C-3
S-17	0-75mm	Sandy loam	C-4
S-18	0-75mm	Fine sandy loam	C-4
S-19	0-75mm	Light clay	C-4
S-20	0-75mm	Topsoil, dark clay loam	C-4
S-21	0-75mm	Topsoil, dark clay loam	C-5
S-22	0-75mm	Topsoil, dark clay loam	C-5
S-23	0-75mm	Topsoil, dark clay loam	C-5
S-24	0-75mm	Topsoil, dark friable loam	C-5
S-25	0-75mm	Topsoil, dark friable loam	C-6
S-26	0-75mm	Topsoil, dark friable loam	C-6
S-27	0-75mm	Topsoil, dark friable loam	C-6
S-28	0-75mm	Topsoil, dark clay loam	C-6
S-29	0-75mm	Sandy loam	C-7
S-30	0-75mm	Topsoil, dark clay loam	C-7
S-31	0-75mm	Topsoil, dark clay loam	C-7
S-32	0-75mm	Topsoil, dark clay loam	C-7

10 Analytical Results

Samples were forwarded under Chain of Custody conditions at Eurofins Laboratory for analysis. The laboratory reports are included in Appendix A and the soil analytical results are summarised in the attached Table LR1.

10.1 Soil Analytical Results

Comparison of discrete and composite sample results to the investigation criteria indicated that:

- Concentrations of OCP were reported below the laboratory Limit of Reporting (LOR) for all samples analysed; and
- Concentrations of arsenic and lead were reported below the Investigation Criteria for all samples analysed.

95% Upper Confidence Limits (UCLs) were not required to be calculated as all results were reported to less than the Investigation Criteria.

10.2 Quality Assurance and Quality Control

10.2.1 Field Quality Control

Environmental sampling activities were based on industry accepted standard practices.

The sampling equipment was decontaminated between sampling locations by washing with detergent and rinsing with clean water. A new pair of disposable gloves was used when handling each soil sample. Samples were collected in laboratory supplied jars and shipped in a chilled esky to the laboratory.

Sample S-11 was taken from fill along a compacted driveway line, and it is acknowledged that this replicate should have been sampled from 0-150mm and at the natural soil interface to be compliant with Section s2.1.2. However, as all samples across the property were below the Investigation Criteria (and generally reported below or close to the LOR limits), this is considered to be only a minor quality assurance exceedance.

Section 2.1.2 requires a minimum of 5 discrete sample analyses per disturbed area. As a further 28 samples were collected and composite analysed surrounding this discrete sampled area, with no exceedances of the investigation criteria reported (and generally reported below or close to the LOR limits), the developed area is considered suitably assessed.

10.2.2 Laboratory Quality Control

Primary samples were submitted to Eurofins Laboratory, which is a national laboratory that undertakes analyses to NATA accredited analytical methodologies, and participates in NATA endorsed laboratory round robin analyses. Laboratory Quality Control included testing and reporting of reagent blanks, laboratory control samples (LCS), matrix spikes and surrogates spikes, and laboratory duplicates to assess laboratory quality control.

The laboratory quality assurance results are included within the laboratory reports attached in Appendix A. No exceptions to the laboratory quality control reportable limits were noted.

10.2.3 Data Quality Check

The quality assurance and quality control of the field and laboratory methods is considered sufficiently robust for the investigation undertaken. Given this it is concluded that the analytical results dataset reliably represents soil concentrations in the field as sampled.

11 Conclusions and Recommendations

The field and analytical results confirm that historical usage of the property as a banana plantation has not resulted in any significant arsenic, lead or OCP contamination across the entire property. All results were well below the acceptable threshold for contamination.

As such no further investigations or remediation of soils is required for the rural-residential redevelopment of the Site.

12 References

Coffs Harbour City Council. 2017. Contaminated Land Management Policy

Coffs Harbour City Council. 2018. Contaminated Land Management Procedure

Coffs Harbour City Council Local Environmental Plan 2013.

NEPC. 2013. National Environment Protection (Assessment of Site Contamination) Measure. Schedule B1-Schedule B1 Guideline on Investigation Levels For Soil and Groundwater. National Environment Protection Council.

NSW EPA. 1997. Guidelines for Assessing Banana Plantation Sites. Reprinted 2003.

TABLES

Table LR1: Summary of Soil Composite and Discrete Analytical Results

Sample ID		LOR	Investigation Criteria			C-1	C-2	C-3	C-4	C-5	C-6	C-7	S-11	S-12	S-13	S-14
Date Collected			NSW EPA	NEPM		27/02/2023										
Sub-Samples						S1-S4	S5-S8	S9,-S10, S15-S16	S17-S20	S21-S24	S25-S28	S29-S32	Discrete	Discrete	Discrete	Discrete
Depth Collected	Units	Eurofins	BP	HIL (A)	EIL	0-75	0-75	0-75	0-75	0-75	0-75	0-75	0-75	0-75	0-75	0-75
% Moisture	%	1	-	-	-	7.9	14	20	13	16	19	15	10	18	14	35
Heavy Metals																
Arsenic	mg/kg	2	100	100	100	3.7	4.8	3.4	11	16	12	17	12	4.5	7.1	5.3
Lead	mg/kg	5	300	300	1100	9.4	12	12	15	9.3	8.3	14	25	12	8.1	15
Organochlorine Pesticides																
4.4'-DDD	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	mg/kg	0.05	50	-	180	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin and Dieldrin (Total)*	mg/kg	0.05	10	6	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordanes - Total	mg/kg	0.05	-	50	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
DDT + DDE + DDD (Total)*	mg/kg	0.05	-	240	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	mg/kg	0.05	-	270	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	mg/kg	0.05	-	10	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	mg/kg	0.05	-	6	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	mg/kg	0.05	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	mg/kg	0.05	-	10	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	mg/kg	0.05	-	300	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	mg/kg	0.5	-	20	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 OCP (Total)*	mg/kg	0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	mg/kg	0.1	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	%	1	-	-	-	51	INT	141	145	150	INT	100	103	89	115	131
Tetrachloro-m-xylene (surr.)	%	1	-	-	-	54	122	117	112	114	121	96	100	93	99	127

Notes

Indicates sample concentration exceeds investigation criteria value

Indicates sample concentration exceeds investigation criteria value

FIGURES

0 80 120 160

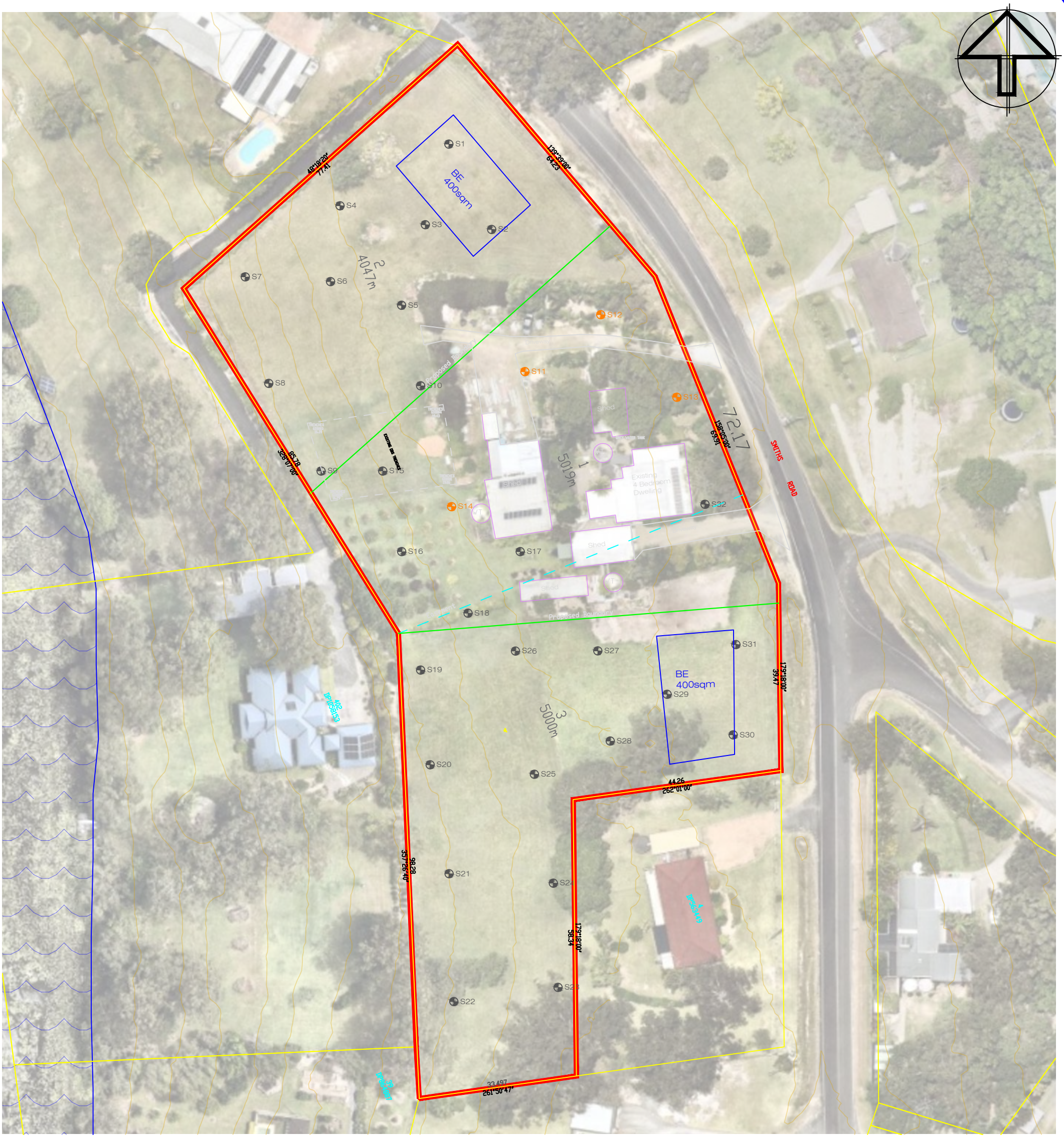
Horizontal Scale (metres) 1:4000

LEGEND

- Property Boundary
- Contour (10m)
- Drainage Alignment
- Surface Water
- Existing Building

EARTH WATER CONSULTING

TITLE: Site Location			FIGURE: Figure 1
			SHEET: 1 OF 1 / ISSUE: A
PROJECT: BPA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 24/03/23	SCALE: 1:4000	PROJECT: 2223-101



EARTH WATER CONSULTING

TITLE: Sample Locations			FIGURE: Figure 2
			SHEET: 1 OF1 ISSUE: A
PROJECT: BPA for 19 Smiths Road, Emerald Beach			CLIENT: Jeffery Allen
AUTHOR: SD	DATE: 14/03/23	SCALE: 1:800	PROJECT: 2223-101

APPENDIX A

Earth Water Consulting Pty Limited
2-16 Lourdes Avenue
Urunga
NSW 2455

Attention: **Strider Duerinckx**

Report **968649-S**
Project name SMITHS ROAD BPA
Project ID 2223-101
Received Date Mar 01, 2023

Client Sample ID			**C-1**	**C-2**	**C-3**	**S-11**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Ma0006698**	**S23-Ma0006703**	**S23-Ma0006708**	**S23-Ma0006709**
Date Sampled			**Feb 27, 2023**	**Feb 27, 2023**	**Feb 27, 2023**	**Feb 27, 2023**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	51	INT	141	103
Tetrachloro-m-xylene (surr.)	1	%	54	122	117	100
Heavy Metals						
Arsenic	2	mg/kg	3.7	4.8	3.4	12
Lead	5	mg/kg	9.4	12	12	25
Sample Properties						
% Moisture	1	%	7.9	14	20	10

Client Sample ID			S-12	S-13	S-14	C-4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Ma0006710	S23-Ma0006711	S23-Ma0006712	S23-Ma0006717
Date Sampled			Feb 27, 2023	Feb 27, 2023	Feb 27, 2023	Feb 27, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	89	115	131	145
Tetrachloro-m-xylene (surr.)	1	%	93	99	127	112
Heavy Metals						
Arsenic	2	mg/kg	4.5	7.1	5.3	11
Lead	5	mg/kg	12	8.1	15	15
Sample Properties						
% Moisture	1	%	18	14	35	13

Client Sample ID			C-5	C-6	C-7
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S23-Ma0006722	S23-Ma0006727	S23-Ma0006732
Date Sampled			Feb 27, 2023	Feb 27, 2023	Feb 27, 2023
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05

Client Sample ID			C-5	C-6	C-7
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S23-Ma0006722	S23-Ma0006727	S23-Ma0006732
Date Sampled			Feb 27, 2023	Feb 27, 2023	Feb 27, 2023
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	150	INT	100
Tetrachloro-m-xylene (surr.)	1	%	114	121	96
Heavy Metals					
Arsenic	2	mg/kg	16	12	17
Lead	5	mg/kg	9.3	8.3	14
Sample Properties					
% Moisture	1	%	16	19	15

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Organochlorine Pesticides	Sydney	Mar 09, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Heavy Metals	Sydney	Mar 09, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Mar 03, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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Company Name: Earth Water Consulting Pty Limited
Address: 2-16 Lourdes Avenue
Urunga
NSW 2455

Project Name: SMITHS ROAD BPA
Project ID: 2223-101

Order No.: 2223-101
Report #: 968649
Phone: 0402 6083 96
Fax:

Received: Mar 1, 2023 10:15 AM
Due: Mar 8, 2023
Priority: 5 Day
Contact Name: Strider Duerinckx

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Lead	Organochlorine Pesticides	Moisture Set
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	C-1	Feb 27, 2023		Soil	S23-Ma0006698	X	X	X	X
2	C-2	Feb 27, 2023		Soil	S23-Ma0006703	X	X	X	X
3	C-3	Feb 27, 2023		Soil	S23-Ma0006708	X	X	X	X
4	S-11	Feb 27, 2023		Soil	S23-Ma0006709	X	X	X	X
5	S-12	Feb 27, 2023		Soil	S23-Ma0006710	X	X	X	X
6	S-13	Feb 27, 2023		Soil	S23-Ma0006711	X	X	X	X
7	S-14	Feb 27, 2023		Soil	S23-Ma0006712	X	X	X	X
8	C-4	Feb 27, 2023		Soil	S23-Ma0006717	X	X	X	X
9	C-5	Feb 27, 2023		Soil	S23-Ma0006722	X	X	X	X
10	C-6	Feb 27, 2023		Soil	S23-Ma0006727	X	X	X	X
11	C-7	Feb 27, 2023		Soil	S23-Ma0006732	X	X	X	X
Test Counts						11	11	11	11

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	110			70-130	Pass	
4.4'-DDD	%	89			70-130	Pass	
4.4'-DDE	%	86			70-130	Pass	
4.4'-DDT	%	92			70-130	Pass	
a-HCH	%	91			70-130	Pass	
Aldrin	%	85			70-130	Pass	
b-HCH	%	90			70-130	Pass	
d-HCH	%	91			70-130	Pass	
Dieldrin	%	95			70-130	Pass	
Endosulfan I	%	84			70-130	Pass	
Endosulfan II	%	80			70-130	Pass	
Endosulfan sulphate	%	90			70-130	Pass	
Endrin	%	93			70-130	Pass	
Endrin aldehyde	%	81			70-130	Pass	
Endrin ketone	%	106			70-130	Pass	
g-HCH (Lindane)	%	93			70-130	Pass	
Heptachlor	%	97			70-130	Pass	
Heptachlor epoxide	%	107			70-130	Pass	
Hexachlorobenzene	%	101			70-130	Pass	
Methoxychlor	%	98			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	89			80-120	Pass	
Lead	%	91			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S23-Ma0006698	CP	%	90			70-130	Pass	
4.4'-DDD	S23-Ma0006698	CP	%	81			70-130	Pass	
4.4'-DDE	S23-Ma0006698	CP	%	77			70-130	Pass	
4.4'-DDT	S23-Ma0006698	CP	%	91			70-130	Pass	
a-HCH	S23-Ma0006698	CP	%	80			70-130	Pass	
Aldrin	S23-Ma0006698	CP	%	79			70-130	Pass	
b-HCH	S23-Ma0006698	CP	%	79			70-130	Pass	
d-HCH	S23-Ma0006698	CP	%	82			70-130	Pass	
Dieldrin	S23-Ma0006698	CP	%	83			70-130	Pass	
Endosulfan I	S23-Ma0006698	CP	%	88			70-130	Pass	
Endosulfan II	S23-Ma0006698	CP	%	81			70-130	Pass	
Endosulfan sulphate	S23-Ma0006698	CP	%	85			70-130	Pass	
Endrin	S23-Ma0006698	CP	%	88			70-130	Pass	
Endrin aldehyde	S23-Ma0006698	CP	%	99			70-130	Pass	
Endrin ketone	S23-Ma0006698	CP	%	85			70-130	Pass	
g-HCH (Lindane)	S23-Ma0006698	CP	%	87			70-130	Pass	
Heptachlor	S23-Ma0006698	CP	%	81			70-130	Pass	
Heptachlor epoxide	S23-Ma0006698	CP	%	88			70-130	Pass	
Hexachlorobenzene	S23-Ma0006698	CP	%	85			70-130	Pass	
Methoxychlor	S23-Ma0006698	CP	%	85			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S23-Ma0006710	CP	%	107			75-125	Pass	
Lead	S23-Ma0006710	CP	%	103			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S23-Ma0016291	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDD	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDE	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDT	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
a-HCH	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aldrin	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
b-HCH	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
d-HCH	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dieldrin	S23-Ma0016291	NCP	mg/kg	0.73	0.82	11	30%	Pass	
Endosulfan I	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan II	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan sulphate	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin aldehyde	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin ketone	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
g-HCH (Lindane)	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor epoxide	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobenzene	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methoxychlor	S23-Ma0016291	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Toxaphene	N23-Ma0003797	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Ma0006698	CP	%	7.9	7.7	2.4	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Ma0006709	CP	mg/kg	12	15	23	30%	Pass	
Lead	S23-Ma0006709	CP	mg/kg	25	14	53	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Ma0006732	CP	%	15	14	10	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Bonnie Pu	Analytical Services Manager
Fang Yee Tan	Senior Analyst-Metal
Mickael Ros	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

CHAIN OF CUSTODY RECORD

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- [x] **Sydney Laboratory** – Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 – 02 9900 8400 EnviroSampleNSW@eurofins.com
- [ ] **Brisbane Laboratory** – Unit 1 21 Smallwood Place Murarrie QLD 4172 – 07 3902 4600 EnviroSampleQLD@eurofins.com
- [ ] **Perth Laboratory** – Unit 2 91 Leach Highway Kewdale WA 6105 – 08 9251 9600 EnviroSampleWA@eurofins.com
- [ ] **Melbourne Laboratory** – 2 Kingston Town Close Oakleigh VIC 3166 – 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited
Address	Unit 6 / 1A MArina Crescent, Urunga NSW 2455
Contact Name	Strider Duerinckx
Phone №	0402608396
Special Directions	
Purchase Order	~~2024~~ 2223-101 Earth Water Consulting
Quote ID №	
Project №	~~2021~~ 2223-101
Project Name	SMITHS ROAD BPA
Project Manager	STRIDER
EDD Format (ESdat, EQuIS etc)	
Sampler(s)	Rob
Handed over by	EWC
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE codes must be used to attract SUITE pricing.

Containers: Change container type & size if necessary

Required Turnaround Time (Default will be 5 days if not ticked) ♦Surcharge will apply

- [ ] Overnight (reporting by 9am)♦
- [ ] Same day♦
- [ ] 1 day♦
- [ ] 2 days♦
- [ ] 3 days♦
- [x] 5 days (Standard)
- [ ] Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Composite	Comp LD	As, Pb	OCP	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL Vial	500mL PFAS PET	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	S-1	27.2.23	S	}										✓	
2	S-2	27.2.23	S	}	C-1	✓	✓							✓	
3	S-3	27.2.23	S	}										✓	
4	S-4	27.2.23	S	}										✓	
5	S-5	27.2.23	S	}										✓	
6	S-6	27.2.23	S	}	C-2	✓	✓							✓	
7	S-7	27.2.23	S	}										✓	
8	S-8	27.2.23	S	}										✓	
9	S-9	27.2.23	S	}	C-3	✓	✓							✓	
10	S-10	27.2.23	S	}											
	Total Counts														

Method of Shipment	[x] Courier (#)	[ ] Hand Delivered	[ ] Postal	Name: ROB LAIRD	Signature: [signature]	Date	Time
Eurofins | mgt Laboratory Use Only	Received By: [signature]	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature: [signature]	Date: 1/3	Time: 10.15	Temperature: 3.6	
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report No	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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- [ ] Brisbane Laboratory — Unit 1 21 Smallwood Place Murarrie QLD 4172, 07 3902 4600, EnviroSampleQLD@eurofins.com
- [ ] Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105, 08 9251 9600, EnviroSampleWA@eurofins.com
- [x] Melbourne Laboratory — 2 Kingston Town Close Oakleigh VIC 3166, 03 8564 5000, EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited
Address	Unit 6 / 1A MArina Crescent, Urunga NSW 2455
Contact Name	Strider Duerinckx
Phone №	0402608396
Special Directions	
Purchase Order	~~2021~~ 2223-101
Quote ID №	Earth Water Consulting
Project №	2223-101 (~~2021~~)
Project Name	SMITHS RD. BPA
Project Manager	STRIDER
EDD Format (ESdat, EQuIS etc)	
Sampler(s)	ROB
Handed over by	EWC
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: Composite, comp ID, As, Pb, OCP

Containers: 500mL Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL Vial, 500mL PFAS PET, Jar (Glass or HDPE)

Required Turnaround Time (Default will be 5 days if not ticked) ♦Surcharge will apply: [ ] Overnight (reporting by 9am)♦ [ ] Same day♦ [ ] 1 day♦ [ ] 2 days♦ [ ] 3 days♦ [ ] 5 days (Standard) [ ] Other( )

№	Client Sample ID	Sampled Date/Time	Matrix	Analyses	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	S-11	27.2.23	S	Discrete analysis As, Pb, OCP	✓	
2	S-12	27.2.23	S	DISCRETE ANALYSIS: As, Pb, OCP	✓	
3	S-13	27.2.23	S	DISCRETE ANALYSIS As, Pb, OCP	✓	
4	S-14	27.2.23	S	DISCRETE ANALYSIS As, Pb, OCP	✓	
5	S-15	27.2.23	S	} C-3 ✓ ✓	✓	
6	S-16	27.2.23	S	}	✓	
7	S-17	27.2.23	S	}	✓	
8	S-18	27.2.23	S	} C-4 ✓ ✓	✓	
9	S-19	27.2.23	S	}	✓	
10	S-20	27.2.23	S	}		
				Total Counts		

Method of Shipment: [x] Courier (#) [ ] Hand Delivered [ ] Postal — Name: ROB — Signature: [signature] — Date: — Time:

Eurofins | mgt Laboratory Use Only	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Temperature
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report №

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CHAIN OF CUSTODY RECORD

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Contact Name	Strider Duerinckx
Phone №	0402608396
Special Directions	
Purchase Order	~~2021~~ 2223-101 Earth Water Consulting
Quote ID №	

Project №	~~2021~~ 2223-101
Project Name	SMITHS ROAD BPA
Project Manager	STRIDER
EDD Format (ESdat, EQuIS etc)	
Sampler(s)	ROB
Handed over by	EWC
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers (Change container type & size if necessary): 500mL Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL Vial, 500mL PFAS PET, Jar (Glass or HDPE)

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	COMPOSITE	COMP ID	As, Pb	OCP	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	S-21	27.2.23	S	}				✓	
2	S-22	27.2.23	S	}	C-5	✓	✓	✓	
3	S-23	27.2.23	S	}				✓	
4	S-24	27.2.23	S	}				✓	
5	S-25	27.2.23	S	}				✓	
6	S-26	27.2.23	S	}	C-6	✓	✓	✓	
7	S-27	27.2.23	S	}				✓	
8	S-28	27.2.23	S	}				✓	
9	S-29	27.2.23	S	}	C-7	✓	✓	✓	
10	S-30	27.2.23	S	}					
			Total Counts						

Required Turnaround Time (Default will be 5 days if not ticked) ♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name: ROB	Signature: [signature]	Date	Time
Eurofins | mgt Laboratory Use Only	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Temperature	
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report No	

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☑ Sydney Laboratory
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02 9900 8400 EnviroSampleNSW@eurofins.com

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☑ Melbourne Laboratory
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03 8564 5000 EnviroSampleVic@eurofins.com

Company	Earth Water Consulting Pty Limited
Address	Unit 6 / 1A MArina Crescent, Urunga NSW 2455
Contact Name	Strider Duerinckx
Phone №	0402608396
Special Directions	
Purchase Order	2223-101
Quote ID №	Earth Water Consulting
Project №	2223-101
Project Name	SMITHS RD. BGA
Project Manager	STRIDER
EDD Format (Esdat, EQuIS etc)	
Sampler(s)	ROB
Handed over by	EWC
Email for Invoice	strider@ewcon.com.au
Email for Results	strider@ewcon.com.au

Analyses: COMPOSITE | COMP ID | As, Pb | OCP

Containers: 500mL Plastic | 250mL Plastic | 125mL Plastic | 200mL Amber Glass | 40mL Vial | 500mL PFAS PET | Jar (Glass or HDPE)

Required Turnaround Time (Default will be 5 days if not ticked) ♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	COMPOSITE	COMP ID	As, Pb	OCP	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	S-31	27.2.23	S	}	C-7	✓	✓	✓	
2	S-32	27.2.23	S	}				✓	
3									
4									
5									
6									
7									
8									
9									
10									
			Total Counts						

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal | Name: ROB | Signature: [signature] | Date | Time

Eurofins | mgt Laboratory Use Only: Received By SYD | BNE | MEL | PER | ADL | NTL | DRW Signature Date Time Temperature
Received By SYD | BNE | MEL | PER | ADL | NTL | DRW Signature Date Time Report №

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Gateway Determination

Planning proposal (Department Ref: PP-2024-498)*: Reduction in the minimum lot size at Lot 5 DP 563449, 19 Smiths Road, Emerald Beach*

I, the Director, Hunter and Northern Region at the Department of Planning, Housing and Infrastructure, as delegate of the Minister for Planning and Public Spaces, have determined under section 3.34(2) of the *Environmental Planning and Assessment Act 1979* (the Act) that an amendment to the Coffs Harbour Local Environmental Plan 2013 to reduce the minimum lot size applying to Lot 5 DP 563449, 19 Smiths Road, Emerald Beach from one hectare to 4000m^2 should proceed subject to the following

The Council as planning proposal authority is authorised to exercise the functions of the local plan-making authority under section 3.36(2) of the Act subject to the following:

(a) the planning proposal authority has satisfied all the conditions of the gateway determination;

(b) the planning proposal is consistent with applicable directions of the Minister under section 9.1 of the Act or the Secretary has agreed that any inconsistencies are justified; and

(c) there are no outstanding written objections from public authorities.

The LEP should be completed on or before six months from the date of this Gateway determination.

Gateway Conditions

1. Public exhibition is required under section 3.34(2)(c) and clause 4 of Schedule 1 to the Act as follows:

   (a) the planning proposal is categorised as standard as described in the *Local Environmental Plan Making Guideline* (Department of Planning and Environment, August 2023) and must be made publicly available for a minimum of 20 working days; and

   (b) the planning proposal authority must comply with the notice requirements for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals as identified in *Local Environmental Plan Making Guideline* (Department of Planning and Environment, August 2023).

2. Consultation is required with NSW Rural Fire Service under section 3.34(2)(d) of the Act. NSW Rural Fire Service is to be provided with a copy of the planning proposal and any relevant supporting material and given at least 30 working days to comment on the proposal.

3. A public hearing is not required to be held into the matter by any person or body under section 3.34(2)(e) of the Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).

Dated 27 August 2024

Jeremy Gray
Director, Hunter and Northern Region
Local Planning and Council Support
Department of Planning, Housing and Infrastructure

Delegate of the Minister for Planning and Public Spaces