

Stone Ridge Quarry Project – SSD 10432

Independent Planning Commission Stakeholder Meeting Presentation

5th November 2024

Presentation Outline

- Project Benefits
- Forestry Corporation of NSW
- Strategic Need for Project
- Key Constraints for Site Selection
- Stone Ridge
 - Favourable Site Attributes
 - Key Challenge
 - Detailed Site Evaluation
 - Project Design Refinements
 - Environmental Impact Assessment and Mitigation
- Project Justification

Project Benefits

- Solution to critical resource challenge for the region – re high-specification quarry products
- Provide access to a public resource long recognised by government and industry as being optimally located to support future growth in the LHCC region
- Resolution of existing safety issue at existing Pacific Highway / Italia Road intersection via upgrade – lead by ARDG in consultation with TfNSW
- Compared to alternative sites, significantly less impact on local communities – *e.g.*
 - No haulage through residential / rural residential areas
 - Quarry truck movements confined to existing B-double haul route on Italia Rd (1.4 km to M1 Pacific Highway)
 - Compatible with surrounding land uses (i.e. existing/approved quarries, motorsport facilities)
- Biodiversity offsets will facilitate the creation of larger areas of conserved habitat relative to the disturbance area that will provide a long-term benefit for a range of species including the koala

Forestry Corporation of NSW (FCNSW) – Background

- FCNSW has a Statutory Responsibility to provide timber, forest products and forest materials for NSW. Forest materials include rock, stone, sand and gravel
- FCNSW have quarries across the forest estate for gravelling 60,000 km of forest roads and fire trails
- Commercial quarries in State Forests provide hard rock and gravel for NPWS, Council, private roads, as well as the broader construction materials market
- The Wallaroo State Forest site has long been recognised for its significant hard rock potential
- The site has a frequent high intensity fire history and low current timber value
- Early drilling Sept 1994 proved the site's potential value as a hard rock quarry resource
- Forestry Act amended in 2008 to allow Forest Materials Licences to be awarded for up to 20-year periods – specifically driven by this Site
- Further resource assessment indicated the site was of State Significance
- After tender and negotiation processes, ARDG awarded a Deed of Agreement for a Forest Materials Licence Deed in 2018

Forestry Corporation of NSW (FCNSW) – Wallaroo State Forest Hard Rock Resource

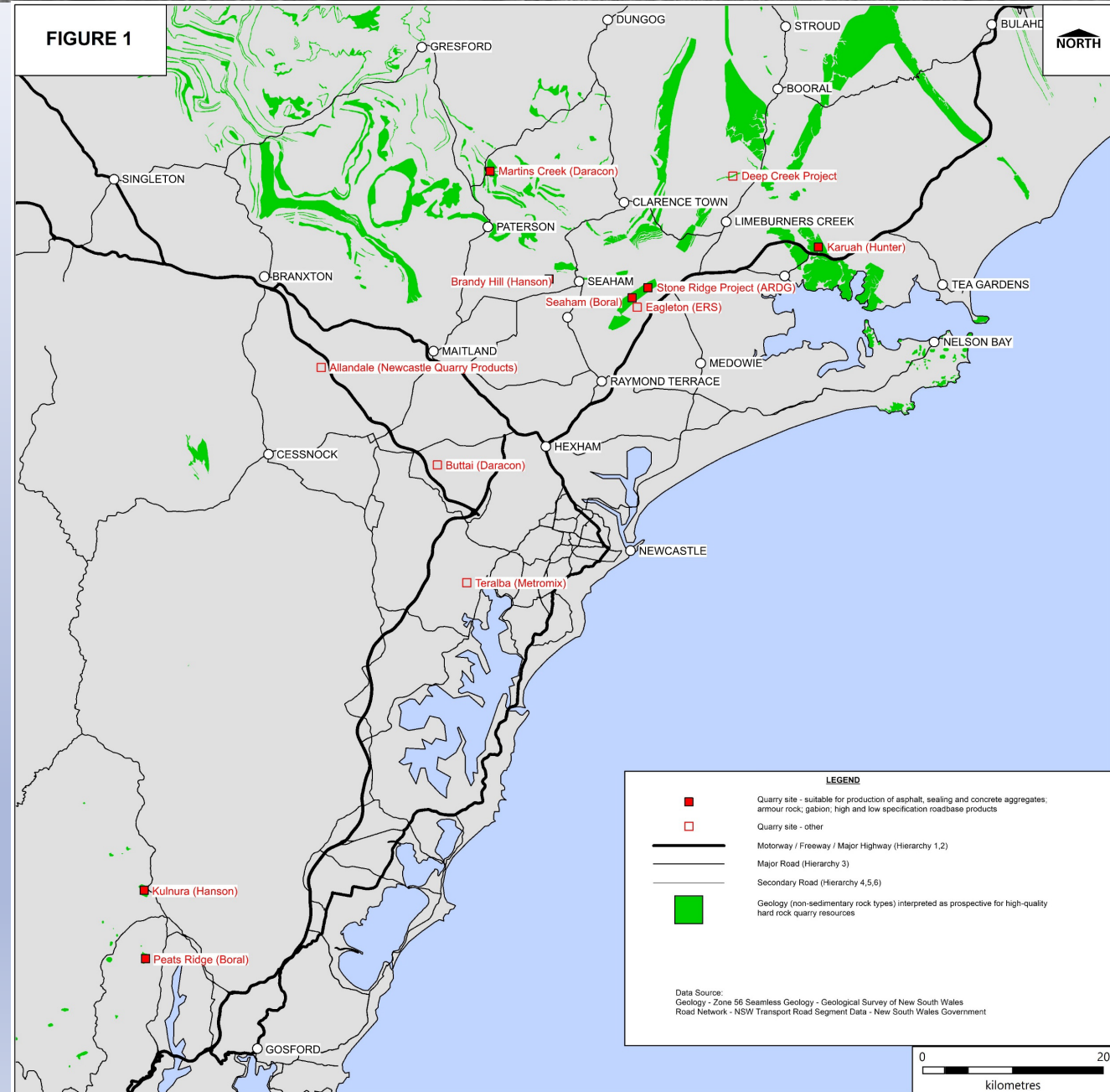
- Largest hard rock resource on public land close to any major metropolitan area, in this case the Lower Hunter Central Coast Region
- First State Significant Development hard rock quarry on public land in NSW
- ARDG have implemented a thorough resource assessment program to prove the quality hard rock resource well beyond any other proponent and to the highest standard seen anywhere in the aggregate industry
- The resource assessment has indicated that the Rhyodacitic Volcanics are of high quality, suitable to produce the full range of quarry products including asphalt and concrete aggregates
- The resource assessment provides a fundamental basis for FCNSW to support the project

Strategic Need for Project

- Widely recognised that existing quarries in the Lower Hunter and Central Coast (LHCC) region are facing major challenges in meeting existing and future demand for high-specification quarry products required to support development that underpin projected growth in the LHCC region
- These challenges are in part due to resource depletion from the main quarries on the Central Coast and resource availability issues facing existing quarries in the Lower Hunter
- High-specification quarry products (*i.e.* road surfacing and concrete aggregates) are required for construction of critical infrastructure including highways and local roads, bridges, hospitals, retail centres, sporting facilities as well as housing
- Not all quarries in the LHCC have geological resources suited to producing high-specification quarry products. These products can only be sourced from quarries located in specific geological environments. In the LHCC region these environments are almost exclusively confined to volcanic rock types located north of Newcastle
- In addition to limited geological prospectivity, opportunities for new quarries in the region are highly constrained by competing environment, community, planning and transport factors

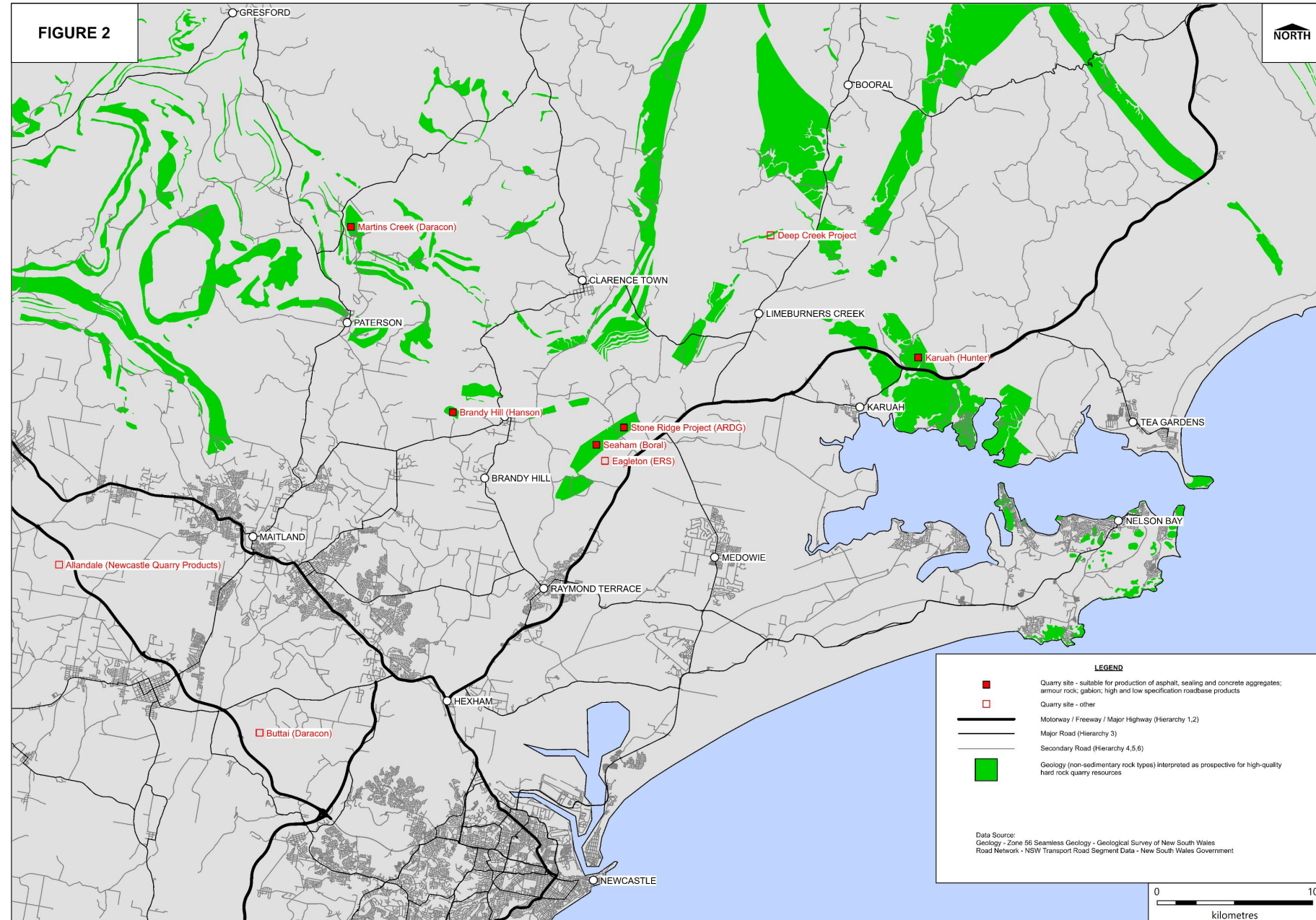
Key Constraints for Site Selection

- Detailed opportunities and constraints analysis undertaken to identify potential greenfield quarry sites for production of high-specification quarry products
- The analysis demonstrated very limited opportunities for locating a quarry site that could balance competing environmental, community, planning, transport and resource constraints
- With the exception of Stone Ridge, field investigations at other sites indicated significant potential environmental issues (e.g. old growth forest) that precluded further investigation
- The Stone Ridge Quarry is the only greenfield quarry site that can achieve an acceptable balance between competing key constraints



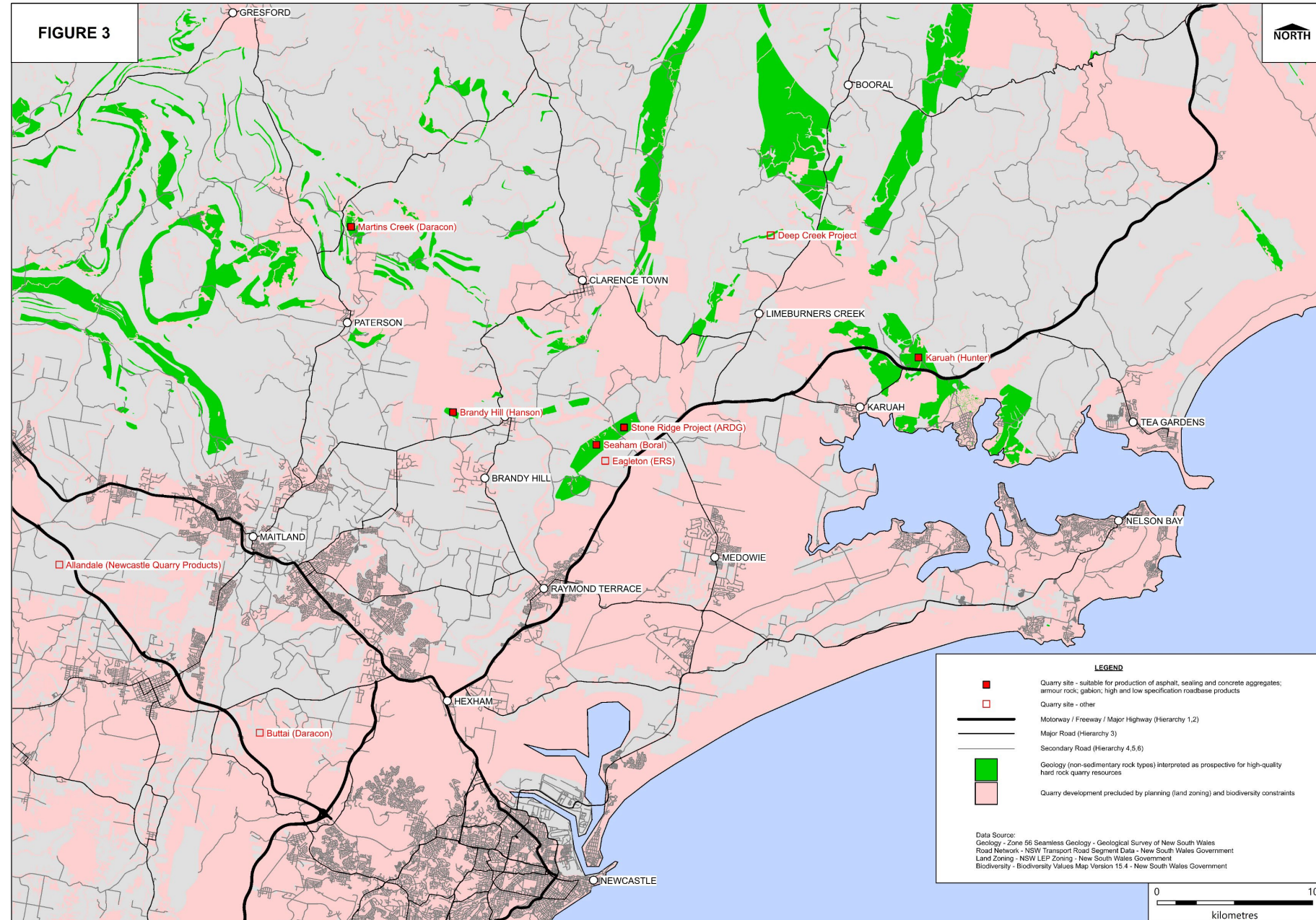
Key Constraint

- Prospective Geology (high-quality hard rock resources)



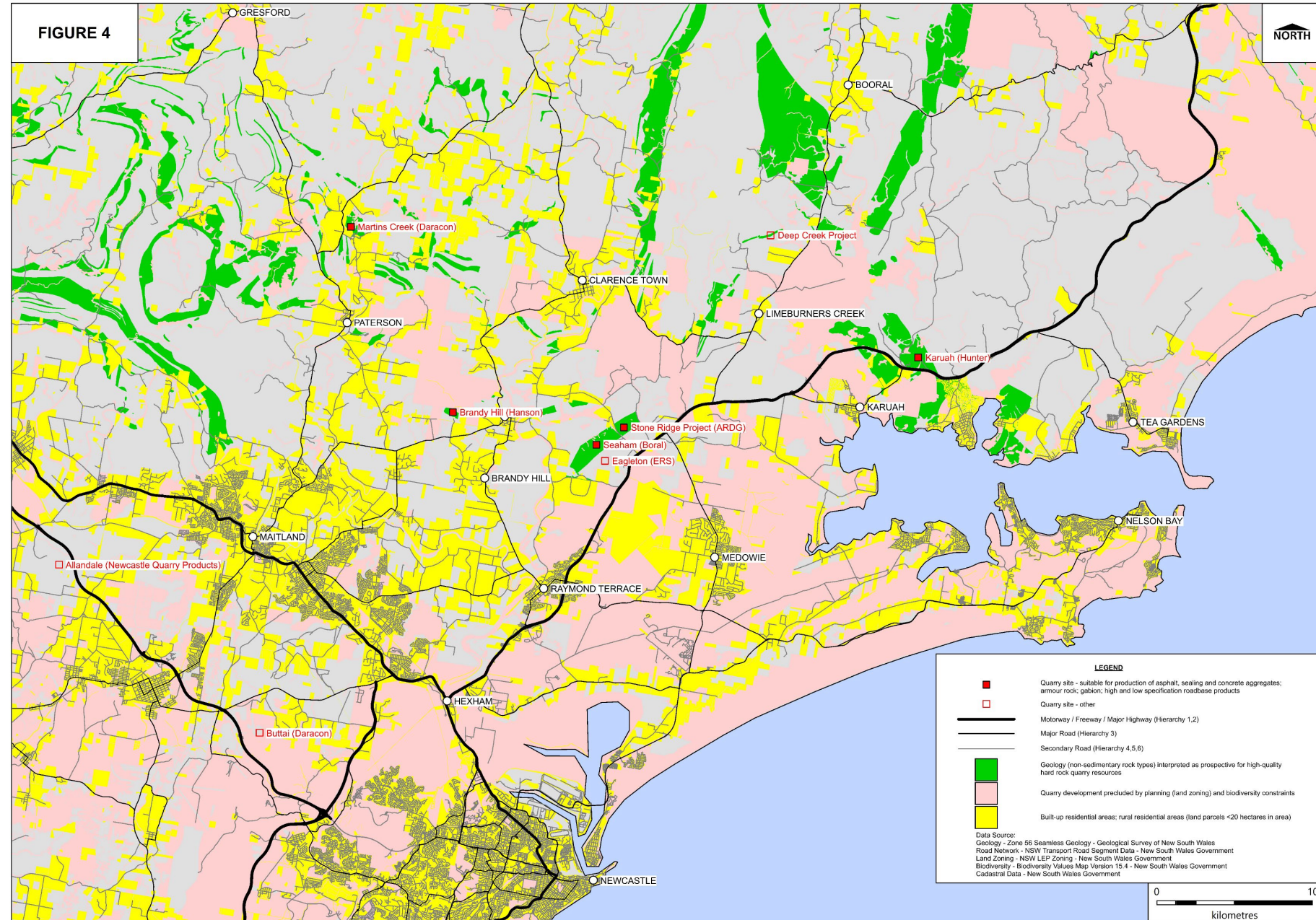
Key Constraints

- Biodiversity Values
- Land Use Planning



Key Constraint

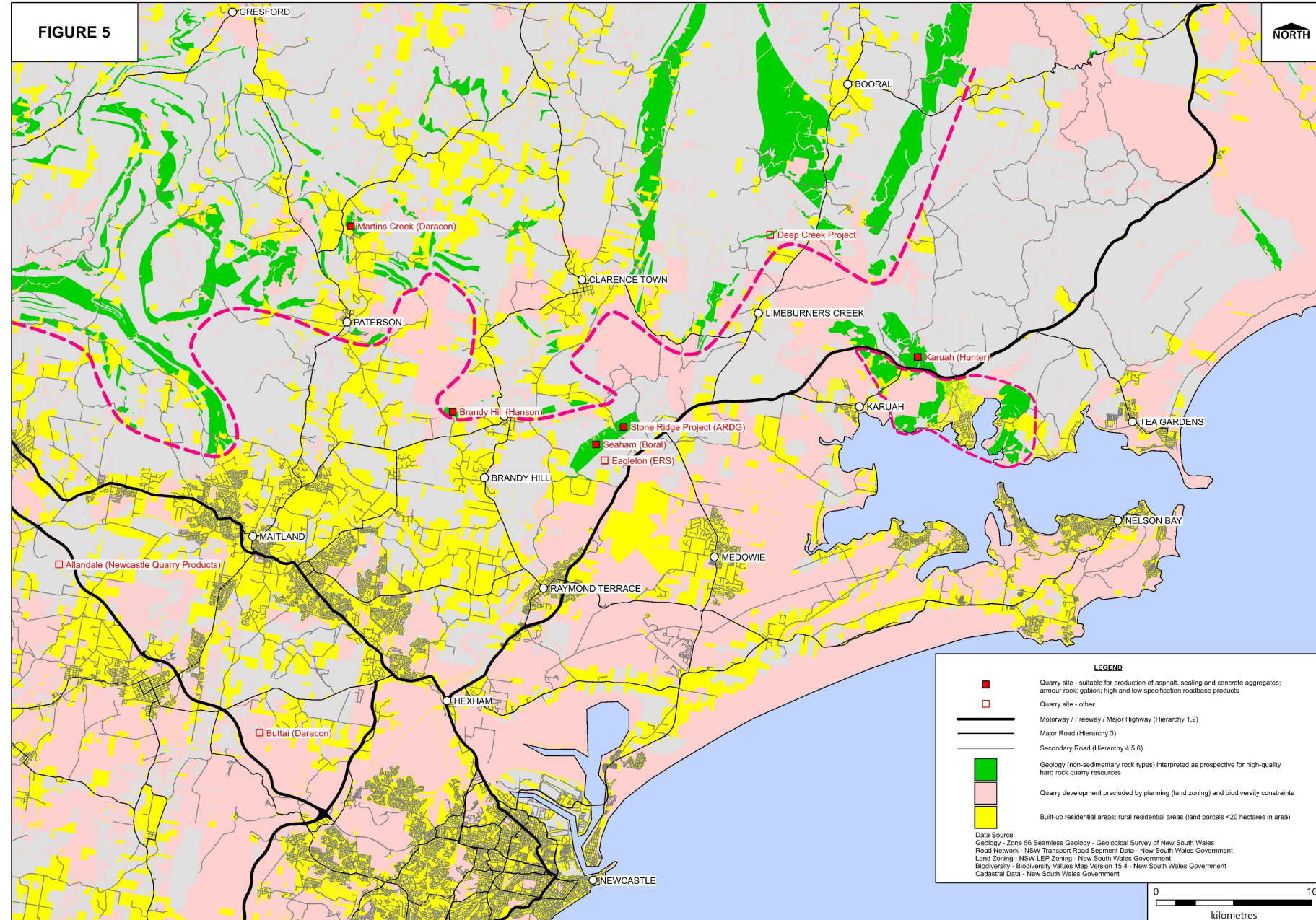
- Residential / rural residential areas



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Key Constraint

- Transport vs residential / rural residential
- Sites located north of (or within) the red dashed lines cannot access the major highway network without hauling through residential and rural residential areas

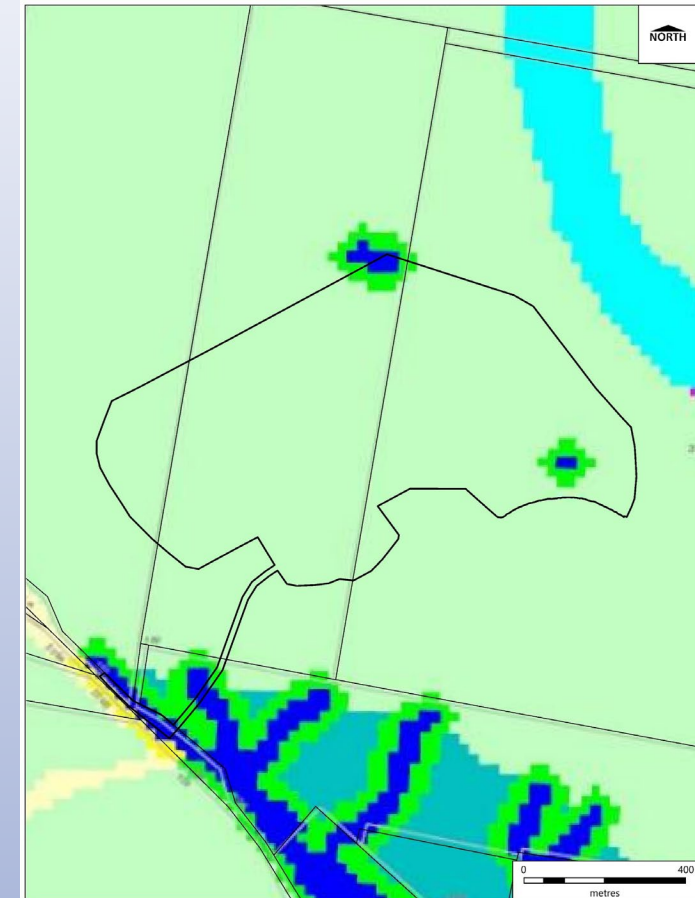
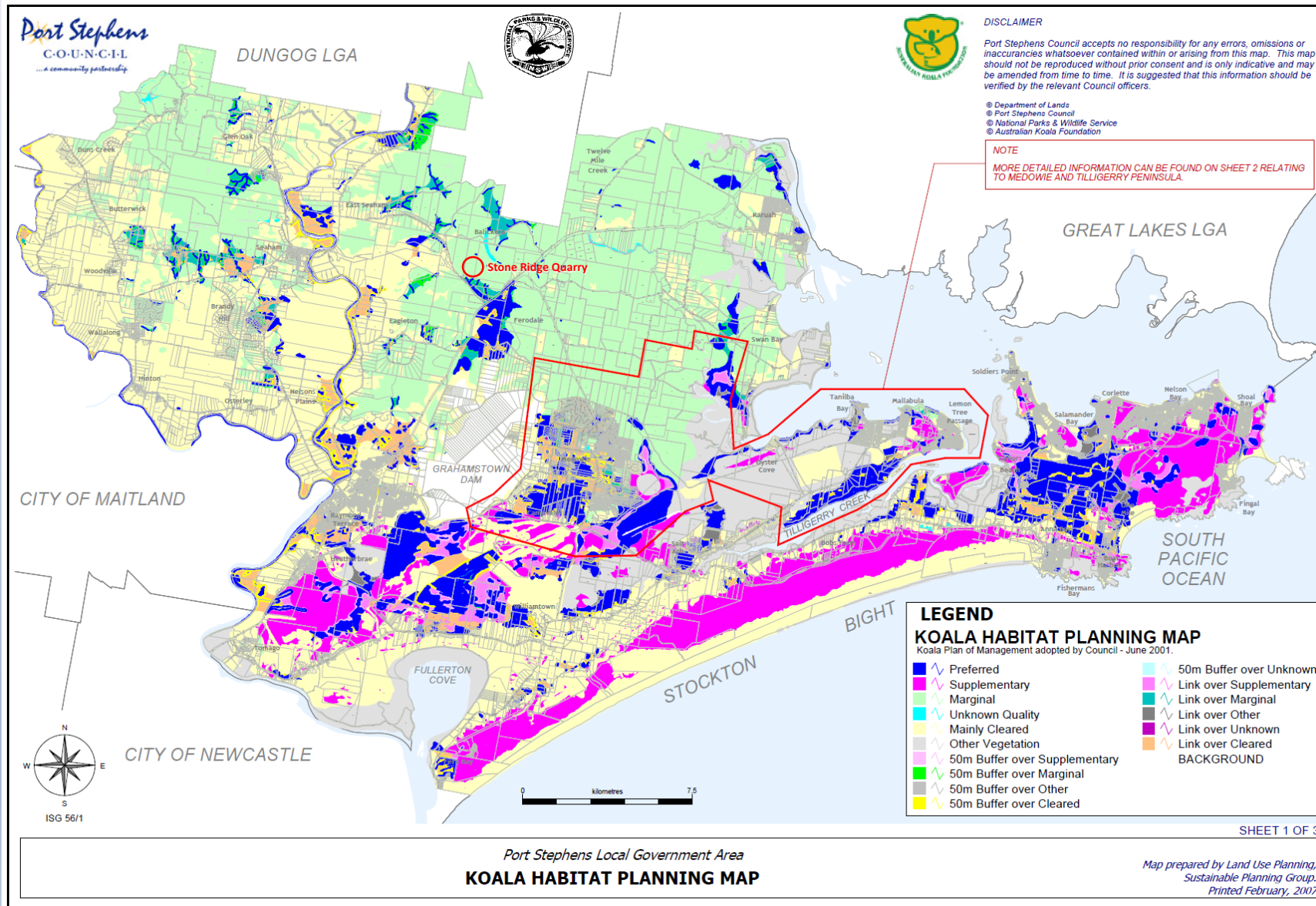


Stone Ridge – Favourable Site Attributes

- Long history of timber harvesting for mining industry (*i.e.* pit props)
- No old growth forest - vegetation is 'forest regrowth' now subject to regular high intensity fire
- Approximately 95 % of Site mapped as 'Marginal' koala habitat under Port Stephens Comprehensive Koala Plan of Management (CKPoM) – critical consideration for ARDG
- Geological resource has limited overburden and suited to production of critical high-specification quarry products
- Low probability of Aboriginal archaeological / heritage significance

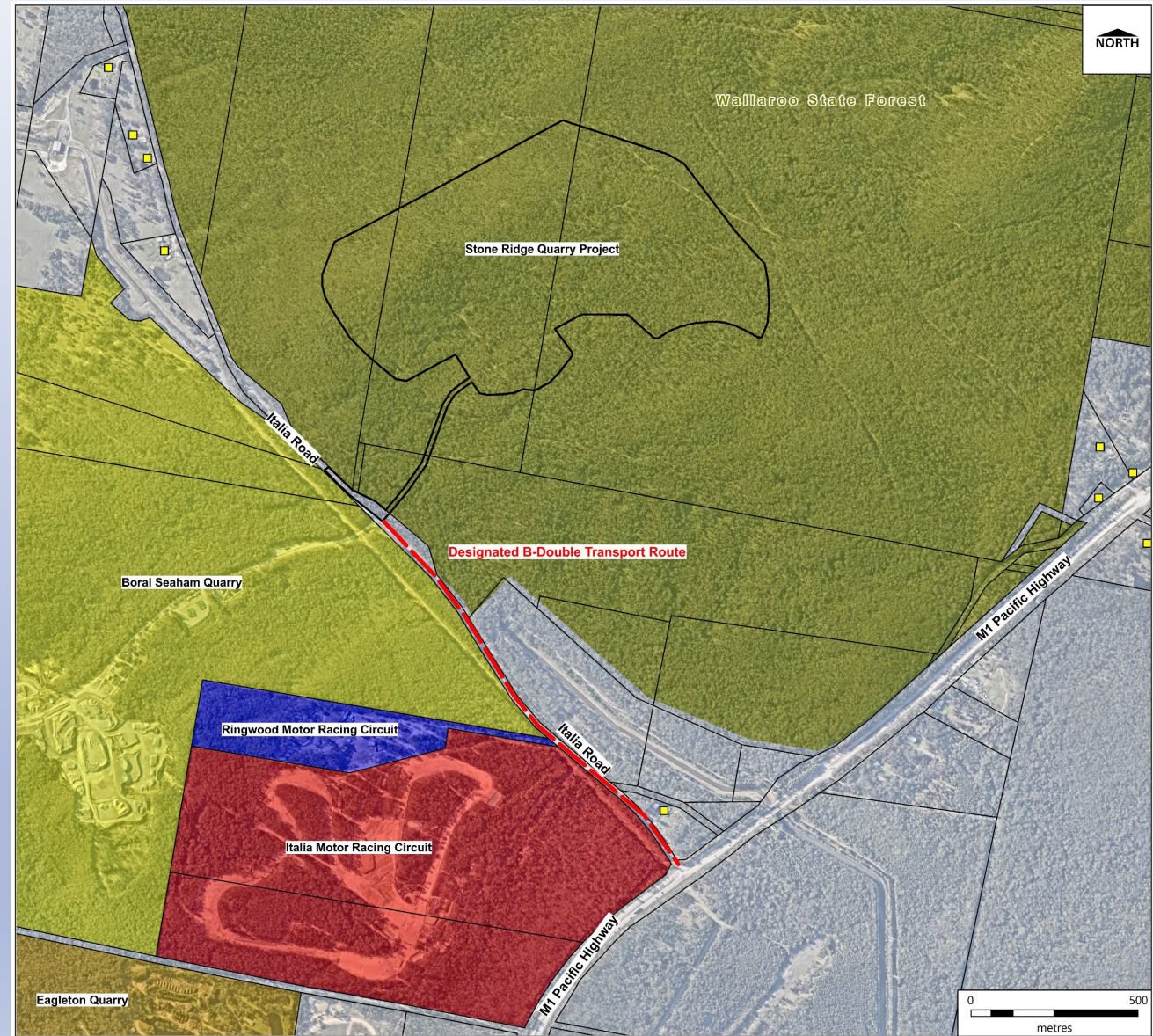


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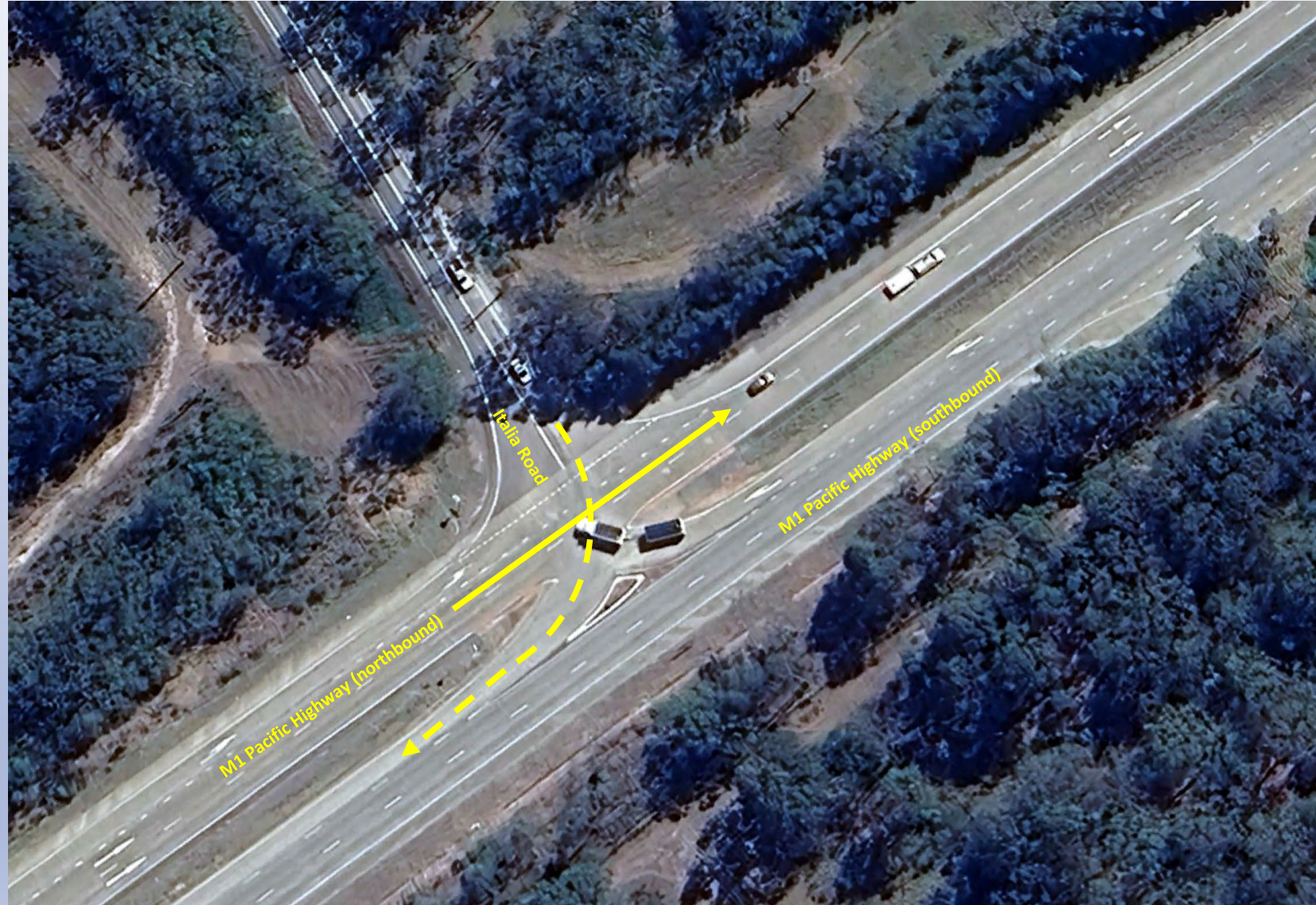
Stone Ridge – Favourable Site Attributes (cont.)

- Direct transport access to M1 Pacific Highway (1.4 km) along existing designated B-double transport route
- No requirement for transport through built-up / rural residential areas
- Relatively isolated from sensitive receptors
- Terrain favourable for maintaining visual amenity and shielding quarry operations from sensitive receptors
- Compatible with surrounding land use (e.g. adjacent quarry and motorsport facilities)



Stone Ridge – Key Challenge

- Need to address TfNSW and community concerns regarding existing safety issue at M1 Pacific Highway / Italia Road intersection
- Primary concern relates to heavy vehicle right turn out of Italia Road (*i.e.* southbound) across northbound carriageway of M1 Pacific Highway through current 'at-grade' intersection

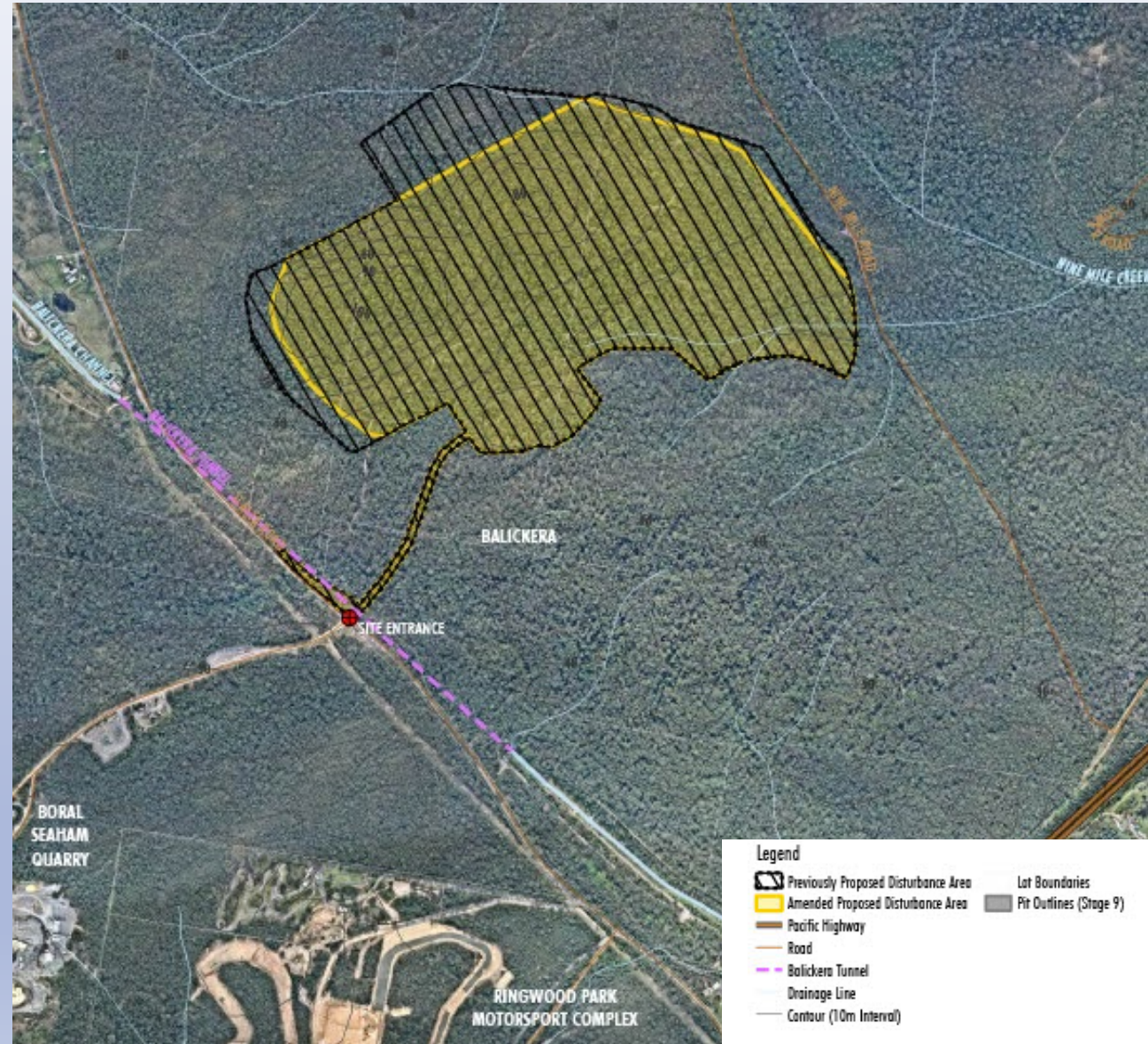


Stone Ridge – Detailed Site Evaluation

- Comprehensive resource assessment program / reporting undertaken by ARDG that included:
 - geological mapping
 - diamond drilling
 - surface and downhole geophysics
 - comprehensive geotechnical testing of bulk samples
 - petrography
- Iterative quarry design to minimise disturbance footprint (*i.e.* reduce potential impacts) and optimise resource extraction
- Detailed environmental impact assessment supported by a range of specialist studies
- Early stage and ongoing community engagement
- Extensive design work in consultation with TfNSW for the Pacific Highway / Italia Road intersection upgrade

Stone Ridge – Project Design Refinements

- Removal of originally proposed 'North Pit'
- 14 % reduction in disturbance area from 79 ha to 68 ha
- Increased separation distance to:
 - Sensitive receptors
 - Nine Mile Creek
 - Balickera Tunnel
- Increased width of wildlife corridor to west of site



Environmental Impact Assessment and Mitigation

Traffic and Access

- Pacific Highway / Italia Road intersection solution led by ARDG (five-year consultation process with TfNSW)
- Intersection upgrade will result in significant benefits to community by resolving existing safety issue
- No quarry materials to be transported from site prior to intersection upgrade
- Quarry trucks on Italia Road confined to existing B-double transport to Pacific Highway – no quarry trucks through Seaham
- Implementation of Traffic Management Plan (including Driver Code of Conduct)

Environmental Impact Assessment and Mitigation (cont.)

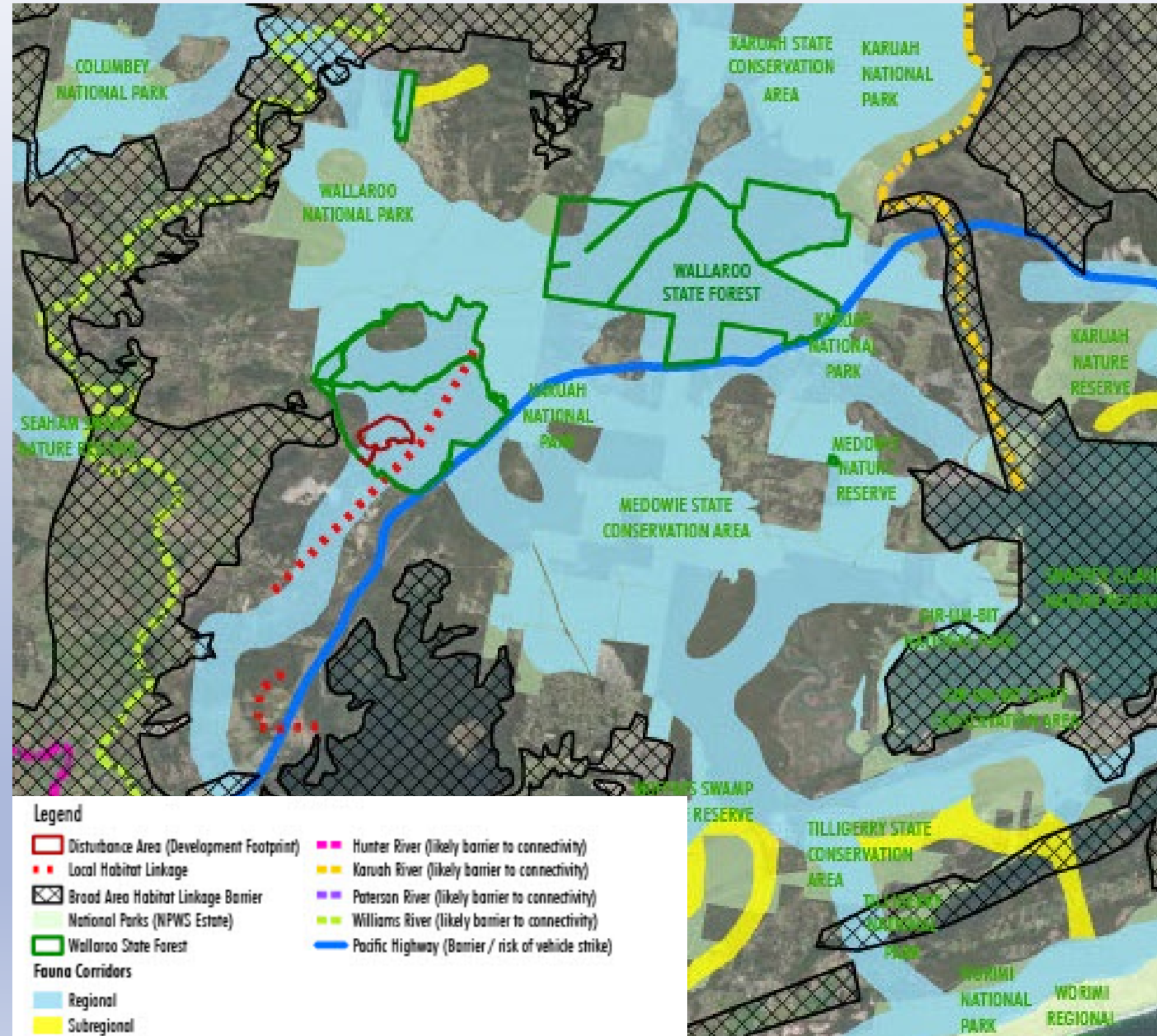
Biodiversity

- Extensive flora and fauna surveys on the site since 2017 including resurvey of site following rains in 2020. Surveys undertaken in accordance with the BAM
- Some biodiversity impacts are inevitable however the Project has been designed to minimise biodiversity impacts
- Site selection specifically considered the mapping of the site as being marginal koala habitat under the Port Stephens CKPoM
- Revised Project avoided impacts to Commonwealth listed Subtropical Eucalypt Floodplain Forest and Woodland EEC
- Management and mitigation measures will be implemented (*e.g.* pre-clearance surveys, fauna fencing, on-site speed limits)
- Residual impacts will be offset in accordance with the requirements of the *Biodiversity Conservation Act 2016*
- Further surveys proposed to verify presence/absence of Eastern Cave Bat (considered unlikely to be present but precautionary approach adopted to offsetting)
- Monitoring of bats in Balickera Tunnel and implementation of adaptive management plan proposed

Environmental Impact Assessment and Mitigation (cont.)

Regional Habitat Connectivity

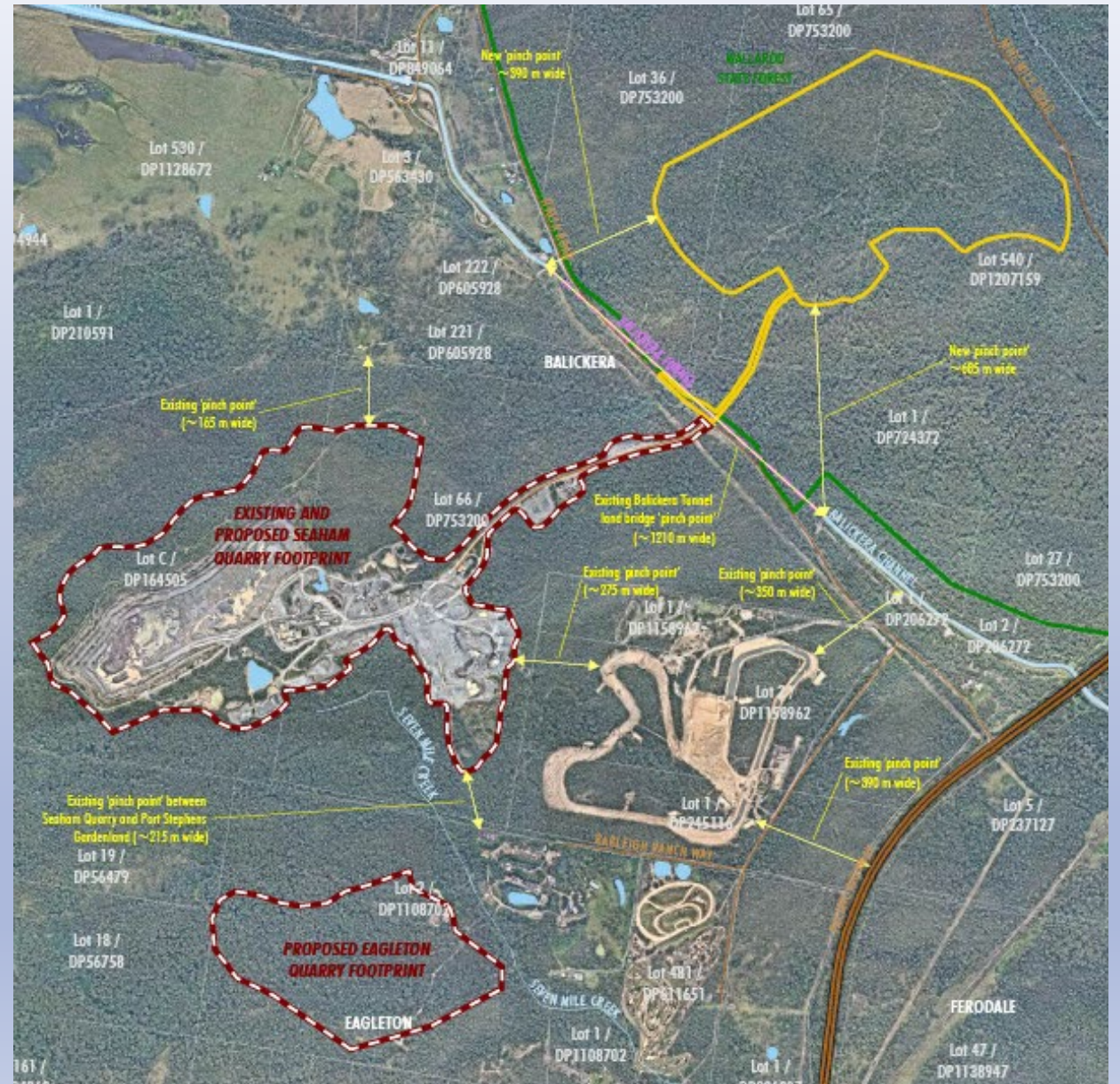
- Regional habitat corridors comprise a network of private land, National Parks and State Forests, including Wallaroo State Forest (WSF)
- WSF
 - directly connected to Wallaroo National Park, Karuah National Park and Karuah State Conservation Area
 - provides large areas of fauna habitat through existing intact vegetation
- Site located at southern limit of WSF – represents < 2 % of WSF and significantly smaller % of regional habitat corridors
- Minimal impact on regional habitat corridors



Environmental Impact Assessment and Mitigation (cont.)

Local Habitat Connectivity

- Project design has considered maintaining habitat connectivity – set back distances accommodate fauna movement around the Site via existing connections
- Retained habitat movement corridors around the Site are wider than existing ‘pinch points’ to the south associated with Pacific Highway, Italia Road, Balickera Canal, rural land and other development
- Mitigation and Management:
 - Quarry operations area will be fenced only (access road will not have fencing)
 - Driver Code of Conduct
 - Fauna crossing signage
 - Limited night-time operations (load-out only to 10pm)



Environmental Impact Assessment and Mitigation (cont.)

Surface Water

- Hunter Water requirement for Project to meet the Neutral or Beneficial Effect 'NorBE' standard
- Surface Water Assessment indicates that Project will meet this requirement

Groundwater

- Target geology and surrounding strata is hydraulically very 'tight'
- Predicted groundwater drawdown will be localised and modelling demonstrates no impacts to other water users and impacts to groundwater dependent ecosystems are unlikely
- Numerous monitoring bores installed on-site. Groundwater monitoring program will be continued and extended to include an additional bore to the north-west. Regular monitoring of water levels and water quality, as well as groundwater inflow rates to the quarry

Environmental Impact Assessment and Mitigation (cont.)

Noise / Vibration / Air Quality

- Modelling indicates no exceedance of criteria for noise / vibration / air quality. Criteria can be achieved due to distance to sensitive receptors and proposed management and mitigation
- Proposed monitoring of nearby resident's water tanks to address concerns raised re potential dust deposition
- Detailed blast impact assessment demonstrated compliance with criteria for public infrastructure
- Compliance monitoring for noise / vibration / air quality

Visual Impacts

- Site not visible from any vantage points/sensitive receptors (including at night, viz. light spill)

Aboriginal Cultural Heritage / Archaeology

- No sites recorded during survey
- No significant cultural values identified by Aboriginal parties consulted on Project

Environmental Impact Assessment and Mitigation (cont.)

Rehabilitation and Final Landform

- Detailed rehabilitation management strategy will be developed for the site and Quarry Closure Plan (three years prior to planned cessation of quarry operations)
- Site rehabilitation would revegetate areas disturbed areas and upper quarry benches with the pit void retained to capture surface water flows enabling a pit lake to form in the void
- Access to the void would be maintained for safety purposes and also to enable access to pit lake for fire fighting purposes
- Potential for progressive rehabilitation will be limited given that most quarry benches will remain 'active' throughout life of operation

Environmental Impact Assessment and Mitigation (cont.)

Community Consultation

- Community Consultative Committee established in 2023
- Three meetings held to date
- Next meeting scheduled for 6 November 2024
- Issue of most concern relates to potential traffic impacts of the Project
 - Managed through restriction of quarry trucks to existing B-double transport route on Italia Road between the Site and Pacific Highway and intersection upgrade
 - Recent Council decision to reduce speed limit along Italia Road to 80 km/hr will also mitigate potential impacts

Environmental Impact Assessment and Mitigation (cont.)

Social and Economic Impacts / Benefits

- Key issues raised – cumulative traffic movements and road safety, local biodiversity impacts (specifically loss of habitat) and potential decline in property value
- Impacts will be appropriately mitigated through the implementation of proposed environmental management and mitigation measures including continued consultation through CCC and engagement strategy
- Local community will directly benefit from proposed Pacific Highway / Italia Road intersection upgrade
- Key Economic Benefits:
 - Net production benefits to NSW of \$290 M (present value at 7 % discount rate) and provide the following annual direct and indirect effects to the local economy:
 - \$102 M in output (direct and indirect to regional economy)
 - \$58 M in value-added to regional economy
 - \$14 M in gross wages
 - 176 jobs (47 direct and 129 indirect)

Project Justification

- Would significantly ameliorate the supply shortfall of high-specification quarry products required for supporting the construction of forecast growth and associated critical public infrastructure and housing in the LHCC region. This includes highways and local roads, bridges, hospitals, retail centres and sporting facilities
- Provides access to a public resource that has been long recognised by government and industry as being optimally located to support future growth in the LHCC region
- Most optimally located greenfield quarry site remaining in the LHCC with respect to competing environment, community, planning and transport factors, with minimal and manageable impacts on the environment and community
- Site was specifically targeted due to being mapped as marginal koala habitat by the Port Stephens Council CKPoM. The Project's impacts to koala habitat values will be fully offset in accordance with the *Biodiversity Conservation Act 2016*
- Resources from the quarry would be used for public and private projects which would be of significant benefit to both existing and future generations. The Project's proximity to the Pacific Highway and use of a designated B-double haulage route already used by existing quarries would avoid additional impacts on communities not currently affected by resource extraction activities

Project Justification (cont.)

- Alternate greenfield quarry sites are all located a greater distance from the market. If developed, these would have a significantly greater impact on residential and rural residential communities due to:
 - a greater number of heavy vehicle movements required to deliver the same quantity of materials over much greater distances
 - increased road safety risks as a result of greater potential for heavy vehicle / light vehicle interactions on the local road network
 - increase damage to the local road and associated higher road maintenance costs
 - higher greenhouse gas emissions
- Many alternate sites (including brownfield expansions) are located in relatively undisturbed, vegetated areas with similar or higher environmental values compared to the Stone Ridge site
- Project is consistent with the principles of ESD in that it would assist in meeting the needs of the broader community for high quality hard rock resources needed to support public and private development in the LHCC region, while minimising the extent of environment and social impacts and avoiding potentially significant environmental impacts through project design features and proposed mitigation and management measures