SNOWY MONARO REGIONAL COUNCIL

ATTACHMENTS TO REPORTS PART 2

(Under Separate Cover)

Ordinary Council Meeting

16 May 2024

ATTACHMENTS TO REPORTS
FOR
ORDINARY COUNCIL MEETING
THURSDAY 16 MAY 2024

Page No.

SNOWY MONARO REGIONAL COUNCIL

CONDITIONS OF CONSENT

10.2021.325.1

Part A – Administrative Conditions

Reason for imposition of conditions: Unrestricted consent may affect the environmental amenity of the area and would not be in the public interest.

ADM_01 - Endorsed plans and supporting documentation

Reason

To ensure all parties are aware of the approved plans and supporting documentation that applies to the development

Development must be carried out in accordance with the following plans and documentation, except where amended by Council and/or the conditions of this development consent.

Plan No.	Plan Title.	Drawn By.	Date
1710-2	Cover Page	OCRE	undated
1710-2-P01GA_C	The General Arrangement Plan	OCRE	20/12/2023
1710-2-P02GA_C	Proposed Plan of Subdivision (1)	OCRE	20/12/2023
1710-2-P03GA_C	Proposed Plan of Subdivision (2)	OCRE	20/12/2023
SD002	Residual Lot plan	Vision Property Development Hub	02/04/2024

Approved documents

Document Title.	Rev	Prepared By.	Date
Statement of Environmental Effects	2	Vision Property Development Hub	19/04/2023
S37 Letter Amendment		Vision Property Development Hub	16.05.2023
Biodiversity Assessment Report	V.1	South East Environmental	Dec 2022
Bushfire Assessment Report	1.0	Blackash	January 2023
Addendum to Bushfire Report	-	Blackash	08.11.2023
Aboriginal Due Diligence Assessment Report	3	Apex Archaeology	January 2023

PO Box 714 COOMA NSW 2630 | 1300 345 345 | council@snowymonaro.nsw.gov.au | www.snowymonaro.nsw.gov.au

In the event of any inconsistency between the approved plans and the supporting documentation, the approved plans prevail. In the event of any inconsistency between the approved plans and a condition of this consent, the condition prevails. Note: an inconsistency occurs between an approved plan and supporting documentation or between an approved plan and a condition when it is not possible to comply with both at the relevant time.

ADM_02 - Inconsistency between documents **Reason**

In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, the conditions of this consent prevail.

ADM_07 Aboriginal Objects **Reason**

No Aboriginal objects may be harmed without an approval from Heritage NSW.

To ensure compliance with the provisions of the National Parks and Wildlife Act.

Part B – Other Approvals

OA_01 Separate Section 138 Permit - Roads Act 1993 **Reason**

Notwithstanding the issue of this development consent, separate consent from Council under Section 138 of the Roads Act 1993, must be obtained prior to any works taking place on a public road including the construction of a new driveway access (or modification of access) and prior to the issue of an occupation certificate. Applications for consent under Section 138 must be submitted on Council's standard application form and be accompanied by the required attachments and prescribed fee.

Part D – Prior To the Commencement of Works

SUB_01 Prior to the commencement of works **Reason**

Construction of subdivision works (including clearing, earthworks, demolition or other works) must not commence unless the following have been satisfied:

A. Subdivision Works Certificate for those works has been issued by Council in conformity with the relevant provisions of the Environmental Planning and Assessment Act and related Regulations.

SUB_02 Pre-commencement Meeting **Reason**

Prior to the commencement of subdivision works for each stage of development, the developer and contractor shall meet on site with Council's representative to review the scope of works, soil and water management control measures and the inspection and testing regime. The developer or his representative shall make arrangements with Council for this meeting not less than seven days in advance.

SUB_04 Soil and Water Management **Reason**

The developer shall prepare and implement an effective Soil and Water Management Plan in conformity with Council's Development Design and Construction Specifications prior to the commencement of any works on site and shall maintain the control measures until after the effective stabilisation and revegetation of the site.

No Subdivision Works Certificate shall be issued for this development until the certifying authority (Council or accredited certifier) is satisfied that the Soil and Water Management Plan satisfies this condition.

SUB_05 Construction Environmental Management Plan (CEMP) **Reason**

A Construction Environmental Management Plan must be developed and implemented prior to the commencement of any works, to the satisfaction of the Council. The construction environmental management plan must include the following measures, as applicable to the type of development:

- location and construction of protective fencing to the perimeter site disturbance;
- location of site storage areas/sheds/equipment;
- location of building materials for construction;
- location of stockpiles;
- provisions for public safety;
- dust control measures;
- site access location and construction
- details of methods of disposal of demolition materials;
- protective measures for tree preservation;

To ensure that appropriate measures have been considered during all phases of the construction process in a manner that maintains the environmental amenity and ensures the ongoing safety and protection of people.

- provisions for temporary sanitary facilities;
- location and size of waste containers/bulk bins;
- details of proposed sediment and erosion control measures;
- provisions for temporary stormwater drainage;
- construction noise and vibration management;
- construction traffic management details.

The site management measures must be implemented prior to the commencement of any site works and must be in place throughout the works, to the satisfaction of Council. A copy of the Construction Environmental Management Plan must be provided to Council prior to commencing site works.

SUB_06 Protection of Electricity Infrastructure **Reason**

Essential Energy's records indicate there is electricity infrastructure located within the property. Any activities within this location must be undertaken in accordance with the latest industry guideline currently known as ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure.

SUB_07 Work in areas with existing Electricity Infrastructure **Reason**

Given there is electricity infrastructure in the area, it is the responsibility of the person/s completing any works around powerlines to understand their safety responsibilities. SafeWork NSW (www.safework.nsw.gov.au) has publications that provide guidance when working close to electricity infrastructure. These include the Code of Practice - Work near Overhead Power Lines and Code of Practice - Work near Underground Assets.

PCW_08a Before You Dig Australia **Reason**

Prior to carrying out any works, a "Before You Dig Australia" enquiry should be undertaken in accordance with the requirements of Part 5E (Protection of Underground Electricity Power Lines) of the Electricity Supply Act 1995 (NSW).

To protect electricity assets from damage during construction works.

In addition, the Before You Dig Australia enquiry must be current at the time of undertaking the construction activity in accordance with the requirements of the Infrastructure Asset Owner'.

SUB_09 Environmental Management Documentation **Reason**

Prior to the commencement of works, the developer shall provide the following documentation to Council:

a) details of the sediment and erosion control devices to be installed; including proposed locations.

b) details of the protective fencing to be installed around hollow bearing trees and habitat trees; including proposed locations.

c) location details of all hollow bearing trees and habitat trees, particularly paddock trees to be retailed; as referred to in the approved Biodiversity Assessment Report.

d) A stormwater management plan for use during all stages of the construction to reduce the impacts of changed water quality and quantity.

Part E – During Construction

DC_05 Use of Power Tools - Residential and Village Areas

Reason

To ensure building works do not have adverse effects on the amenity of the area.

The developer is to ensure that work on the development site by all persons using power tools and equipment is limited to the following hours:

Monday to Friday:	7.00am to 6.00pm
Saturday:	7.00am to 5.00pm
Sunday:	No work
Public Holidays:	No work

DC_10 Contaminated, scheduled, hazardous or asbestos materials

Reason

Should any contaminated, scheduled, hazardous or asbestos material be discovered before or during construction works, the owner, principal contractor or owner-builder must ensure the appropriate regulatory authority (for example: Office of Environment and Heritage, SafeWork NSW, Council, Fire and Rescue NSW) is notified, and that such material is contained, encapsulated, sealed, handled or otherwise disposed of the appropriate regulatory authority.

DC_11 Archaeology – Unexpected Finds

Reason

To ensure the protection of objects of potential significance during works

If any Aboriginal object(s) is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the applicant must:

- Not further harm the object(s).

- Immediately cease all work at the particular location.
- Secure the area so as to avoid further harm to the Aboriginal object(s)
- Notify Heritage NSW as soon as practical by calling 131 555 or emailing: info@environment.nsw.gov.au, providing any details of the Aboriginal object(s) and its location
- Not recommence any work at the particular location unless authorised in writing by Heritage NSW.

All Aboriginal cultural heritage items must be mapped as polygons on all subdivision and operational plans to ensure these areas are not inadvertently impacted.

If harm to Aboriginal objects cannot be avoided, an application for an Aboriginal Heritage Impact Permit (AHIP) must be prepared and submitted to Heritage NSW before work may continue.

In the event that skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and Heritage NSW contacted.

DC_23 Approved Plans on Site **Reason**

A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification will be kept on the site at all times during construction and will be readily available for perusal by any officer of the Council or the PCA.

To the works are being completed in accordance with the approved plans.

DC_24 Public Access and Site Security **Reason**

It is the responsibility of the applicant to restrict public access to the building site, building works or materials or equipment on the site when building work is not in progress or the site is otherwise unoccupied.

The ensure community is safe from the construction works.

DC_25 Environmental Management Measures **Reason**

During all works associated with the development, the developer shall implement and maintain the following to the satisfaction of Council:

a) sediment and erosion control devices;

b) stormwater management system;

c) protective fencing around habitat trees to be retained.

All measures must be erected prior to the start of earthworks and should be removed after the earthworks and all construction is complete;

DC_26 Dust Control Measures **Reason**

Adequate measures will be taken to prevent dust from affecting the amenity of the neighbourhood during construction. In particular, the following measures must be adopted:

To reduce impact on surrounding properties during construction.

a) Physical barriers will be erected at right angles to the prevailing wind direction or will be placed around or over dust sources to prevent wind or activity from generating dust emissions,

b) Earthworks and scheduling activities will be managed to coincide with the next stage of development to minimise the amount of time the site is left cut or exposed, All materials will be stored or stockpiled at the best locations,

c) The surface should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs,

d) All vehicles carrying spoil or rubble to or from the site will at all times be covered to prevent the escape of dust or other material,

e) All equipment wheels will be washed before exiting the site using manual or automated sprayers and drive-through washing bays,

f) Gates will be closed between vehicle movements and will be fitted with shade cloth, and Cleaning of footpaths and roadways will be carried out regularly.

DC_27 Revegetation Works **Reason**

At the completion of site works the following landscaping works are to be carried out:

a) all disturbed areas are to be weed free hay mulched.

b) topsoil is spread over all disturbed areas with priority given to cut and fill batters;

c) All disturbed areas are re-vegetated using drylands grass mix with a complete fertiliser;

PART I – SUBDIVISION ENGINEERING

SUB_08 Works as Executed Plans **Reason**

Upon completion of the subdivision works for each stage of the development, the developer shall provide Council with a complete set of plans of the works as constructed, detailing all variations from the approved plans and to the acceptance of the Council's Development Engineer.

To ensure adequate records are made of systems installed.

The Works-As-Executed plans shall be submitted to Council in electronic format (.pdf) and must be prepared and certified by a Registered Surveyor or Chartered Professional Engineer and define the location of all water supply, sewerage and, stormwater infrastructure to the acceptance of the Council's Development Engineer.

SUB_10 Electricity Service Easements **Reason**

As part of the subdivision, an easement/s are/is created for any existing electrical infrastructure. The easement/s is/are to be created using Essential Energy's standard easement terms current at the time of registration of the plan of subdivision.

Note - Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the above property should be complied with.

SUB_11 Maintenance Period for Subdivision Works **Reason**

The developer shall carry out any maintenance works required to the completed subdivision works and shall rectify any defects becoming apparent within a period of twelve months after the date that Council accepts that the works have reached practical completion. Prior to the release of the Subdivision Certificate, the developer shall provide Council with financial security (cash bond or unconditional bank guarantee) for compliance with this condition in an amount of five percent of the value of the subdivision works. The developer shall pay to Council a Bond Administration Fee in accordance with Council's Fees and Charges.

SUB_12 Electricity Servicing **Reason**

All proposed lots in the subdivision shall be serviced with electricity at no cost to Council. A "Notice of Arrangement" from Essential Energy shall be sufficient to establish compliance with this condition.

To ensure that each proposed lot in the subdivision will be provided with an electricity connection at no cost to Council and no cost to the future lot owner.

Alternatively, the s. 88B Instrument include a restriction on title that notes each will not be serviced by mains electricity at the time of the creation of the allotment.

SUB_13 Telecommunication Servicing **Reason**

The developer shall make arrangements for the provision of telephone services to each proposed lot in the subdivision at no cost to Council and no cost to the future lot owner. Prior to the endorsement of a subdivision certificate, the developer shall submit to the Principal Certifying Authority written notification from a recognized telecommunications carrier to confirm that arrangements have been undertaken to satisfy this condition.

SUB_15 Traffic Control **Reason**

The developer shall ensure that traffic control measures are implemented for all works within public roads in conformity with Traffic Control Plans prepared and approved by a competent person accredited by Transport for NSW. A traffic control plan prepared and approved by a competent person accredited by the Transport for NSW must be submitted to Council for each stage of development if working on a public road prior to the issue of an approved subdivision certificate.

SUB_19 Independent services **Reason**

Each lot shall be provided with independent services i.e. electricity, gas, telecommunications, sewer and water, and inter-allotment drainage, all in accordance with the requirements of the relevant authority.

SUB_34 Restrictions on Use - 88B Instrument **Reason**

The applicant must provide an 88B instrument with the application for a Subdivision Certificate with the following restrictions:

- No buildings or structures are permitted within 100m of the high-water mark of Snake Creek.
- Building Envelopes as indicated on the approved plan/s.

SUB_35 Owners Consent - Neighbouring Properties **Reason**

Evidence of owners consent shall be submitted to Council prior to the issue of a Subdivision Works Certificate for any works proposed on any lot not part of this application.

Compliance Certificate Inspections (For information only - this is NOT a condition of consent)

The developer must obtain a Compliance Certificate, either from Council or an approved certifier to demonstrate that all subdivision works have been completed. The subdivision works must be inspected by Council's inspector at each of the following stages of construction to confirm compliance with the standards set out in Council's Development Design and Construction Specifications.

(a) After placement of all signs in accordance in with the approved Traffic Control Plan.

(b) After stripping of topsoil from roads and fill areas, all Soil and Water Management Plan controls shall be in place at this stage.

(c) After completion of road subgrade.

(d) During field density testing, string line checking and proof rolling of the finished subgrade.

(e) After placement of water service conduits prior to backfilling.

(f) After placement and compaction of each layer of gravel pavement material.

(g) During field density testing, string line checking and proof rolling of each finished gravel pavement layer.

(h) During application of bitumen seal or asphaltic concrete wearing surface.

(i) After laying and jointing of all water supply pipelines prior to backfilling and after installation of all water meters.

(j) After laying and jointing of all sewerage pipelines prior to backfilling.

(k) During pressure testing of all water supply pipelines.

(l) During pressure testing of all sewerage pipelines.

(m) During testing of all sewer manholes.

(n) After completion of works prior to acceptance and commencement of "on-maintenance" period.

(o) During the "off-maintenance" period inspection.

(p) As otherwise required to confirm that the works are satisfactorily executed and in conformity with environmental controls.

It should be noted that Council charges fees for inspections and Compliance Certificates.

These fees must be paid prior to the endorsement of a Subdivision Certificate.

SUB_40 Battle-Axe - Stage 2A – Lot 229,230,206	**Reason**
The developer shall provide a driveway for the entire length of the access corridor to battleaxe lots 229,230,206 in conformity with Council's Development Design and Construction Specifications, to include the following:	*Reason to seal: Battle-axe handle is longer than permitted length of Battle-axe in R5*

a) A minimum 10m wide access handle
b) concrete or bitumen sealed pavement not less than 3.0 metres wide for single lot and 3.5 for 2 lots.
c) minimum concrete thickness 150mm
d) minimum concrete strength grade 25MPa
e) minimum reinforcement SL72 steel mesh
f) suitable stormwater drainage

zoning in the CM DCP and building envelopes of proposed lots 228, 229 and 205 are less than 100m distance from the centre line of the battle-axe.

SUB_41 Road Construction – Road 1 – Stage 2A **Reason**

Compliance with CM Development Engineering standards.

The plan of subdivision shall include the dedication of proposed Road 1 as a public road, not less than 20 metres wide as shown on the Approved Development Plan. This road shall be constructed in conformity with Council's Specification for Engineering Works, including:

(a) 6.6 m wide bitumen sealed pavement for the full length of the road

(b) Storm water and subsoil drainage works.

(c) Minimum 1.5m wide table drains on each side of the pavement

(d) Erection of road name signs.

(e) Installation of guideposts, protection fencing, pavement markings and signposting.

(f) The road name must be approved by Council in advance and must be shown on the final plan of subdivision.

(g) The crossing of Snake Creek shall be designed for 1% AEP flood event.

(h) All the works shall be designed and constructed in accordance with Cooma Monaro Shire Design and Construction specification.

(i) A suitable temporary vehicle turning facility (minimum 12.5 metre radius) at the end of Road 1. Until proposed road 4 is constructed.

SUB_42 Road Construction – Road 2 – Stage 2A **Reason**

Compliance with CM Development Engineering standards.

The plan of subdivision shall include the dedication of proposed Road 2 as a public road, not less than 20 metres wide as shown on the Approved Development Plan. This road shall be constructed in conformity with Council's Specification for Engineering Works, including:

(a) 6.6 m wide bitumen sealed pavement for the full length of the road

(b) Storm water and subsoil drainage works.

(c) Minimum 1.5m wide table drains on each side of the pavement

(d) Erection of road name signs.

(e) Installation of guideposts, protection fencing, pavement

markings and signposting.

(f) The road name must be approved by Council in advance and must be shown on the final plan of subdivision.

(g) The crossing of Snake Creek shall be designed for 1% AEP flood event.

All the works shall be designed and constructed in accordance with Cooma Monaro Shire Design and Construction specification.

SUB_43 Road Construction – Road 3 – Stage 2A **Reason**

The plan of subdivision shall include the dedication of proposed Road 3 as a public road, not less than 20 metres wide as shown on the Approved Development Plan. This road shall be constructed in conformity with Council's Specification for Engineering Works, including:

Compliance with CM Development Engineering standards.

(a) 6 m wide bitumen sealed pavement for the full length of the road

(b) Storm water and subsoil drainage works.

(c) Minimum 1.5m wide table drains on each side of the pavement

(d) Erection of road name signs.

(e) Installation of guideposts, protection fencing, pavement markings and signposting.

(f) The road name must be approved by Council in advance and must be shown on the final plan of subdivision.

(g) A suitable vehicle turning facility (minimum 12.5 metre radius) at the end of Road 3.

(h) The crossing of Snake Creek shall be designed for 1% AEP flood event.

All the works shall be designed and constructed in accordance with Cooma Monaro Shire Design and Construction specification.

SUB_44 Road Construction – Road 4 – Stage 2A **Reason**

The plan of subdivision shall include the dedication of proposed Road 4 as a public road, not less than 20 metres wide as shown on the Approved Development Plan. This road shall be constructed in conformity with Council's Specification for Engineering Works, including:

(a) 8 m wide bitumen sealed pavement for the full length of the road (From the intersection of Road 1 and road 4 to the intersection of road 4 and road 2)

(b) Storm water and subsoil drainage works.

(c) Minimum 1.5m wide table drains on each side of the pavement

(d) Erection of road name signs.

(e) Installation of guideposts, protection fencing, pavement markings and signposting.

(f) The road name must be approved by Council in advance and must be shown on the final plan of subdivision.

(g) The crossing of Snake Creek shall be designed for 1% AEP flood event.

All the works shall be designed and constructed in accordance with Cooma Monaro Shire Design and Construction specification.

SUB_45 Road Construction – FT 1 and FT 2 – Stage 2A **Reason**

The plan of subdivision shall include the dedication of proposed road FT 1 and FT 2 as a public road, not less than 20 metres wide as shown on the Approved Development Plan. This road shall be constructed in conformity with Council's Specification for Engineering Works, including:

(a) 5.5 m wide bitumen sealed pavement for the full length of the road
(b) Storm water and subsoil drainage works.
(c) Minimum 1.5m wide table drains on each side of the pavement
(d) Erection of road name signs.
(e) Installation of guideposts, protection fencing, pavement markings and signposting.
(f) The road name must be approved by Council in advance and must be shown on the final plan of subdivision.

All the works shall be designed and constructed in accordance with Cooma Monaro Shire Design and Construction specification.

SUB_46 Vegetation management **Reason**

The developer shall implement the following management measures during works:

- Install sediment and erosion control devices prior to clearing or earthmoving works;
- Identify and mark, to Councils satisfaction, hollow bearing trees for retention, particularly paddock trees;
- remove any exotic weed species listed as a Weed of National Significance as determined by the NSW Department of Primary Industries;
- Install protective fencing around habitat trees to be retained. Fencing should be erected prior to the start of earthworks and should be removed after the earthworks and construction is complete;
- Development of a stormwater management plan and submit to Council prior to the commencement of works, including clearing

and earthmoving works. The plan must be implemented during all stages of the construction to reduce the impacts of changed water quality and quantity.

Note: It is also recommended that the owner investigates a Biodiversity Stewardship Site to enhance the biodiversity quality of remaining bushland areas within the subject property.

PART J – AGENCY SPECIFIC CONDITIONS

AS_01 Agency Specific **Reason**

General Conditions

For administrative purposes these General Terms of Agreement apply to Council ref 10.2023.150.1

1. The development proposal is to generally comply with the following plans/documents except where amended by the conditions of this Bush Fire Safety Authority.

- The plan titled "Rural Residential Subdivision - Aratula Hills Stage 2", drawn by Osgood Civil Resource Engineering. Job no 1710-2, dated 20/12/2022.
- The bush fire assessment titled "Bushfire Hazard Assessment, Large Lot Subdivision, Towrang Vale Road, Cooma. Aratula - Stage 2", Prepared by BlackAsh Bushfire Consulting. Project ref J2988, dated 31 January 2023.
- The additional information provided by Blackash dated 8 November 2023.

2. In recognition of the isolated nature of the vacant lots, at the issue of a Subdivision Certificate, a suitably worded legal instrument shall be created over all proposed Lots which requires;

- Future dwellings are situated within 200 metres of the public road;
- Future dwellings to be sited in a location which ensures that the dwelling will not be exposed to radiant heat levels that exceed 29kw/m2;
- As per the recommendations contained within the additional information provided by Blackash, dated 8th November 2023, lots 201 to 211 (Inclusive) and 213 to 215 (inclusive) are not benefitted by the provision of a suitable perimeter road and therefore shall have a suitably worded legal instrument which requires that any subsequent proposal for the construction on subject lots shall include;
    - minimum BAL-19 construction
    - minimum 30m APZ

Access - Public Roads

The intent of measure is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

General

4. Access roads must comply with the following general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- subdivisions of three or more allotments have more than one access in and out of the development;
- traffic management devices are constructed to not prohibit access by emergency services vehicles;
- maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient;
- dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
- where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road;
- one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression;
- the capacity of perimeter and non-perimeter road surfaces and any bridges!causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges!causeways are to clearly indicate load rating;
- there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.

Perimeter roads

5. Perimeter roads must comply with the general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- are two-way sealed roads;
- minimum 8m carriageway width kerb to kerb;
- parking is provided outside of the carriageway width;
- hydrants are located clear of parking areas;

- are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- curves of roads have a minimum inner radius of 6m;
- the maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Non-Perimeter roads

6. Non-perimeter roads must comply with the general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- minimum 5.5m carriageway width kerb to kerb;
- parking is provided outside of the carriageway width;
- hydrants are located clear of parking areas;
- roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- curves of roads have a minimum inner radius of 6m;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Access - Property Access

7. Property access roads must comply with the general requirements of Table S.3b of Planning for Bush Fire Protection 2019 and the following:

- property access roads are two-wheel drive, all-weather roads;
- minimum 4m carriageway width;
- in forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay;
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
- provide a suitable turning area in accordance with Appendix 3;
- curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
- the minimum distance between inner and outer curves is 6m;
- the crossfall is not more than 10 degrees;
- maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and

- a development comprising more than three dwellings has access by dedication of a road and not by right of way.

Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.

Access - Fire Trails

8. As per the recommendations contained within the additional information provided by Blackash, dated 8th November 2023, at the issue of a Subdivision Certificate, a suitably worded legal instrument shall be created to ensure that the trail labled as Fire Trail 3 on the above referenced plans will be provided within a 'Right of Carriageway' and a Deed of Agreement created to ensure access from residents of lots 232-237 have mutually beneficial rights of way to use the fire trail in the event of a fire. The Fire trail is to be maintained by the owners of Lots 232 and 233. Fire trail 3 should be referred to the Snowy Monaro Bush Fire Management Committee for its potential inclusion in their Fire Access and Fire Trails plan.

AS_02 Agency Specific – Essential Energy **Reason**

Essential Energy makes the following general comments:

- As part of the subdivision, an easement is created for any existing electrical infrastructure. The easement is to be created using Essential Energy's standard easement terms current at the time of registration of the plan of subdivision;
- If the proposed development changes, there may be potential safety risks and it is recommended that Essential Energy is consulted for further comment;
- Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the above property should be complied with;
- Council should ensure that a Notification of Arrangement (confirming satisfactory arrangements have been made for the provision of power) is issued by Essential Energy with respect to all proposed lots which will form part of the subdivision, prior to Council releasing the Subdivision Certificate. It is the Applicant's responsibility to make the appropriate application with Essential Energy for the supply of electricity to the subdivision, which may include the payment of fees and contributions;

  NOTE: Alternatively, Council will allow a s.88B Instrument including a restriction on title which notes each will not be serviced by mains electricity at the time of the creation of the allotment must be

provided.

- In addition, Essential Energy's records indicate there is electricity infrastructure located within the property. Any activities within this location must be undertaken in accordance with the latest industry guideline currently known as *ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure;*
- Prior to carrying out any works, a "Dial Before You Dig" enquiry should be undertaken in accordance with the requirements of *Part 5E (Protection of Underground Electricity Power Lines)* of the *Electricity Supply Act 1995 (*NSW);
- Given there is electricity infrastructure in the area, it is the responsibility of the person/s completing any works around powerlines to understand their safety responsibilities. SafeWork NSW (www.safework.nsw.gov.au) has publications that provide guidance when working close to electricity infrastructure. These include the *Code of Practice – Work near Overhead Power Lines and Code of Practice – Work near Underground Assets*.

PART K – PRIOR TO THE RELEASE OF THE SUBDIVISION CERTIFICATE

SUB_20 Utilities / Services – Electricity and Telecommunications **Reason**

Prior to the issue of the relevant Subdivision Certificate, the following written evidence of service provider requirements must be submitted to Council:

a. Electricity Supply Authority – a Notice of Arrangement demonstrating that satisfactory requirements have been made to service the proposed development.

   Alternatively, Council will allow a s.88B Instrument including a restriction on title which notes each will not be serviced by mains electricity at the time of the creation of the allotment must be provided.

b. Telecommunication Provider – a letter of consent demonstrating that satisfactory requirements have been made to service the proposed development.

Note - It is the Applicant's responsibility to make the appropriate application with Essential Energy for the supply of electricity to the subdivision, which may include the payment of fees and contributions.

SUB_21 Maintenance Period for Subdivision Works **Reason**

The developer shall carry out any maintenance works required to the completed subdivision works and shall rectify any defects becoming apparent within a period of twelve months after the date that Council

accepts that the works have reached practical completion.

Prior to the release of the Subdivision Certificate, the developer shall provide Council with financial security (cash bond or unconditional bank guarantee) for compliance with this condition in an amount of five percent of the value of the subdivision works.

The developer shall pay to Council a Bond Administration Fee in accordance with Council's Fees and Charges.

SUB_22 Subdivision Certificate Application **Reason**

The developer is to submit to Council through the NSW Planning Portal a Subdivision Certificate application together with:

a) Electronic subdivision plan and Administration sheet;

b) Any required or relevant Section 88B instrument under the Conveyancing Act 1919;

c) The applicable fee;

d) Documentation from a recognised telecommunications carrier certifying that telephone connection has been provided to the site;

e) Notice of Arrangement from Essential Energy certifying that electricity connection has been provided to each lot.

Alternatively, the s. 88B Instrument include a restriction on title that notes each will not be serviced by mains electricity at the time of the creation of the allotment.

f) Certificate from Snowy Monaro Regional Council certifying that all necessary and appropriate weed eradication work has been completed on all lots in the subdivision.

Optional

Original /Hard copy linen plans and administration documents, where the applicant require original copies to signing by Council, hard copy plans shall be received at a council office within two (2) business days after submission of the application on the Planning Portal.

SUB_23 Payment of section 7.11 Contributions **Reason**

The payment of contributions to Council is required to cater for the increased demand for infrastructure resulting from the approved development pursuant to Section 7.11 of the Environmental Planning and Assessment Act, 1979 and Council's adopted Contributions plans, the following contributions apply to the development:

Rural Roads	$ 120,048.00

To ensure development contributions are paid to address the increased demand for public amenities and services

Open Space	$ 19,743.12	resulting from the approved development
Total	**$139,791.12**	

The above contributions have been imposed in accordance with the Cooma-Monaro S94 plan 2003. The contribution is based on an additional twenty-four (24) residential allotments. Contributions will be reassessed at the time of payment in accordance with Council's adopted Fees and Charges and may be subject to an increase by CPI.
Contributions will be reassessed at the time of payment in accordance with Council's adopted Fees and Charges and may be subject to an increase by CPI. The above-specified Contribution Plans may be inspected at Council offices.
It is the responsibility of the Principal Certifying Authority that the nominated contributions have been paid to Council, prior to the issue of the Subdivision Certificate.

SUB_25 Creation and Construction of Rural right of carriageway **Reason**

The final plan of subdivision and 88B instrument shall include the creation of a right-of-carriageway to provide access to proposed lots 239 and 240.

To ensure legal access is available to lots 239 and 240.

SUB_26 Services **Reason**

Any adjustment or augmentation of any public utility services including gas, water, sewer, electricity, street lighting and telecommunications required as a result of the development must be at no cost to Council and undertaken prior to the issue of the relevant Subdivision Certificate.

SUB_27 Completion of Engineering Works **Reason**

The developer shall complete all engineering works in accordance with the conditions of this consent together with any necessary work to make the construction effective. The costs of all engineering works shall be fully borne by the applicant/developer and any damage to Council's assets shall be made good, prior to the issue of the Subdivision Certificate.

SUB_28 Landscaping **Reason**

Prior to the issue of the subdivision certificate for each stage of the subdivision the developer shall ensure that the landscaping as shown in the Landscape Concept Design plan has been completed to the satisfaction of Council.

SUB_29 Bushfire Compliance Inspection **Reason**

Prior to the issue of the subdivision certificate an inspection is to be carried out by a suitably qualified consultant demonstrating compliance with ensure condition AS_01.

SUB_30 Road Naming **Reason**

The road names for each road in the subdivision are to be submitted to Council prior to the release of the Subdivision Works Certificate.

To ensure that the road naming process is completed in time for issuing of a subdivision certificate.

In choosing road names consideration should be given too:

- Geographical Names Board require naming to meet certain guidelines to be gazetted. Names should not be duplicated within a minimum of 30km and not include Alpine, Mountain, River or Snow/y.
- No names of people or organisations.
- Check names on the Geographical Names Board eligibility checker first found here https://proposals.gnb.nsw.gov.au/public/road-names/evaluation. If a problem is identified, the proposed name will not get gazetted by GNB.
- provide a clear documented relevant connection to the local community.

Should the name selected not be suitable for approval by Council and gazetting by GNB it will be rejected, and the process will be delayed. SRMC can also provide name suggestions if that is preferred.

Please submit your proposal/s to SMRC including the relevance/background to the name and whether it has been evaluated by GNB.

The road names for each road in the subdivision are to be gazetted by the Geographical Names Board (GNB) and approved by Council prior to the release of the Subdivision Certificate.

The approved road names are to be shown on the administration sheet accompanying the Subdivision Certificate.

Note - The approval of road names can be lengthy, and Council recommends applicants commence this process at least 6 months prior to the finalisation of the subdivision so as not to delay the issue of the subdivision certificate.

SUB_31 Street Numbers **Reason**

The street numbers for each lot in the subdivision are to be shown on the administration sheet accompanying the final plan of subdivision when lodged with the subdivision certificate. The subdivision certificate cannot be released until such time as the street numbers of each lot

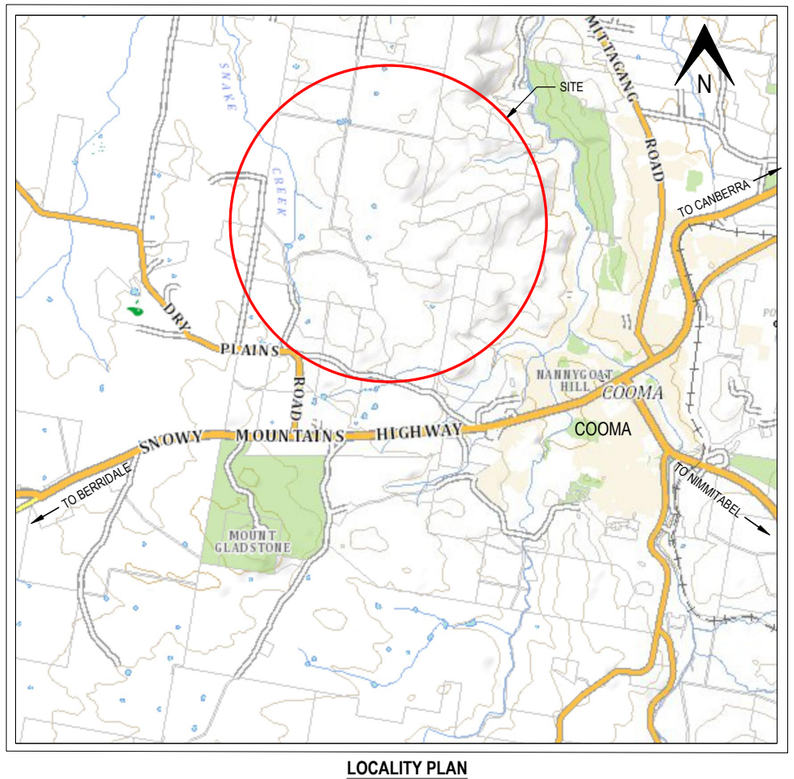
have been allocated and shown on the administration sheet.

SUB_42 Residual and Newly Formed Lots **Reason**

The final plan of subdivision must include the residual lot 238 (size 159.24 ha) and formed Lot 240 as shown in approved plan SD001.

LOT 1 DP737275, LOTS 157, 158, 159, 189, 197, 211 DP750524, LOT 11DP1266312 TOWRANG VALE ROAD, COOMA
RURAL RESIDENTIAL SUBDIVISION - ARATULA HILLS STAGE 2
DEVELOPMENT APPLICATION

CLIENT: CAVALLO PROJECTS PTY LTD
LGA: SNOWY MONARO REGIONAL COUNCIL
DA: TBA



LOCALITY PLAN
N.T.S

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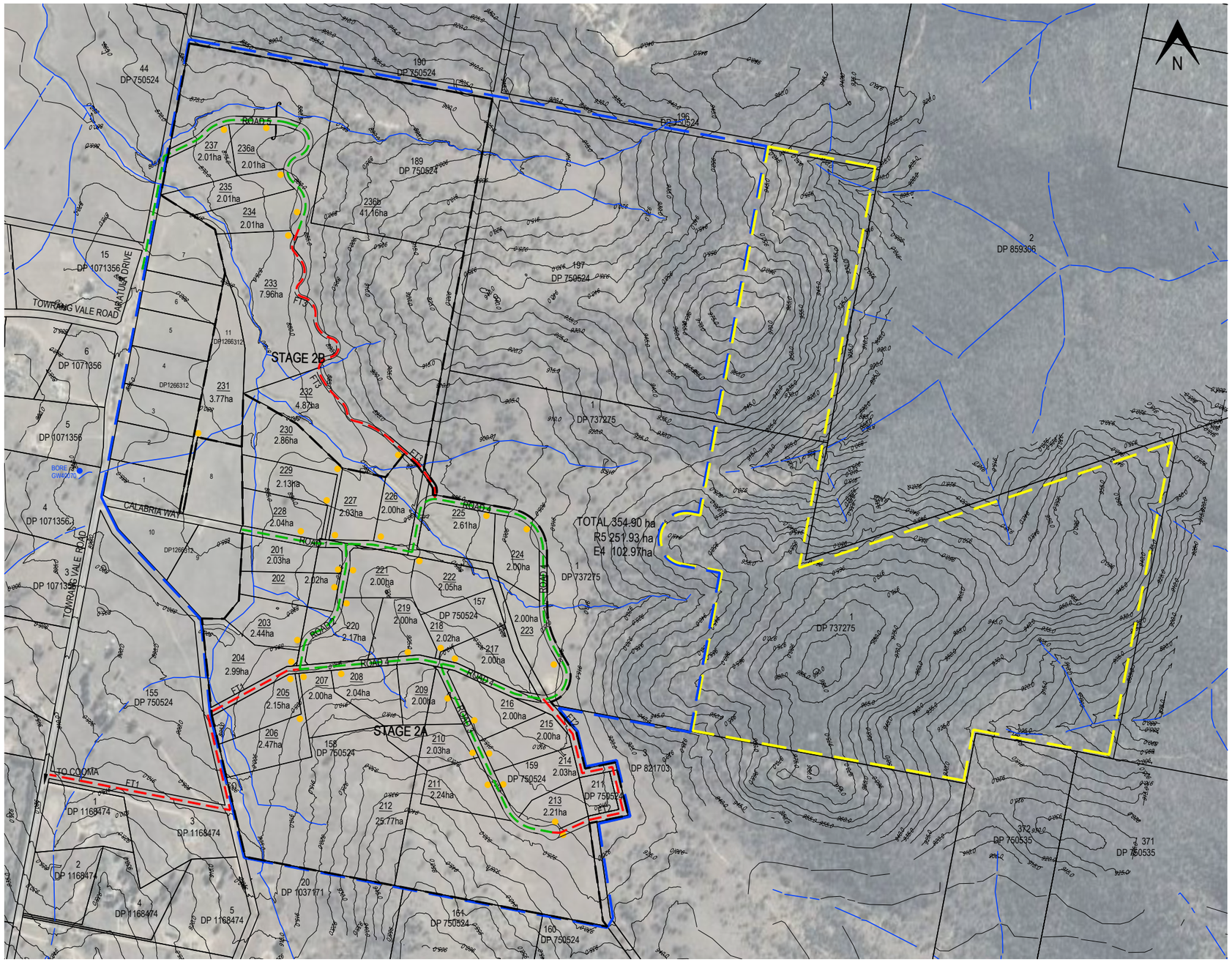
DRAWING SCHEDULE

1710-2-P00TTL JOB No. 1710-2

Date: Friday, 10 February 2023 10:53:05 AM User: AG File: H:\2017\1710-2_AratulaST02\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P00TTL.dwg



LEGEND:

- ACCESS POINT
- ZONE R5 LEP 2013
- ZONE E4 LEP 2013
- CARRIAGEWAY
- FIRE TRAIL
- STAGE BOUNDARY

NOTES:

1. SITE IS WITHIN SNOWY MONARO REGIONAL COUNCIL LGA.

Lot	DP	Total Area [ha]	R5 Area [ha]	E4 Area [ha]	Notes
1	737275	130.61	48.91	81.70	
157	750524	14.97	14.97		
158	750524	24.88	24.88		
159	750524	24.81	24.81		
189	750524	16.20	16.20		
197	750524	71.76	50.49	21.27	
211	750524	0.81	0.81		
11	1266312	70.86	70.86		Stage 1 Residue
	TOTAL	***354.90***	***251.93***	***102.97***	
Stage 2A					
Available R5 Area			251.93	ha	
Allowable # of 8ha Lots		*31.5*		No	Say 30 + Residue
Lots Proposed to be Developed		#201-#230	88.29	ha	
Lots Proposed to be developed tally		30		No	
Road & Fire Trail Area			4.40	ha	
Residue Area		1	159.24	ha	
Stage 2B					
Available R5 Area			159.24	ha	
Allowable # of 8ha Lots		*19.9*		No	Say 18 + Residue
Lots Proposed to be Developed		#231-#237	65.80	ha	
Lots Proposed to be developed tally		7		No	
Road & Fire Trail Area			1.30	ha	
Residue Area		1	92.14	ha	

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	LOT LAYOUT AMENDED	VAO	AG	VAO	VAO	20/12/2022
B	LOT LAYOUT AMENDED	VAO	WP	VAO	VAO	27/11/2020
A	80 LOT LAYOUT ADOPTED	VAO	PIB	VAO	VAO	29/10/2020
-	**INITIAL ISSUE**	VAO	PIB	VAO	VAO	23/10/2020

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p 02 6494 0239
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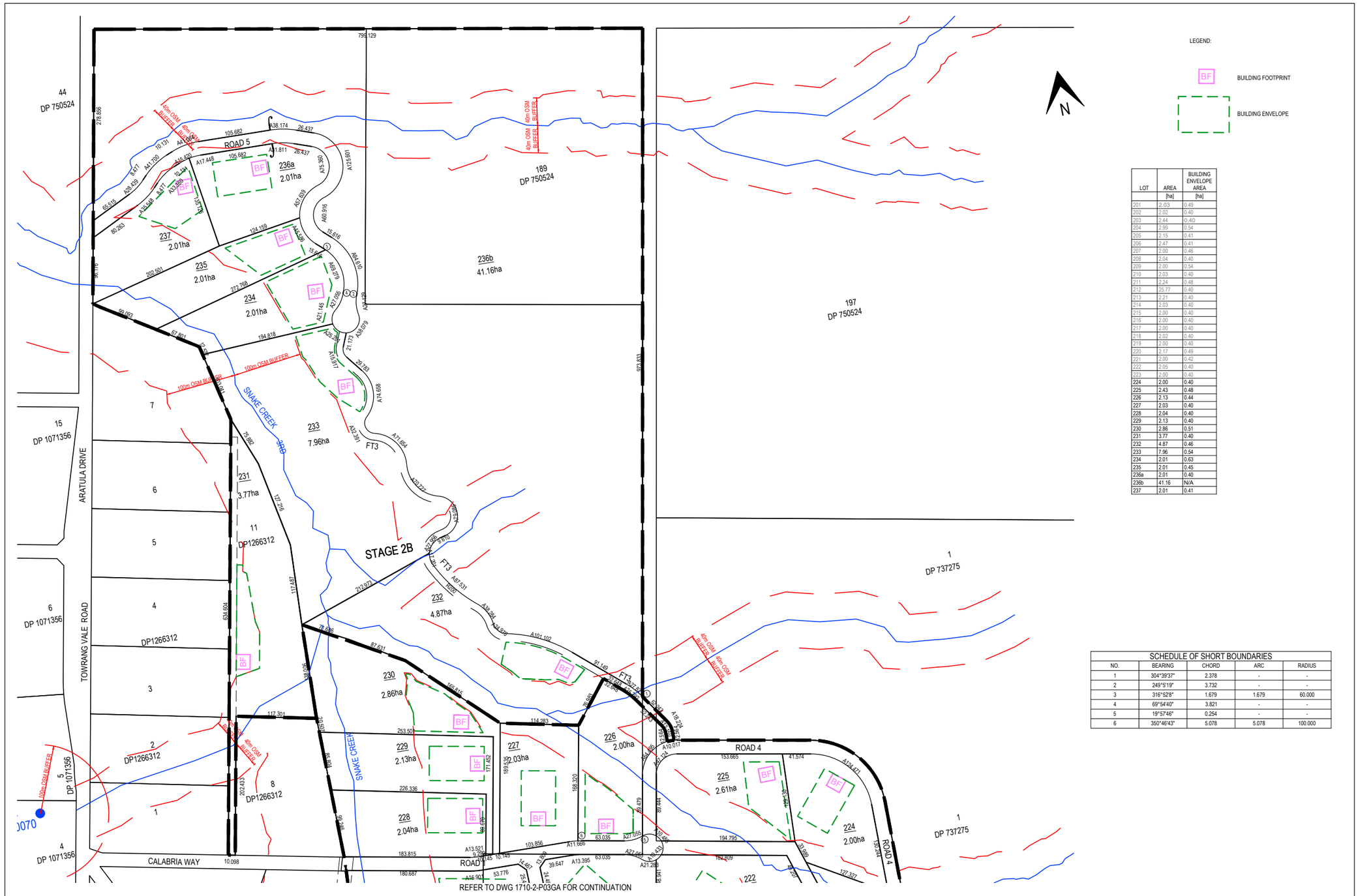
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE GENERAL ARRANGEMENT
DRAWING NUMBER 1710-2-P01GA
AMENDMENT: C

Date: Tuesday, 20 December 2022 3:07:00 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P01GA.dwg



LOT	AREA	BUILDING ENVELOPE AREA
	[ha]	[ha]
201	2.03	0.49
202	2.02	0.40
203	2.44	0.40
204	2.99	0.54
205	2.15	0.41
206	2.47	0.41
207	2.00	0.46
208	2.04	0.40
209	2.00	0.54
210	2.03	0.40
211	2.24	0.48
212	25.77	0.40
213	2.21	0.40
214	2.03	0.40
215	2.00	0.40
216	2.00	0.40
217	2.00	0.40
218	2.02	0.40
219	2.00	0.40
220	2.17	0.49
221	2.00	0.42
222	2.05	0.40
223	2.00	0.40
224	2.00	0.40
225	2.43	0.48
226	2.13	0.44
227	2.03	0.40
228	2.04	0.40
229	2.13	0.40
230	2.86	0.51
231	3.77	0.40
232	4.87	0.46
233	7.96	0.54
234	2.01	0.63
235	2.01	0.45
236a	2.01	0.40
236b	41.16	N/A
237	2.01	0.41

SCHEDULE OF SHORT BOUNDARIES

NO.	BEARING	CHORD	ARC	RADIUS
1	304°39'37"	2.378	-	-
2	249°5'19"	3.732	-	-
3	316°52'8"	1.679	1.679	60.000
4	69°54'40"	3.821	-	-
5	19°57'46"	0.254	-	-
6	350°46'43"	5.078	5.078	100.000

D							
C	EMERGENCY ACCESS EASEMENT LOT 231	VAO	AG	VAO	VAO	04/08/2023	
B	CONTOURS REMOVED - SMRC	VAO	AG	VAO	VAO	15/06/2023	
A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022	
-	**INITIAL ISSUE**	VAO	WP	VAO	VAO	27/11/2020	
No.	**REVISION**	**DESIGNED**	**DRAWN**	**CHECKED**	**APPROVED**	**DATE**	

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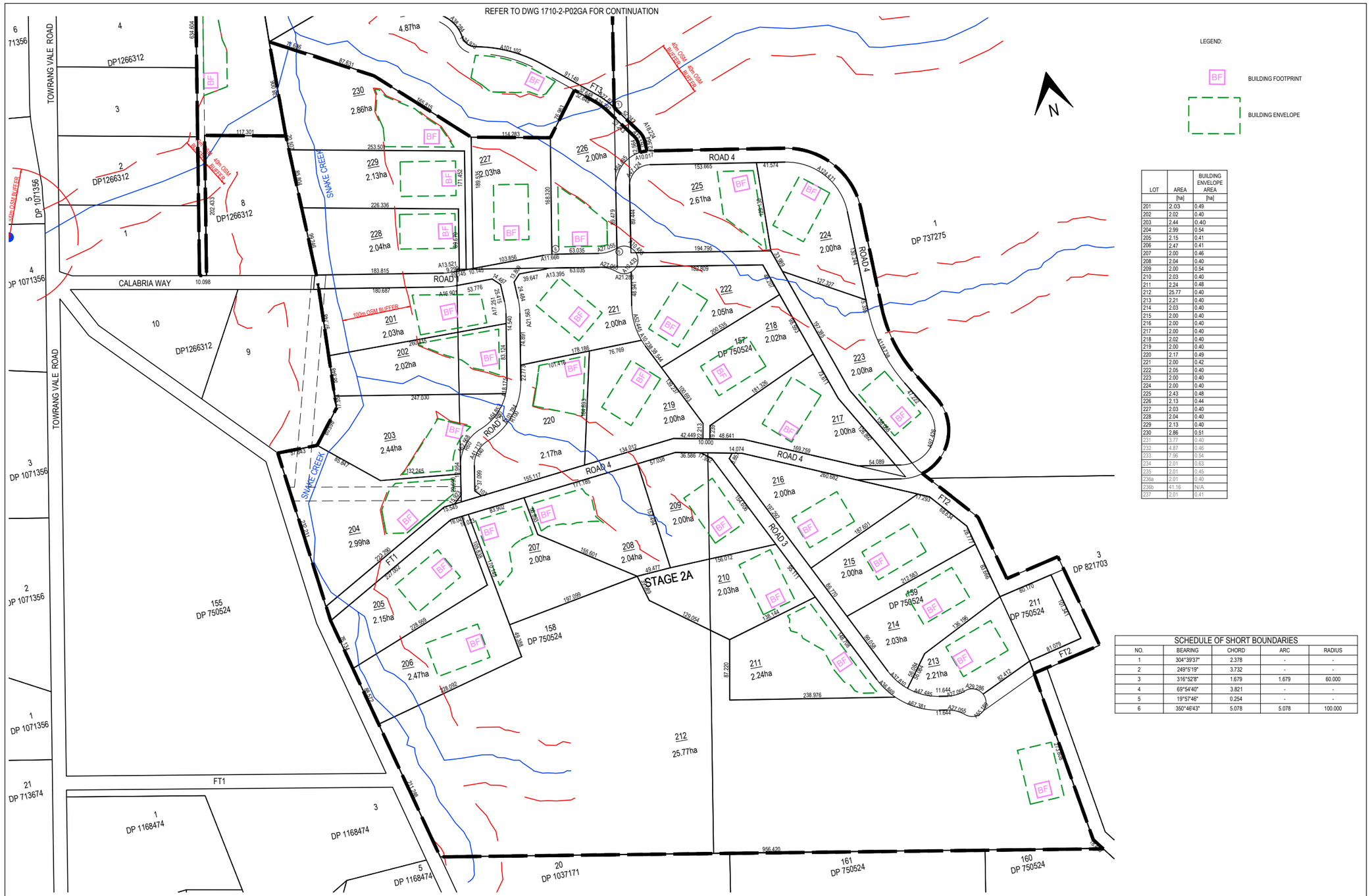
OCRE
po box 181
bermagui nsw 2546
p 02 6494 0239
m 0408 361 612

CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE PROPOSED PLAN OF SUBDIVISION - SHEET 1 - STAGE 2B
DRAWING NUMBER 1710-2-P02GA
AMENDMENT: C

Date: Friday, 4 August 2023 2:24:16 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P02GA.dwg



LOT	AREA [ha]	BUILDING ENVELOPE AREA [ha]
201	2.03	0.49
202	2.02	0.40
203	2.44	0.40
204	2.99	0.54
205	2.15	0.41
206	2.47	0.41
207	2.00	0.46
208	2.04	0.40
209	2.00	0.54
210	2.03	0.40
211	2.24	0.48
212	25.77	0.40
213	2.21	0.40
214	2.03	0.40
215	2.00	0.40
216	2.00	0.40
217	2.00	0.40
218	2.02	0.40
219	2.00	0.40
220	2.17	0.49
221	2.00	0.42
222	2.05	0.40
223	2.00	0.40
224	2.00	0.40
225	2.43	0.48
226	2.13	0.44
227	2.03	0.40
228	2.04	0.40
229	2.13	0.40
230	2.86	0.51
231	3.77	0.40
232	4.87	0.46
233	7.96	0.54
234	2.01	0.63
235	2.01	0.45
236a	2.01	0.40
236b	41.16	N/A
237	2.01	0.41

SCHEDULE OF SHORT BOUNDARIES				
NO.	BEARING	CHORD	ARC	RADIUS
1	304°39'37"	2.378	-	-
2	249°5'19"	3.732	-	-
3	316°52'8"	1.679	1.679	60.000
4	69°54'40"	3.821	-	-
5	19°57'46"	0.254	-	-
6	350°46'43"	5.078	5.078	100.000

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	EMERGENCY ACCESS EASEMENT LOT 231, ELECTRICITY EASEMENTS	VAO	AG	VAO	VAO	04/08/2023
B	CONTOURS REMOVED - SMRC	VAO	AG	VAO	VAO	15/06/2023
A	REVISED LAYOUT	VAO	PIB	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE PROPOSED PLAN OF SUBDIVISION - SHEET 2 - STAGE 2A
DRAWING NUMBER 1710-2-P03GA
AMENDMENT: C

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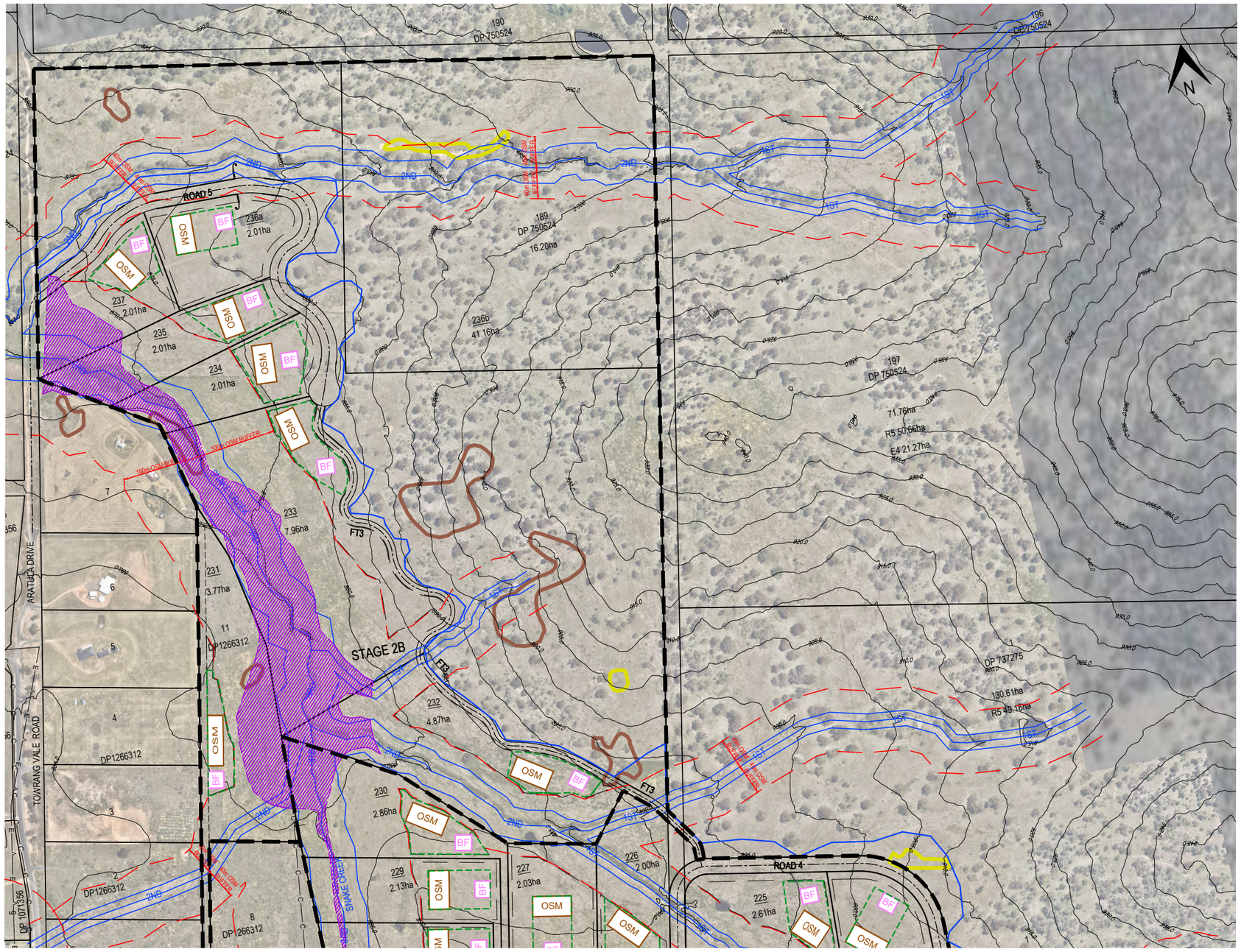

LEGEND:

- ONSITE SEWER MANAGEMENT BUFFER
- EXISTING TREE
- BUILDING ENVELOPE LIMITS
- SETBACK - 10m FRONT 5m SIDE AND REAR
- BF — INDICATIVE BUILDING FOOTPRINT 450 m²
- OSM — INDICATIVE ON-SITE SEWERAGE MANAGEMENT 1300 m²
- INDICATIVE Q100 FLOOD EXTENTS
- SHEET EROSION
- ROCKY OUTCROPS
- EXTENT OF EARTHWORKS

NOTES:

1. OSM DISCHARGE AREA REQUIREMENT FOR EACH LOT - 1300m²
2. OSM DISCHARGE AREA BUILDING SETBACK - 15m
3. Q5 FLOOD EXTENTS ARE CONTAINED WITHIN THE CREEK.
4. REFER TO 1710-P21SWMP2 FOR FLOOD FLOW CHARACTERISTICS.

REFER TO DWG 1710-2-P11CONS FOR CONTINUATION

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	VAO	VAO	AG	VAO	VAO	04/08/2023
B	LIMIT OF ROAD EARTHWORKS ADDED	VAO	AG	VAO	VAO	10/02/2023
A	LOT LAYOUT AMENDED	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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CLIENT: CAVALLO PROJECTS PTY LTD
PROJECT: ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE: DEVELOPMENT CONSTRAINTS - SHEET 1
DRAWING NUMBER: 1710-2-P10CONS
AMENDMENT: C

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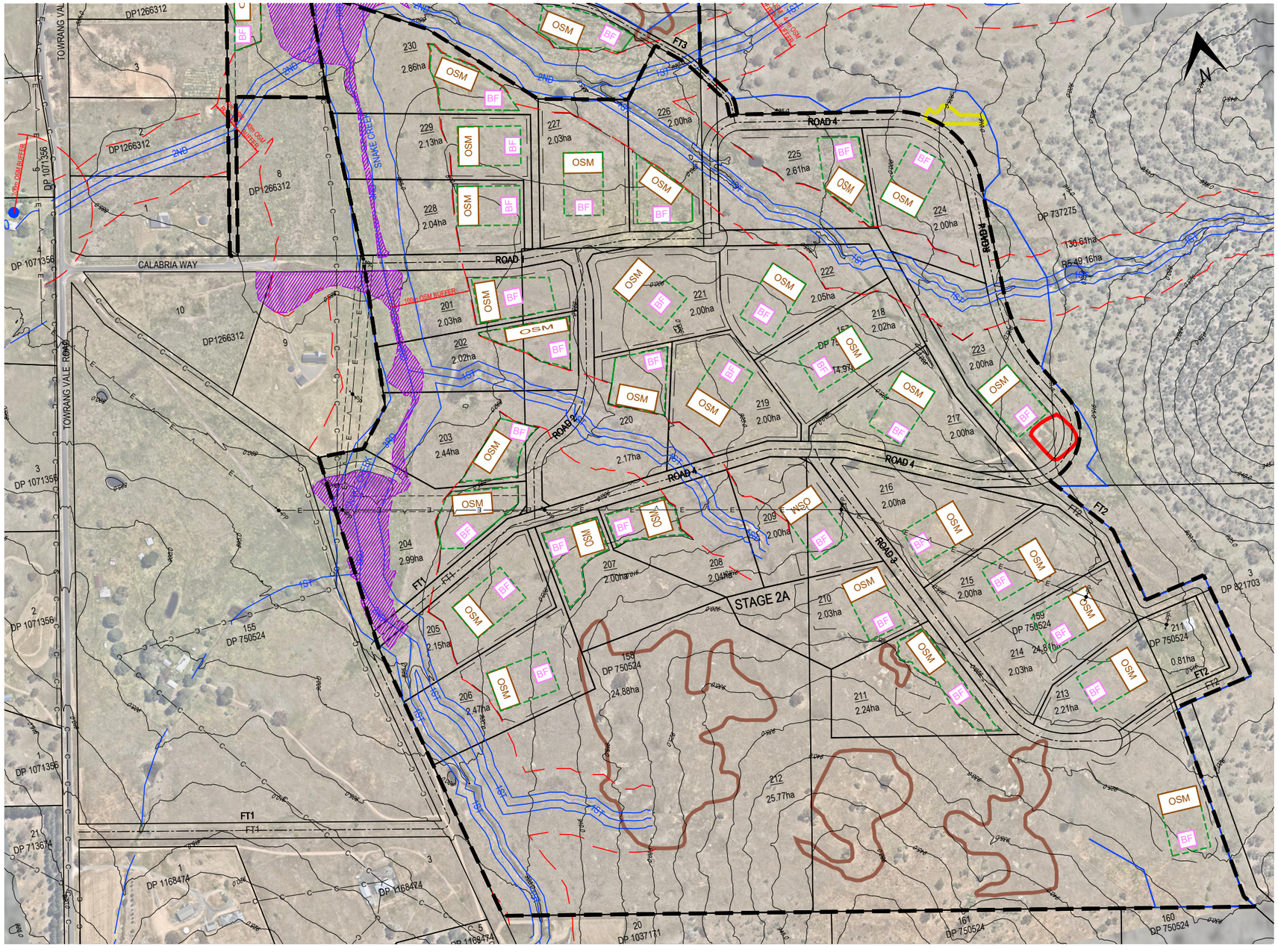
REFER TO DWG 1710-2-P10CONS FOR CONTINUATION



LEGEND:

- ONSITE SEWER MANAGEMENT BUFFER
- EXISTING TREE
- BUILDING ENVELOPE LIMITS
- SETBACK - 10m FRONT 5m SIDE AND REAR
- BF — INDICATIVE BUILDING FOOTPRINT 450 m²
- OSM — INDICATIVE ON-SITE SEWERAGE MANAGEMENT 1300 m²
- INDICATIVE Q100 FLOOD EXTENTS
- SHEET EROSION
- ROCKY OUTCROPS
- STAGE 1 - BORROW PIT - ROAD CONSTRUCTION
- EXTENT OF EARTHWORKS

NOTES:

1. OSM DISCHARGE AREA REQUIREMENT FOR EACH LOT - 1300m²
2. OSM DISCHARGE AREA BUILDING SETBACK - 15m
3. Q5 FLOOD EXTENTS ARE CONTAINED WITHIN THE CREEK.
4. REFER TO 1710-P21SWMP2 FOR FLOOD FLOW CHARACTERISTICS.

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	EASEMENTS ADDED, 204 OSM & BF SHIFTED	VAO	AG	VAO	VAO	04/08/2023
B	LIMIT OF ROAD EARTHWORKS ADDED	VAO	AG	VAO	VAO	10/02/2023
A	LOT LAYOUT AMENDED	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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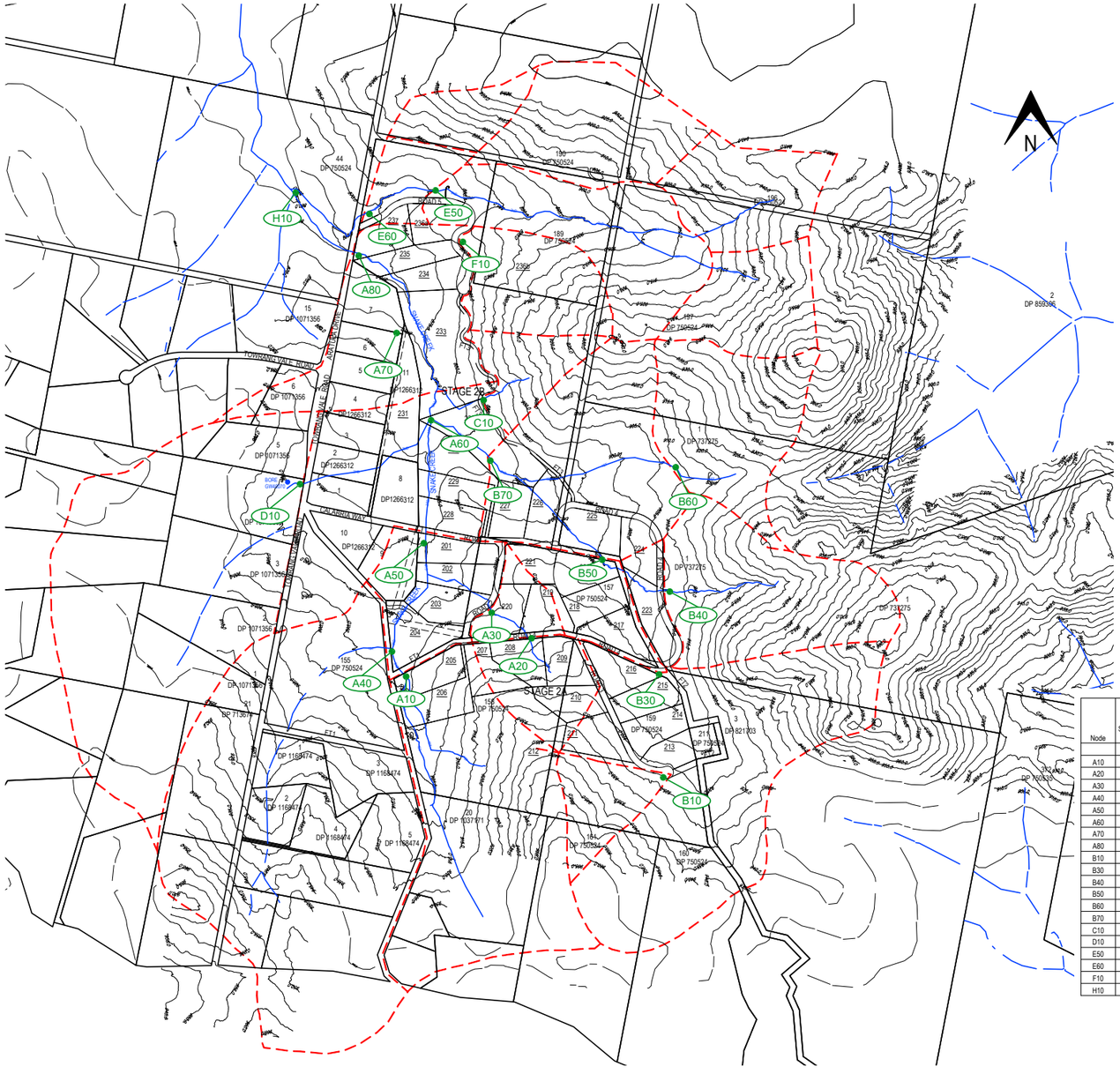
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE DEVELOPMENT CONSTRAINTS - SHEET 2
DRAWING NUMBER 1710-2-P11CONS
AMENDMENT: C

Date: Friday, 4 August 2023 2:28:06 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P10CONS.dwg



LEGEND

	PROPOSED	EXISTING
STORMWATER		
STORMWATER MAIN - SUMP, MANHOLE, DIAMETER	SW 1800Ø EC	SW 1800Ø EC
STORMWATER SERVICE TIE, ENDCAP		
STORMWATER STRUCTURE, HEADWALL		
GULLY, TABLE DRAIN OVERLAND FLOW PATH, DIRECTION		
CATCHMENT BOUNDARY		
CATCHMENT NODE	A	
Q100 FLOOD EXTENTS		
EMBANKMENT		

NOTES:

1. PEAK STORMWATER RUNOFF RATES WERE CALCULATED USING XP STORM SOFTWARE
2. ROUTING METHOD – LAURENSON
3. STORMS MODELLED (BASED ON ARR 2016 TEMPORAL PATTERN ENSEMBLES FOR MURRAY- DARLING BASIN, RIVER 12 - MURRUMBIDGEE INCLUDE:
   20%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
   10%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
   2%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
   1%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
4. RAINFALL - BOM IFD (ARR 2016) – COOMA, NSW
5. INFILTRATION/LOSS METHOD – UNIFORM LOSS:
   PERVIOUS: INITIAL 34MM, CONTINUING (ABSOLUTE) 6.3MM ARR2016 FOR MURRAY-DARLING
   IMPERVIOUS: INITIAL 5MM, CONTINUING (ABSOLUTE) 2MM – ASSUMED FOR GRAVEL
   DEPRESSION STORAGE: PERVIOUS & IMPERVIOUS 0.0MM.
6. IMPERVIOUS FRACTION – RURAL LAND - ASSUMED 0%.
7. TOTAL SIMULATION TIME – 15 HOURS
8. STORMWATER MODELLING DID NOT INCLUDE VOLUME OF ANY STORAGE FACILITY ON SITE.
9. OPEN CHANNEL FLOW CALCULATIONS – MANNINGS, n=0.011 (RCP), 0.015 (PAVEMENT), 0.035 (GRASS).

Node	Subcatchment Area	Subcatchment Impervious Fraction	20%AEP SUBCATCHMENT Median Runoff	20%AEP SUBCATCHMENT Critical Storm	20%AEP TOTAL Median Runoff	20%AEP TOTAL Critical Storm	10%AEP SUBCATCHMENT Median Runoff	10%AEP SUBCATCHMENT Critical Storm	10%AEP TOTAL Median Runoff	10%AEP TOTAL Critical Storm	2%AEP SUBCATCHMENT Median Runoff	2%AEP SUBCATCHMENT Critical Storm	2%AEP TOTAL Median Runoff	2%AEP TOTAL Critical Storm	1%AEP SUBCATCHMENT Median Runoff	1%AEP SUBCATCHMENT Critical Storm	1%AEP TOTAL Median Runoff	1%AEP TOTAL Critical Storm
	[ha]	[%]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]
A10	43.720	0%	0.260	12hr#6	0.260	12hr#6	0.789	9hr#4	0.789	9hr#4	2.211	6hr#3	2.211	6hr#3	2.819	6hr#9	2.819	6hr#9
A20	12.780	0%	0.132	12hr#8	0.132	12hr#8	0.318	9hr#7	0.318	9hr#7	0.861	6hr#9	0.861	6hr#9	1.038	6hr#2	1.038	6hr#2
A30	4.960	0%	0.049	12hr#6	0.176	12hr#6	0.120	9hr#7	0.434	9hr#7	0.327	6hr#9	1.184	6hr#9	0.395	6hr#9	1.429	6hr#9
A40	86.500	0%	0.379	12hr#6	0.621	12hr#6	1.046	9hr#6	1.819	9hr#6	3.390	6hr#2	5.440	6hr#2	4.358	6hr#2	7.049	6hr#9
A50	13.900	0%	0.059	12hr#5	0.815	12hr#6	0.163	9hr#6	2.423	9hr#6	0.532	6hr#9	6.929	6hr#3	0.685	6hr#2	8.919	6hr#9
A60	31.420	0%	0.135	12hr#5	2.035	12hr#6	0.372	9hr#6	6.072	9hr#6	1.214	6hr#2	17.445	6hr#2	1.561	6hr#2	20.397	6hr#2
A70					2.089	12hr#6			6.187	9hr#6			17.706	6hr#2			20.758	6hr#2
A80	25.790	0%	0.127	12hr#6	2.316	12hr#6	0.373	9hr#4	6.723	9hr#6	1.120	6hr#2	19.119	6hr#2	1.450	6hr#9	22.460	6hr#2
B10	7.680	0%	0.089	12hr#5	0.089	12hr#5	0.209	9hr#7	0.209	9hr#7	0.549	6hr#9	0.549	6hr#9	0.660	6hr#2	0.660	6hr#2
B30	57.500	0%	0.321	12hr#6	0.368	12hr#6	0.978	9hr#4	1.081	9hr#4	2.783	6hr#3	3.212	6hr#3	3.582	6hr#9	4.030	6hr#9
B40	24.850	0%	0.227	12hr#6	0.227	12hr#6	0.578	9hr#7	0.578	9hr#7	1.593	6hr#9	1.593	6hr#9	1.924	6hr#9	1.924	6hr#9
B50	5.960	0%	0.054	12hr#6	0.598	12hr#6	0.138	9hr#7	1.713	9hr#4	0.381	6hr#9	4.946	6hr#3	0.460	6hr#9	6.118	6hr#9
B60	22.200	0%	0.215	12hr#6	0.215	12hr#6	0.532	9hr#7	0.532	9hr#7	1.456	6hr#9	1.456	6hr#9	1.756	6hr#9	1.756	6hr#9
B70	34.350	0%	0.166	12hr#6	0.934	12hr#6	0.478	9hr#4	2.682	9hr#4	1.459	6hr#2	6.685	6hr#2	1.886	6hr#9	6.685	6hr#1
C10	7.790	0%	0.096	12hr#6	0.096	12hr#6	0.223	9hr#10	0.223	9hr#10	0.581	6hr#2	0.581	6hr#2	0.691	6hr#2	0.691	6hr#2
D10	70.374	0%	0.342	12hr#6	0.342	12hr#6	0.990	9hr#4	0.990	9hr#4	3.008	6hr#2	3.008	6hr#2	3.890	6hr#9	3.890	6hr#9
E50	14.836	0%	0.096	12hr#6	0.507	12hr#6	0.286	9hr#4	1.376	9hr#4	0.791	6hr#3	3.769	6hr#9	0.994	6hr#9	4.580	6hr#9
E60	5.180	0%	0.042	12hr#6	0.603	12hr#6	0.117	9hr#7	1.638	9hr#4	0.318	6hr#9	4.534	6hr#9	0.384	6hr#9	5.512	6hr#9
F10	15.300	0%	0.156	12hr#8	0.156	12hr#8	0.377	9hr#7	0.377	9hr#7	1.023	6hr#9	1.023	6hr#9	1.235	6hr#9	1.235	6hr#9
H10					2.878	12hr#6			8.152	9hr#4			22.590	6hr#3			26.685	6hr#9

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B	EASEMENTS ADDED	VAO	AG	VAO	VAO	04/08/2023
A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	**INITIAL ISSUE**	VAO	WP	VAO	VAO	27/11/2020

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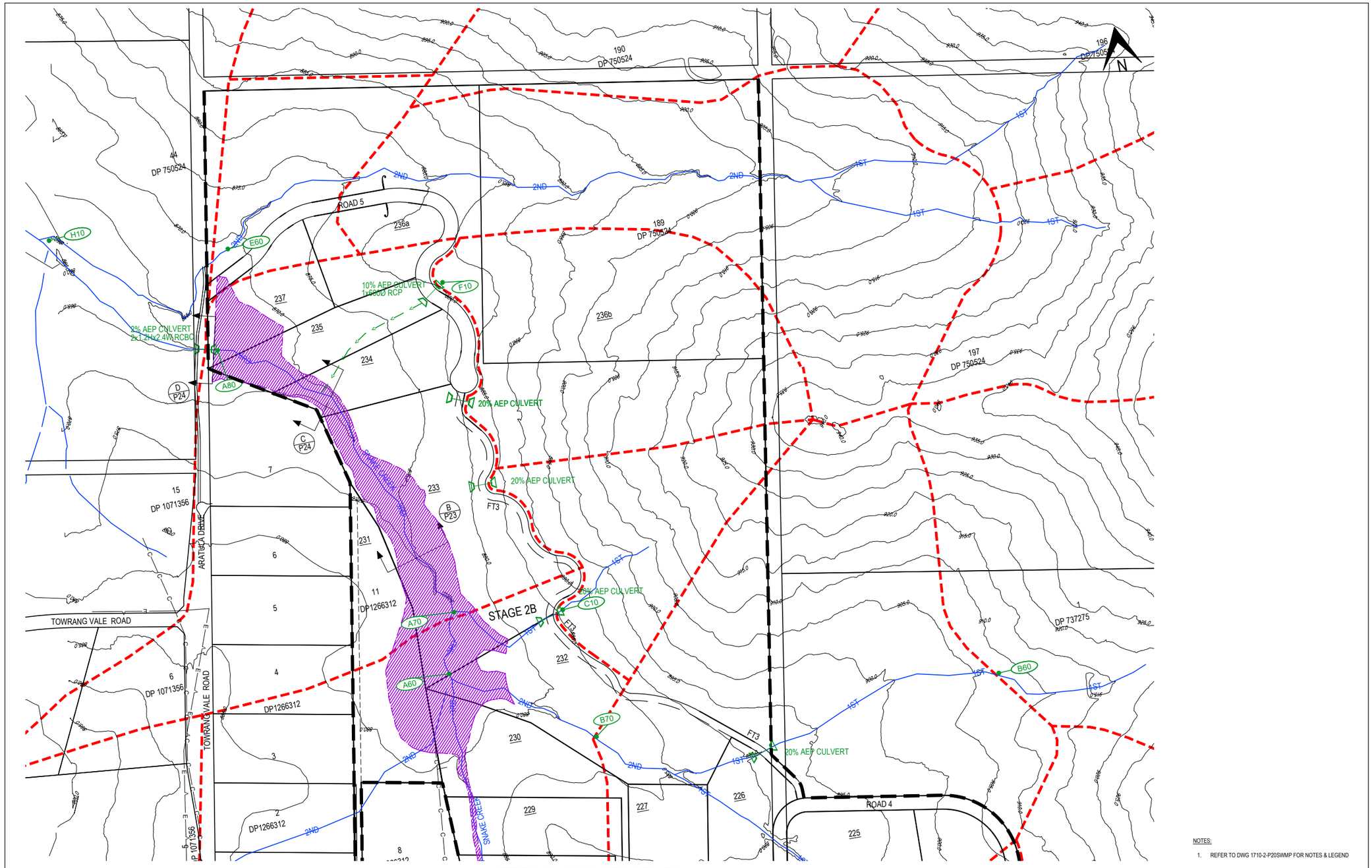
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE STORMWATER MASTER PLAN
DRAWING NUMBER 1710-2-P20SWMP
AMENDMENT: B

Date: Friday, 4 August 2023 2:29:54 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P20SWMP.dwg



REFER TO DWG 1710-2-P22SWMP FOR CONTINUATION

NOTES:

1. REFER TO DWG 1710-2-P20SWMP FOR NOTES & LEGEND

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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B	EASEMENTS ADDED	VAO	AG	VAO	VAO	04/08/2023
A	REVISED LAYOUT	VAO	PIB	VAO	VAO	20/12/2022
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Date: Friday, 4 August 2023 2:30:58 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P21SWMP.dwg

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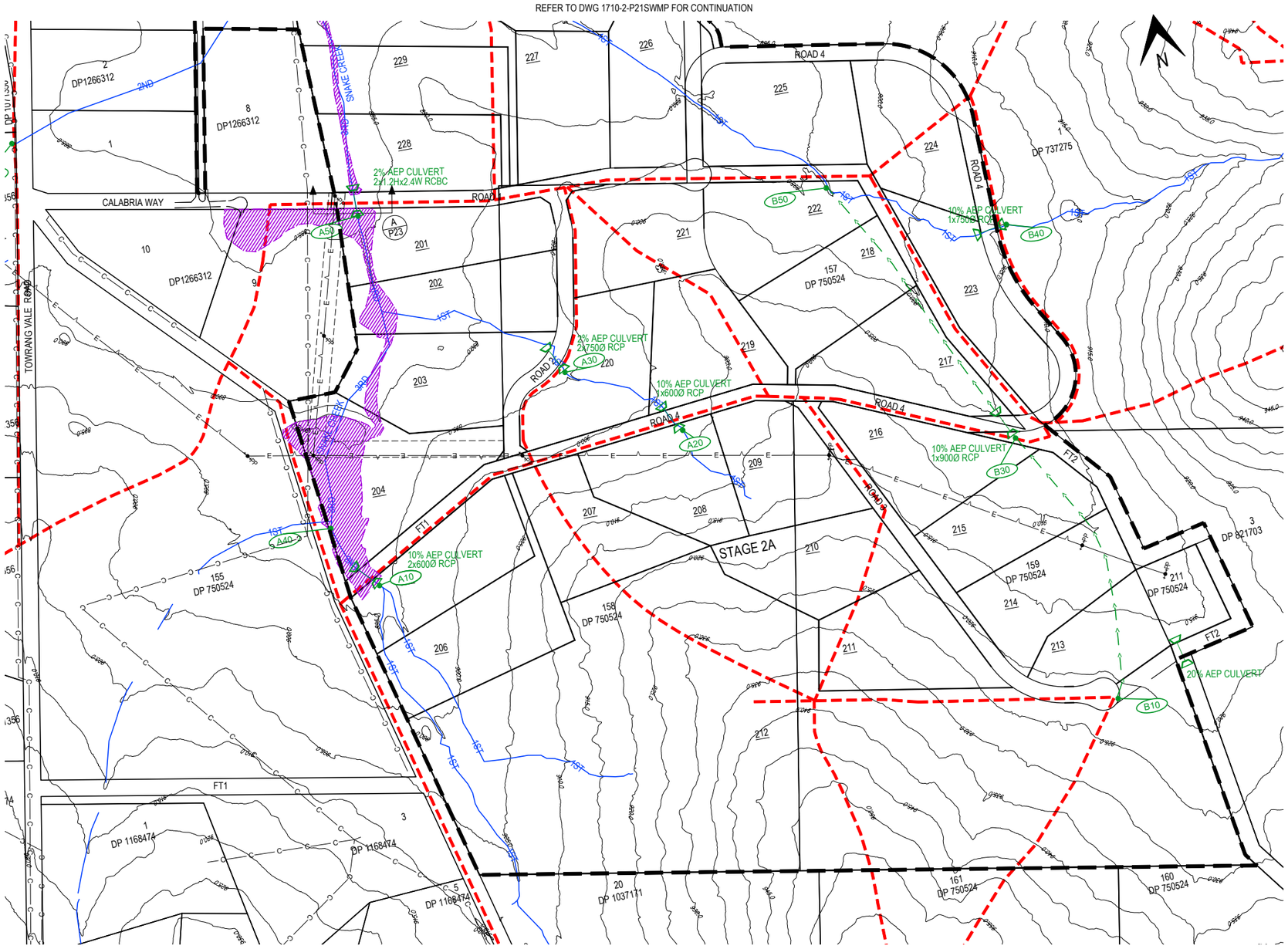
TITLE STORMWATER MASTER PLAN
DRAWING NUMBER 1710-2-P21SWMP AMENDMENT: B



NOTES:

1. REFER TO DWG 1710-2-P20SWMP FOR NOTES & LEGEND

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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C						
B	EASEMENTS ADDED	VAO	AG	VAO	VAO	04/08/2023
A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
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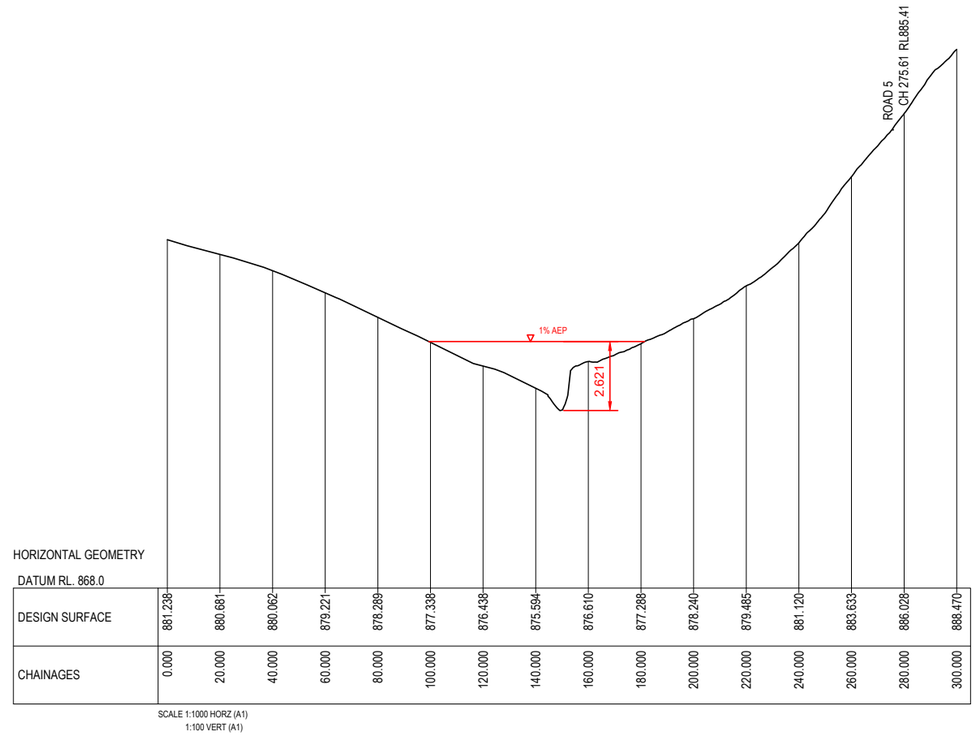
CLIENT: CAVALLO PROJECTS PTY LTD
PROJECT: ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE: STORMWATER MASTER PLAN
DRAWING NUMBER: 1710-2-P22SWMP
AMENDMENT: B

Date: Friday, 4 August 2023 2:30:58 PM User: AG File: H:\2017\1710-2_AratulaSTG2099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P21SWMP.dwg



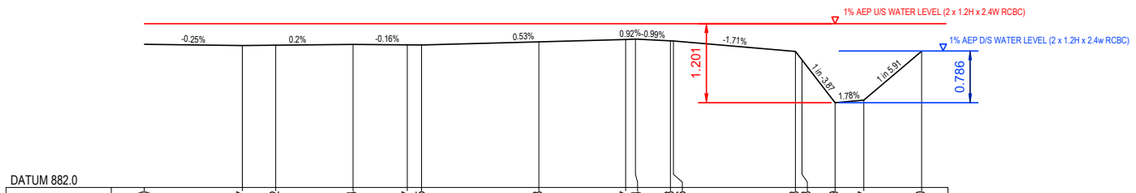
HORIZONTAL GEOMETRY

DATUM RL. 868.0

DESIGN SURFACE	881.238	880.681	880.062	879.221	878.289	877.338	876.438	875.594	876.610	877.288	878.240	879.485	881.120	883.633	886.028	888.470		
CHAINAGES	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000		

SCALE 1:1000 HORZ (A1)
1:100 VERT (A1)

SECTION B-B



DATUM 882.0

DESIGN	(null)	884.157	884.162	884.174	884.167	884.165	884.213	884.247	884.254	884.228	884.226	884.068	883.938	883.289	883.327	884.070		
OFFSET	0.000	7.460	10.000	15.872	20.000	21.078	30.000	36.596	37.340	40.000	40.226	49.500	50.000	52.513	54.698	59.086		

SCALE 1:200 HORZ (A1)
1:40 VERT (A1)

SECTION A - A

SURVEYED CREEK SECTION - STAGE 1

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No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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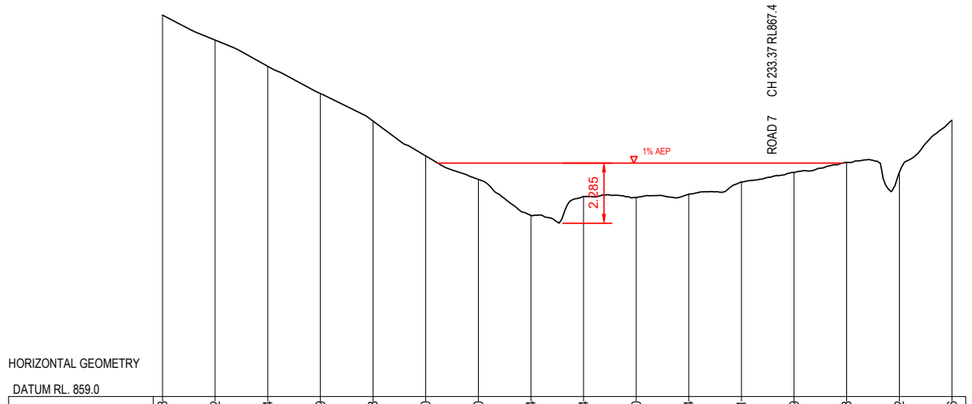
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE STORMWATER SECTIONS - SNAKE CREEK
DRAWING NUMBER 1710-2-P23SWX
AMENDMENT:

Date: Friday, 27 November 2020 12:32:20 PM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P23SWX.dwg



HORIZONTAL GEOMETRY

DATUM RL. 859.0

DESIGN SURFACE	873.488	872.542	871.544	870.509	869.463	868.140	867.250	865.884	866.594	866.560	866.684	867.151	867.509	867.893	867.512	869.496
CHAINAGES	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000

SCALE 1:1000 HORZ (A1)
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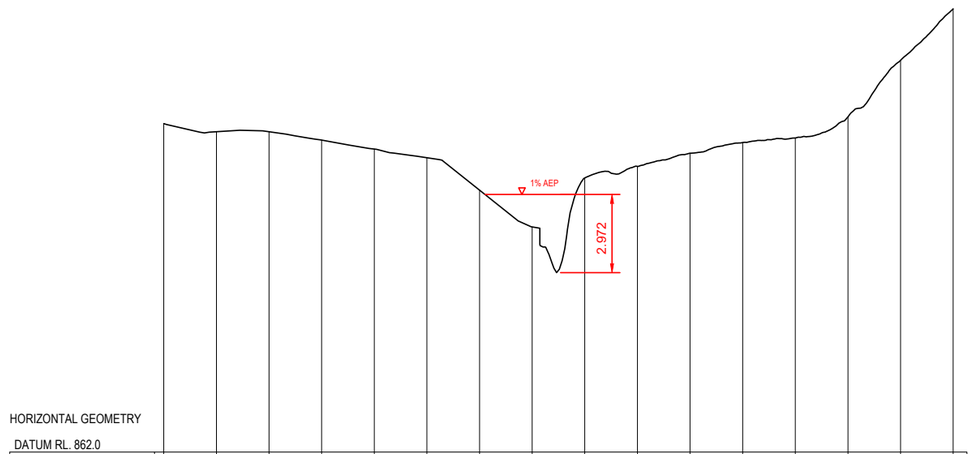
SECTION D-D



HORIZONTAL GEOMETRY

DATUM RL. 862.0

DESIGN SURFACE	874.481	874.173	874.174	873.856	873.514	873.183	871.953	870.553	872.416	872.854	873.356	873.760	873.935	874.738	876.887	878.842
CHAINAGES	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000

SCALE 1:1000 HORZ (A1)
1:100 VERT (A1)

SECTION C-C

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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SCALE IN METRES
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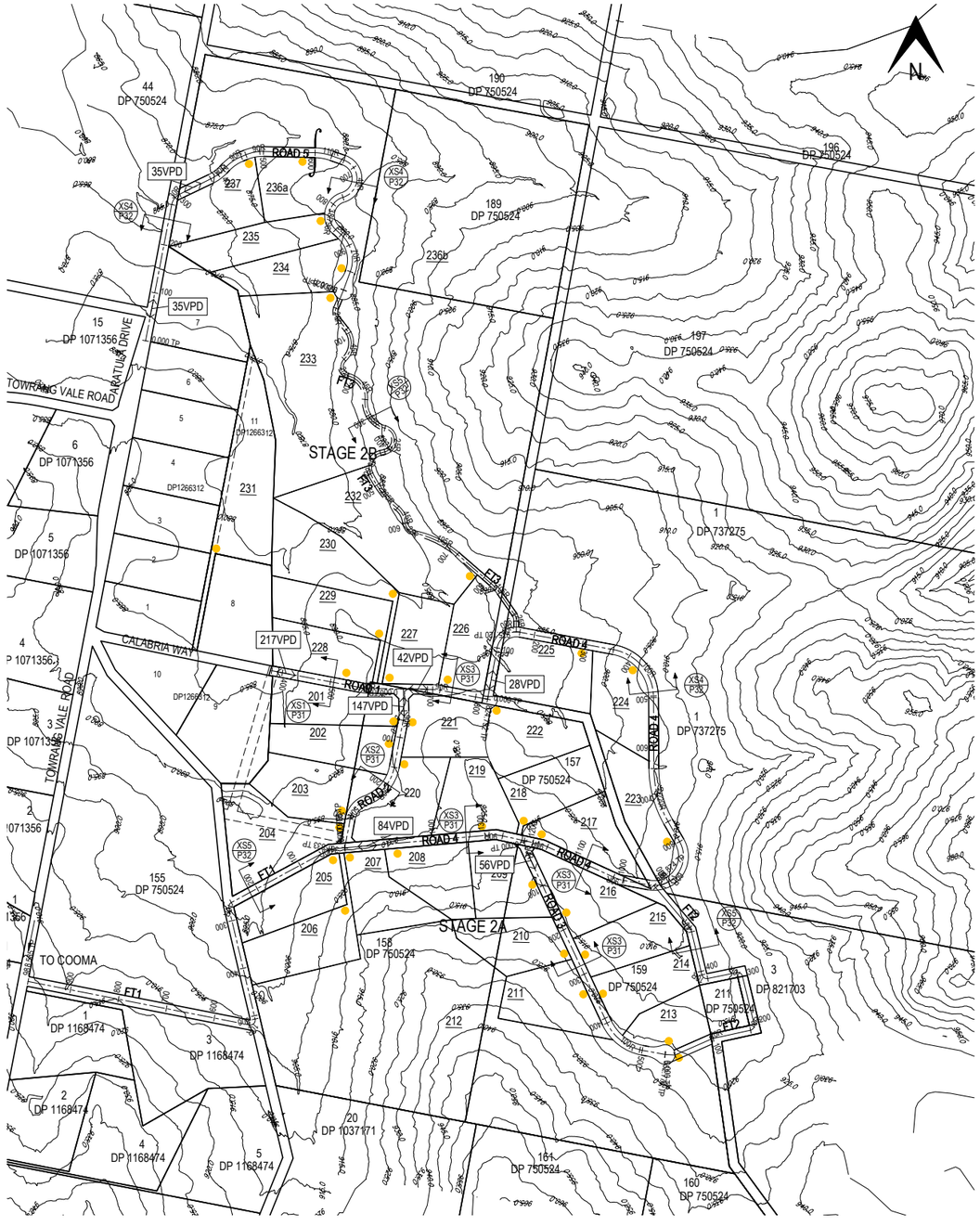
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE STORMWATER SECTIONS - SNAKE CREEK
DRAWING NUMBER 1710-2-P24SWX
AMENDMENT:

Date: Friday, 27 November 2020 12:32:20 PM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P23SWX.dwg



NOTES:

GENERAL NOTES

G1. THESE DRAWINGS ILLUSTRATE THE CONCEPT/PLANNING DESIGN OF THE SUBDIVISION AND PROPOSED TRAFFIC ASSETS TO SERVICE THE PROPOSED DEVELOPMENT. THEY HAVE BEEN PREPARED TO SUPPORT THE DEVELOPMENT APPLICATION TBC.

G2. THESE DRAWINGS HAVE BEEN PREPARED BASED ON THE FOLLOWING DOCUMENTS:
COOMA-MONARO SHIRE COUNCIL DEVELOPMENT CONTROL PLAN 2014 (AMENDMENT 1),
AUSTROADS - GUIDE TO ROAD DESIGN

TRAFFIC

TR2. BASIS OF DESIGN - 7 VpD / Lot. App 5 DCP 2014

LEGEND:

56VPD EXISTING VpD / DEVELOPED VpD

DIRECTION

LOT ACCESS LOCATION

ROAD	DEVELOPED MAX V.P.D.	ROAD TYPE	V.P.D. RANGE	PAVEMENT (SEAL) WIDTH REQUIRED	FORMATION WIDTH REQUIRED	VERGE WIDTH REQUIRED	ROAD RESERVE WIDTH REQUIRED	REMARKS
				[m]	(m)	[m]	[m]	
ROAD 1 CH00-CH382.442	217	5 - COLLECTOR	211 - 500	6.6	9	5.5	20	
ROAD 1 CH382.442-END	42	3 - ACCESS	7 - 105	4	6	7	20	
ROAD 2	147	4 - LOCAL	106 - 210	6.6	9	5.5	20	
ROAD 3	56	3 - ACCESS	7 - 105	4	6	7	20	
ROAD 4	84	PERIMETER (ACCESS)	7 - 105	8	9	5.5	20	
ROAD 5	35	PERIMETER (ACCESS)	7 - 105	8	9	5.5	20	

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	EASEMENTS ADDED	VAO	AG	VAO	VAO	04/08/2023
B	CHAINAGES ADDED	VAO	AG	VAO	VAO	10/02/2023
A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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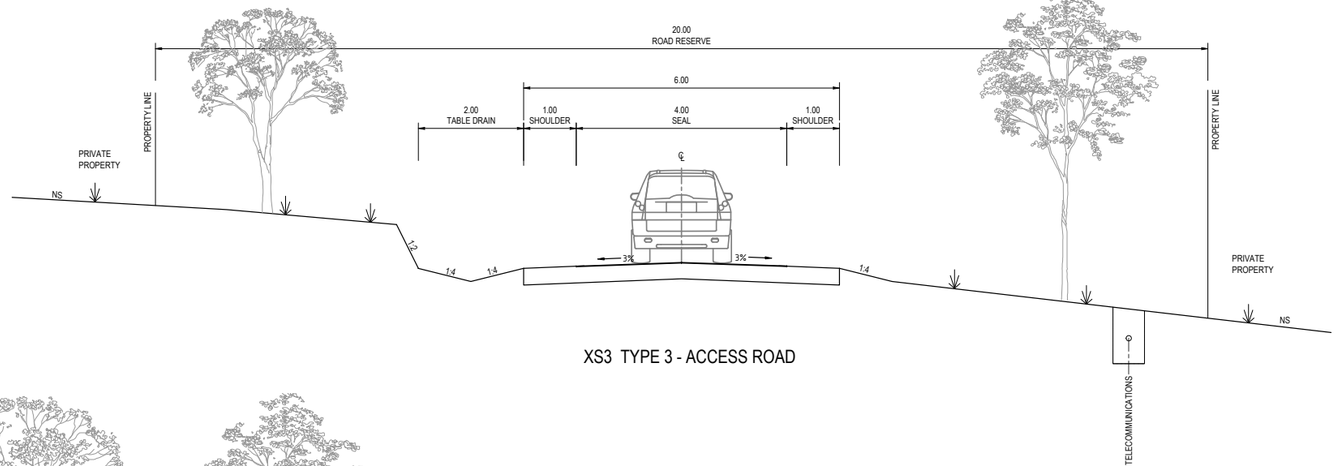
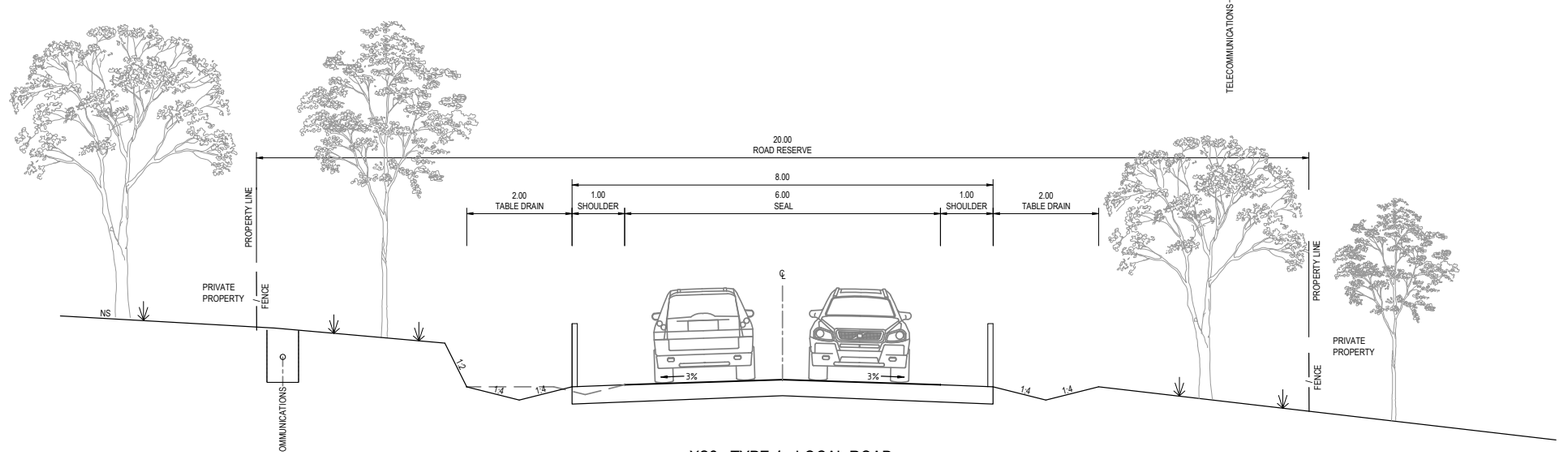
TITLE ROAD HIERARCHY PLAN
DRAWING NUMBER 1710-2-P30RHP
AMENDMENT: C

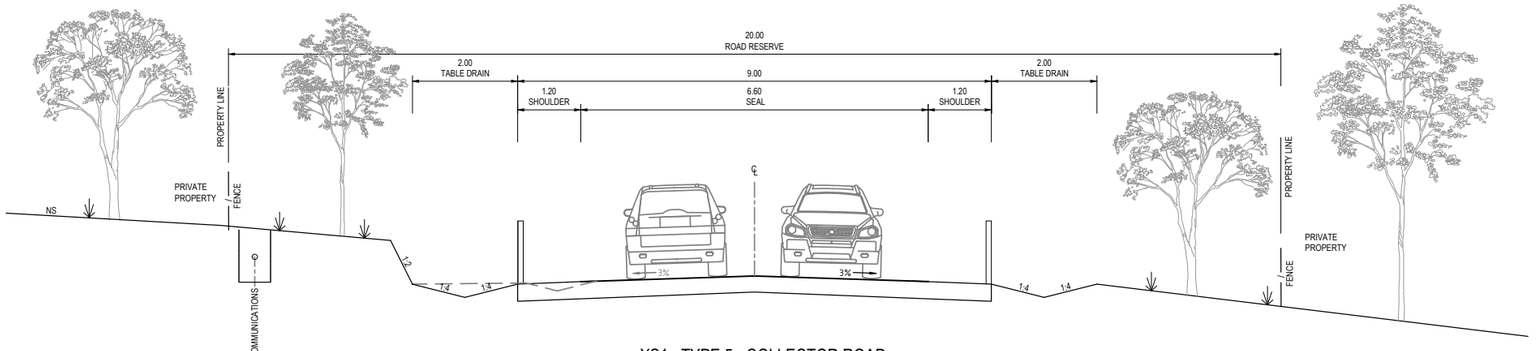
Date: Friday, 4 August 2023 2:31:45 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P30RHP.dwg



XS3 TYPE 3 - ACCESS ROAD



XS2 TYPE 4 - LOCAL ROAD



XS1 TYPE 5 - COLLECTOR ROAD

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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C						
B						
A						
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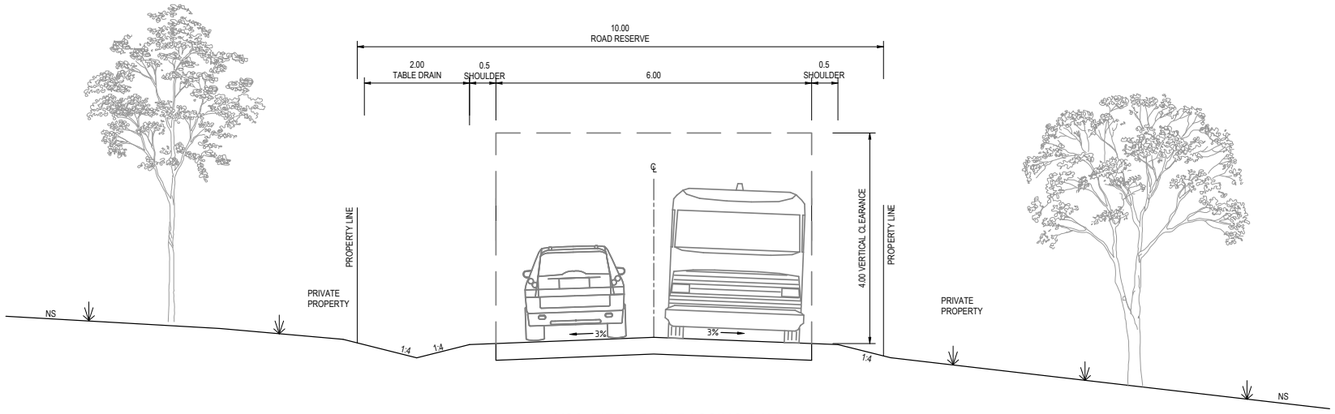
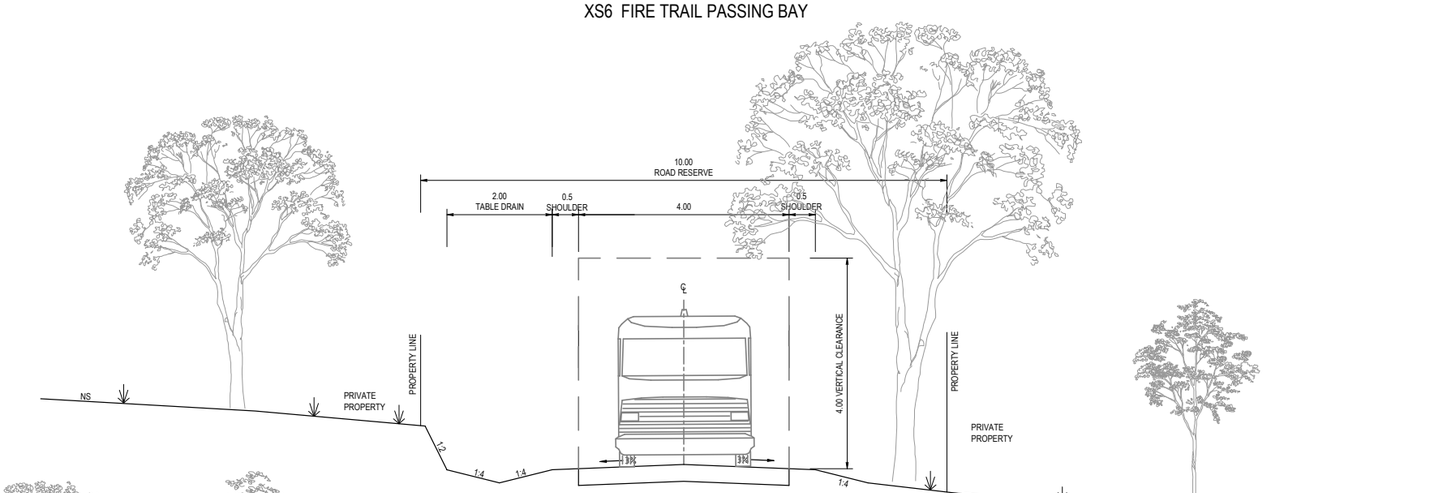
TITLE TYPICAL SECTIONS
DRAWING NUMBER 1710-2-P31TYPX
AMENDMENT:

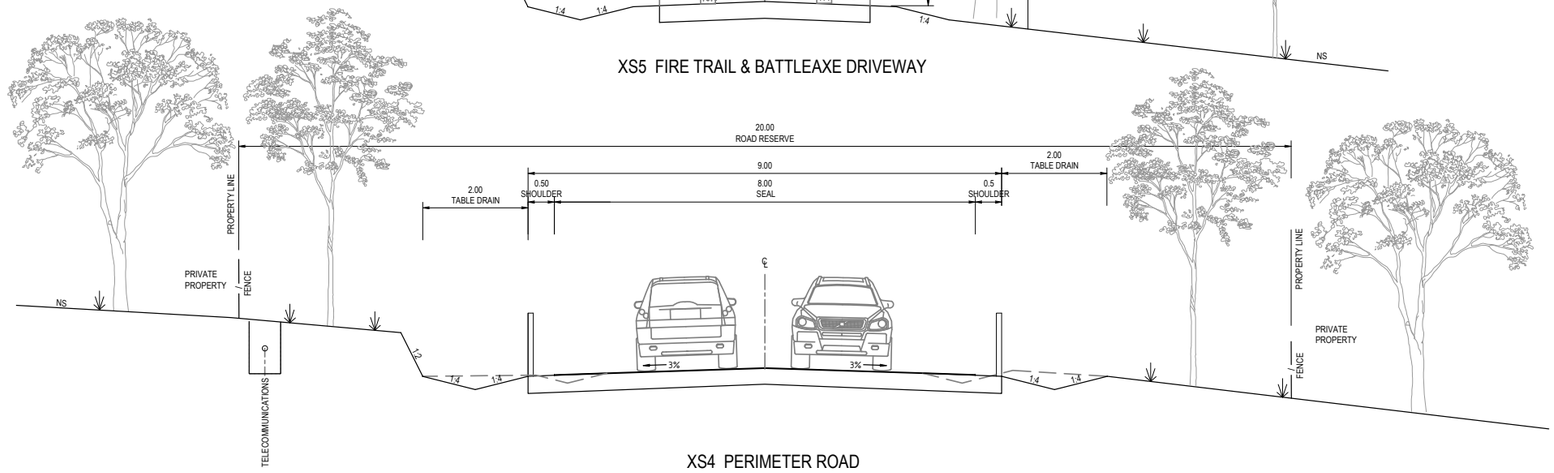
Date: Friday, 27 November 2020 11:05:48 AM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P31TYPX.dwg



XS6 FIRE TRAIL PASSING BAY



XS5 FIRE TRAIL & BATTLEAXE DRIVEWAY



XS4 PERIMETER ROAD

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A						
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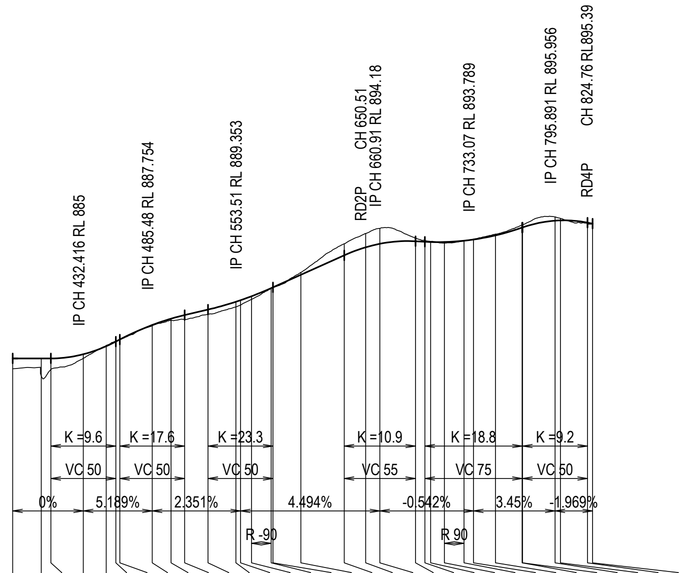
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE TYPICAL SECTIONS
DRAWING NUMBER 1710-2-P32TYPX
AMENDMENT:

Date: Friday, 27 November 2020 11:07:36 AM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P31TYPX.dwg



CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
377.973	885.000	884.209	0.791
400.000	885.000	883.649	1.351
407.416	885.000	884.161	0.839
432.416	885.324	885.007	0.317
450.000	885.941	885.994	-0.053
457.416	886.297	886.323	-0.026
460.480	886.456	886.457	-0.001
485.480	887.576	887.524	0.052
500.000	888.064	887.935	0.129
510.480	888.341	888	0.342
528.510	888.765	888.398	0.368
550.000	889.369	888.968	0.401
553.510	889.487	889.115	0.372
561.976	889.792	889.539	0.253
577.187	890.417	890.402	0.015
578.510	890.477	890.447	0.029
600.000	891.442	891.627	-0.185
633.410	892.944	893.835	-0.891
650.000	893.563	894.626	-1.063
660.910	893.833	895.025	-1.192
688.410	894.031	894.268	-0.237
695.570	893.992	894.09	-0.098
700.000	893.973	894.02	-0.047
710.631	893.970	893.892	0.079
725.701	894.070	894.045	0.025
733.070	894.163	894.185	-0.022
750.000	894.485	894.575	-0.090
770.570	895.082	895.277	-0.195
770.891	895.093	895.283	-0.190
795.891	895.617	895.905	-0.288
800.000	895.638	895.795	-0.156
820.891	895.464	895.408	0.056
824.792	895.387	895.406	-0.019

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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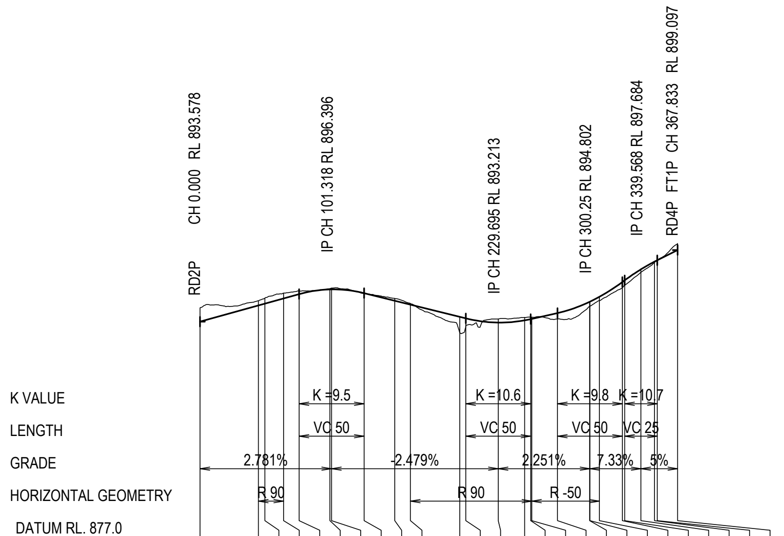
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 1
DRAWING NUMBER 1710-2-P33LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:09:21 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P33LS.dwg



DESIGN SURFACE	893.578	894.829	894.969	895.369	895.701	896.065	896.067	895.776	895.189	894.891	893.949	893.833	893.509	893.681	893.776	893.793	894.239	895.107	895.119	895.497	896.634	896.767	897.611	898.203	898.309	899.097
EXISTING SURFACE	894.644	895.189	895.395	895.773	895.954	896.126	896.159	895.758	895.364	894.979	892.731	893.205	893.785	893.899	893.93	893.923	893.787	894.76	894.774	895.206	896.199	896.385	897.382	898.149	898.304	899.597
DIFFERENCE FROM EXISTING	-1.066	-0.360	-0.426	-0.404	-0.254	-0.062	-0.092	0.018	-0.175	-0.089	1.218	0.628	-0.276	-0.218	-0.154	-0.130	0.451	0.347	0.345	0.291	0.435	0.382	0.229	0.054	0.004	-0.500
CHAINAGES	0.000	44.960	50.000	64.368	76.318	100.000	101.318	126.318	150.000	162.032	200.000	204.695	229.695	250.000	254.695	255.437	275.250	300.000	300.250	307.578	325.250	327.068	339.568	350.000	352.068	367.833

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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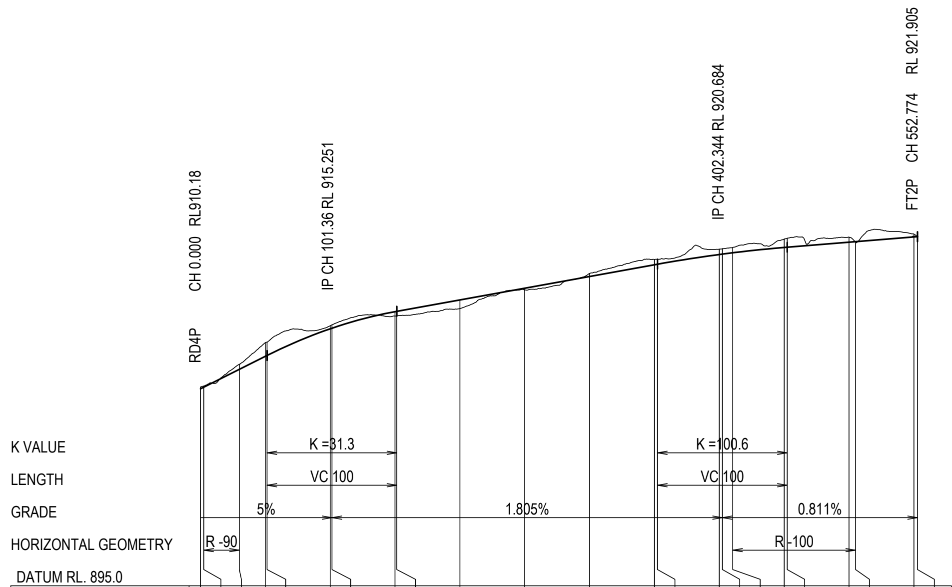
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 2
DRAWING NUMBER 1710-2-P34LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:15:46 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P34LS.dwg



DESIGN SURFACE	910.183	910.310	911.679	912.683	912.751	914.805	914.852	916.129	916.154	917.032	917.934	918.837	919.740	919.782	920.529	920.560	920.661	921.071	921.090	921.477	921.518	921.883	921.905
EXISTING SURFACE	910.319	910.395	912.071	913.732	913.782	915.042	915.11	915.795	915.796	916.362	917.793	919.074	920.144	920.169	920.942	920.974	921.066	921.716	921.783	921.862	921.489	922.096	921.905
DIFFERENCE FROM EXISTING	-0.136	-0.085	-0.392	-1.049	-1.031	-0.237	-0.258	0.334	0.358	0.670	0.141	-0.237	-0.405	-0.387	-0.412	-0.413	-0.405	-0.645	-0.693	-0.385	0.030	-0.213	-0.000
CHAINAGES	0.000	2.544	29.916	50.000	51.360	100.000	101.360	150.000	151.360	200.000	250.000	300.000	350.000	352.344	400.000	402.344	410.302	450.000	452.344	500.000	505.074	550.000	552.774

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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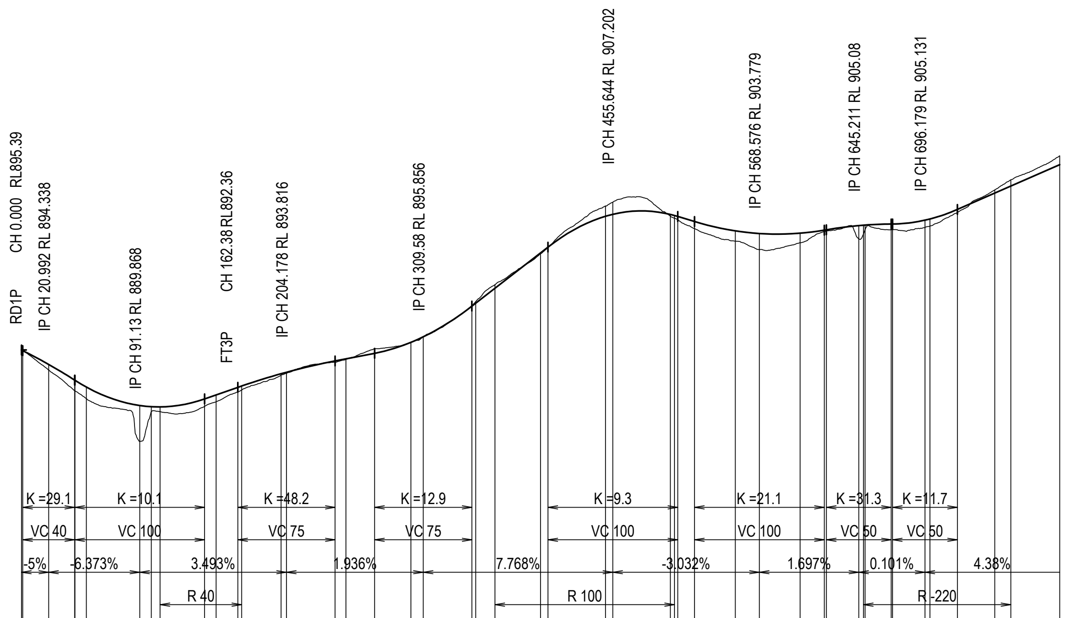
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 3
DRAWING NUMBER 1710-2-P35LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:21:57 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P35LS.dwg



DATUM RL. 873.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	895.387	895.405	-0.018
0.992	895.338	895.313	0.024
20.992	894.269	893.836	0.433
40.992	893.063	892.254	0.809
41.130	893.054	892.246	0.809
50.000	892.528	891.636	0.892
91.130	891.101	888.34	2.761
100.000	891.012	890.63	0.382
106.782	890.997	890.634	0.363
141.130	891.614	891.038	0.576
150.000	891.924	891.394	0.530
166.678	892.506	892.163	0.344
169.614	892.608	892.301	0.307
200.000	893.555	893.439	0.116
204.178	893.670	893.593	0.078
241.678	894.542	894.443	0.099
250.000	894.703	894.662	0.041
272.080	895.131	895.48	-0.350
300.000	895.974	895.947	0.027
309.580	896.403	896.399	0.004
347.080	898.769	898.805	-0.036
350.000	898.996	899.121	-0.125
364.853	900.150	900.425	-0.276
400.000	902.880	902.807	0.073
405.644	903.318	903.284	0.034
450.000	905.702	906.49	-0.788
455.644	905.852	906.79	-0.938
500.000	905.841	905.706	0.135
503.154	905.759	905.555	0.204
505.644	905.687	905.433	0.254
518.576	905.295	904.746	0.548
550.000	904.575	903.786	0.790
568.576	904.370	903.132	1.238
600.000	904.394	903.657	0.736
618.576	904.627	904.512	0.116
620.211	904.655	904.57	0.086
645.211	904.980	903.955	1.025
648.753	905.010	904.334	0.676
650.000	905.019	904.651	0.369
670.211	905.105	904.659	0.446
671.179	905.106	904.655	0.451
696.179	905.399	904.832	0.567
700.000	905.490	904.938	0.552
721.179	906.226	905.991	0.235
750.000	907.488	907.734	-0.245
762.329	908.028	908.513	-0.484
800.000	909.678	910.358	-0.679

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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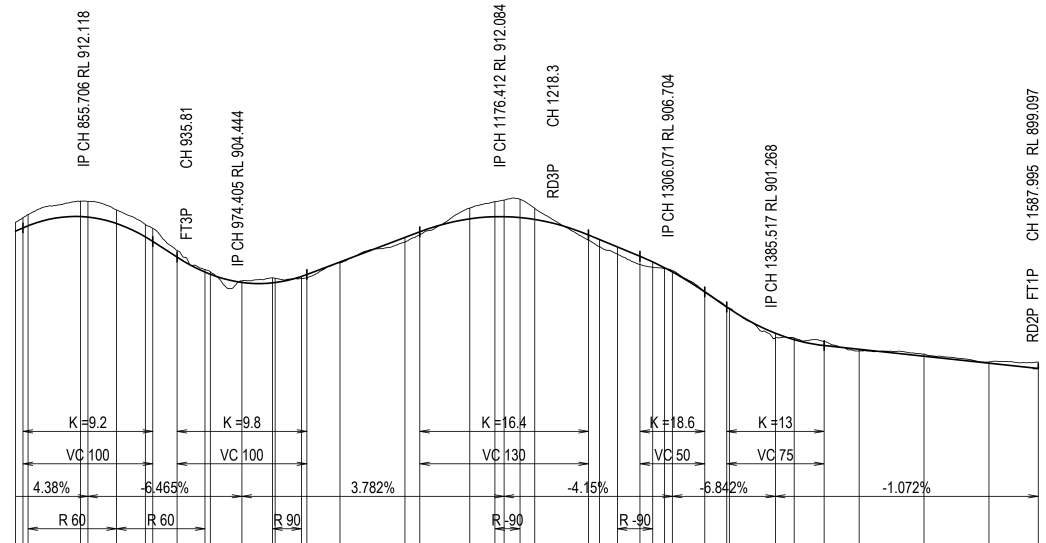
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 4 - SHEET 1
DRAWING NUMBER 1710-2-P36LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:30:00 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P36LS.dwg



DATUM RL. 884.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
800.000	909.678	910.358	-0.679
805.706	909.928	910.715	-0.787
809.551	910.089	910.954	-0.865
850.000	910.804	911.99	-1.185
855.706	910.763	911.968	-1.205
877.756	910.269	911.314	-1.045
900.000	909.237	910.193	-0.956
905.706	908.886	909.893	-1.008
924.405	907.677	908.187	-0.510
945.960	906.521	906.726	-0.205
950.000	906.358	906.562	-0.204
974.405	905.725	905.843	-0.118
997.989	905.694	906.083	-0.390
1000.000	905.717	906.055	-0.337
1020.349	906.190	906.031	0.159
1024.405	906.335	906.09	0.245
1050.000	907.303	907.235	0.069
1100.000	909.194	908.826	0.369
1111.412	909.626	909.4	0.225
1150.000	910.631	911.46	-0.829
1169.308	910.793	911.963	-1.170
1176.412	910.795	912.074	-1.279
1188.693	910.727	912.132	-1.406
1200.000	910.582	911.437	-0.855
1241.412	909.387	908.994	0.393
1250.000	909.031	908.479	0.552
1263.710	908.462	907.904	0.558
1281.071	907.741	907.101	0.640
1290.972	907.304	906.898	0.406
1300.000	906.859	906.798	0.061
1306.071	906.536	906.634	-0.098
1331.071	904.993	905.047	-0.053
1348.017	903.834	903.875	-0.042
1350.000	903.700	903.76	-0.061
1385.517	901.809	901.463	0.346
1400.000	901.316	901.451	-0.135
1423.017	900.866	901.169	-0.303
1450.000	900.577	900.43	0.146
1500.000	900.040	900.21	-0.169
1550.000	899.504	899.598	-0.094
1587.995	899.097	899.597	-0.500

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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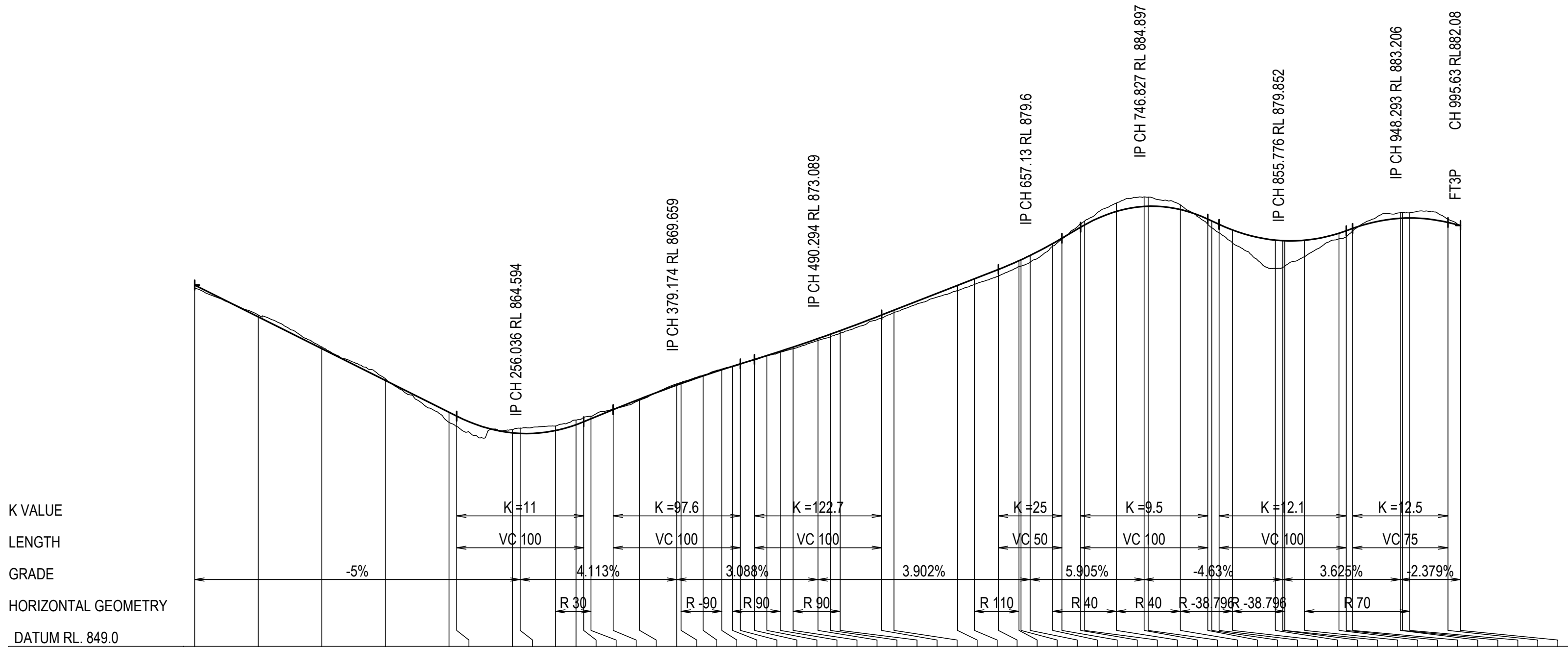
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 4 - SHEET 2
DRAWING NUMBER 1710-2-P37LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:31:00 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P36LS.dwg



DATUM RL. 849.0

DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING	CHAINAGES
877.396	877.164	0.232	0.000
874.896	875.045	-0.148	50.000
872.396	872.542	-0.146	100.000
869.896	870.03	-0.134	150.000
867.396	866.601	0.795	200.000
867.094	866.282	0.813	206.036
865.777	866.032	-0.255	250.000
865.733	866.155	-0.422	256.036
865.964	866.319	-0.355	283.896
866.419	866.788	-0.369	300.000
866.651	866.988	-0.337	306.036
866.882	867.087	-0.205	311.656
867.602	867.655	-0.052	329.174
868.437	868.346	0.090	350.000
869.530	869.634	-0.103	379.174
869.653	869.733	-0.080	382.582
870.258	870.308	-0.050	400.000
870.741	870.799	-0.058	414.575
871.011	871.002	0.009	423.052
871.202	871.167	0.036	429.174
871.546	871.524	0.022	440.294
871.849	871.828	0.021	450.000
872.189	872.118	0.071	460.582
872.523	872.389	0.133	470.713
873.191	873.044	0.148	490.294
873.534	873.334	0.201	500.000
873.812	873.616	0.195	507.689
875.041	874.799	0.242	540.294
875.419	875.226	0.194	550.000
877.371	876.971	0.399	600.000
877.892	877.447	0.445	613.371
878.624	878.098	0.526	632.130
879.311	878.848	0.462	648.364
879.386	878.884	0.502	650.000
879.725	879.174	0.552	657.130
880.654	880.443	0.211	674.801
881.076	881.008	0.068	682.130
881.944	882.209	-0.264	696.827
882.126	882.43	-0.304	700.000
883.191	883.844	-0.654	725.042
883.580	884.335	-0.755	746.827
883.595	884.306	-0.711	750.000
883.335	883.701	-0.366	775.282
882.582	882.179	0.403	796.827
882.435	881.903	0.532	800.000
882.167	881.501	0.666	805.776
881.725	880.708	1.017	816.317
880.927	878.698	2.229	850.000
880.884	878.789	2.095	855.776
880.877	878.877	2.000	857.353
880.920	879.632	1.287	872.969
881.469	881.024	0.446	900.000
881.665	881.191	0.473	905.776
881.847	881.647	0.200	910.793
882.643	883.103	-0.460	948.293
882.653	883.087	-0.434	950.000
882.667	883.082	-0.414	955.752
882.314	882.58	-0.266	985.793
882.080	882.08	0.000	995.628

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 5
DRAWING NUMBER 1710-2-P38LS
AMENDMENT: A

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DESIGN SURFACE	899.097	899.671	899.813	899.920	899.914	899.864	899.251
EXISTING SURFACE	899.597	899.769	899.816	899.915	899.908	899.954	899.431
DIFFERENCE FROM EXISTING	-0.500	-0.098	-0.004	0.005	0.006	-0.091	-0.179
CHAINAGES	0.000	20.617	26.649	34.817	45.617	50.000	70.617

DESIGN SURFACE	897.940	895.708	894.501	893.713	893.391	893.633	893.890
EXISTING SURFACE	897.923	896.497	895.084	894.364	893.034	893.825	894.197
DIFFERENCE FROM EXISTING	0.017	-0.789	-0.583	-0.652	0.357	-0.192	-0.306
CHAINAGES	100.000	150.000	177.042	200.000	227.042	250.000	260.150

DESIGN SURFACE	894.358	894.524	895.560	895.677	896.694	897.419	897.491
EXISTING SURFACE	894.894	894.94	895.508	895.682	896.805	897.421	897.493
DIFFERENCE FROM EXISTING	-0.536	-0.415	0.052	-0.005	-0.110	-0.003	-0.002
CHAINAGES	273.213	277.042	300.000	302.604	327.604	350.000	352.604

DESIGN SURFACE	897.547	898.355	899.190	899.403	901.525	903.414	903.860
EXISTING SURFACE	897.562	898.385	899.267	899.409	901.647	903.34	903.867
DIFFERENCE FROM EXISTING	-0.015	-0.031	-0.077	-0.006	-0.122	0.074	-0.007
CHAINAGES	354.647	379.647	400.000	404.647	450.000	490.387	500.000

DESIGN SURFACE	904.169	905.054	905.639	906.040	907.634	907.688	907.959
EXISTING SURFACE	904.177	904.98	905.753	906.075	907.623	907.566	907.902
DIFFERENCE FROM EXISTING	-0.009	0.075	-0.114	-0.035	0.011	0.121	0.056
CHAINAGES	506.779	526.746	540.387	550.000	590.387	591.810	600.000

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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SCALE IN METRES 1:200 (A1) 2 1 0 2 4 6 8 10 1:400 (A3)

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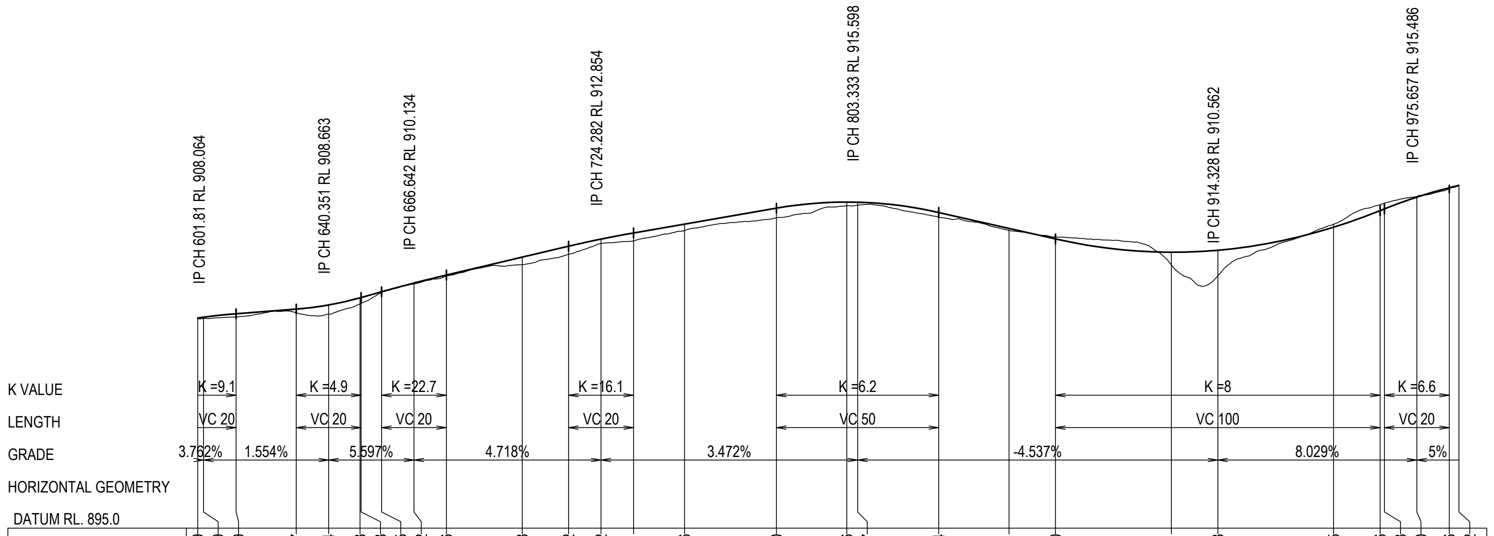
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 1 - SHEET 1
DRAWING NUMBER 1710-2-P39LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:54:44 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P39LS.dwg



CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
600.000	907.959	907.902	0.056
601.810	908.009	907.921	0.088
611.810	908.219	908.022	0.197
630.351	908.507	908.283	0.225
640.351	908.764	908.195	0.569
650.000	909.203	908.83	0.373
650.351	909.223	908.858	0.365
656.642	909.575	909.525	0.050
666.642	910.112	910.057	0.055
676.642	910.606	910.552	0.054
700.000	911.708	911.244	0.464
714.282	912.382	911.884	0.498
724.282	912.822	912.542	0.280
734.282	913.201	912.711	0.490
750.000	913.746	913.342	0.405
778.333	914.730	914.137	0.593
800.000	915.106	914.88	0.226
803.333	915.097	914.911	0.187
828.333	914.464	914.174	0.290
850.000	913.481	913.356	0.124
864.328	912.830	912.952	-0.122
900.000	912.011	911.226	0.785
914.328	912.133	910.562	1.571
950.000	913.555	913.741	-0.186
964.328	914.576	914.944	-0.368
965.657	914.683	915.033	-0.350
975.657	915.410	915.451	-0.040
985.657	915.986	915.93	0.055
988.585	916.132	916.132	0.000

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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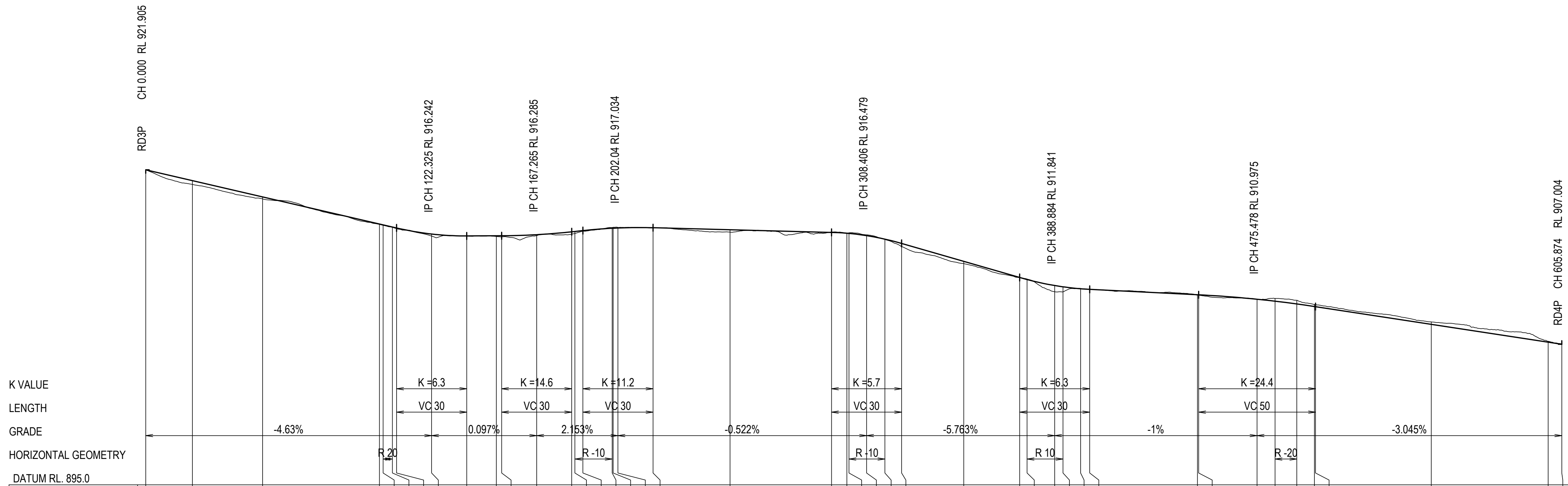
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 1 - SHEET 2
DRAWING NUMBER 1710-2-P40LS AMENDMENT: A

Date: Friday, 10 February 2023 9:54:44 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P39LS.dwg



DATUM RL. 895.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	921.905	921.905	0.000
20.000	920.979	920.658	0.321
50.000	919.590	919.419	0.171
100.000	917.275	917.236	0.039
101.563	917.203	917.16	0.042
105.527	917.019	916.99	0.029
107.325	916.936	916.874	0.062
122.325	916.419	916.244	0.174
137.325	916.256	916.246	0.010
150.000	916.268	916.209	0.060
152.265	916.271	916.179	0.092
167.265	916.362	916.285	0.077
182.265	916.608	916.408	0.200
183.622	916.637	916.461	0.176
187.040	916.711	916.661	0.050
199.555	916.910	916.975	-0.064
200.000	916.915	916.987	-0.072
202.040	916.934	916.986	-0.052
217.040	916.956	916.932	0.023
250.000	916.784	916.578	0.206
293.406	916.557	916.581	-0.024
300.000	916.485	916.509	-0.024
300.896	916.469	916.519	-0.050
308.406	916.282	916.354	-0.072
316.243	915.982	915.956	0.026
323.406	915.615	915.35	0.265
350.000	914.082	913.896	0.186
373.884	912.706	912.695	0.011
377.066	912.530	912.576	-0.045
388.884	912.020	911.476	0.544
392.442	911.910	911.476	0.434
400.000	911.742	911.767	-0.024
403.884	911.691	911.704	-0.013
450.000	911.230	911.202	0.028
450.478	911.225	911.19	0.036
475.478	910.848	910.852	-0.004
483.166	910.680	910.917	-0.237
492.484	910.444	910.754	-0.309
500.000	910.229	910.399	-0.170
500.478	910.214	910.389	-0.175
550.000	908.706	908.906	-0.200
600.000	907.183	907.256	-0.073
605.874		907.036	

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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C						
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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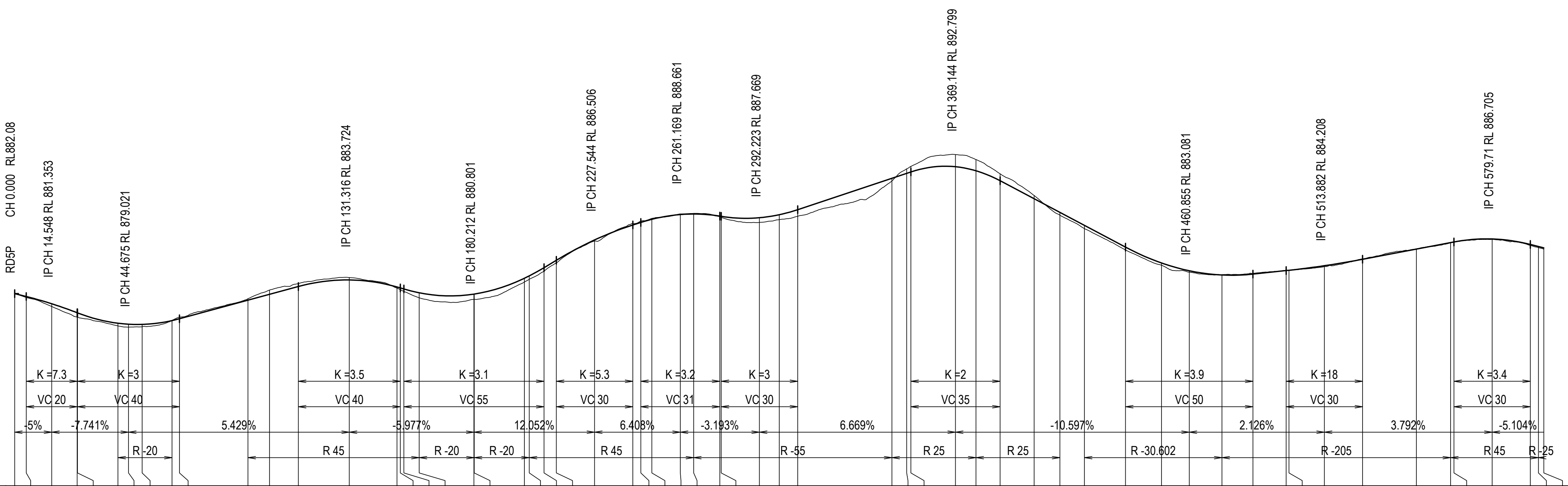
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 2
DRAWING NUMBER 1710-2-P41LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:47:44 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P41LS.dwg



CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	882.080	882.08	0.000
4.548	881.853	881.782	0.071
14.548	881.284	881.073	0.212
24.548	880.579	880.234	0.344
24.675	880.569	880.23	0.339
40.538	879.755	879.545	0.210
44.675	879.679	879.437	0.242
50.000	879.664	879.478	0.187
61.761	879.962	879.984	-0.022
64.675	880.106	880.237	-0.130
91.544	881.565	881.679	-0.114
100.000	882.024	882.361	-0.337
111.316	882.638	882.88	-0.241
131.316	883.154	883.345	-0.191
150.000	882.605	882.514	0.091
151.316	882.529	882.4	0.128
152.712	882.445	882.261	0.184
158.736	882.145	881.751	0.393
180.212	882.041	881.631	0.409
180.330	882.045	881.634	0.411
200.000	883.284	882.987	0.297
201.923	883.473	883.203	0.270
207.712	884.116	883.847	0.269
212.544	884.698	884.5	0.198
227.544	886.294	886.221	0.073
242.544	887.467	887.584	-0.116
245.669	887.667	887.768	-0.100
250.000	887.916	887.987	-0.071
261.169	888.289	888.34	-0.052
266.412	888.330	888.378	-0.048
276.669	888.166	888.109	0.057
277.223	888.148	888.07	0.078
292.223	888.039	887.662	0.377
300.000	888.273	887.89	0.383
307.223	888.669	888.152	0.517
344.212	891.136	890.929	0.207
350.000	891.522	891.875	-0.353
351.644	891.632	892.073	-0.441
369.144	892.044	893.005	-0.961
377.164	891.728	892.606	-0.879
386.644	890.945	891.487	-0.543
400.000	889.529	889.784	-0.255
410.116	888.457	888.24	0.218
419.726	887.439	887.183	0.256
435.855	885.730	885.508	0.222
450.000	884.486	884.311	0.175
460.855	883.876	883.763	0.113
473.701	883.542	883.57	-0.028
485.855	883.612	883.658	-0.046
498.882	883.889	883.903	-0.013
500.000	883.913	883.917	-0.004
513.882	884.271	884.202	0.069
528.882	884.777	884.804	-0.027
550.000	885.578	885.6	-0.022
563.421	886.087	886.074	0.013
564.710	886.136	886.12	0.016
579.710	886.371	886.342	0.029
594.710	885.939	885.863	0.076
597.877	885.777	885.695	0.082
600.000	885.669	885.566	0.103

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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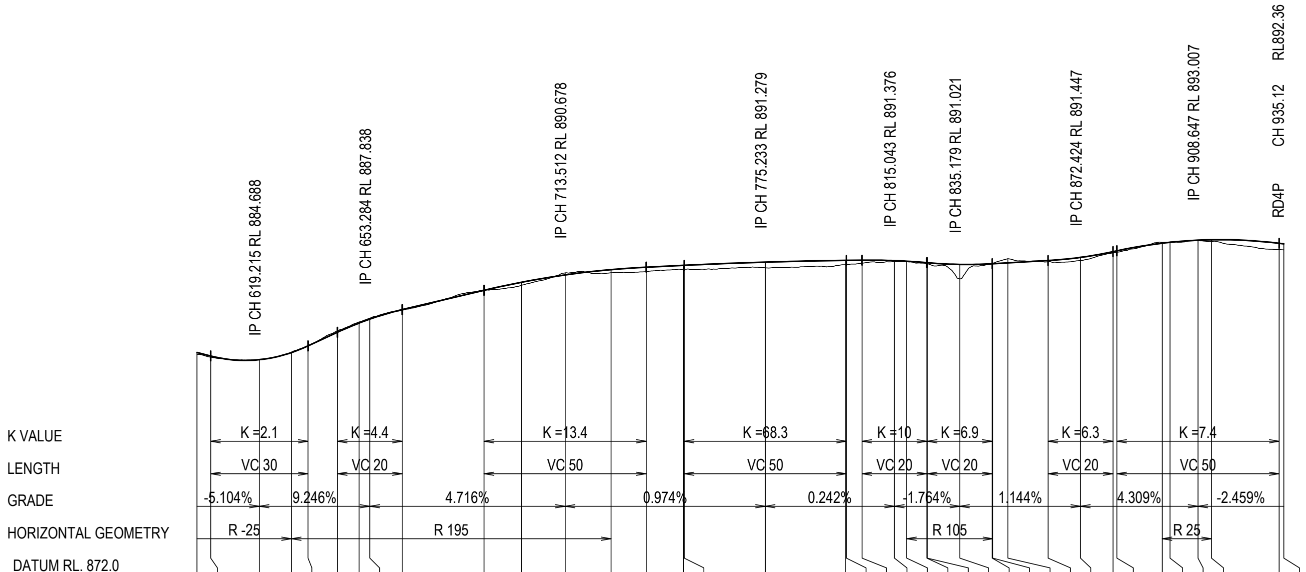
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 3 - SHEET 1
DRAWING NUMBER 1710-2-P42LS
AMENDMENT: A

Date: Thursday, 9 February 2023 5:05:30 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P42LS.dwg



DATUM RL. 872.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
600.000	885.669	885.566	0.103
604.215	885.454	885.376	0.078
619.215	885.226	885.227	-0.001
629.096	885.664	885.684	-0.020
634.215	886.075	886.092	-0.017
643.284	886.913	887.003	-0.090
650.000	887.483	887.548	-0.064
653.284	887.725	887.788	-0.063
663.284	888.310	888.277	0.033
688.512	889.499	889.516	-0.017
700.000	889.992	889.802	0.189
713.512	890.444	890.577	-0.133
727.671	890.772	890.581	0.191
738.512	890.922	890.644	0.277
750.000	891.034	890.8	0.233
750.233	891.036	890.802	0.234
775.233	891.234	890.886	0.348
800.000	891.340	891.081	0.258
800.233	891.340	891.086	0.254
805.043	891.352	891.17	0.181
815.043	891.326	891.263	0.063
818.820	891.290	891.266	0.024
825.043	891.200	891.147	0.053
825.179	891.197	891.144	0.054
835.179	891.093	890.202	0.892
845.179	891.135	891.154	-0.019
845.376	891.137	891.166	-0.028
850.000	891.190	891.443	-0.253
862.424	891.332	891.253	0.080
872.424	891.526	891.347	0.179
882.424	891.878	891.811	0.066
883.647	891.930	891.846	0.084
897.619	892.400	892.442	-0.041
900.000	892.454	892.476	-0.022
908.647	892.585	892.57	0.015
912.806	892.611	892.5	0.111
933.647	892.393	892.01	0.383
935.120	892.357	891.991	0.366

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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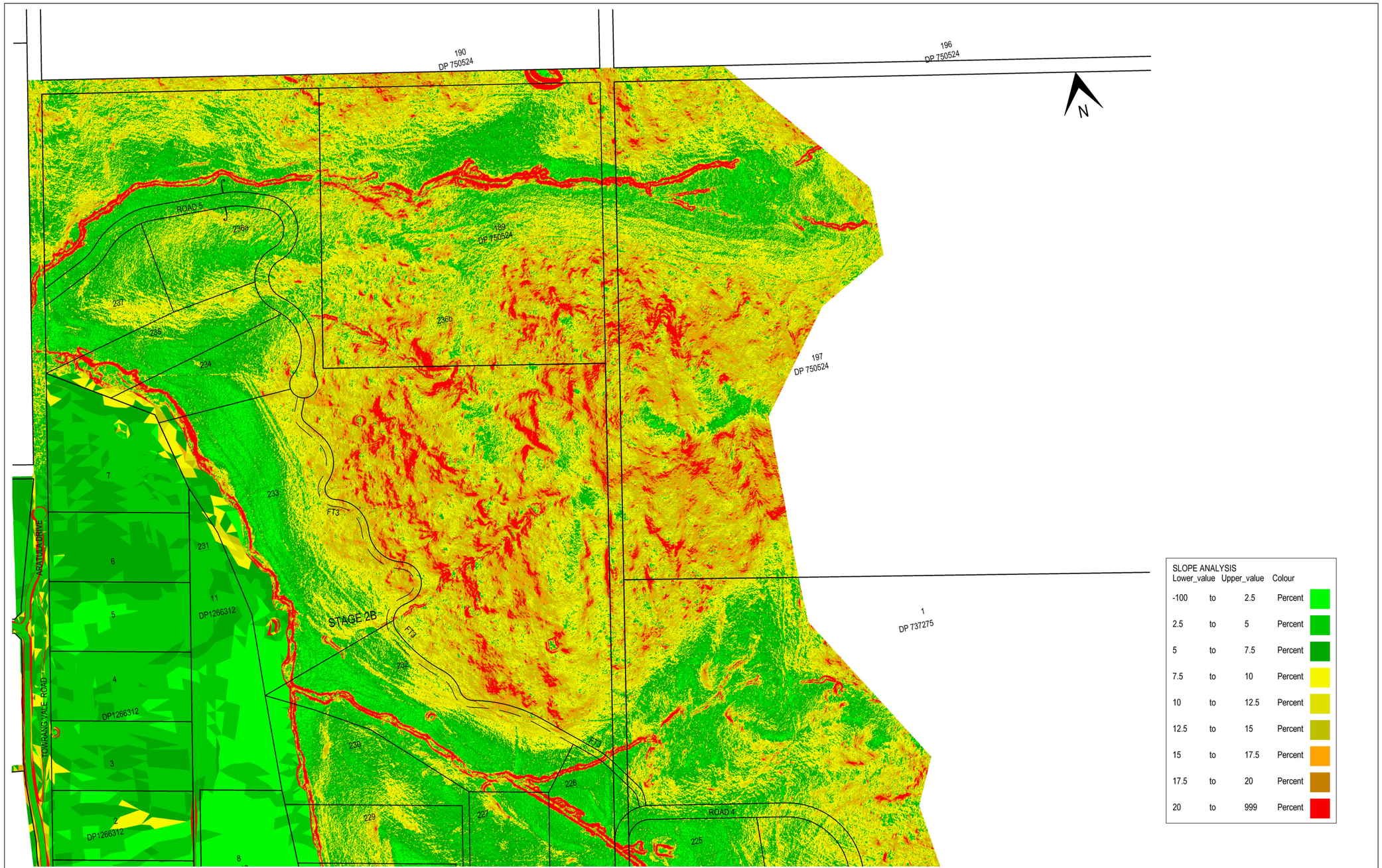
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 2 - SHEET 2
DRAWING NUMBER 1710-2-P43LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:55:45 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P42LS.dwg



REFER DWG 1710-2-P51SLP FOR CONTINUATION

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
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A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	25/11/2020

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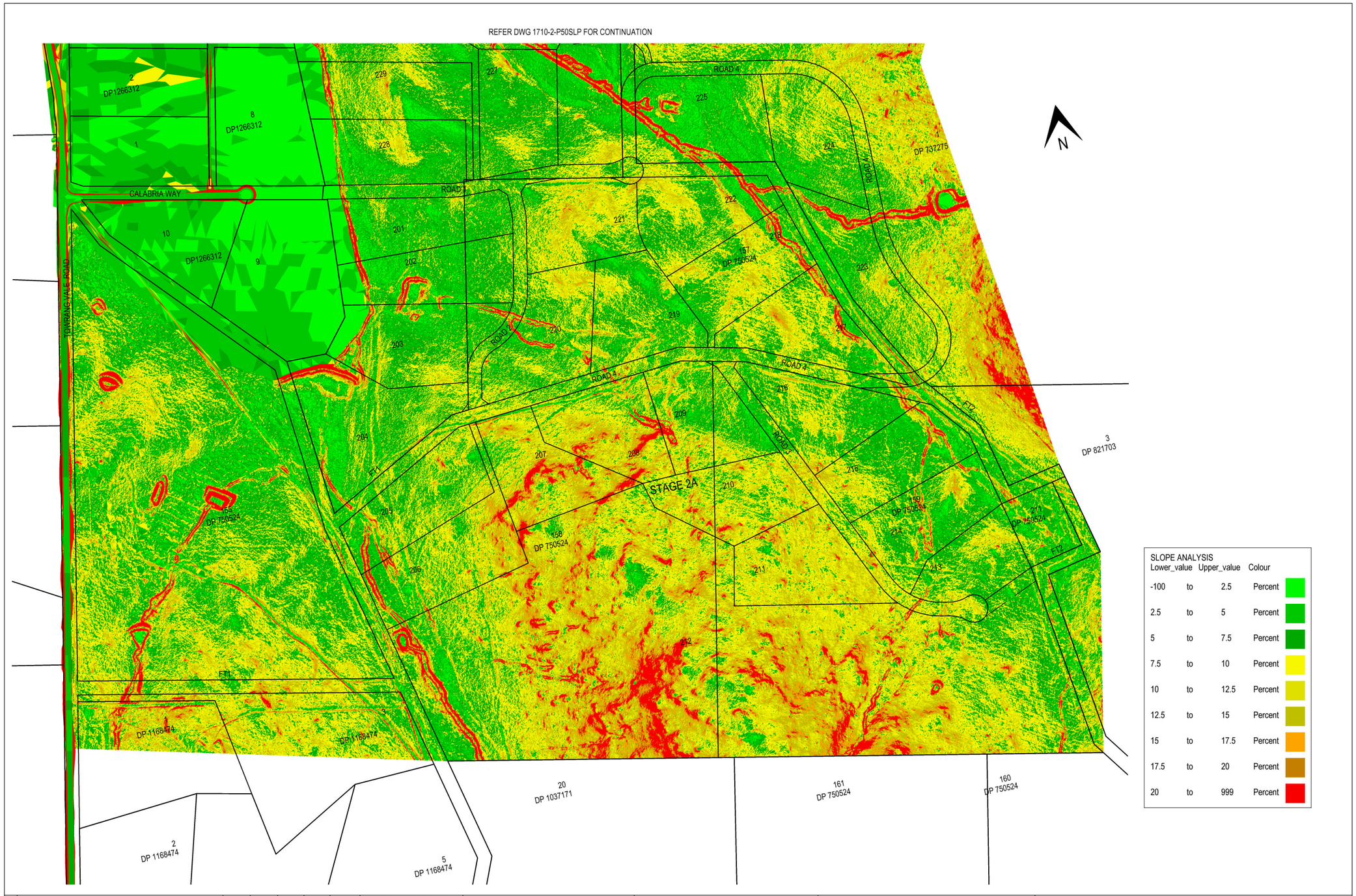
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE SLOPE ANALYSIS - SHEET 1
DRAWING NUMBER 1710-2-P50SLP AMENDMENT: A

Date: Tuesday, 20 December 2022 10:19:51 AM User: AG File: H:\2017\1710-2_Aratula\STG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P50SLP.dwg



No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	25/11/2020

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CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE SLOPE ANALYSIS - SHEET 2
DRAWING NUMBER 1710-2-P51SLP
AMENDMENT: A

Date: Tuesday, 20 December 2022 3:18:02 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P51SLP.dwg

Stage 2A		
Available R5 Area	251.93 ha	
Allowable # if 8 ha lots	31.5000	30 + residue lot
Lots proposed to be developed	88.29 ha	#201 - #230
Lots proposed to be developed tally		30
Road and Fire trail area	4.40 ha	
Residue Area	159.24 ha	

GENERAL NOTES

Do not scale from drawings. Use figured dimensions only.

All existing conditions, dimensions and levels are approximate only and are to be checked & verified by contractor prior to the commencement of work or the manufacture of any item.

All items not shown in the scope of works or drawings, but necessary for the proper completion of the works are deemed to be included.

All work will be carried out in accordance with the NCC, EP&A Act 1979 (as amended), Local Government Act 1993, Regulations under the Acts, relevant Australian Standards, and local authority conditions.

All work to be carried out by qualified and licensed tradespeople.

Before any work commences on site a Dial Before You Dig search should be undertaken by the person completing the work and the results complied with and adhered to.

If any items cannot be accurately located on site to facilitate construction, the services of a registered surveyor should be employed to locate those items/boundaries

ISSUE
For Council Submission

Revision	Changes	Date

PROJECT
Proposed Subdivision

CLIENT
Cavallo Projects Pty Ltd

LOCATION
Towrang Vale Road, Cooma
NSW, 2630

DATE 2/4/2024

SCALE 1:5000

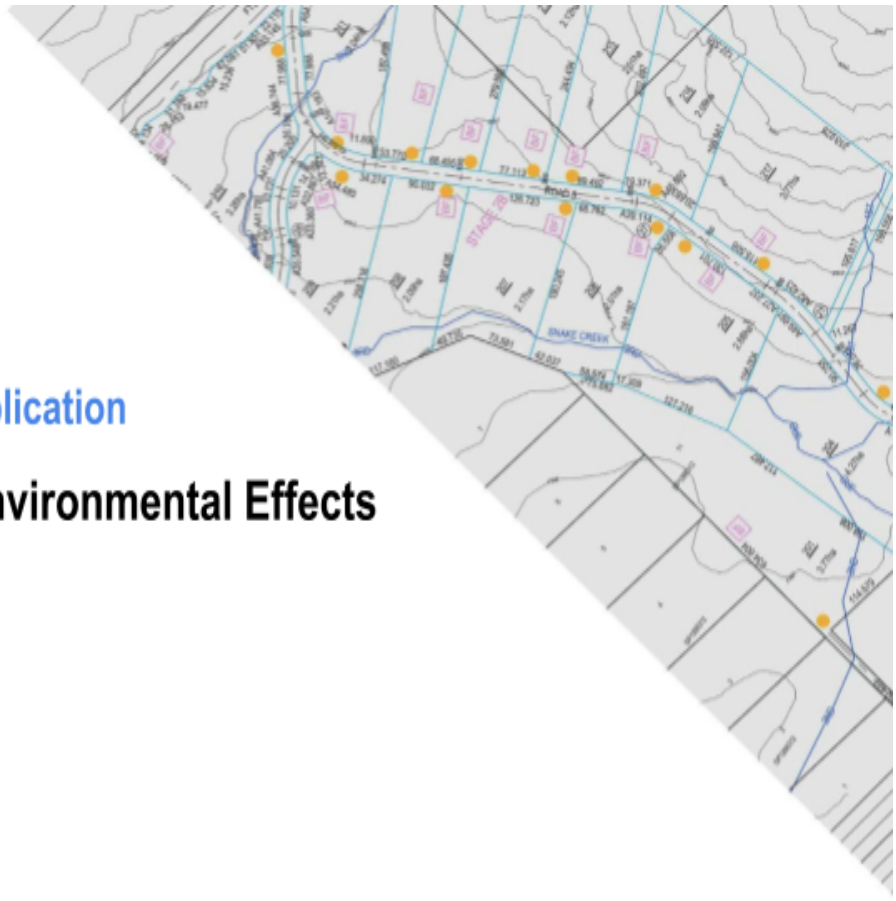
Sheet size: A1
Drawing to be read printed at 100% print scale

PO Box 852
53 Rudlam Street,
Cooma NSW 2794
p: 1300 240 872
e: office@visionpd.com.au
web: visionpd@ub.au

VISION
PROPERTY DEVELOPMENT HUB

JOB NUMBER 152/22

DRAWING Stage 2A SD001



Development Application

Statement of Environmental Effects

VISION

PROPERTY DEVELOPMENT HUB

VISION
PROPERTY DEVELOPMENT HUB

53 Redfern Street
COWRA NSW 2794
PO Box 852
1300 240 827
ABN: 95 614 159 698
https://visionpdhub.au

Statement of Environmental Effects

Proposed Development: Proposed Large Lot Residential Subdivision
Subject Land: LOT 1 DP737275, LOTS 157, 189, 197 DP750524, LOT 11 DP1266312 - TOWRANG VALE ROAD, COOMA
Client: Cavallo Projects Pty Ltd

Version 1 Version 2	28/09/21 19/04/23	Superseded Current

This Statement of Environmental Effects (SEE) was prepared based on the following plan and document versions:

Author	Plan	Page	Date	Job
Osgood Civil Resource Engineering	Subdivision Plans & Preliminary Civil Engineering Plans	1-27	10/02/23	1710-2
Apex Archaeology	Aboriginal Due Diligence Assessment	1-34	Jan 2023	-
Franklin Consulting Australia Pty Ltd	Land Capability Assessment	1-47	25/01/23	-
South East Environmental	Biodiversity Assessment Report	1-66	Dec 2022	-
Blackash Bushfire Consulting	Bushfire Hazard Assessment	1-18	31/01/23	J2988

Prepared by:

Patrick Fitzsimmons
Town Planner, Managing Director
VISION Town Planning Consultants Pty Ltd

Statement of Environmental Effects

Abbreviations

The Act – Environmental Planning and Assessment Act 1979
EPI – Environmental Planning Instrument
SEE - Statement of Environmental Effects

Contents

1. Executive Summary

The proposed subdivision has been designed to comply with the NSW Environmental Planning and Assessment Act 1979 (the Act), NSW Biodiversity Conservation Act 2016 (Bio Act), applicable State Environmental Planning Policies (SEPPs), Cooma-Monaro Local Environmental Plan 2013 (LEP) and the Cooma Monaro Shire Development Control Plan 2014 (DCP). The development was designed in conjunction with other consulting companies who have prepared specialist reports submitted with this Development Application (DA). The subdivision is designed to include all utility connections necessary for the construction of future dwellings in the large lot residential setting. The development will not have any significant negative environmental impacts that would warrant alteration to the proposed design.

Accordingly the proposed residential subdivision will have positive outcome without negative impacts and can be approved by Council without design modification.

2. History of Development and Applications

The proposed allotments are located in an area characterised by residential development adjoining the first stage of a large lot residential development previously constructed by the applicants.

The previous Development Application was approved unanimously by Council vote in October 2018 and construction of the 11-lot subdivision (Stage 1) of the development was completed midway through 2020 and the allotments serviced and registered.

The initial stage of the development involved construction of a new roadway, Calabria Way, and extension of Towrang Vale Road in a northerly direction as a new road named Aratula Drive. The developers also opted to complete roadworks to widen and improve an existing section of Towrang Vale Road back toward Dri Plains Road providing greatly improved roadway access to stage 1 of the subdivision and other existing residences.

The first stage of the development, all of which is located on the western side of Snake Creek, has proved to be an aesthetically pleasing and popular development with excellent quality allotments upon which many bespoke homes have been designed and constructed.

The DAs for Stage 2 were initially submitted as a single application broken into 4 distinct development Stages, namely 2A, 2B, 2C and 2D. As a result of a request from Snowy Monaro Regional Council (Council) to further address Clause 4.1(B), the applicant chose to amend the initial Development Application 10.2020.215.1 to divide the total of 77 allotments into 4 separate DAs each including an individual stage 2A, 2B, 2C and 2D.

Through the assessment process of the DA, it was agreed that as the proposed allotments that constitute Stages 2A through to 2D did not overlap, and result in the subdivision of residue land from each previous stage using Clause 4.1(B) and the allowable lot average, the four Development Applications could be submitted and assessed by Council simultaneously.

Section 37 Amendment

Subsequent to the submission of these 4 separate DA's to Council, and through consideration of submissions received from neighbouring property owners, the applicant has chosen to further reduce the number of allotments proposed to 38 allotments include a residue lot with no nominated building envelope, and as such submitted an application under Section 37 of the *NSW Environmental Planning and Assessment Regulation 2021* to amend the development applications already lodged with Council. The result of this process is the project comprises only two development applications.

3. Proposed Development

The land owners are seeking Council approval to construct a 37 lot large-lot residential subdivision, plus one residue allotment.

A summary of the areas included in the lot averaging is included below, but are also shown on staging tables included with the plans submitted and prepared by Osgood Civil Resource Engineering (OCRE).

The two separate Development Applications involve the consolidation and subdivision of the allotments shown on the plans prepared by OCRE and the lot averaging using the 8 hectare minimum lot size and the identification of the lot yield is included in Table 1 below.

Stage	**Area in R5 zone**	**Number of new lots**	**Residue Area**
2A	251.93 hectares	30 plus residue	159.24 hectares
2B	159.24 hectares	7 plus residue	92.14

Table 1: Lot averaging and lot yield for Stage 2A & 2B

The development involves an extension of Calabria Way and Aratula Drive and construction of a number of other roads displayed on the accompanying plans, as well as a fire trail.

The development has been designed in consultation with:

1. South East Environmental who have provided a Biodiversity Assessment Report submitted with this application. The information provided by South East Environmental was used to design the positioning of the roadways throughout the subdivision. This resulted in roadways that meander to avoid tree removal.
2. Blackash Bushfire Consulting to ensure the development meets the provisions of *Planning for Bushfire Protection 2019*, identifying Asset Protection Zone requirements within building envelopes.
3. Franklin Consulting Australia Pty Ltd who have identified any constraints for water and soil to ensure onsite sewage management systems can be installed as well as identified areas including rock and rocky outcrops so that suitable building envelopes can be included and provided, and setbacks from tributaries to Snake Creek and Snake Creek watercourse itself included on the plans.
4. An Aboriginal Heritage Due Diligence Assessment Report prepared by Apex Archaeology who conducted a site survey of the entire development area in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010.* Recommendations included within the report are that the development proceeds as proposed without alteration, and does not identify any negative impacts on items or places of Aboriginal Heritage Significance.
5. OCRE who have prepared the development plans for this application and preliminary engineering design to ensure that all civil engineering including earthworks and roadway construction can be completed within the proposed road reserves and ensuring that no trees or valuable environments need to be disturbed or removed in addition to those shown on plans and addressed by South East Environmental in their Biodiversity Assessment Report.

The proposed development will provide a range of large-lot residential allotments in an area already characterised by large-lot residential developments.

4. Site Description and Surrounding Land Use

The land is located east of Towrang Vale Road, with Snake Creek running through its southwestern portion as displayed on the development plans.

The land affected by the two stages of the DA contains cleared grassland extending from Snake Creek in an easterly direction. The very southern end and northern end of the site contains some scattered trees unaffected by the development.

The surrounding area in a western direction contains a number of dwelling houses in a large-lot residential configuration fronting Towrang Vale Road and fronting Calabria Way. In a southerly direction of the land is a number of residential dwellings in a large-lot residential configuration.

The proposed configuration of allotments maintains the existing large lot residential character of the surrounding area.

5. Integrated Development

Section 4.46 of the Act defines development that is Integrated Development and requires referral to a nominated third-party agency for any separate form of approval. Section 4.46 includes a table of various Sections of additional Acts that nominate and identify those developments that are considered to be Integrated. Section 100B of the *Rural Fires Act 1997* requires the Minister for Rural Fire Service to issue an approval for large-lot residential development involving subdivision on land identified as bushfire prone. The development constitutes Integrated Development.

6. Section 1.7 of the Act - Part 7 of the Biodiversity Conservation Act 2016

The Act gives effect to the consideration of part 7 of the *NSW Biodiversity Conservation Act 2016*. Accordingly, consideration of part 7 of the *NSW Biodiversity Conservation Act 2016* and associated regulation is required and is provided below:

A Biodiversity Assessment Report (BAR) has been prepared to inform this SEE and is submitted with the development application. The report is prepared to assess part 7 of the *NSW Biodiversity Conservation Act 2016*. The report concludes that the development can be completed as proposed without the need to prepare a Biodiversity Development Assessment Report (BDAR). No further reporting is required.

7. Consideration of Environmental Planning Instruments & Environment

Section 4.15 Evaluation

Matters for consideration—general
(a) the provisions of:

(i) any environmental planning instrument, and

7.1 Cooma Monaro Local Environmental Plan 2013 (LEP)

Section 2.3(2) The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.

The land incorporates two zones, being R5 Large Lot Residential and E4 Environmental Living. An extract of both sets of zone objectives are included below:

Zone R5 Large Lot Residential

1 Objectives of zone

- *To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.*
- *To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.*
- *To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To promote an innovative and flexible approach to rural residential development.*

2 Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home occupations

3 Permitted with consent

Animal boarding or training establishments; Biosolids treatment facilities; Boat sheds; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Centre-based child care facilities; Community facilities; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Electricity generating works; Environmental facilities; Exhibition homes; Exhibition villages; Farm buildings; Function centres; Funeral homes; Garden centres; Helipads; Home occupations (sex services); Horticulture; Information and education facilities; Landscaping material supplies; Light industries; Markets; Oyster aquaculture; Places of public worship; Plant nurseries; Pond-based aquaculture; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Respite day care centres; Roads; Roadside stalls; Sewage treatment

plants; Signage; Tank-based aquaculture; Tourist and visitor accommodation; Transport depots; Truck depots; Veterinary hospitals; Viticulture; Water recycling facilities; Water supply systems

4 Prohibited

Hotel or motel accommodation; Serviced apartments; Any other development not specified in item 2 or 3

Comments:
The proposed subdivision involves the creation of allotments that satisfy the provisions of lot averaging as detailed later in this SEE. The development creates a variety of residential allotments in a layout that caters for the topography of the land, consistent with the mixture of large lot residential allotments already in the immediate vicinity to the west and south of the site. The development is consistent with the zone objectives by providing opportunity for residential homes in a large lot residential setting, ensuring residential development does not hinder the development of other areas by extending roadways to the development within the area zoned R5 Large Lot Residential, does not unreasonably increase any demand for public services as a section of Towrang Vale Road leading to the development has been previously upgraded and the proposed roadways will be constructed, will not result in land use conflict as the surrounding area is already characterised by large lot residential development and does not result in damage to any bushland areas as the development has been updated so the design does not enter into the bushland areas to the east, is an example of innovative and flexible design in a rural setting by limiting the design to areas which do not contain bushland and provide a variety of allotments in a variety of layouts.

Zone E4 Environmental Living

1 Objectives of zone

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*
- *To ensure that residential development does not have an adverse effect on those values.*

2 Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home occupations

3 Permitted with consent

Backpackers' accommodation; Bed and breakfast accommodation; Biosolids treatment facilities; Car parks; Cemeteries; Community facilities; Dual occupancies; Dwelling houses; Eco-tourist facilities; Electricity generating works; Emergency services facilities; Entertainment facilities; Environmental facilities; Farm buildings; Function centres; Home businesses; Home occupations (sex services); Horticulture; Information and education facilities; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Recreation areas; Research stations; Roads; Secondary dwellings; Sewage

treatment plants; Tank-based aquaculture; Viticulture; Waste or resource transfer stations; Water recycling facilities; Water supply systems

4 Prohibited

Dairies (pasture-based); Industries; Service stations; Warehouse or distribution centres; Any other development not specified in item 2 or 3

Comments:
The proposed subdivision is designed so as not to require the subdivision of the area that is within the allotment that is already zoned E4 Environmental Living. The area zoned E4 Environmental Living remains the same size and forms part of the large residue lot that has been specifically left over as part of this application to maintain the appearance of residential development in a rural setting. The subdivision layout is therefore considered to be consistent with the objectives of the zone by providing allotments that will result in a low impact on any ecology, scientific or aesthetically valuable aspects of the site, and identifies the location of the building envelopes for future dwellings including the areas for onsite sewage management and allowing for Asset Protection Zones for future dwellings that will not require the clearing of tree vegetation. It is therefore considered that the development will not adversely affect any special ecological, scientific or aesthetic values that the bushland area of the subject development site may contain.

Clause 4.1 Minimum subdivision lot size

(1) The objectives of this clause are as follows:

(a) to allow for the limited subdivision of agricultural land for residential purposes,

(b) to protect and maintain environmentally sensitive land,

(c) to ensure the efficient use of business, industrial and residential land.

(2) This clause applies to a subdivision of any land shown on the Lot Size Map that requires development consent and that is carried out after the commencement of this Plan.

(3) The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

(4) This clause does not apply in relation to the subdivision of individual lots in a strata plan or community title scheme.

Comments:
The area of the allotment proposed to be subdivided is displayed as 8 hectares on Minimum Lot Size Map_Sheet LSZ_006 and LSZ 013. All of the proposed allotments in each of the development stages incorporate a minimum lot area of 8-hectares as calculated.

Clause 4.1B of the LEP permits subdivision of land zoned R5 Large Lot Residential below the minimum lot size included on the minimum lot size map provided the total lot yield does not exceed the number of lots permitted using the minimum lot size defined by this clause. This yield is achieved in each stage of the proposed subdivision development and the yield does not exceed in any stage that which could be achieved by using the 8-hectare minimum lot size.

Consideration of the development against the provisions of clause 4.1B are included below.

Clause 4.1B Subdivision using average lot sizes

(1) The objectives of this clause are to facilitate alternative subdivision controls that:

(a) facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes possible, and

(b) limit the subdivision of land in certain circumstances where the lots created are proposed to be used for residential accommodation.

(2) This clause applies to land in the following zones (other than land identified as "Area A" on the Lot Size Map):

(a) Zone RU1 Primary Production,

(b) Zone R5 Large Lot Residential,

(c) Zone E4 Environmental Living.

(3) Despite clause 4.1, development consent may be granted for the subdivision of land to which this clause applies if:

(a) the total number of lots created from the subdivision will not exceed the number of lots that could be created under clause 4.1 (3), and

(b) for land in Zone RU1 Primary Production, each lot created by the subdivision will have an area of at least 20 hectares, and

(c) for land in Zone E4 Environmental Living, each lot created by the subdivision will have an area of at least 10 hectares, and

(d) for land in Zone R5 Large Lot Residential, each lot created by the subdivision will have an area of at least 2 hectares.

(4) Development consent must not be granted for the subdivision of a resulting lot unless the consent authority is satisfied that:

(a) the lots to be created will not be used for the purpose of residential accommodation, and

(b) the subdivision will not result in any significant adverse environmental impacts on the land being subdivided.

(5) In this clause, resulting lot means a lot created under this clause being land in Zone RU1 Primary Production or Zone E4 Environmental Living.

Comments:

Sub-Clause (a)

- The development has been divided into two separate development applications so as not to exceed the number of lots that could be created through Clause 4.1(3).

Sub-clause 3(d)

- No part of the areas of proposed lots that are zoned E4 Environmental Management are included in the calculation of the areas for the proposed subdivision of the land in the R5

area. The maximum yield based on 8-hectare allotments in each of the stages defined by the plan submitted with the Development Application and the information in this SEE confirms that the yield is not exceeded and the use of this clause to allow for 2-hectare allotments complies in full with the provisions of this clause.
- The development is consistent with sub-clause 3(d).

Sub-clause (4)

- The development has been designed in accordance with the findings of a Biodiversity Assessment Report prepared by consulting ecologists of *South East Environmental* that concludes it will not result in any significant adverse environmental impacts.
- The development proposes to create allotments to be used for residential purpose.
- The development is consistent with sub-clause 4.

Sub-clause (5)

- The area to be subdivided and included in the calculation is zoned R5 Large Lot Residential only. Accordingly, Subclause 5 does not apply.

Each of the proposed allotments incorporate areas of 2 hectares or greater. All of the proposed allotments have adequate area for the construction of future dwellings. Each proposed allotment will be connected to telecommunications, power and sealed roadway. Reports were prepared for the development application demonstrating the development will not have any adverse environmental impacts and each allotment has adequate area to facilitate construction of a dwelling and associated sewage management system.

The development complies with the standards and objectives of clause 4.1B.

Clause 4.1C Minimum subdivision lot sizes for certain split zones

(1) The objectives of this clause are as follows—

(a) to provide for the subdivision of lots that are within more than one zone but cannot be subdivided under clause 4.1,

*(b) to ensure that the subdivision occurs in a **manner** that promotes suitable land use and development.*

(2) This clause applies to each lot (an original lot) that contains land in more than one zone.

(3) Despite clause 4.1, development consent must not be granted to subdivide an original lot to create other lots (the resulting lots) unless—

(a) one of the resulting lots will contain—

(i) land in Zone RU5 Village or land in a residential zone that has an area that is not less than the minimum size shown on the Lot Size Map in relation to that land, and

(ii) all of the land in all other zones that was in the original lot, and

(b) all other resulting lots will contain land that has an area that is not less than the minimum size shown on the Lot Size Map in relation to that land.

(4) For the purposes of calculating an area of land under subclause (3), any access handle used for the purpose of providing vehicular access from the lot to a road is not to be included.

(5) Despite subclause (3), development consent may be granted to subdivide an original lot if—

(a) the lots to be created from the subdivision will each contain land in one zone, or

(b) the lots to be created from the subdivision will each contain land in more than one zone and any land in Zone RU5 Village or in a residential zone will have an area that is not less than the minimum size shown on the Lot Size Map in relation to that land.

(6) A lot created under subclause (5) (b) must not be subdivided under this clause.

Comments:
The subdivision is calculated using land in the R5 large-lot residential zone only. The use of clause 4.2B above allows for the calculation that has been completed to create allotments of not less than 2 hectares. The design of the subdivision results in each allotment having one land-use zone only and the resulting allotment with land zoned E4 will be an individual allotment consistent with clause 5(a). The land within the allotment that is zoned E4 Environmental Living is not used in the calculation under the lot averaging, and the proposal is consistent with clause 4.1 C without variation.

Clause 6.1 Earthworks

(1) The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.

(2) Development consent is required for earthworks unless—

*(a) the earthworks are **exempt** development under this Plan or another applicable environmental planning instrument, or*

(b) the earthworks are ancillary to development that is permitted without consent under this Plan or to development for which development consent has been given.

(3) Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters—

(a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development,

(b) the effect of the development on the likely future use or redevelopment of the land,

(c) the quality of the fill or the soil to be excavated, or both,

(d) the effect of the development on the existing and likely amenity of adjoining properties,

(e) the source of any fill material and the destination of any excavated material,

(f) the likelihood of disturbing relics,

(g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,

(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

Comments:
Plans prepared by OCRE demonstrate the extent of earthworks required to construct roadways in accordance with Council's engineering standards and *Planning for Bushfire Protection 2019*. The earthworks are to be contained entirely within road reserves and or battle-axe handles for driveways as necessary. The development can be constructed to not result in any negative impacts on drainage patterns, soil stability or soil environment in general. The development is consistent with clause 6.1 Earthworks.

Clause 6.3 Terrestrial biodiversity

(1) The objective of this clause is to maintain terrestrial biodiversity by—

(a) protecting native fauna and flora, and

(b) protecting the ecological processes necessary for their continued existence, and

(c) encouraging the conservation and recovery of native fauna and flora and their habitats.

(2) This clause applies to land identified as "Biodiversity" on the Terrestrial Biodiversity Map.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider—

(a) whether the development is likely to have—

(i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and

(ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and

(iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and

(iv) any adverse impact on the habitat elements providing connectivity on the land, and

(b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comments:
A report has been prepared by South East Environmental addressing the provisions of the *NSW Biodiversity Act 2016* and accompanying regulation. The report, which assesses the three key thresholds under the Biodiversity Act does not require a Biodiversity Development Assessment Report (BDAR) and does not result in any significant negative effect. The development therefore, will not have any significant adverse environmental impacts, does not need to be altered to include any alternatives, and the design does not need to be altered to mitigate any potential environmental impacts. The roadways and allotment areas with identified building envelopes have been positioned to have the minimal amount of environmental impact on the site by curving the road in and out of the existing landscape and positioning building envelopes in existing cleared areas. The development complies with Clause 6.3.

Clause 6.6 Riparian land and watercourses

(1) The objective of this clause is to protect and maintain the following—

(a) water quality within watercourses,

(b) the stability of the bed and banks of watercourses,

(c) aquatic and riparian habitats,

(d) ecological processes within watercourses and riparian areas.

(2) This clause applies to all of the following—

(a) land identified as "Riparian Land" on the Riparian Land Map,

(b) all land that is within 40 metres of the top of the bank of a watercourse.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider—

(a) whether or not the development is likely to have any adverse impact on the following—

(i) the water quality and flows within the watercourse,

(ii) aquatic and riparian species, habitats and ecosystems of the watercourse,

(iii) the stability of the bed and banks of the watercourse,

(iv) the free passage of fish and other aquatic organisms within or along the watercourse,

(v) any future rehabilitation of the watercourse and riparian areas, and

(b) whether or not the development is likely to increase water extraction from the watercourse, and

(c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comments: The plans prepared by OCRE demonstrate the catchment area for a recognised watercourse and identified tributaries within the site. The development is designed such that onsite sewage management systems and building envelopes for future dwellings can be positioned outside the required setbacks from watercourses and tributaries. The development is sited to avoid any significant adverse environmental impacts on watercourses, does not need to be redesigned to avoid any impacts, and no identified impacts need to be minimised or mitigated through alteration of the proposal.

7.2 State Environmental Planning Policies

7.2.1 State Environmental Planning Policy (SEPP) No 55—Remediation of Land

Under SEPP 55 a consent authority must not consent to the carrying out of any development on land unless:

(a) it has considered whether the land is contaminated, and
(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose

The author is not aware of any other prior land-uses on the site that are likely to have resulted in the contamination of the land. Through site inspection it was confirmed that the land appears to have been used for non-intensive livestock grazing. No further investigation is required in accordance with the NSW Managing Land Contamination Planning Guidelines.

7.2.2 State Environmental Planning Policy (Infrastructure) 2007 (SEPP Infrastructure)

Schedule 3 - Traffic Generating development to be referred to Roads and Maritime Services of SEPP Infrastructure lists the development that requires referral in certain circumstances. The development does not include the opening of 200 or more allotments with a new public road, and does not include the construction of 50 or more lots within 90 metres of connection with the alignment of a roadway controlled by NSW Roads and Maritime Services (Transport for NSW). Referral to Transport for NSW under SEPP Infrastructure is therefore not required.

(ii) any proposed instrument that is or has been the subject of public consultation under this Act.

Section 1.4 of the NSw Environmental Planning and Assessment Act 1979

environmental planning instrument *means an environmental planning instrument (including a SEPP or LEP but not including a DCP) made, or taken to have been made, under Part 3 and in force.*

There are no Draft Environmental Planning Instruments on public exhibition at the date of preparation of this SEE.

(**iii) any Development Control Plan (DCP)**

Cooma Monaro Shire Development Control Plan 2014 (DCP)

The DCP is a comprehensive policy that applies controls to all forms of development in the area formerly constituting the Cooma Monaro Shire.

Section 4 of the DCP includes controls specifically applicable to subdivision with references to other sections of the DCP.

1. Section 4.1.1.1 and 4.1.1.2: Vehicle access crossings will be constructed in accordance with the standards of Chapter 2 of the DCP. The location of each proposed vehicle crossing is displayed on the Plan of subdivision submitted with the application. The subdivision proposal is consistent with the objectives and requirements of these sections.

2. Section 4.1.2.1 and 4.1.2.2: The development includes appropriate area for construction of a cul-de-sac at the end of sealed roads. Construction can be undertaken in accordance with the standards referred to in Chapter 2 of the DCP. The subdivision proposal is consistent with the objectives and requirements of these sections.

3. Section 4.1.2.5. Proposed roadways will be sealed consistent with this section.

4. Section 4.1.2.6 Adjoining roadways do not include street lighting, meaning street lighting is not required consistent with this section.

5. Section 4.1.3.2 the development incorporates splay corners. Greater than 9 lots for every ten of the proposed lots have direct road frontage (not battle-axe). Setbacks applicable to the zone have been displayed on the Plan submitted with the application. The subdivision design is consistent with this section. The Development includes some allotments with battle-axe handle driveways greater than 100 metres in length. This is included to reduce the amount of tree vegetation required to be removed by roadways. This is considered an appropriate design and environmental outcome.

6. Section 4.1.4.1 and 4.1.1.2: Proposed roads will comply with Chapter 2 and applicable Appendixes of the DCP in accordance with Council's Specifications for Engineering works.

7. Section 4.1.6: Landscaping retaining existing trees as shown on the development plans are substantially greater than the requirement outline in Table 10 consistent with Section 4.1.6

8. Section 4.1.7: A stormwater management plan will be prepared as part of the subdivision works certificate displaying proposed drainage from new and existing roads and any inter-allotment drainage, permanent erosion control or stormwater velocity dissipation devices detailed. The existing and proposed road ways and slope of the land will cater for drainage to natural waterways without negative impact.

9. Section 4.1.9 – 4.1.10.2: The development is not within 225 metres of reticulated water.

10. Section 4.1.11: Building envelopes with indicative building footprint and associated onsite sewage management (provided to assist assessment) and accompanying reports confirm future dwellings can be constructed within the envelopes without negative impact. The areas displayed as available for building all incorporate the minimum boundary setbacks specified in Chapter 2 of the DCP.

11. Section 4.1.13.1: Reports submitted comply.

12. Section 6.1: A Bushfire Report prepared by BlackAsh Bushfire Consulting demonstrates the subdivision design and future construction of dwellings can be achieved on the land in accordance with NSW Planning for Bushfire Protection 2019.

13. Section 7.4: The water and soil report submitted with the application nominates areas and types of on-site sewage management systems suitable for managing sewage waste on-site from future dwellings.

The proposed subdivision is consistent with the objectives and controls of the DCP.

(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F.
The applicant has not entered into any planning agreement or draft planning agreement.

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The applicant has not entered into any planning agreement or draft planning agreement.

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

92 Additional matters that consent authority must consider
The Government Coastal Policy does not apply to Snowy Monaro Regional Shire and therefore Clause 92(1)(a) and (b) are not applicable to this development proposal. The proposal does not involve demolition of a building and therefore the requirements of AS 2601 do not need to be considered in accordance with Clause 92(2).

93 Fire safety and other considerations
The proposal does not involve the change of a building use for an existing building, or the use of an existing building as a place of public entertainment and therefore the requirement to consider fire safety and structural adequacy of buildings in accordance with Clause 93 is unnecessary.

94 Consent authority may require buildings to be upgraded
The proposal does not involve the rebuilding, alteration, enlargement or extension of an existing building or place of public entertainment and therefore the requirement to consider the upgrading of buildings into total or partial conformity with the Building Code of Australia.

94A Fire safety and other considerations applying to erection of temporary structures
The proposal does not involve the erection of a temporary structure and therefore the requirements to consider fire safety and structural adequacy is unnecessary.

95 Deferred commencement consent
Not applicable.

96 Imposition of conditions—ancillary aspects of development
Not applicable.

97 Modification or surrender of development consent or existing use right
Not applicable.

97A Fulfilment of BASIX commitments
Not applicable.

(v) any coastal zone management plan (within the meaning of the *Coastal Protection Act 1979*), that apply to the land to which the development application relates

The Coastal Protection Act 1979 does not apply to the land.

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

Context and Setting

The area is characterised by multiple residential dwellings of varying ages and sizes with accompanying outbuildings in a large lot residential setting. There are undulating hills in various areas, many of which contain bushland vegetation. Towrang Vale Road turns west culminating in a cul-de-sac with multiple allotments containing a variety of dwelling designs and sizes. The areas of allotments within this existing cluster of dwellings varies from approximately 2.5 hectares (Lot 7 DP 1071356) and approximately 6.5 hectares (Lot 15 DP 1071356). An image extracted from NSW Six Maps displaying the location to be subdivided as part of Stage 1 and the layout of allotments in the neighbouring residential development is included below in Figure 1. 9 of the 11 allotments east of Towrang Vale Road appearing as vacant in Figure 1 have areas of or very close to 2 hectares. The proposed development is consistent with the character of residential development in the area.

Figure 1 - West of site including stage 1 lots 1-11

Source: https://maps.six.nsw.gov.au/ 11/12/2020 – Patrick Fitzsimmons

Figure 2 - South of site showing land adjoining southern end of development area

Source: https://maps.six.nsw.gov.au/ 11/12/2020 – Patrick Fitzsimmons

Access, Transport and Traffic

Vehicle access to each proposed allotment will be provided directly from sealed public roadways. A number of sealed roadways are proposed to be constructed. These roadways have been designed to wind throughout the development.

The area of the land located in the E4 zone of the subject land remains unchanged and will continue to provide the backdrop scenery of bushland adjacent to the large lot residential development. The roadways and accesses designed in this fashion are consistent with the existing character of residential development in the area.

Public Domain

The proposal will not have a negative impact on public recreational opportunities or public spaces in the locality. The development which provides for a number of residential dwellings, will not overburden or detract from any public recreational opportunities or public spaces.

Utilities

No reticulated water is available for connection to the development. Space is available within each allotment to accommodate on-site rainwater detention tanks for domestic consumption and fire fighting reserve with future dwellings. Each proposed allotment can accommodate individual on-site sewage management systems for future dwellings as concluded in the water and soil report prepared as part of this application.

Heritage

There are no items listed in schedule 5 of the LEP 2012 as present on the land. A Due Diligence Aboriginal Heritage Report is prepared by Apex Archeology and submitted with the application including on-site surveys that did not reveal any items of Aboriginal Heritage or require any further survey or assessment. No negative impact identified.

Water
A soil and water report submitted with the application recommending buffers from identified waterways and tributaries that have been incorporated into the design. Onsite domestic water will be captured in domestic rainwater tanks along with any domestic retention of water for firefighting purposes with future dwellings.

Soils
The development will not have a negative impact on soils. Earthworks to be completed in accordance with detailed engineering construction plans which will be prepared as part of any Subdivision Works Certificate subsequent to this Development Application. Earthworks have been considered and identified using the relevant slopes by OCRE, displayed in the development plans. The earthworks design and the studies undertaken on the site confirm there is no negative impact.

Air and Microclimate
Minimal amounts of dust may be generated during the construction period. Once construction works are complete the development will not impact on air quality. The ongoing use of the development will not negatively impact air quality.

Flora and Fauna
The development has been designed in conjunction with South East Environmental, who provided input as to where roads and building envelopes may be located. The roadways and building envelopes were designed to minimise the amount of tree removal required. A report prepared by South East Environmental considering the development under the *NSW Biodiversity Conservation Act 2016* is completed. The report recommends that the development proceed as proposed with no further assessment or survey being required.

Waste
The lots can accommodate an appropriate on-site sewage management system in accordance with the water and soil report prepared. Any construction waste and ongoing domestic waste will be removed from the site and appropriately recycled or catered for at a licensed waste management facility.

Energy
Each proposed allotment incorporates an area, orientation and gradient capable of containing a future dwelling that has a good northerly aspect allowing for energy efficiency in future buildings.

Noise and Vibration
Some noise will occur during the construction period, but is not expected to adversely impact on any surrounding land uses. Towrang Vale Road was previously upgraded to extend to connect to Dry Plains Road. A large length of Towrang Vale Road extending away from Dry Plains Road to stage 1 of the development site creating 11 allotments and Calabria Way was recently Ongoing traffic from the proposed large lot residential development is commensurate with the existing traffic from existing dwellings in a large lot residential setting. The roadway network is designed to comply with the number of allotments proposed. The anticipated increase in traffic will not have any negative impact on the existing development in the area, which includes residential dwellings on large residential allotments.

Natural Hazards
The land is mapped as being bushfire prone. A bushfire assessment report has been prepared by consulting bushfire experts Blackash Bushfire Consulting. The development design includes a number of proposed roads, including some fire trails, designed and included to comply with *Planning for Bushfire Protection 2019* as stated in the bushfire report. The land is not mapped as being subject to flooding or being flood prone. However OCRE have prepared a flood hazard plan using the catchment for Snake Creek, and including setbacks from tributaries to ensure that development can occur within identified building envelopes outside any potential flood area. The development is not identified as containing any other natural hazards and is appropriate as designed.

Technological Hazards
No impacts as previously discussed in this report under SEPP 55.

Safety, Security and Crime Prevention
This development will not generate any activity likely to promote any safety or security problems to the subject land or surrounding area.

Social and Economic Impacts on the locality
The development will provide well designed residential allotments with sealed road frontage capable of accommodating well designed self-contained dwellings resulting in good social outcomes and providing housing for persons to live in the region which results in good economic outcomes.

Site Design
The allotments of the subdivision are designed so that each allotment has direct frontage onto a sealed public roadway and appropriate area for future construction of dwellings.

Construction
The proposed development can be constructed to comply with the relevant applicable engineering standards.

Cumulative impacts
The design of the subdivision to have direct access to sealed roads, adequate area to cater for dwellings and sewage management systems means the proposed subdivision will not result in any negative cumulative impacts. Traffic movements from the subdivision once constructed will be commensurate with the residential land uses of the surrounding area.

Roadways have been upgraded to ensure compliance with engineering requirements for the proposed number of allotments and existing allotments using the road.

(c) the suitability of the site for the development

As the proposed allotments are designed to meet the minimum lot size, all allotments fronting a public road and contain appropriate dwellings and on-site sewage management systems, it is considered the proposed site is suitable for the development.

(e) the public interest

The proposed development will create a number of large lot residential allotments appropriately serviced by utility connections, providing opportunity for future residential occupation, consistent with the public interest.

8. Conclusion

The proposed subdivision has been designed to comply with the applicable SEPPs, LEP and DCP. The development was designed in conjunction with other consulting companies who prepared reports with this application. The subdivision is designed to include all utilities necessary for the construction of future dwellings and permissible land-uses. The development is designed to ensure no significant negative environmental impacts are incurred that would warrant alteration to the proposed design. Accordingly the proposed residential subdivision will have positive outcome without negative impacts and can be approved by Council without design modification.

Appendix A - Requirements of the Approved Form Guide

a. The environmental impacts of the development

The development is being completed on a large lot residential site and no negative environmental impact will be incurred.

b. How the environmental impacts of the development have been identified

The site was inspected as part of the preparation of the development application and confirmed that no environmental impacts that could be avoided have been identified.

c. The steps to be taken to protect the environment or to lessen the expected harm to the environment

As per a. and b., no specific measures are required other than to construct the development as proposed.

d. Any matters required to be indicated by any guidelines issued by the Planning Secretary

No specific guidelines relevant to the application have been issued by the planning secretary.

e. Drawings of the proposed development in the context of surrounding development, including the streetscape

The proposed development is consistent with the character of the large lot residential area in the surrounding context. The documents submitted are adequate to allow for comprehensive assessment of the proposal.

f. Development compliance with building heights, building height planes, setbacks and building envelope controls (if applicable) marked on plans, sections and elevations

The plans submitted with the application are sufficient to allow for comprehensive assessment of the proposal.

g. Drawings of the proposed landscape area, including species selected and materials to be used, presented in the context of the proposed building or buildings, and the surrounding development and its context

The plans submitted with the application are sufficient to allow for comprehensive assessment of the proposal which is of a design and scale appropriate to the residential area.

h. If the proposed development is within an area in which the built form is changing, statements of the existing and likely future contexts

The area is characterised by residential land use and the proposed development is consistent with the existing character and the proposed surrounding character which is also residential.

i. Photomontages of the proposed development in the context of surrounding development

Photomontages are not necessary in this instance.

j. A sample board of the proposed materials and colours of the facade

Sample boards are not necessary in this instance.

k. Detailed sections of proposed facades

The plans submitted are adequate for comprehensive assessment of the development without submitting section plans for a development application.

l. If appropriate, a model that includes the context.

A model is not necessary in this instance.

VISION
PROPERTY DEVELOPMENT HUB

53 Redfern Street
COWRA NSW 2794
PO Box 852
1300 240 827
ABN: 95 614 159 698
https://visionpdhub.au

16th May 2023

Mr John Gargett
Snowy Monaro Regional Council
PO Box 714
COOMA NSW 2630

Dear John,

DEVELOPMENT: RESIDENTIAL SUBDIVISION - DA 10.2021.325.1 / PAN-150146 and DA 10.2021.321.1 / PAN-150167 - Stages 2A & 2B
Subject land: LOT 1 DP737275, LOTS 157, 158, 159, 189, 197, 211 DP750524, LOT 11 DP1266312 - TOWRANG VALE ROAD, COOMA

The land owners have commissioned Vision Property Development Hub to submit the updated documentation to amend their development application seeking a large lot residential subdivision of their land as listed above.

The applicants wish to amend the development application under Section 37 of the Regulation to reduce the lot yield.

Division 2 Amendment, rejection and withdrawal of development applications—the Act, ss 4.12 and 4.64

Clause 37 Amendment of development application

(6) If the amendment will result in a change to the development, the application must contain details of the change, including the name, number and date of any plans that have changed, to enable the consent authority to compare the development with the development originally proposed.

Comments:
The amendment includes a reduction in the number of allotments from 77 lots originally submitted, to a revised 37 lot large-lot residential subdivision, plus 2 residue allotments, in multiple stages using Council's lot averaging clause included in the Cooma Monaro Local Environmental Plan 2013 (LEP).

The following reports and plans have been updated and submitted with the application:

Author	Plan	Page	Date	Job
Osgood Civil Resource Engineering	RURAL RESIDENTIAL SUBDIVISION - ARATULA HILLS STAGE 2	1-16	20/12/22	1710-2

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PROPERTY DEVELOPMENT HUB

Author	Plan	Page	Date	Job
	DEVELOPMENT APPLICATION			
Apex Archaeology	Aboriginal Due Diligence Assessment	1-34	Jan 2023	-
Franklin Consulting Australia pty Ltd	Land Capability Assessment	1-47	25/01/23	-
South East Environmental	Biodiversity Assessment Report	1-66	Dec 2022	-
Blackash Bushfire Consulting	Bushfire Hazard Assessment	1-18	31/01/23	J2988
Vision Property Development Hub	Statement of Environmental Effects V2	1-30	19/04/23	-

Please contact us if you require any further information or assistance.

Yours faithfully,

Patrick Fitzsimmons
Town Planner, Managing Director
VISION Property Development Hub

BLACKASH
BUSHFIRE CONSULTING

Bushfire Hazard Assessment

Large Lot Subdivision
Towrang Vale Road, Cooma

Aratula - Stage 2

Prepared for
Bottomline Group Pty Ltd

BLACKASH BUSHFIRE CONSULTING

Document Tracking:

Project Name:	Towrang Vale Road, Cooma (Aratula - Stage 2)
Prepared by:	Corey Shackleton
Client Details:	Bottomline Group Pty Ltd c/- Vision Town Planning Consultants Pty Ltd. 44 Macquarie Street COWRA NSW 2794 By email: patrick@visiontpc.com.au
Project Address	Towrang Vale Road, Cooma
Project Number	J2988

Blackash Contact Details:

Corey Shackleton	Principal Bushfire and Resilience
0418 412 118	corey.shackleton@blackash.com.au

Document Control:

Version	Primary Author(s)	Description	Date Completed
0.1	Corey Shackleton	Draft	18 January 2023
1.0	Corey Shackleton	Final	31 January 2023

Corey Shackleton | Principal Bushfire & Resilience
BlackAsh Bush fire Consulting
B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)
Fire Protection Association of Australia BPAD Level 3 – 34603

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

Contents

PO BOX 715 WAHROONGA NSW 2076 AUSTRALIA
M 0419 203 853 | E lew.short@blackash.com.au
W blackash.com.au

TINTAGEL INVESTMENTS PTY LTD T/A BLACKASH BUSHFIRE CONSULTING ABN 99 000 704 861

Glossary of Terms

APZ	Asset protection zone
AS2419	*Australian Standard – Fire hydrant installations*
AS3745	*Australian Standard – Planning for emergencies in facilities*
AS3959	*Australian Standard – Construction of buildings in bushfire-prone areas 2009*
BAL	*Bushfire Attack Level*
BCA	*Building Code of Australia*
BFSA	Bush Fire Safety Authority
EPA Act	*Environmental Planning & Assessment Act 1979*
FDI	Fire Danger Index
ha	Hectare
m	Metres
PBP	*Planning for Bush Fire Protection 2019*
RF Act	*Rural Fires Act 1997*

1. Introduction

Blackash Bushfire Consulting has been engaged by Bottomline Group Pty Ltd to prepare a bushfire assessment for a proposed 37 large-lot subdivision at Towrang Vale Road, Cooma (Figure 1), which is legally known as Lots 141, 188, 189, 197, 156, 157, 158, 159 DP 750524, Lot 11 DP1266312 and Lot 1 DP 737275.

The subject land is located east of Towrang Vale Road, with Snake Creek running through its southwestern portion, and a number of tributaries running through the site. The land contains cleared grassland within the centre of the development site, extending from Snake Creek to approximately two-thirds of the way in an easterly direction. The very southern end and very northwestern end of the site contains some scattered trees, and the northeastern quarter of the site contains bushland.

The surrounding area in an easterly direction contains several dwelling houses in a large-lot residential configuration fronting Towrang Vale Road. The allotments recently created through the first stage of this development is located on the eastern boundary of the subject land. In a southerly direction of the subject land is also a number of residential dwellings in a large-lot residential configuration. In the eastern most portion of this allotment, is an area containing bushland, part of which is zoned E4 Environmental Living.

The current proposal meets the provisions of the NSW RFS document *Planning for Bushfire Protection 2019* (PBP 2019).

The subdivision will trigger the integrated development referral requirements of Section 4.46 of the *Environmental Planning and Assessment Act, 1979* (EPA Act) and require assessment by the NSW RFS under Section 100B of the *Rural Fires Act 1997* (RF Act).

This report has been completed by Corey Shackleton who is a BPAD Level 3 certified practitioner (BPAD Level 3 BPAD 34603).

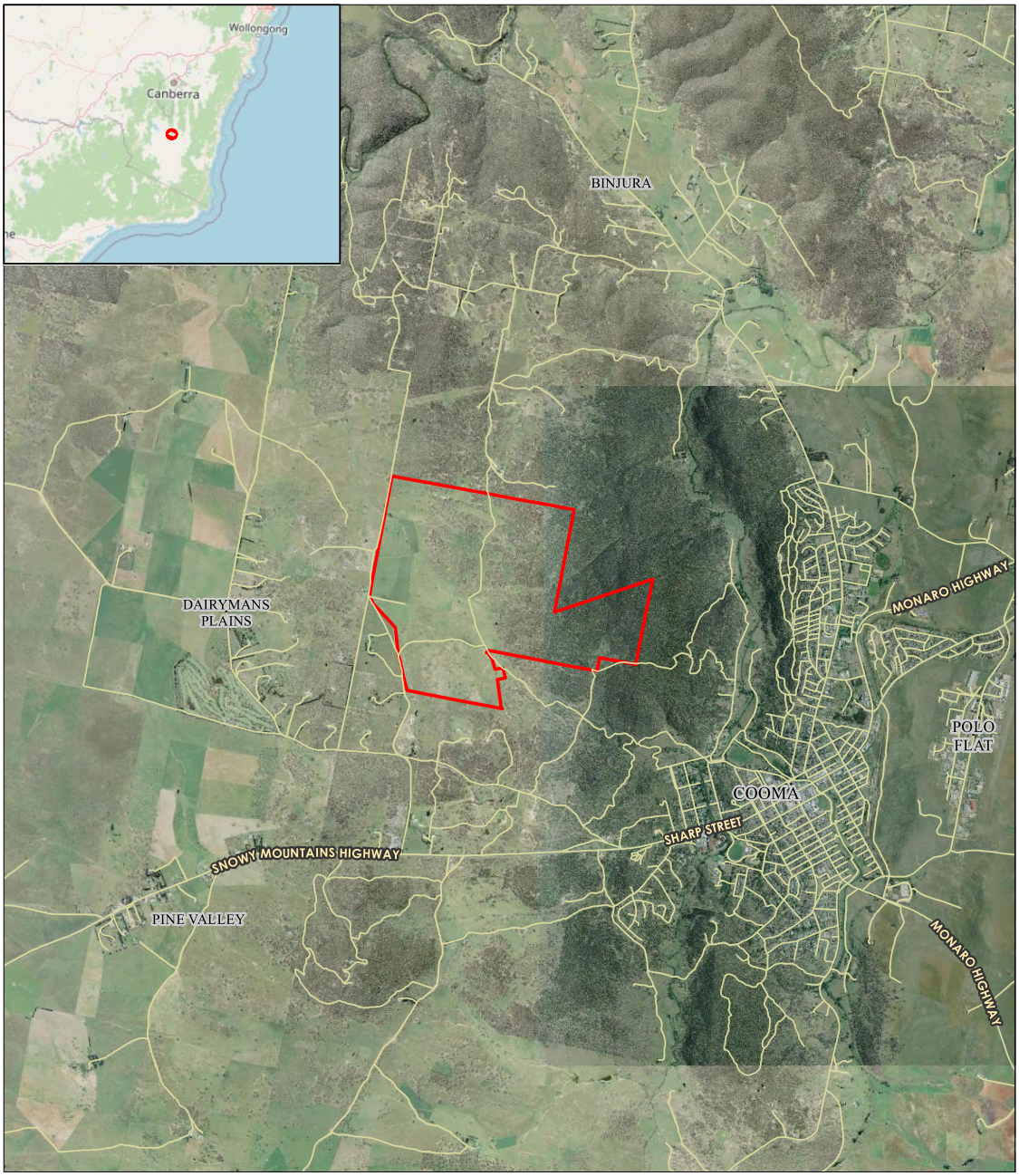

Figure 1: Site Location

2. Legislative Framework

Development on land that is identified as being bushfire prone must comply with the NSW RFS document *Planning for Bushfire Protection* (PBP 2019) under s.4.46 of the *Environmental Planning and Assessment Act, 1997* (**EPA Act**).

A residential subdivision development is categorised as Integrated Development, under s.4.46 of the EPA Act. Integrated development requires development consent from Council and General Terms of Approval from the NSW RFS. Any development applications for such a purpose must obtain a Bush Fire Safety Authority (BFSA) from the Commissioner of the NSW RFS in accordance with Section 100B of the RF Act.

A BFSA authorises development to the extent that it complies with PBP 2019 including standards regarding setbacks, provision of water supply and other measures in combination considered by the Commissioner necessary to protect persons, property or the environment from danger that may arise from a bushfire.

As a new residential/large lot subdivision, the application needs to be able to justify that the proposal can achieve a worst-case Bushfire Attack Level (BAL) of a maximum of BAL-29. This can be achieved.

3. Proposed Development

The site is proposed to be developed into a 37 large-lot residential subdivision, including 1 residue allotment.

The development involves an extension of Calabria Way which was recently constructed as part of Stage 1 of this development. The development also involves the construction of several other roads as well as a number of fire trails. The most northern of these roads includes a connection to Aratula Drive, forming a loop of sealed roadways throughout the development.

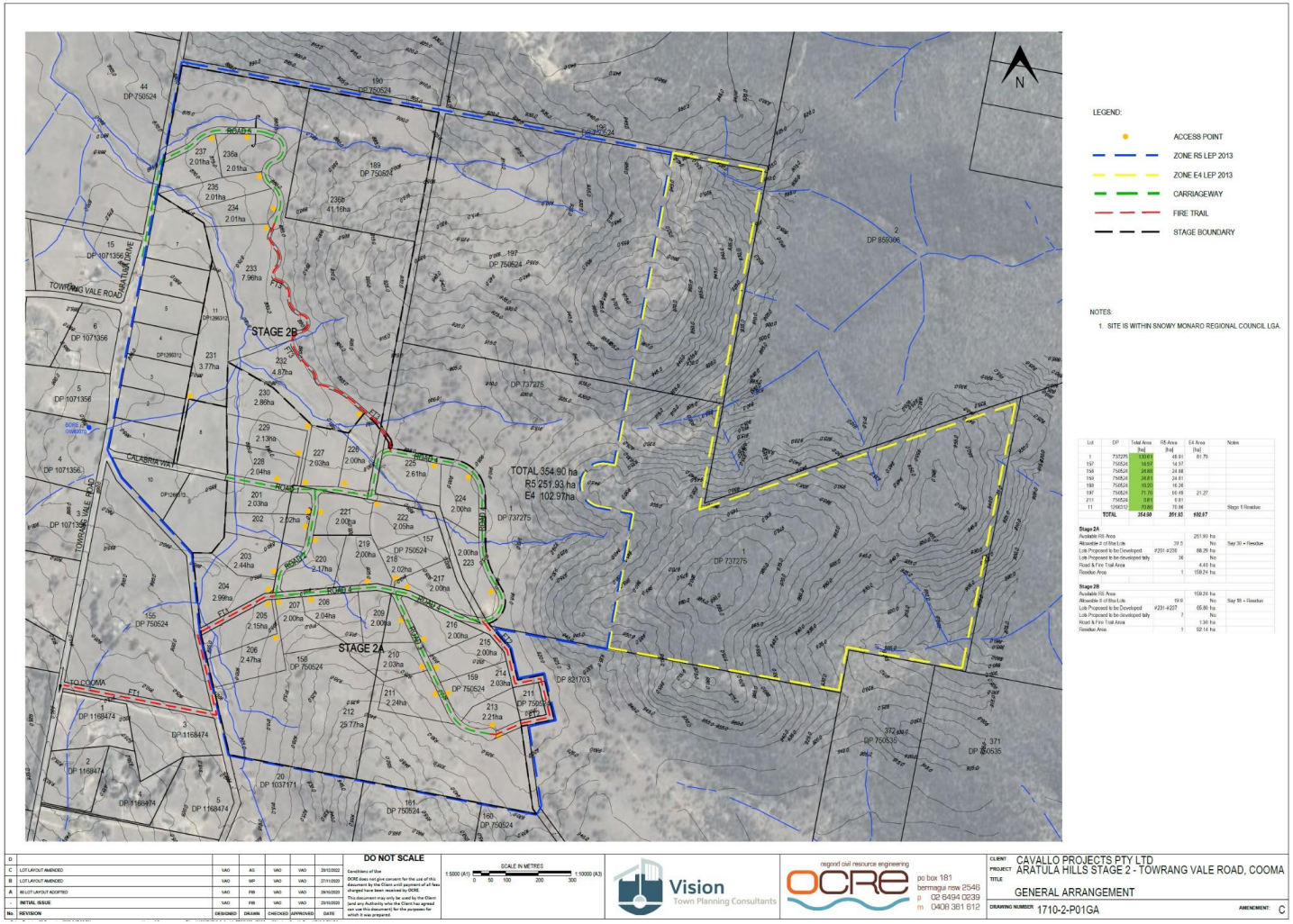

Figure 2: Plan of Subdivision

4. Bushfire Prone Land

The site is designated as a mixture of Category 1 and Category 2 (and associated buffers) bushfire prone land (Figure 3) on the Snowy-Monaro Regional Bush Fire Prone Land Map.

Vegetation Category 1 is depicted as red and represents a high bushfire risk vegetation in accordance with the NSW RFS *Guidelines for Bushfire Prone Land Mapping* and is provided with a 100m buffer. Category 2 is lower in bushfire risk than Category 1. It is represented as dark orange on a Bush Fire Prone Land map and is given a 30 metre buffer.

The steeper forested areas across the eastern portion of the site are mapped as Category 1 Bushfire Prone Land, while the western portion of the site is open woodland or grassland and accordingly mapped as either Category 2 vegetation or not bushfire prone.

Importantly, while the Snowy-Monaro Regional Bush Fire Prone Land Map does not appear to have identified grassland areas as being bushfire prone, they do present a bushfire hazard and require careful consideration and protection in accordance with PBP 2019.

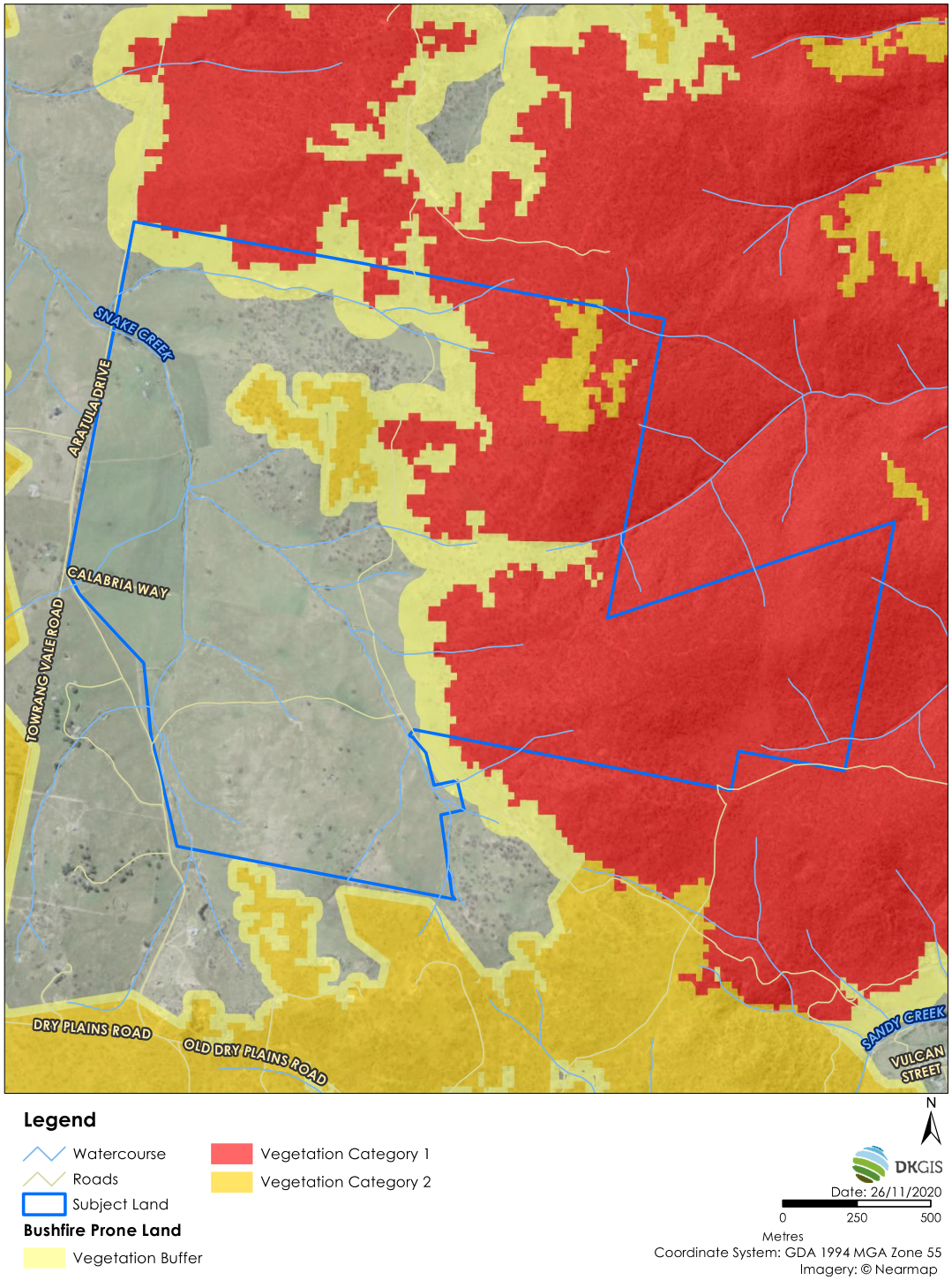

Figure 3: Bush Fire Prone Land

5. Bushfire Threat Assessment

5.1. Methodology

PBP 2019 provides a methodology to determine the bushfire threat and commensurate size of any asset protection zone (APZ) that may be required to offset possible bushfire attack. These elements include the potential hazardous landscape that may affect the site and the effective slope within that hazardous vegetation. For new residential subdivision, APZ requirements are based on keeping radiant heat levels at new buildings below 29kW/m^2.

The following assessment is prepared in accordance with Section 100B of the RF Act, Clause 44 of the RF Reg and PBP 2019. This assessment is based on the following resources:

- Planning for Bush Fire Protection (NSW RFS, 2019);
- Snowy-Monaro Regional Council Bushfire Prone Land Map;
- Aerial mapping; and
- Detailed GIS analysis.

The methodology used in this assessment is in accordance with PBP 2019 and is outlined in the following sections.

5.2. Bushfire Hazard

An assessment of the Bushfire Prone Land is necessary to determine the application of bushfire protection measures such as APZ locations and future building construction levels. The vegetation formations (bushfire fuels) and the topography (effective slope) combine to create the bushfire threat that may affect bushfire behavior at the site, and which determine the planning and building response of PBP 2019.

5.3. Vegetation Assessment

The RF Regulation requires a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in PBP 2019.

Predominant Vegetation is classified by structure or formation using the system adopted by Keith (2004) and by the general description using PBP 2019 and is shown in Figure 4.

Vegetation types give rise to radiant heat and fire behaviour characteristics. The predominant vegetation is determined over a distance of at least 140 metres in all directions from the proposed site boundary or building footprint on the development site. Where a mix of vegetation types exist, the type providing the greater hazard is said to predominate.

Figure 4 shows the site contains forest and grassy woodland in the eastern portions and large areas of land within the western portion of site have been previously used as farming land.

5.4. Slopes Influencing Bushfire Behavior

The RF Reg requires an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property or from the proposed development footprint.

The 'effective slope' influencing fire behaviour approaching the site has been assessed in accordance with the methodology specified within PBP 2019. The effective slope is the slope of the ground under the hazard (vegetation). It is not the slope between the vegetation and the building (slope located between the asset and vegetation is the site slope).

Figure 4 shows the effective slopes affecting the site. The site and surrounds are generally gently sloping (0-5 degrees), while there are areas with steeper slopes, mainly the forested areas in the eastern portion of the site.

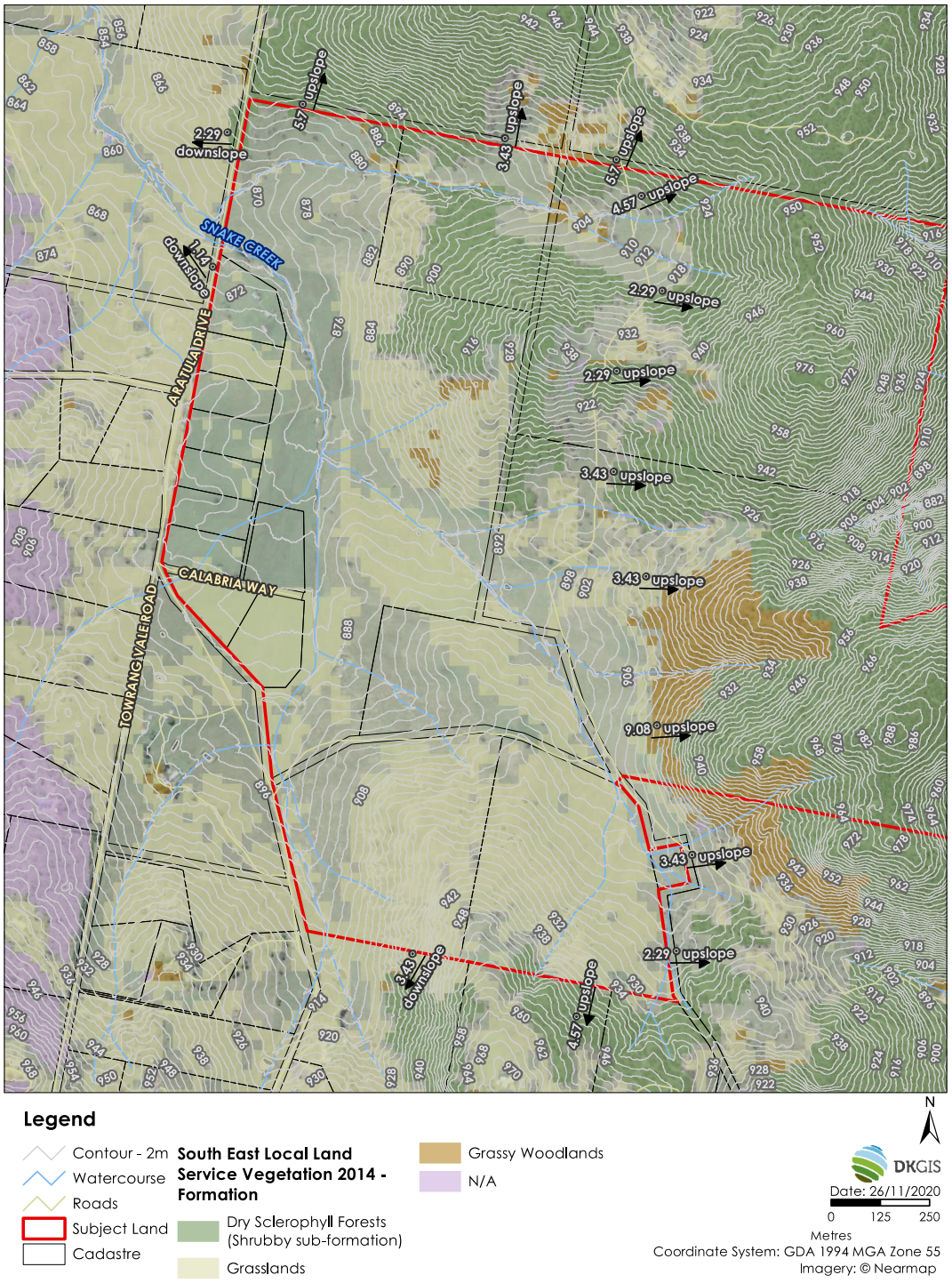

Figure 3: Vegetation & Slope Assessment

6. Asset Protection Zones

For proposed new residential subdivision, PBP 2019 requires that a minimum separation is provided in the form of Asset Protection Zones (APZ). The APZ is a fuel-reduced, physical separation between buildings and bushfire hazards. For residential developments, APZ requirements are based on keeping radiant heat levels at buildings below 29kW/m^2 as the maximum exposure on all sides of the building.

The future APZs within the site will be managed as an Inner Protection Area. All lots are a minimum of 2 hectares and the building envelopes can easily accommodate any required APZ which will range from 10 metres (Grassland) to 48 metres (Forest). The specific APZ requirements for each lot will be determined at the building DA stage once final building locations and other details are known.

7. Building Construction

The Bushfire Attack Levels (BAL) is a means of measuring the ability of a building to withstand attack from bushfire. The form of bushfire attack and the severity will vary according to the conditions (FDI, vegetation, slope and setback) on the site.

The BAL assesses the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per square metre, which is the basis for establishing the requirements for construction to improve protection of a building from potential attack by a bushfire, as defined in Australian Standard AS 3959-2009 *Construction of buildings in bushfire-prone areas* (AS 3959-2018).

The BAL ratings are used as the basis for establishing the requirements for construction to improve protection of a (proposed) building from potential bushfire attack. Each proposed lot is capable of supporting a dwelling and minimum APZ to achieve BAL-29 construction, however the specific construction requirements will be determined at the individual building application stage through s.4.14 of the EP&A Act.

8. Water Supplies

The proposed development will not be serviced by reticulated mains water.

Each lot must be provided with 20,000 litres of static water for firefighting purposes. All above-ground storage tanks and water service pipes must be of concrete or metal. This complies with PBP.

9. Gas and electrical supplies

Electricity supply for the new development must limit the possibility of ignition of surrounding bush land or the fabric of buildings.

All electrical transmission lines will be underground, which complies with PBP.

Any gas services are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2008). This complies with PBP.

10. Access

The design and construction of the access for the development must ensure safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing the area.

The development involves an extension of Calabria Way recently constructed as part of the previous stage (Stage 1) of this development. This provides the primary access to the site via the western part of the site.

The internal network is designed to form a loop of sealed roadways and fire trails throughout the development. The network is connected back to Aratula Drive in the north, Calabria Way in the west and an emergency access link is provided back to Towrang Road in the southwestern corner of the site. The development involves the construction of several internal access roads and fire trails to ensure a through road design and perimeter access around the development.

The internal road network includes an 8 metre wide perimeter road, a series of 6 metre wide non-perimeter roads and 4 metre wide property access roads and fire trails. The network has been designed in a manner that complies with the requirements of PBP 2019, providing safe access and egress for firefighting vehicles while residents are evacuating.

Given the large lot sizes and rural nature of the development, the internal road network, including the proposed fire trails which, in part, function as a perimeter road, is considered appropriate and compliant with the performance requirements of PBP 2019.

Temporary turning heads will be provided to temporary dead end roads. These will incorporate either a minimum 12 metre radius turning circle or turning heads compliant with A3.3 of PBP 2019.

11. Recommendations

The following recommendations are made for the bushfire protection measures for the proposed subdivision:

Recommendation 1: The internal access network including the proposed fire trails are to be constructed in accordance with Figure 2 of this report and constructed in accordance with the requirements of section 5.3.2 of *Planning for Bush Fire Protection 2019*.

Recommendation 2: Temporary turning heads must be provided to temporary dead-end roads incorporating either a minimum 12 metre radius turning circle or turning heads compliant with A3.3. of *Planning for Bush Fire Protection 2019*. Temporary turning areas may be removed upon opening of future proposed through roads.

Recommendation 2: Each future dwelling must be provided with property access in accordance with Table 5.3b of *Planning for Bush Fire Protection 2019*.

Recommendation 3: Each future dwelling must be provided with 20,000 litres of static water for firefighting purposes. Above-ground storage tanks and water service pipes must be of concrete or metal.

Recommendation 4: Electricity supplies through the proposed development must comply with section 5.3.3 of PBP 2019.

Recommendation 5: Any gas services for future dwellings are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2008).

Recommendation 5: All future dwellings are to be provided with an Asset Protection Zone (APZ) in accordance with Table A1.12.3 of *Planning for Bush Fire Protection 2019*.

Recommendation 6: All future dwellings are to be constructed in accordance with Table A1.12.6 of *Planning for Bush Fire Protection 2019*.

12. Conclusion

The proposed large lot subdivision is afforded appropriate access and adequate setbacks that can provide for compliance with *Planning for Bush Fire Protection 2019*. Detailed bushfire protection measures such as building construction and APZ will be assessed and identified in more detail at the individual building application stage through s.4.14 of the EP&A Act.

In the authors professional opinion, the bushfire protection measures demonstrated in this report comply with the aim and objectives of *Planning for Bush Fire Protection 2019* and allow for the issue of a Bush Fire Safety Authority under Section 100B of the *Rural Fires Act 1997*.

Corey Shackleton | Principal Bushfire & Resilience
Blackash Bushfire Consulting
B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)
Fire Protection Association of Australia BPAD Level 3 - 34603

Appendix 1 References

Councils of Standards Australia AS3959 (2009) – *Australian Standard Construction of buildings in bushfire-prone areas.*

Councils of Standards Australia AS2419 (200) – *Fire Hydrant Installations.*

Keith, David (2004) – *Ocean Shores to Desert Dunes – The Native Vegetation of New South Wales and the ACT*. The Department of Environment and Climate Change.

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NSW Rural Fire Service (2019). *Planning for Bushfire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners.* Draft for Public Exhibition.

NSW Government (1979) *Environmental Planning and Assessment Act 1979*. NSW Government Printer.

BLACKASH
BUSHFIRE CONSULTING

8 November 2023

Mr. Marty Webster
Development Assessment and Planning Coordinator
NSW Rural Fire Services

Email: martin.webster@rfs.nsw.gov.au

Dear Mr. Webster,

Re: CNR-31138 – NSW Rural Fire Service Additional Information Request:
Stage 2A - 108 Old Dry Plains Road, DAIRYMANS PLAINS

I refer to the correspondence from NSW Rural Fire Service (RFS) dated 25 October 2023 requesting additional information for the above Development Application at 108 Old Dry Plains Road, Dairymans Plains.

The correspondence advised that the response provided to the previous request for further information was not considered to adequately address the matters raised.

I refer to our subsequent meeting held on 31 October 2023 and the discussion and agreement in relation to the matters of concern. In this regard, the following was agreed:

Lots 201 – 211: These lots are not provided with a perimeter road. To provided additional redundancy in the design and assist operational response, by providing more protection and therefore buying more time during an emergency, each Lot (201-211) will be provided with the following:

1. 30 metre APZ;
2. BAL-19 construction; and
3. 20,000 litres of static water supply

Lots 213 – 215: These lots are not provided with a perimeter road. To provided additional redundancy in the design and assist operational response, by providing more protection and therefore buying more time during an emergency, each Lot (212-215) will be provided with the following:

1. 30 metre APZ;
2. BAL-19 construction; and
3. 20,000 litres of static water supply.

Lot 230: The battle axe handle of Lot 230 is 171.452 metres long and there is ample space for a 6 metre wide passing bay in the handle. With the small additional length to the building envelope, this was agreed as appropriate.

PO BOX 715 WAHROONGA NSW 2076 AUSTRALIA
M 0419 203 853 | E lew.short@blackash.com.au
W blackash.com.au

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

TINTAGEL INVESTMENTS PTY LTD T/A BLACKASH BUSHFIRE CONSULTING ABN 99 000 704 861

Lot 232: This lot has a battle axe handle 140 metres in length. Fire Trail 3 extends from the northern end of this battle axe handle to connect to Road 5. This was agreed as appropriate.

Lots 233 – 237: These lots are accessed through Road 5, which has a cul-de-sac, but is connected to Road 4 via Fire Trail 3. In this regard, the road is not a dead end, as access is provided through to Road 4 and meets the performance criteria of ensuring firefighting vehicles are provided with safe, all-weather access to structures. The Fire Trail will be provided within a 'Right of Carriageway' and a Deed of Agreement created to ensure access from residents of lots 232-237 have mutually beneficial rights of way to use the fire trail in the event of a fire. The Fire trail is to be maintained by the owners of Lots 232 and 233.

All these agreed additional measures will be captured as conditions of consent and stipulated on the title of the lots.

Given the information above and the recommendations of the Bushfire Hazard Assessment prepared by Blackash (dated 31 January 2023), the development satisfies the requirements of *Planning for Bush Fire Protection 2019* and the NSW RFS can issue a Bush Fire Safety Authority under 100B of the *Rural Fires Act 1997*.

If there are any questions or concerns, please don't hesitate to give me a call on 0418 412 118.

Yours sincerely

Corey Shackleton | Principal Bushfire & Resilience
Blackash Bushfire Consulting
B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)
Fire Protection Association of Australia BPAD Level 3 – 34603

Biodiversity Assessment Report

Proposed residential subdivision

Aratula Hills Stage 2

Towrang Vale Road Cooma

Prepared for

Vision Property Development Hub

December 2022 V.1

South East Environmental
Mob: 0411 812 775
Email: mmass@southeastenvironmental.com.au
Website: www.southeastenvironmental.com.au
ABN: 13 927 340 723

Biodiversity Assessment Report

Proposed Residential Subdivision

Aratula Hills Stage 2

Towrang Vale Road Cooma

This assessment has been prepared by

Melissa Mass

December 2022 V.1

Date

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Abbreviations

Abbreviation	Description
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BCD	Biodiversity Conservation Department
DPE	Department of Planning and Environment
EEC	Endangered Ecological Community
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
KTP	Key Threatening Processes
LEP	Local Environmental Plan
LLS	Local Land Services
NSW OEH	New South Wales Office of Environment and Heritage
OEES	Office of Environment, Energy and Science
PCT	Plant Community Type
SEED Portal	Sharing and Enabling Environmental Data in NSW Portal
SEPP	State Environmental Planning Policy
SMRC	Snowy Monaro Regional Council
WoNS	Weeds of National Significance

1 INTRODUCTION

1.1 BACKGROUND

This Biodiversity Assessment Report has been prepared to accompany an application to the Snowy Monaro Regional Council (SMRC) for a proposed residential subdivision on Lot 11 DP1266312, Lot 1 CP 737275 and Lots 157, 158, 159 and 211 DP 750524 located along Towrang Vale Road Cooma. This report assesses the impact of the proposal on Threatened Species, Populations and Ecological Communities within the immediate vicinity of the site.

1.1.1 Sources of information

Database records and information reviewed in the preparation of this report include:

- The Biodiversity Assessment Method 2020;
- Aerial photography of the subject property and of the local landscape obtained from the Departments of Lands Spatial Information Exchange;
- NSW Department of Planning, Industry and Environment (DPIE) Biodiversity Value Map;
- NSW Local Land Services (LLS) Native Vegetation Regulatory Map;
- Cooma-Monaro Local Environmental Plan (LEP) 2013 was consulted to determine possible restraints;
- Data on the NSW Office of Environment Energy and Science (OEES) BioNet database of threatened species occurring within 10kms of the subject property;
- The Royal Botanic Gardens and Domain Trust plant database;
- Australia's Virtual Herbarium vegetation and plant database;
- Final determinations, DPIE species profiles, and other available information pertaining to threatened species known to occur in the locality.

1.2 GOVERNMENT LEGISLATION AND POLICY

This study was undertaken with regards to the local, state and commonwealth legislative requirements addressing the ecological issues within the study area.

Cooma-Monaro LEP 2013 addressed issues concerning land usage, bushfire assessment, and biodiversity protection of lands identified as significant for biodiversity in the regional landscape.

The *EP&A Act* provides framework for the planning and assessment of development proposals throughout NSW and ensures environmental issues are addressed and considered during the planning phase. Biodiversity of regional landscapes and threatened species protection are considerations under this Act.

The *BC Act* requires threatened species, populations and communities listed under the Act are considered during the planning stage of development to determine if significant effect is

likely to occur. Guidelines for avoiding, minimising and mitigating to reduce the risk of Serious and Irreversible Impacts are provided.

The *Rural Fires Act 1997* requires new and existing dwellings and/or subdivisions in bush fire prone lands to comply with standards minimising the risk of loss to human life and infrastructure.

The *EPBC Act* applies to any action that is likely to have an impact to matters of national environmental significance during the course of, or outcome of, a development. This legislation refers to threatened species, populations and communities, migratory species and national heritage areas.

The *Biosecurity Act 2015*, in this instance, addresses any pest species which are likely to have an adverse effect upon the environment in the immediate local landscape.

1.3 OBJECTIVES

The objectives of this flora and fauna assessment are to:

- identify native flora and fauna species, populations and ecological communities known to or likely to occur within the study area;
- describe the native vegetation and habitats within the study area;
- determine the legislative and conservation significance of species, populations and ecological communities known or likely to occur within the study area, with reference to the Commonwealth *EPBC Act* and the *NSW BC Act*;
- identify and describe the impacts from the proposed development upon native flora and fauna species, populations and ecological communities;
- assess the significance of potential impacts of the proposed development upon threatened species, populations and ecological communities following the outline of the *EP&A Act* Five Part Tests of Significance;
- recommend appropriate biodiversity and environmental management measures that should be implemented to avoid and mitigate impacts of the proposed development upon native flora and fauna and their habitats.

1.4 DESCRIPTION OF THE STUDY SITE AND ADJACENT LAND

This study area is within SMRC of the Southern Area Catchment. The five lots proposed to be subdivided are zoned R5 Large Lot Residential under the Cooma-Monaro Local Environment Plan 2013 (LEP). The area studied for this report did not include all areas of Lot 11 DP1266312 and Lot 1 CP 737275 as the remnant woodland will be left undisturbed for the purpose of this proposal. Areas assessed for this report included proposed building footprints and associated Asset Protection Zones (APZ) as determined by Blackash Bushfire Consulting, roadways and wastewater treatment zones. The property is currently un-occupied although a farm shed exist on Lot 211 DP 750524.

The land within the study area is comprised of one distinct vegetation zones - previously cultivated agricultural land and exotic grass paddocks. Exotic weed species are numerous with Weeds of National Significance (WoNS) identified throughout the study area.

The disturbance from many years of livestock grazing and cultivation is apparent throughout the subject property where minimal native vegetation occurs and exotic grasses dominate the vegetation class. Less than 5% of native vegetation was identified within the vegetation survey plots throughout the property therefore the study area is considered exempt from Biodiversity Assessment Method (BAM) survey under the *Biodiversity Conservation Act 2016* (*BC Act*).

A permanent creek line, Snake Creek, extends from the south west corner of the study area, along the western boundary and exits the study are on the western boundary of Lot 11 DP 1266312. Other drainage lines meet with Snake Creek within the study area with most being ephemeral, only containing water during rainfall events or prolonged wet weather periods. Several small farms dams occur within the study area for watering stock.

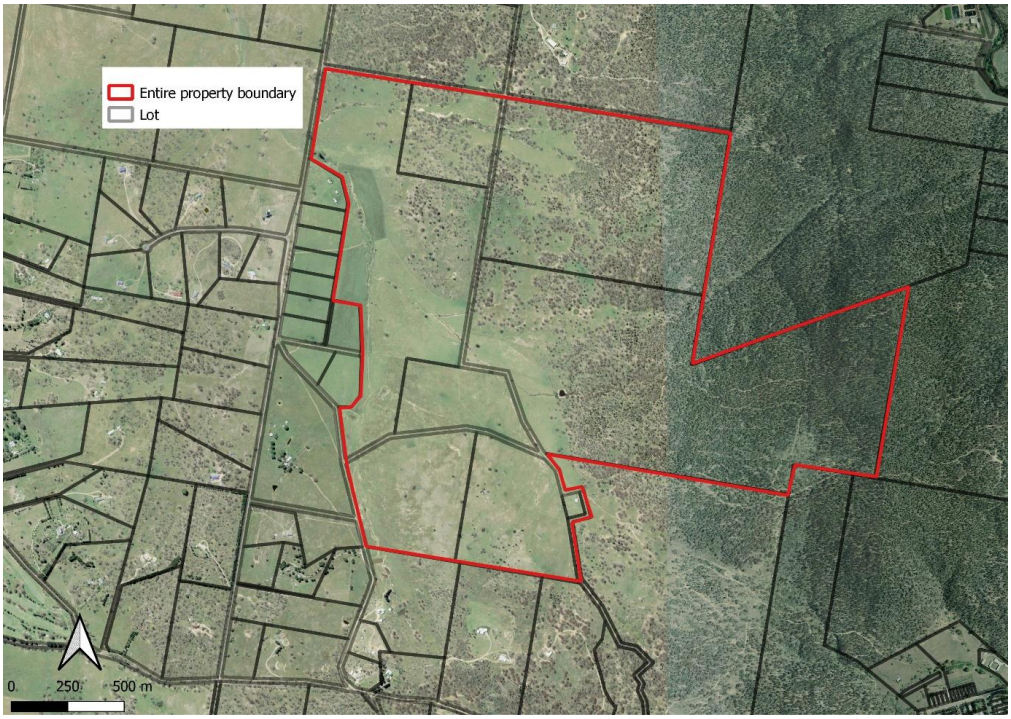


Figure 1. Aerial image of Aratula Hills Stage 2 Towrang Vale Road Cooma (Sixmaps 2018)

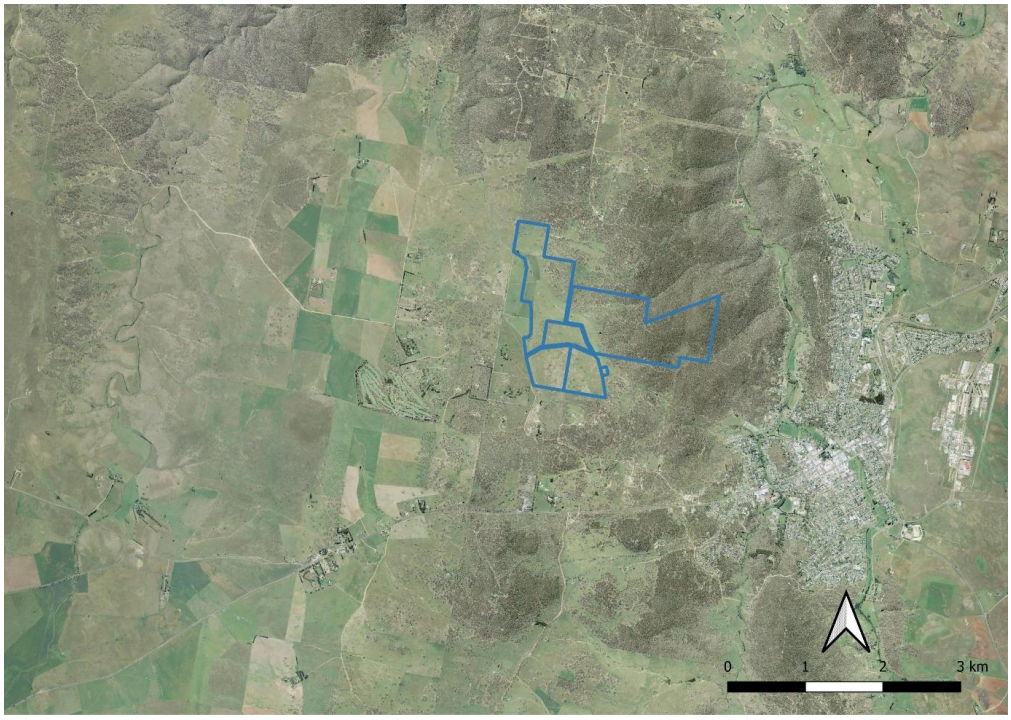


Figure 2. Landscape context of Aratula Hills Stage 2 Towrang Vale Road Cooma (Sixmaps 2018)

1.4.1 Description of proposed development

The proposed development consists of subdividing the 336ha property into forty lots with three lots being retained for the conservation of biodiversity. The footprint of residential lots and roads would total 130ha, leaving 206ha for conservation.

Residential lot size will vary from 2ha to 7.64ha with most being between 2-3ha. The subdivision layout has been positioned within the areas of the least biodiversity value where ongoing agricultural cultivation and livestock grazing has been occurring over an extended period of time. No trees or significant habitat features, such as rock outcrops, are proposed to be disturbed for this proposed subdivision.

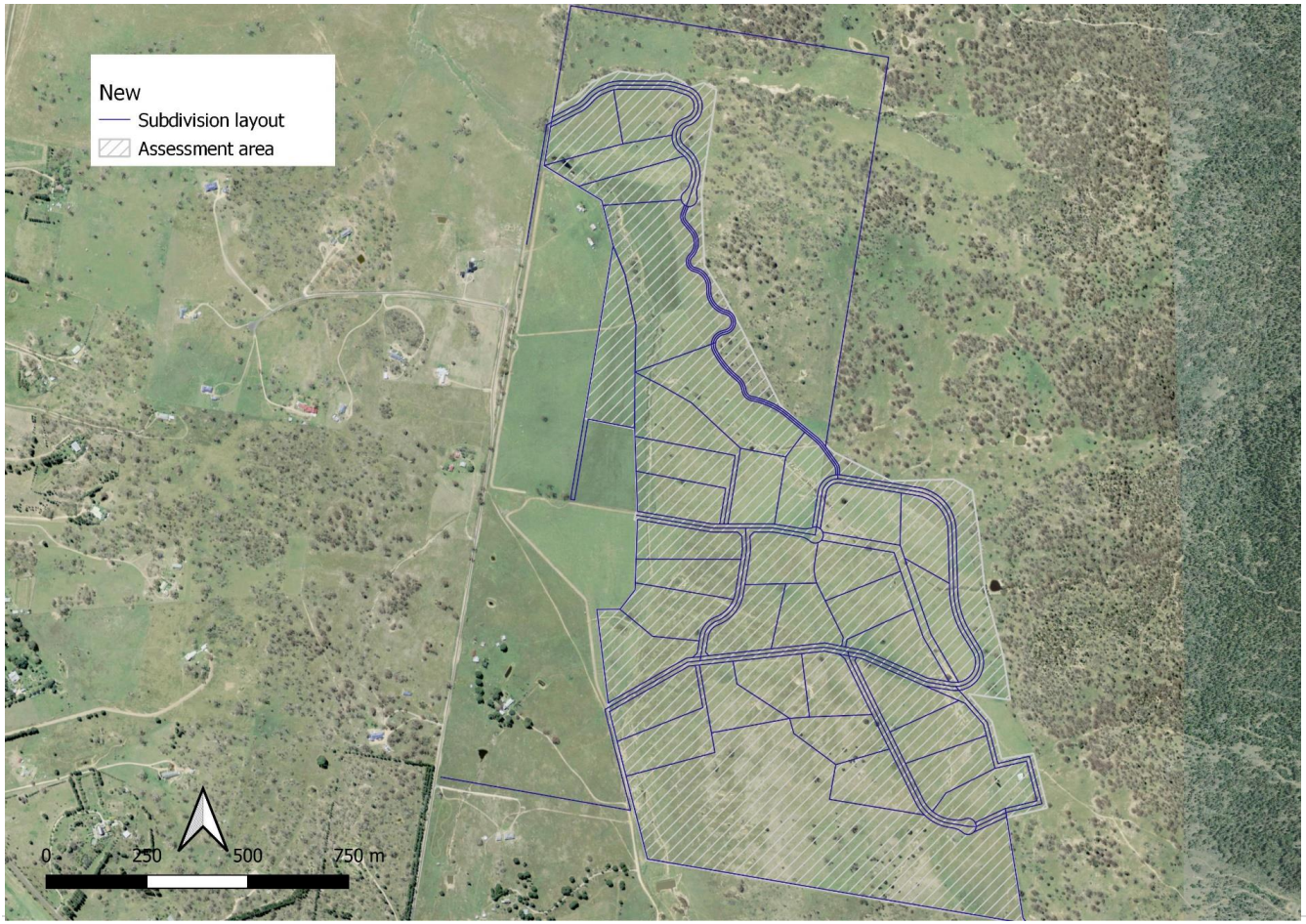
The forty lot subdivision is an extension of the approved Stage 1 Aratula Hills Subdivision which was approved by Cooma Monaro Shire Council in October 2022. Access into the forty lot subdivision would be via Calabria Way and Aratula Drive. A third access via an existing Crown Road easement is also proposed. Three causeways would be required to be constructed over Snake Creek for access to the eastern areas of the subdivision.

1.4.2 Justification for report delivery

The Biodiversity Offset Scheme native vegetation clearing threshold for lot size more than 40ha and less than 1000ha is 1ha or more. This development proposal will not be exceeding the native vegetation clearing threshold. The DPIE Biodiversity Value Map does not have any part of the subject property mapped as being significant biodiversity value. The entire subject property is within the land not yet published on the LLS Draft Native Vegetation Regulatory

map. This Biodiversity Assessment Report will therefore assess the potential for threatened species, threatened ecological communities or threatened populations to occur onsite.

The layout of the proposed rural residential subdivision is shown within Figure 3.


New
Subdivision layout
Assessment area
0
250
500
750 m

2 RESEARCH AND FIELD SURVEYS

2.1 FLORA SURVEY

Botanical surveys of the study area were conducted over two days during November and December 2022 by Melissa Mass. Surveys included 6 x BAM survey plot whilst a random meander was conducted through most other areas of disturbed and modified landscape within the study area, to search for threatened flora species and to record information on habitat condition. Approximately 10 hours were spent conducting botanical surveying.

Vegetation communities were identified and described with reference to the vegetation maps available on the Sharing and Enabling Environmental Data in NSW (SEED) Portal, the descriptions in Tozer et al (2010), PCT descriptions within the BioNet VIS and with reference to vegetation descriptions included by the Scientific Committee final determinations to list threatened communities under the *BC Act* and the *EPBC Act*.

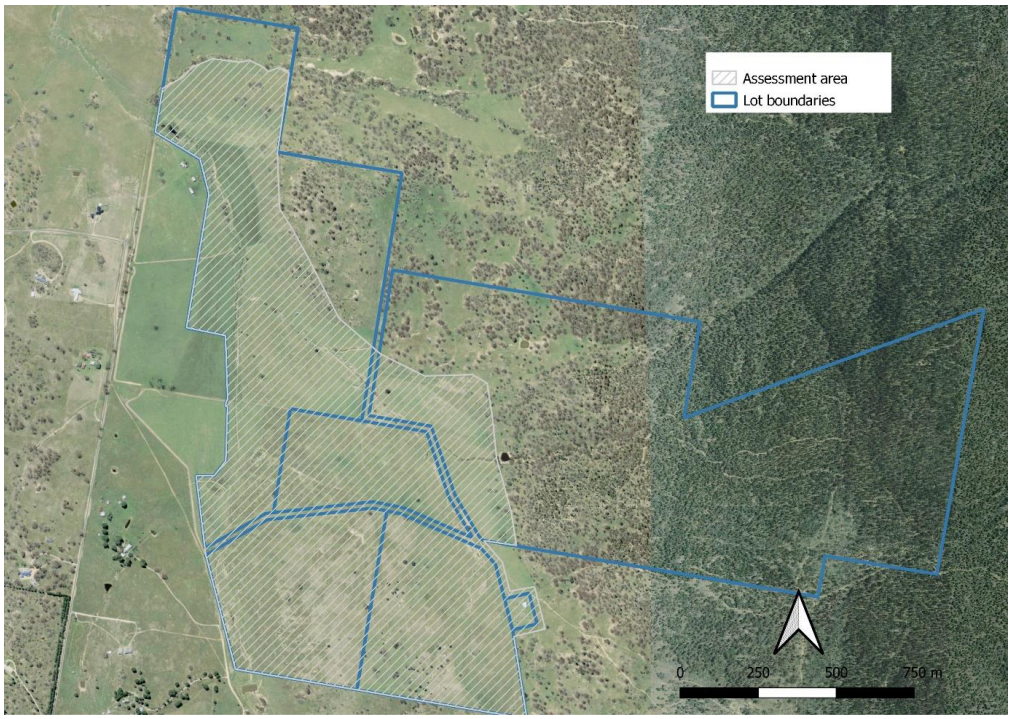


Figure 4. Area subject to assessment

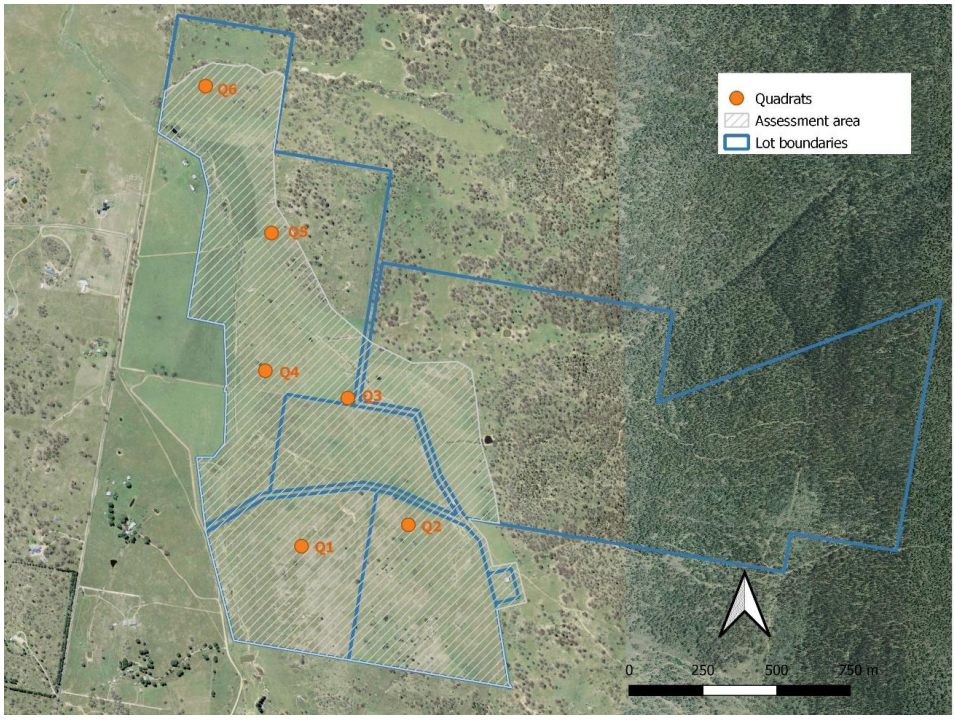


Figure 5. Quadrat locations throughout study area

2.2 Fauna Surveys

Fauna surveys were conducted within the study area by Melissa Mass during November 2022.

The assessment of fauna habitat was conducted to identify suitability for potential threatened fauna species known to occur in the local area.

The habitat assessment included the suitability of landscape features, hollow-bearing trees, stags, fallen timber and logs, rocky outcrops and boulders, flowering Eucalypts, specific feed trees for Glossy Black Cockatoo's, Swift Parrot, Koalas, Grey-headed Flying Fox, site connectivity, vegetation structure and vegetation types.

Searches were also undertaken for indirect evidence of native fauna, including scratches, scats, nests, hollows in use, camps, roosts, den sites etc. Opportunistic sightings of all fauna species were recorded throughout the survey period.

The following fauna survey methods were performed to target threatened species known to occur or likely to occur in the local area:

- general searches with direct observation of any fauna species present within the study area, including diurnal call identifications;

Details of methods, timing and effort are set out in Table 1. A list of fauna species recorded is provided in appendix B.

Table 1. Fauna survey methods

Survey Method	**Targeted Species**	**Weather conditions**	**Time & Effort**
General searches Direct observation Search for scats and indirect evidence Diurnal call identifications Opportunistic sightings	All subject species Mammals Birds Amphibians Reptiles Molluscs	Sunny/scattered cloud Min 0.5°C Max 20.1°C Wind speed 11-13 E – NE Rainfall 0.2mm	Approximately 2 hours

2.3 SURVEY LIMITATIONS

The survey was conducted within a short timeframe during spring. Therefore some plant species may not have been identified due to the survey being performed when not in flower, or when dormant. It is noted that some flora species are seasonal, and may not have been visible at the time of the surveys.

The survey limitations have been addressed through:

- consideration of flora and fauna species known to occur in the locality (including number of records from Bionet);
- consideration of habitat suitability present within the study areas and connectivity to other areas of habitat in the local landscape;
- a conservative approach in assuming the presence of a species that could potentially be present in the study areas.

Where the study area contains potential habitat for threatened fauna species known to occur in the locality, and where survey areas support a likelihood of occurrence, it has been assumed on a conservative approach that such species may occur in the study area.

2.4 PRECAUTIONARY APPROACH

Where the study area contains potential habitat for threatened fauna species known to occur in the locality, and where survey methods and effort employed are not sufficient to demonstrate absence or a low likelihood of occurrence, it has been assumed on a precautionary basis that such species do utilise the study area.

3 ENVIRONMENTAL FACTORS AND INFLUENCES

3.1 GENERAL DESCRIPTION

The subject property is 336ha with the study area being approximately 130ha in total. The aspect is mostly south west facing with a slope generally less than 5° although slope may exceed this in the southern portion of the study area. The study area is comprised of cleared landscape with disturbed remnant native vegetation occurring along the eastern boundary. Snake Creek runs from the south western boundary, along the western edge of the lots and exits the study area on the western boundary of Lot 11 DP 1266312.

The study area has been identified as mostly cleared lands on the Cooma-Monaro LEP Terrestrial Biodiversity Map Sheet BIO_013 while Snake Creek has been recognised as Riparian Lan on the Groundwater Vulnerability Map Riparian Land Map Wetlands Map –Sheet CL1_013. Cleared land occurs throughout the study area whilst a remnant woodland occurs immediately east and north of the study area. Sporadically spread paddock trees occur within the study area which are not proposed to be removed or disturbed as part of this development.

A rocky hill occurs in the southern portion of the study area. It is assumed this area contains significant habitat for the Striped Legless Lizard and has therefore been extracted from the development footprint and proposed for future conservation.

Snake Creek and several ephemeral drainage line occur within the study area. All areas were considered as severely disturbed and contained very little habitat potential for threatened species. Erosion is evident and weeds are plentiful.

No caves, crevices, cliffs of other areas of geological significance were identified within the study area or immediate surrounds. There are no major rivers, estuaries or significant wetlands located within the study area.

The property is located within a landscape of variously sized rural, rural residential and lifestyle lots with remnant native vegetation abundant in the surrounding landscape.

3.2 VEGETATION AND HABITAT

The study area consists of one vegetation zone, exotic grassland. The proposed subdivision will utilise the most disturbed areas of the subject property, specifically the cultivated agricultural and livestock grazing land. This area is virtually devoid of native vegetation and contains a number of species considered as agricultural weeds, including WoNS.

The study area does contain several scattered paddock trees which will not require removal for APZ compliance and will be avoided during construction of the subdivision.

Consideration was given to the potential presence of the Commonwealth Protected Natural Temperate Grasslands of the South Eastern Highlands based on location, species present, elevation, annual rainfall and site descriptions. The Natural Temperate Grasslands of the

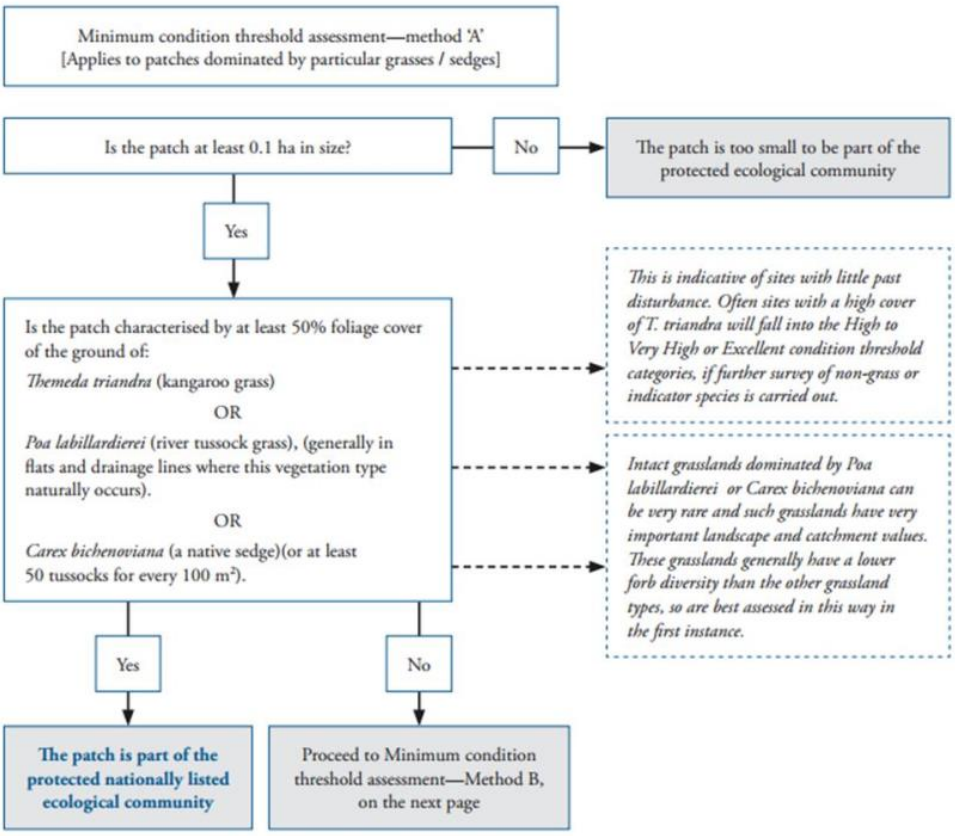
South Eastern Highlands can only be offered protection under the *EPBC Act* if it is in relatively good condition and meets a minimum condition threshold. The flowcharts below have been used to determine if the minimum condition threshold has been meet. Any patch of good or poor quality native vegetation (as a minimum) is far less than 0.1 ha in size and therefore is too small to be considered part of the protected ecological community.

The Native Vegetation of the Cooma-Monaro Shire VIS_ID 4064 viewed on the SEED Portal considers the vegetation community on the property to be a Tablelands Clay Grassy Woodand. This mapping was not supported following the botanical survey of the site due to the lack of native species present and high percentage of HTW and other exotic species present throughout the study area. No specific native plant community was able to be determined based on the results of the botanical surveys. Therefore the study area is considered to be grasslands dominated by exotic species with scattered paddock trees.

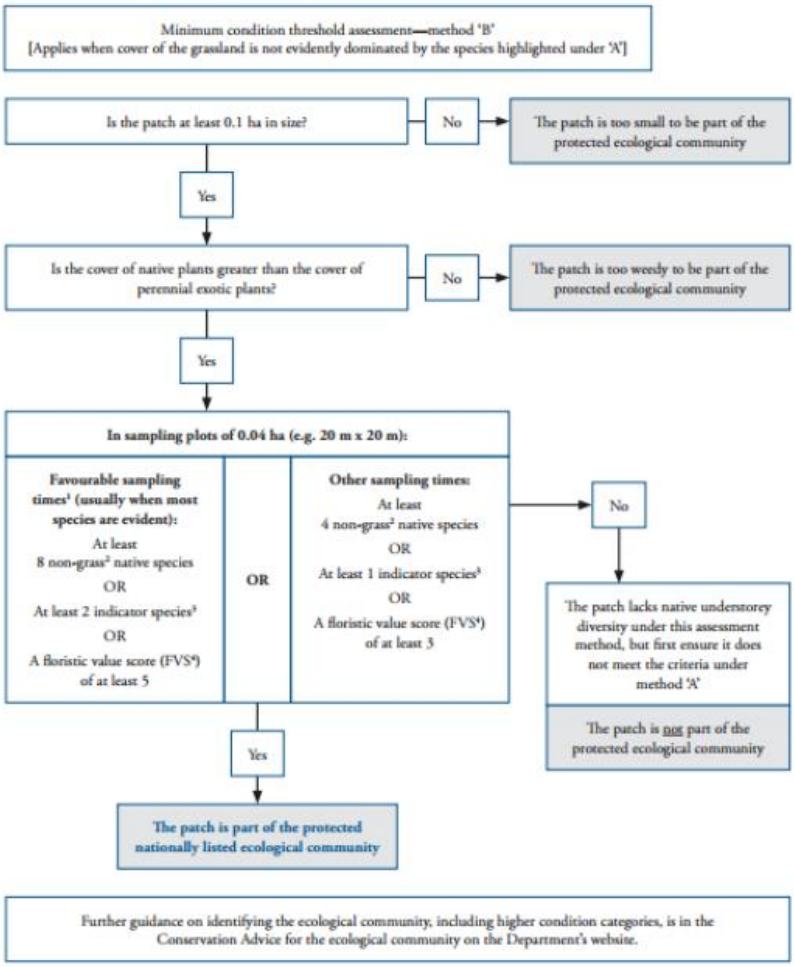
A *Swainsona* species was identified flowering within the study area during the November flora survey. A repeat visit during December to view seed pods to determine if the species was *Swainsona sericea* failed to provide clarity as the plants which had finished flowering had been grazed. Samples of the leaves and flowers were collected and compared with samples of leaves and flowers collected from a known *Swainsona sericea* at a job site the Author has at Michelago. The *Swainsona sericea* at Michelago had seed pods present which were observed to be covered in fine hair. The leaf and flower samples were compared under a microscope which gave assurance that the hair structure is indeed different on both samples. It was therefore confirmed that the *Swainsona* at Aratula Hills is that of the species *Swainsona monticola* and not that of the species *Swainsona sericea*. Comparison photos have been provided in figure 6, 7 and 8.

A full list of flora species identified within the study area during the survey period can be found in appendix A.

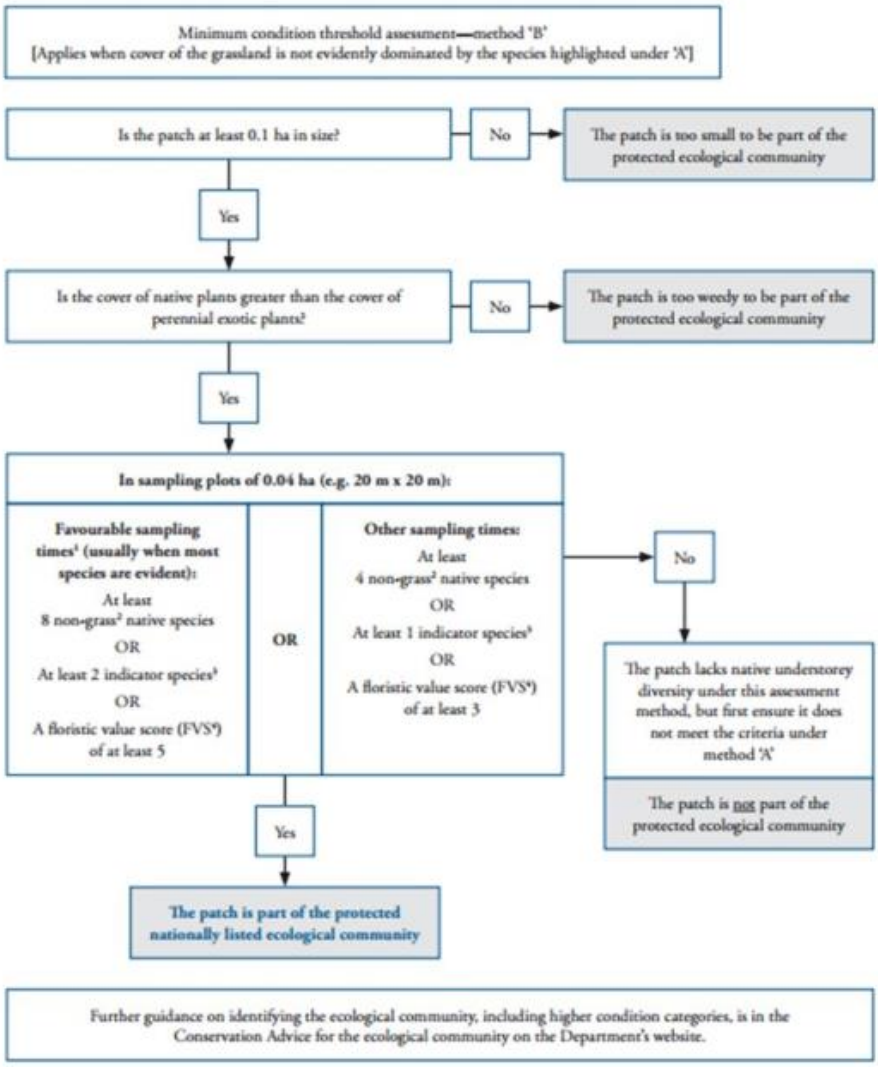
Flowchart 1. Natural Temperate Grassland of the South Eastern Highlands minimum condition threshold for national protection – Method A



Flowchart 2. Natural Temperate Grassland of the South Eastern Highlands minimum condition threshold for national protection - Method B



1. To be assessed in spring to early summer, and/or other time when native plant species are most evident (e.g. significant recent rainfall that has stimulated flowering of native plants). Or if these conditions not present, counts may be estimated from multiple surveys of the same site in different seasons or years.
2. Non-grass species include forbs/herbs (wildflowers), lilies, orchids, rushes and low shrubs. It does not include trees and, for the purposes of these thresholds, sedges.
3. Indicator species are native plant species that are useful surrogates for conservation value of a patch, and are typically disturbance sensitive species. The list is found on the ecological community profile on the Species Profiles and Threats Database (SPRAT), on the Department's website.
4. Floristic Value Score is a method of measuring the quality of a grassland site, based on Rehwinkel (2015) (see the Conservation Advice for the full reference).



1. To be assessed in spring to early summer, and/or other time when native plant species are most evident (e.g. significant recent rainfall that has stimulated flowering of native plants). Or if these conditions not present, counts may be estimated from multiple surveys of the same site in different seasons or years.
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4. Floristic Value Score is a method of measuring the quality of a grassland site, based on Rehwinkel (2015) (see the Conservation Advice for the full reference).

Figure 6. *Swainsona sericea* from Michelago on the left, *Swainsona monticola* from Aratula Hills on the right.

Figure 7. *Swainsona sericea* leaf under microscope showing hair structure

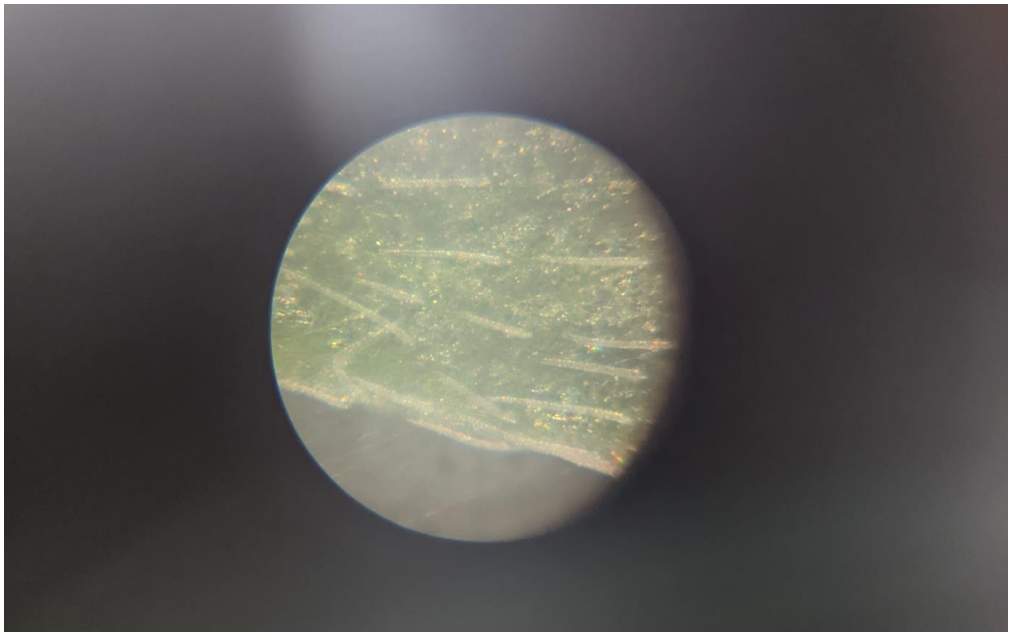

Figure 8. *Swainsona monticola* leaf under microscope showing hair structure

3.3 Existing Disturbance

The study area has undergone past disturbance from agricultural use, stock grazing and historic timber removal. Very few native species were identified within the study area during the botanical surveys with each of the six plots not able to record 5% of native species cover. Exotic grasses and herbs dominate the study area with areas of bare soil not uncommon, particularly along Snake Creek. There are many agricultural weeds present including HTW and WoNS.

Although the southern portion of the study area is also dominated by exotic flora species, rock outcrops and scattered rock fragments are common. It is therefore considered that this area, whilst not supportive of native flora, is crucial habitat for the Striped Legless Lizard and has therefore been taken out of the development footprint to avoid entry into the Biodiversity Offset Scheme and to offer future conservation of habitat for this threatened species.

As previously mentioned, Snake Creek has areas of erosion and weed infestation. Livestock currently have direct access to the creek which contributes to these ongoing management issues.

3.4 Assessment of Threatened flora species

There was no threatened flora species listed under the *BC Act* or *EPBC Act* recorded within the study area. In a 10km radius search using the BioNet database nine flora species were

identified as being threatened. An assessment of likelihood of these species occurring within the study area is summarised in Table 3. As previously discussed, *Swainsona monticola* was identified within the study area. This species was determined to not be that of the threatened *Swainsona sericea* via microscopic investigation of leaf hair structure.

Table 2. Assessment of likelihood of threatened flora species historically recorded within 10kms of the study area to occur onsite at Aratula Hills Stage 2 Towrang Vale Road Cooma (NSW Bionet 2020)

Botanical Name	Common Name	Habitat constraints	Likely to occur onsite	Dedicated species survey undertaken	Identified on site	Included or excluded from 5 part test
Calotis glandulosa	Mauve Burr-daisy	Found in montane and subalpine grasslands in the Australian Alps. Found in subalpine grassland (dominated by Poa spp.), and montane or natural temperate grassland dominated by Kangaroo Grass (Themeda australis) and Snow Gum (Eucalyptus pauciflora) Woodlands on the Monaro and Shoalhaven area. Appears to be a coloniser of bare patches, which explains why it often occurs on roadsides. Apparently common on roadsides in parts of the Monaro, though it does not persist for long in such sites. Does not persist in heavily-grazed pastures of the Monaro or the Shoalhaven area. Dispersed by animals which carry the sticky burrs to new sites.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded –** The Study area does not contain montane, natural temperate or subalpine grasslands. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle
Dodonaea procumbens	Creeping Hop Bush	Grows in Natural Temperate Grassland or fringing eucalypt woodland of Snow Gum (Eucalyptus pauciflora). Grows in open bare patches where there is little competition from other species. Found on sandy-clay soils, usually on or near vertically-tilted shale outcrops. Produces roots along the stems that enable the plants to recover from minor disturbances.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance. This species can be surveyed all year round.	No	**Excluded** – The study are does not contain natural temperate grasslands or eucalypt woodland of Snow Gum. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle

		Often occurs on roadside batters. Does not persist in heavily grazed pastures of the Monaro. Dispersed by the papery fruits.				
Eucalyptus aggregata	Black Gum	Grows in the lowest parts of the landscape. Grows on alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Often grows with other cold-adapted eucalypts, such as Snow Gum or White Sallee (Eucalyptus pauciflora), Manna or Ribbon Gum (E. viminalis), Candlebark (E. rubida), Black Sallee (E. stellulata) and Swamp Gum (E. ovata). Black Gum usually occurs in an open woodland formation with a grassy groundlayer dominated either by River Tussock (Poa labillardierei) or Kangaroo Grass (Themeda australis), but with few shrubs. Also occurs as isolated paddock trees in modified native or exotic pastures. Many populations occur on travelling stock reserves, though stands and isolated individuals also occur on private land. There are very few stands in conservation reserves.	Potential to occur based on location and suitable habitat conditions	BAM floristic survey and line transect surveys across remaining area of proposed disturbance. Species can be surveyed throughout the year.	No	**Excluded** – – No individuals identified within the study area
Lepidium hyssopifolium	Aromatic Peppercress	In NSW the species was known to have occurred in both woodland with a grassy understorey and in grassland. The species may be a disturbance opportunist, as it was discovered at the most recently discovered site	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded** – The study are does not contain woodlands or native grasslands. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle

		(near Bungendore) following soil disturbance. The cryptic and non-descript nature (appearing like several weed species) of the species makes it hard to detect.				
Leucochrysum albicans var. tricolor	Hoary Sunray	Occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils. Can occur in modified habitats such as semi-urban areas and roadsides. Highly dependent on the presence of bare ground for germination. In some areas, disturbance is required for successful establishment.	Potential to occur based on location and suitable habitat conditions	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded** – No individuals identified within the study area. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle
Rutidosis leiolepis	Monaro Golden Daisy	Found in Natural Temperate Grassland on the Monaro. Occurs in sub-alpine grasslands in Kosciuszko National Park. Grows on basalt, granite and sedimentary substrates. Apparently highly susceptible to grazing, being retained in only a small number of populations on roadsides, un-grazed reserves and very lightly grazed pastures on private lands.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded** – The study are does not contain natural temperate grasslands. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle
Swainsona sericea	Silky Swainson-pea	ound in Natural Temperate Grassland and Snow Gum Eucalyptus pauciflora Woodland on the Monaro. Found in Box-Gum Woodland in the Southern Tablelands and South West Slopes. Sometimes found in association with cypress-pines Callitris spp. Habitat on plains unknown.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November	No	**Excluded** – The study are does not contain natural temperate grasslands or eucalypt woodland of Snow Gum. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle

		Regenerates from seed after fire.				
Wilsonia backhousei	Narrow Lead Wilsonia	Beaches and rock platforms adjacent to beaches, or anywhere saline. Margins of salt marshes and lakes on the coast	No as this species grows in saline conditions which do not occur on the subject property	BAM floristic survey and line transect surveys across remaining area of proposed disturbance.	No	**Excluded** – No suitable habitat located on the subject property
Zieria Formosa	Shapely Zieria	Acid volcanic rocky outcrops. Only a single population of Shapely Zieria is known. It occupies an area of about 1 hectare on private land located about 5 km west of Pambula on the NSW far south coast. The population of Shapely Zieria occurs on the north-east aspect of an upper, moderately steep slope of a 'break-away' area above a small valley. The soil is skeletal, grey sandy loam and there is much exposed surface rock. Associated vegetation includes Black Wattle (Acacia mearnsii), Blackfellows' Hemp (Commersonia fraseri), Large-leaf Hop-bush (Dodonea triquetra), Snowy Mint-bush (Prostanthera nivea), Sweet Pittosporum (Pittosporum undulatum), White Kunzea (Kunzea ambigua), and Yellow Tea-tree (Leptospermum flavescens). The species is almost certainly insect pollinated and native bees, hover flies and blow flies have been observed visiting the flowers.	No as suitable habitat not located on the subject property	BAM floristic survey and line transect surveys across remaining area of proposed disturbance. Species can be surveyed throughout the year.	No	**Excluded –** No suitable habitat located on the subject property

No Endangered Ecological Community was positively or confidently identified within the study area. However the Natural Temperate Grasslands of the South Eastern Highlands was considered during the assessment and found not to occur.

3.5 Assessment of Fauna habitat

The site was assessed for suitability as habitat for native fauna, especially those listed on the *BC Act*.

The study area contains a permanent creek line and ephemeral drainage lines with intermittent water flow during rainfall or extended wet weather periods. Habitat in these areas were assessed for the possibility of threatened aquatic dependent species such as frogs.

There was no evidence that any trees within the study site have been used by hollow dependant nesting species such as the Gang Gang Cockatoo or Glossy Black-cockatoo. There was no suitable trees present for Glossy Black-cockatoo foraging within the study area. No dreys or suitable nesting sites for Eastern Pygmy Possum were identified. It is very likely that the vegetation within the study area is used for foraging by nocturnal mammals and birds. Several trees and stags were noted to have hollows which may be used as habitat for birds, reptiles and microchiropteran bats although none of these trees or stags will be impacted by the development as they can be retained as the 30% allowable canopy within the APZ of building platforms.

There was no significant fallen timber visible which could provide habitat for mammals, reptiles and invertebrates. There are no caves or culverts that could be used for roosting by bats.

The granite rock outcrops in the southern portion of the study area were inspected for reptiles and evidence of small mammals.

Overall the fauna habitat within the study area is of poor value for fauna species in its current state.

3.6 Aquatic fauna & invertebrate

Frog calls were identified on the 4th of November 2022 within Snake Creek and the water storage dams. No significant invertebrate were identified within the study area.

3.7 Mammals

Specific survey techniques employed for mammals included dedicated searches for indirect evidence (including scats, prints, scratches, sap-feeding notches, dreys, burrows and diggings) and dedicated searches for tree-hollows suitable for arboreal mammals (eg Yellow-bellied Glider).

3.8 Reptiles

Surveys for reptiles and amphibians were conducted throughout the survey site and involved careful observation, active searches of appropriate refuge sites, including disturbing leaf litter, lifting rocks, searching around woody debris and understory vegetation. Live trapping was not conducted to reduce unnecessary stress on fauna. A Striped Legless Lizard was observed sunning itself on rocks in the southern portion of the subject property during the survey period. The subdivision layout has since been revised to exclude this habitat area.

3.9 Birds

The bird survey involved the identification of suitable tree-hollows on the survey site, searches for other evidence on the ground, visual identification and aural identification.

3.10 Assessment of Threatened Fauna species

A range of native fauna species could be expected to occur within the study area. Most mobile species would be resident in surrounding intact bushland areas, and would utilise vegetation within the study area for foraging.

No threatened fauna species were located within the study area. A 10km radius online search using the BioNet database was conducted to identify any threatened fauna species that may have historically occurred on the study site or within the immediate local area. Fourteen threatened fauna species were located within the 10km radius. An assessment of habitat suitability for those species occurring within the study area is summarised in Table 4.

Almost all the threatened species from the 10km radius have potential to present in the subject property due to native vegetation with good connectivity dominating the surrounding landscape however less habitat suitability is found within the study area. For the purpose of this assessment, only species which are considered as a dual species or a species credit species by the Biodiversity Conservation Department (BCD) will be investigated further should it be determined that suitable habitat occurs onsite.

Suitable habitat for the Striped Legless Lizard occurs in the southern portion of the subject property where granite outcrops and scattered surface rock is present. During the survey period a single Striped Legless Lizard was observed sunning itself on a rock. It disappeared into long grass between rocks before the Author could get a photograph. The southern portion of the subject property has been removed from the development footprint so as to protect the habitat for this threatened reptile. Due to the removal of this area from the development footprint, no impact to the species will occur. Therefore a Test of Significance is not required.

Table 3. Assessment of likelihood of threatened fauna species historically recorded within 10kms of the study area to occur onsite at Aratula Hills Stage 2 Towrang Vale Road Cooma

Common name	Scientific name	Species recorded onsite via past surveys or incidentally observed	Dual credit or species credit species	Constraints 1. Geographic limitations 2. Habitat constraints 3. Is the species vagrant to the IBRA subregion	Species likely to have suitable habitat onsite?	Included or excluded from 5 part test
BIRDS						
Diamond firetail	*Stagonopleura guttata*	**No**	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: None Information updated within the TBDC 1/12/2017	No suitable habitat of grassy eucalypt woodlands located within the proposed development site.	**Excluded -** Not a dual credit or species credit species.
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Data for this species is complicated by resident and migratory components of populations, with the greater tendency to migration in south of state. The species uses paddock trees for nesting. Information updated within the TBDC 1/12/2017	Some suitable habitat located within the proposed development site	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely to contain the species if it is locally

						present. The disturbance is unlikely to cause the species to become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
Gang-gang Cockatoo	*Callocephalon fimbriatum*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Eucalyptus tree species with hollows more than 9cm in diameter (Species credit constraint) **Species vagrant:** No **General notes**: This is a dual credit species. The identification of breeding habitat will require survey or an expert report. For clearing or development assessments, presence can be assumed. Information updated within the TBDC 9/03/2022	No suitable habitat of eucalypt woodlands or forests located within the proposed development site. Paddock trees are present however no nesting activity was observed during the survey period during November.	**Excluded** for assessment as a species credit species as no nesting activity observed within the development footprint during the survey period.
Hooded Robin	*Melanodryas cucullata cucullata*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Paddock trees can be important for this species as they can link remnant foraging habitat. Information updated within the TBDC 18/10/2022	No suitable habitat of eucalypt woodlands or located within the proposed development site. Paddock trees are present however no nesting activity was observed during the survey period during November.	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area

						proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely to contain the species if it is locally present. The disturbance is unlikely to cause the species to become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
Scarlet Robin	*Petroica boodang*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Paddock trees are used for roosting and foraging. Information updated within the TBDC 1/12/2017	No suitable habitat of eucalypt woodlands or forests located within the proposed development site. Paddock trees are present however no foraging or nesting activity was observed during the survey period during November.	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely

						to contain the species if it is locally present. The disturbance is unlikely to cause the species to become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
Speckled Warbler	*Chthonicola sagittata*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Paddock trees can be important for this species as they can link remnant foraging habitat Information updated within the TBDC 18/10/2022	No suitable habitat of eucalypt woodlands or forests located within the proposed development site. Paddock trees are present however no foraging or nesting activity was observed during the survey period during November..	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely to contain the species if it is locally present. The disturbance is unlikely to cause the species to

						become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
White-breasted Sea-Eagle	*Haliaeetus leucogaster*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines **Species vagrant:** No **General notes**: The species is highly selective in nesting locations. Information updated within the TBDC 19/09/2019	Habitats are characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. Occurs at sites near the sea or sea-shore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest).	**Excluded** for assessment as the site is not within 1km to any river, lake, large dam or creek, wetlands and coastlines suitable as permanent habitat for the species.
MAMMALS						
Grey-headed Flying-fox	*Pteropus poliocephalus*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Breeding camps (Species credit constraints) **Species vagrant:** No	Suitable foraging habitat for the Grey-headed Flying-fox is located onsite via paddock trees. There are no breeding camps	**Excluded** as there is no breeding camp located within the study area. No trees are proposed to be

				General notes: This species is retained as dual credit because foraging habitat is broad ranging but breeding camps are localised and, if impacted, must be offset by protecting and enhancing another breeding camp (breeding camps will need to be identified by survey, as per OEH Guidelines). The initial search for camps should encompass any recorded camps and roosting habitat likely to occur on the subject land. If a camp is located the survey only needs to take place in the camp (that is the area occupied by the target species) to identify breeding females. Camps used for breeding must be mapped. Use GPS to map outer perimeter of the camp to create the species polygon. Additionally, selected >1 for average number of offspring because females do not give birth every (often miscarry etc). Information updated within the TBDC 9/10/2020	on site presently, or previously recorded.	removed for this development.
Koala	*Phascolarctos cinereus*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Areas identified via survey as important habitat (see comments) (Species credit constraints) **Species vagrant:** No **General notes:** Important' habitat (however this is not a mapped important habitat area) is defined by the density of koalas and quality of habitat determined by on-site survey - contact OEH for more information. Information updated within the TBDC 15/06/2022	Although suitable eucalypt woodland occurs within the subject property, no Koala has been recorded or is likely to be recorded within the study area due to historic and ongoing disturbances.	**Excluded** from assessment as the study area does not contain suitable habitat for this species.
AMPHIBIANS						
Alpine Tree Frog	*Litoria verreauxii alpina*	No	Species Credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No	Occurs in woodland, heath, grassland and herb fields with still or slow moving wetlands. Creek line habitat within the study area is	**Excluded** from assessment as suitable habitat does not occur within the study area.

				General notes: Note this subspecies appears to grade into the nominate Litoria verreauxii verreauxii and intermediate forms occur between 1000 and 1300m, an urgent genetic study is required to determine whether this form should be maintained. Information updated within the TBDC 1/12/2017	severely degraded resulting in unsuitable habitat for the species found within the study area.	
Green and Golden Bell Frog	*Litoria aurea*	No	Species credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes:** While chytrid is a potential threat to some populations of the species, other populations are subject to manageable threats. Information updated within the TBDC 14/10/2022	Occurs in marsh, dams and stream-sides particularly with bulrushes or spikerushes present. Creek line habitat within the study area is severely degraded resulting in unsuitable habitat for the species found within the study area.	**Excluded** from assessment as suitable habitat does not occur within the study area.
Reptiles						
Monaro Grassland Earless Dragon	*Tympanocryptis osbornei*	No	Species credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes:** None Information updated within the TBDC 7/06/2022	No suitable habitat of temperate grasslands located within the proposed development site.	**Excluded** from assessment as suitable habitat is unlikely to occur within the study area.
Pink-tailed Legless Lizard	*Aprasia parapulchella*	No	Species credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** Rocky areas **Species vagrant:** No **General notes:** None Information updated within the TBDC 14/04/2022	No suitable habitat of native grasslands dominated by *Themeda australis* located within the proposed development site.	**Excluded** from assessment as suitable habitat is unlikely to occur within the study area.

Rosenberg's Goanna	*Varanus rosenbergi*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes:** Broad-ranging species that is difficult to survey - very transient. It is potentially two species - Western & Highlands open woodland (without sandstone); and Sydney basin bioregion. Clutch size is about 10-14 eggs, but only breed every second year or so. Predation by foxes will likely reduce the number of eggs hatching. Information updated within the TBDC 13/01/2022	No suitable habitat of heath, open forest or woodland located within the proposed development site.	**Excluded** from assessment as suitable habitat is unlikely to occur within the study area.

4 THE PROPOSED DEVELOPMENT AND POTENTIAL IMPACTS

4.1 OVERVIEW

The proposed development would involve the permanent modification of approximately 130ha of exotic grassland vegetation. This would not impact significantly upon the native flora and fauna located within the disturbance footprint or the immediate surrounding area due to area already being highly modified for agricultural usage.

However, further modification to this area may still influence the suitability of habitat for cryptic flora species such as those from the *Orchidaceae* family and fungus kingdom. Direct impacts on fauna species resulting from modification of this habitat could include the removal and alteration of suitable habitat for nesting, foraging and roosting of some species.

Indirect impacts on native fauna such as noise and light from human occupation and usage would remain constant as a result of the proposed development. Further indirect impacts during construction such as sediment and pollutants may be increased as a result of the proposed development along with nutrients associated with waste generated from human occupation. Hydrological changes may result, particularly from the location of the dwelling and hardstand area runoff. Possible weed infestation could occur from the spread of exotic species used for landscaping around the new dwellings.

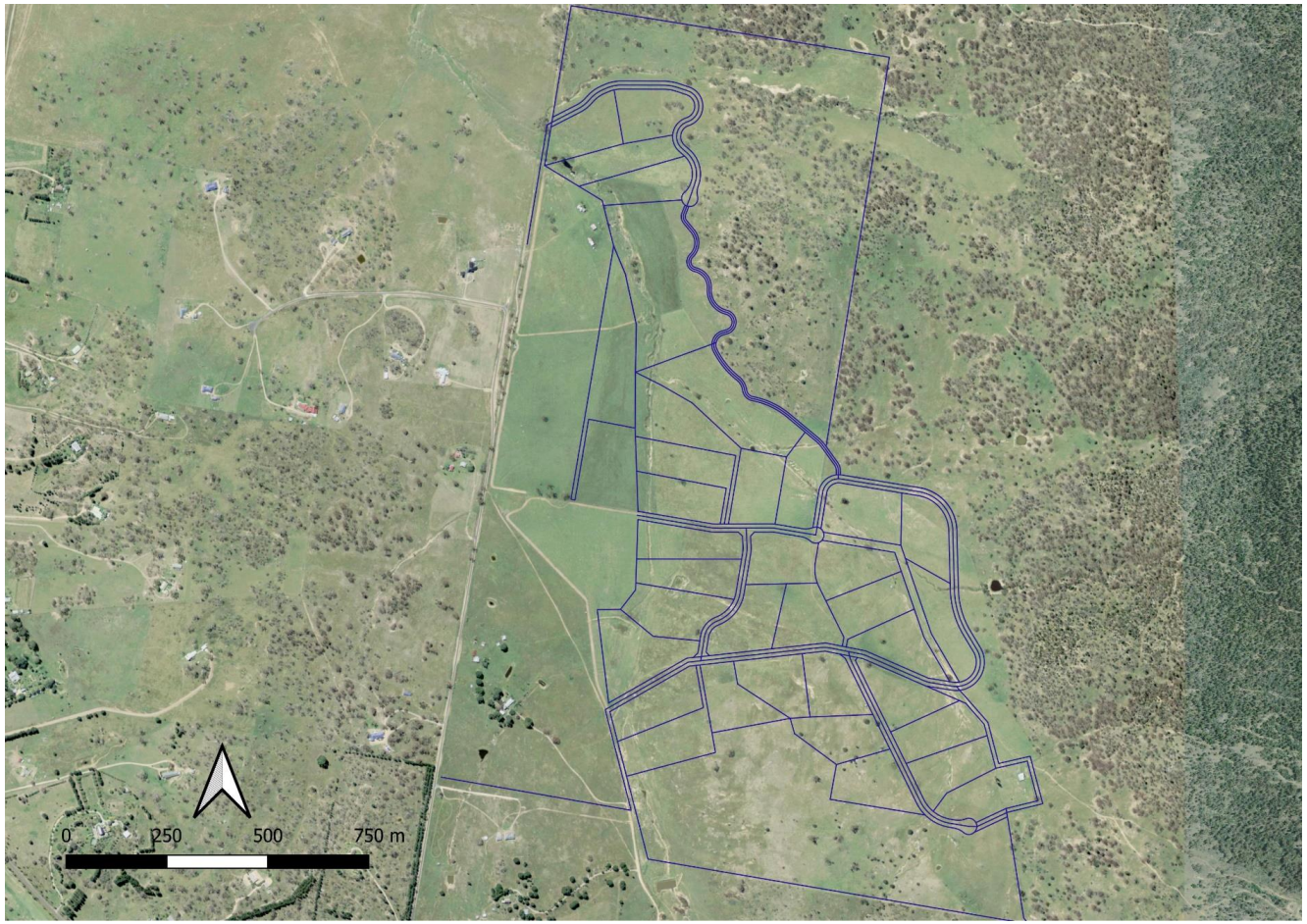

Figure 9. Proposed forty lot rural residential subdivision at Aratula Hills Stage 2 Towrang Vale Road Cooma

4.2 MITIGATION

No removal or further disturbance to the native vegetation outside of the proposed construction footprint and associated APZ to building envelopes.

Sediment and erosion control measures need to be considered before, during and after any earthworks in the study area, in accordance with current standards.

Removal of mature paddock trees within the subdivision footprint shall be avoided.

No disturbance to the southern portion of the subject property where suitable habitat for the Striped Legless Lizard occurs.

No invasive weeds are to be planted for landscaping purposes.

4.3 IMPACTS ON THREATENED FLORA

There were no threatened flora species identified within the study area.

There were no EEC's identified within the study area.

4.4 IMPACTS ON THREATED FAUNA

There will be no significant impacts to any threatened fauna species as a result of this development proposal. Several threatened species potential occur, bird species, which have far superior habitat found within the adjacent remnant woodland areas. These areas of native vegetation have been intentionally avoided during the planning stages of this development application due to the consideration of threatened species habitat being present. Although no significant native vegetation occurs in the southern portion of the subject property, suitable habitat for the Striped Legless Lizard is present and therefore this area is also intentionally being avoided to preserve this habitat for the species.

5 THREATENED SPECIES IMPACT STATEMENT

5.1 CONSERVATION SIGNIFICANCE

The initial assessment of the impact of this proposal has determined that no Tests of Significance is required for threatened species as per s.5A of the *EP&A Act* as there is likely to be no significant impact to any threatened species by the approval of the development proposal.

5.2 ASSESSMENT OF SIGNIFICANCE

No Test of Significance is required for this development proposal.

There is a potential that several threatened bird species may use the study area as an extension of a home range within the adjacent woodland. The habitat within the woodland is far superior to the available resources found within the study area therefore it has been determined that there is no impact likely to any of the potential threatened bird species which may occur locally. No threatened bird species were identified within the study area, or the adjacent woodland, during the survey period.

5.3 CONCLUSION

The applicant has considered the best location for the forty lot rural residential subdivision by considering the vegetation disturbance past and required, bushfire safety, slope and being aesthetically pleasing within the landscape. The applicant has demonstrated complete avoidance of native vegetation disturbance with this proposal and has selected to completely avoid habitat suitable for the threatened Striped Legless Lizard.

It is the opinion of South East Environmental that the long term ecological integrity as suitable habitat for threatened species is of poor quality within the proposed development footprint of the site in its current situation. The proposed permanent modification of 130ha of exotic grassland vegetation will not significantly impact upon any threatened species which could potentially occur in the local area.

Should the development be approved, approximately 130ha of poor quality habitat will be subject to permanent modification or ongoing management for APZ requirements. No suitable habitat for any threatened fauna species or populations will be directly affected should the development be approved providing recommendations within this report are adopted.

5.4 RECOMMENDATIONS

The following environmental management measures are regarded as part of the proposed:

- installation of sediment and erosion control devices prior to clearing or earthmoving works;
- retention of hollow bearing trees, particularly paddock trees;

- removal of any exotic weed species listed as a Weed of National Significance as determined by the NSW Department of Primary Industries;
- investigation of a Biodiversity Stewardship Site to enhance the biodiversity quality of remaining bushland areas within the subject property;
- installation of protective fencing around habitat trees to be retained. Fencing should be erected prior to the start of earthworks and should be removed after the earthworks and construction is complete;
- development of a stormwater management plan for use during all stages of the construction to reduce the impacts of changed water quality and quantity.

6 LIMITATIONS AND ASSUMPTIONS

This study was limited by the timing and frequency of the survey. There may be flora and/or fauna species present at the site that were not recorded due to their seasonal, territorial or cryptic nature.

It can never be proven that threatened species have not, do not or will not use the site as habitat. The conclusions drawn in this report are a result of testing, observation and experience.

This report describes the habitat and vegetation of the site at the time of the field survey. Vegetation and habitat will change over time and therefore the findings of this report are only relevant for the current proposal and for the duration of the application.

This report does not take into account the cumulative impact of other developments on this property or on adjacent land.

The impact assessment and conclusions are current with relevant legislation at the time of writing.

7 QUALIFICATIONS AND EXPERIENCE OF THE AUTHOR AND FIELD ECOLOGIST

The Author and Field Ecologist, Melissa Mass, has formal qualifications including a Bachelor of Applied Science (B. App. Sc.), majoring in Ecology, and a Certificate 3 in Horticulture. Her current Scientific Licence number issued from the NSW OEH is SL101441 with expiry date 31st Oct 2023. Furthermore an Animal Research Authority issued by the NSW Animal Care and Ethics Committee is current to undertake general survey work in all NSW local government areas with expiry 23rd Mar 2024. Melissa is an accredited Biodiversity Assessor conforming to the requirements as imposed by OEH with Accreditation number being BAAS18053.

Melissa has been working as an Ecologist for 14 years. Her work has included targeted threatened species assessment and management, reviews of environmental factors, restoration ecology, environmental impact assessments, and environmental survey and monitoring.

Melissa has a strong focus on threatened species ecology and has actively contributed to the Long-nosed Potoroo National Recovery Plan.

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9 APPENDICES

Appendix A - Flora species identified within the study area

Status	Botanical Name	Common Name	Quad 1	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6
HTE	*Acetosella vulgaris*	Sorrel	1	1	1	5	5	1
	Ajuga australis	Austral Bugle			1	0.1		
	Aristida ramosa	Purple Wire Grass				1	0.5	0.1
	Asperula conferta	Common Woodruff					0.1	
	Acaena echinata	Sheeps Burr	0.1	0.1	0.1	0.1	0.1	0.1
E	*Bromus catharticus*	Prairie Grass	1	1	1	0.1		
E	*Brmus hordeaceus*	Soft Brome	1					
E	*Centaurium erythraea*	Common Centaury	0.1	0.1	0.2	0.1	0.1	0.1
	Cheilanthes austrotenuifolia	Rock Fern	0.1					
	Chrysocephalum apiculatum	Common Everlasting		0.1	0.1	0.1	0.1	
E	*Cirsium vulgare*	Spear Thistle	1	0.1	0.1	0.1	0.1	
E	*Conyza bonariensis*	Fleabane		1		1	0.1	0.1
	Cymbonotus lawsonianus	Bears Ear	0.1		0.2	0.1	0.1	
E	*Cynodon dactylon*	Couch Grass			2			
	Dichelachhne crinita						0.1	
	Drosera peltata	Sundew			0.2	0.1		
HTE	*Echium plantagineum*	Patterson's Curse	0.1			0.1		
	Eleocharis acuta	Common Spike Rush			0.1			
HTE	*Eragrostis curvula*	African Lovegrass	95	90	5	95	95	95
	Erodium crinitum	Blue storkbill	0.1					
	Geranium antrorsum	Rosetted Cranesbill			0.1			
E	*Gnaphalium coarctatum*	Cudweed		0.2			0.1	
E	*Hirschfeldia incana*	Shortpod Mustard	0.1	0.1				0.1
E	*Holcus lanatus*	Yorkshire Fog			0.1			

E	*Hordeum murinum*	Barley Grass			70			
HTE	*Hypericum gramineum*	Small St Johns Wort		0.1	0.1	0.1	0.1	
HTE	*Hypericum perforatum*	St Johns Wort		0.2		0.1	0.1	1
E	*Hypochaeris radicata*	Flatweed	0.1	0.1	0.1	0.1	0.1	0.1
E	*Myosotis discolour*	Forget Me Not	0.1	0.1	0.1	0.1		
E	*Onopordum acanthium*	Scotch Thistle			5			
E	*Oxalis perennans*	Native Oxalis	0.1			0.1		
HTE	*Paspalum dilatatum*	Paspalum		1				
E	*Petrorhagia nanteuilii*	Proliferous Pink	0.1	0.1	0.1	0.1	0.1	
E	*Plantago lanceolata*	Plantain	1	0.2	0.1	1	0.1	
E	*Poa annua*	Summer Grass			2			
E	*Rumex obtusifolius*	Dock	0.1	0.1	1	1	0.1	0.1
	Schoenus apogon	Bog Rush			0.1		0.1	
	Solenogyne dominie	Smooth Solenogyne		0.1				
E	*Sorghum halepense*	Johnson Grass			1			
	Swainsona monticola	Notched Swainson Pea					0.1	
E	*Taraxacum officinale*	Dandelion		0.1		0.1		
	Themeda triandra	Kangaroo Grass					1	
E	*Trifolium arvense*	Haresfoot Clover	1		1	1	0.1	0.1
E	*Trifolium dubium*	Yellow Suckling Clover	1	1	0.1			0.1
E	*Trifolium repens*	White Clover			2	1		1
E	*Verbascum thaspus*	Giant Mullein	1			0.1	0.1	1
E	*Vulpia myuros*	Rats Tail Fescue	1	8	2	0.1	1	5

E – Exotic species, **HTW –** High Threat Weed, **WoNS** – Weed of National Significance

Appendix B – Fauna species identified within the study area

	Scientific Name	**Common name**	**Method of observation**
BIRDS			
	Cracticus tibicen	Australian Magpie	On site observation
	Dacelo novaeguineae	Laughing Kookaburra	On site observation
	Malurus cyaneus	Superb Fairy Wren	On site observation
	Platycercus elegans	Crimson Rosella	On site observation
	Rhipidura leucophrys	Willie Wagtail	On site observation
	Strepera graculina	Pied Currawong	On site observation
MAMMALS			
	Bos taurus	Cattle	On site observation
	Macropus giganteus	Eastern Grey Kangaroo	On site observation
	Ovis aries	Domestic Sheep	On site observation
	Trichosurus vulpecula	Brush-tailed Possum	Scat
REPTILES			
	Chelodina longicollis	Eastern Long-necked Turtle	On site observation
	Delma impar	Striped Legless Lizard	On site observation
	Lampropholis guichenoti	Grass Skink	On site observation
	Pseudechis porphyriacus	Red-bellied Black Snake	On site observation
AMPHIBIANS			
	Crinia signifera	Common Eastern Froglet	Heard onsite

Appendix C – Threatened species historically identified within 10km of the study area (BioNet)

FLORA

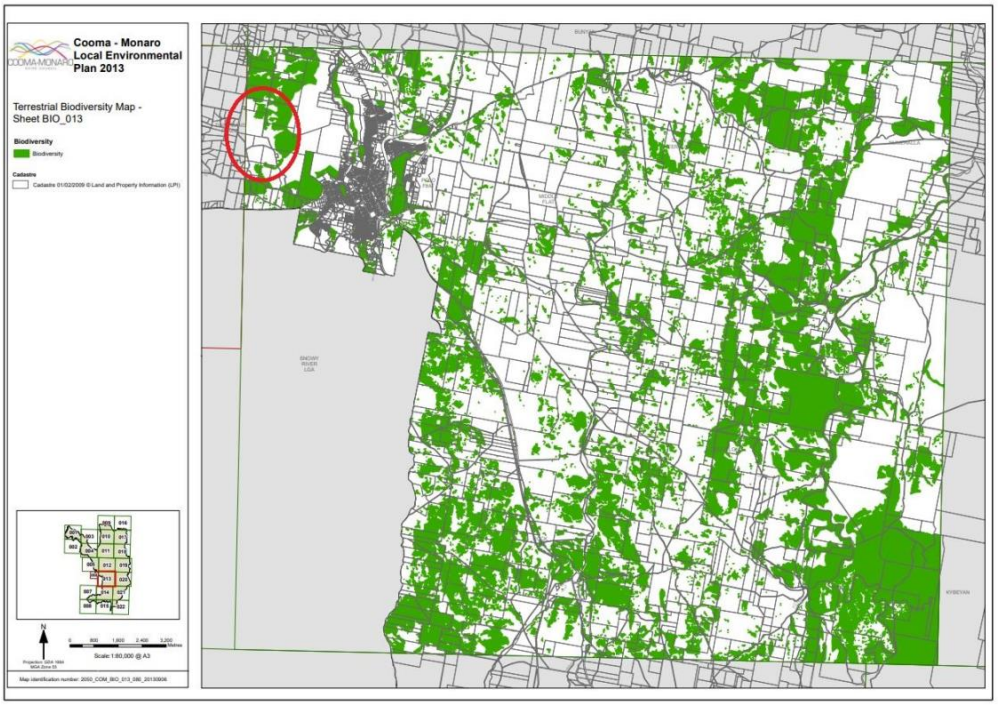
Botanical Name	Common Name	Conservation Status
Calotis glandulosa	Mauve Burr-daisy	BC – Vulnerable EPBC – Vulnerable
Dodonaea procumbens	Creeping Hop Bush	BC – Vulnerable EPBC – Vulnerable
Eucalyptus aggregata	Black Gum	BC – Vulnerable EPBC – Vulnerable
Lepidium hyssopifolium	Aromatic Peppercress	BC – Endangered EPBC - Endangered
Leucochrysum albicans var. tricolor	Hoary Sunray	EPBC - Endangered
Rutidosis leiolepis	Monaro Golden Daisy	BC – Vulnerable EPBC – Vulnerable
Swainsona sericea	Silky Swainson-pea	BC – Vulnerable
Wilsonia backhousei	Narrow Lead WIlsonia	BC – Vulnerable
Zieria formosa	Shapely Zieria	BC – Critically Endangered EPBC - Endangered

FAUNA

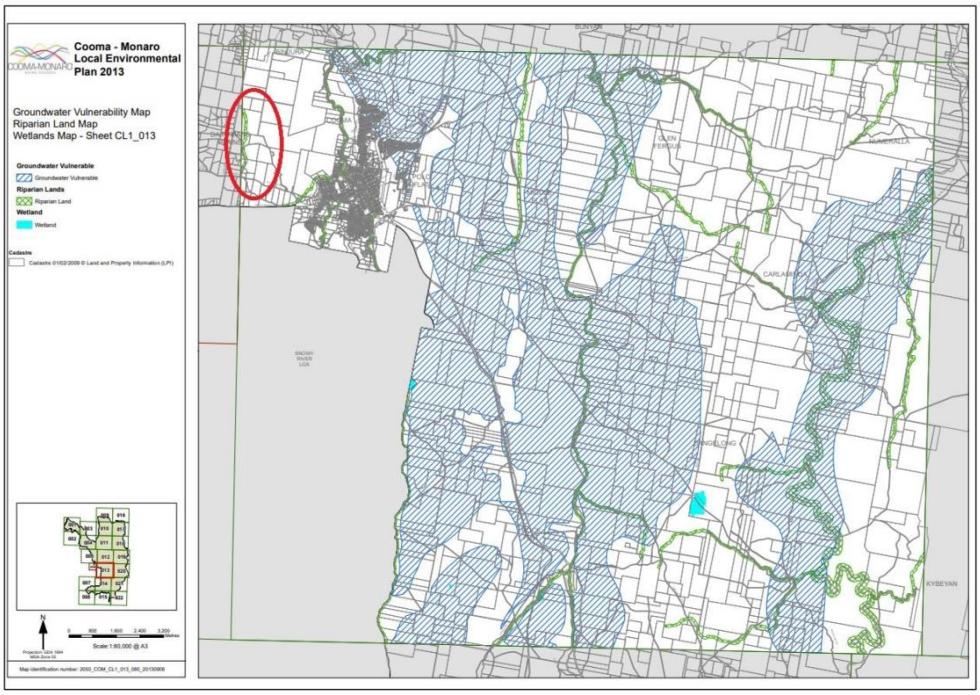
Common name	Scientific name	Conservation status
BIRDS		
Diamond Firetail	*Stagonopleura guttata*	BC - Vulnerable
Dusky woodswallow	*Artamus cyanopterus*	BC - Vulnerable
Gang-gang Cockatoo	*Callocephalon fimbriatum*	BC – Vulnerable
Hooded Robin	*Melanodryas cucullata cucullata*	BC – Vulnerable
Scarlet Robin	*Petroica boodang*	BC – Vulnerable
Speckled Warbler	*Chthonicola sagittata*	BC - Vulnerable
White-bellied Sea-Eagle	*Haliaeetus leucogaster*	BC - Vulnerable
MAMMALS		
Grey-headed Flying-fox	*Pteropus poliocephalus*	BC – Vulnerable EPBC - Vulnerable
Koala	*Phascolarctos cinereus*	EPBC – Vulnerable BC – Vulnerable
AMPHIBIANS		
Alpine Tree Frog	*Litoria verreauxii alpina*	BC – Endangered EPBC - Vulnerable
Green and Golden Bell Frog	*Litoria aurea*	BC – Endangered EPBC - Vulnerable
REPTILES		
Monaro Grassland Earless Dragon	*Tympanocryptis osbornei*	BC – Endangered
Pink-tailed Legless Lizard	*Aprasia parapulchella*	BC – Vulnerable EPBC – Vulnerable
Rosenberg's Goanna	*Varanus rosenbergi*	BC – Vulnerable

Appendix D – Cooma-Monaro LEP Map Sheets

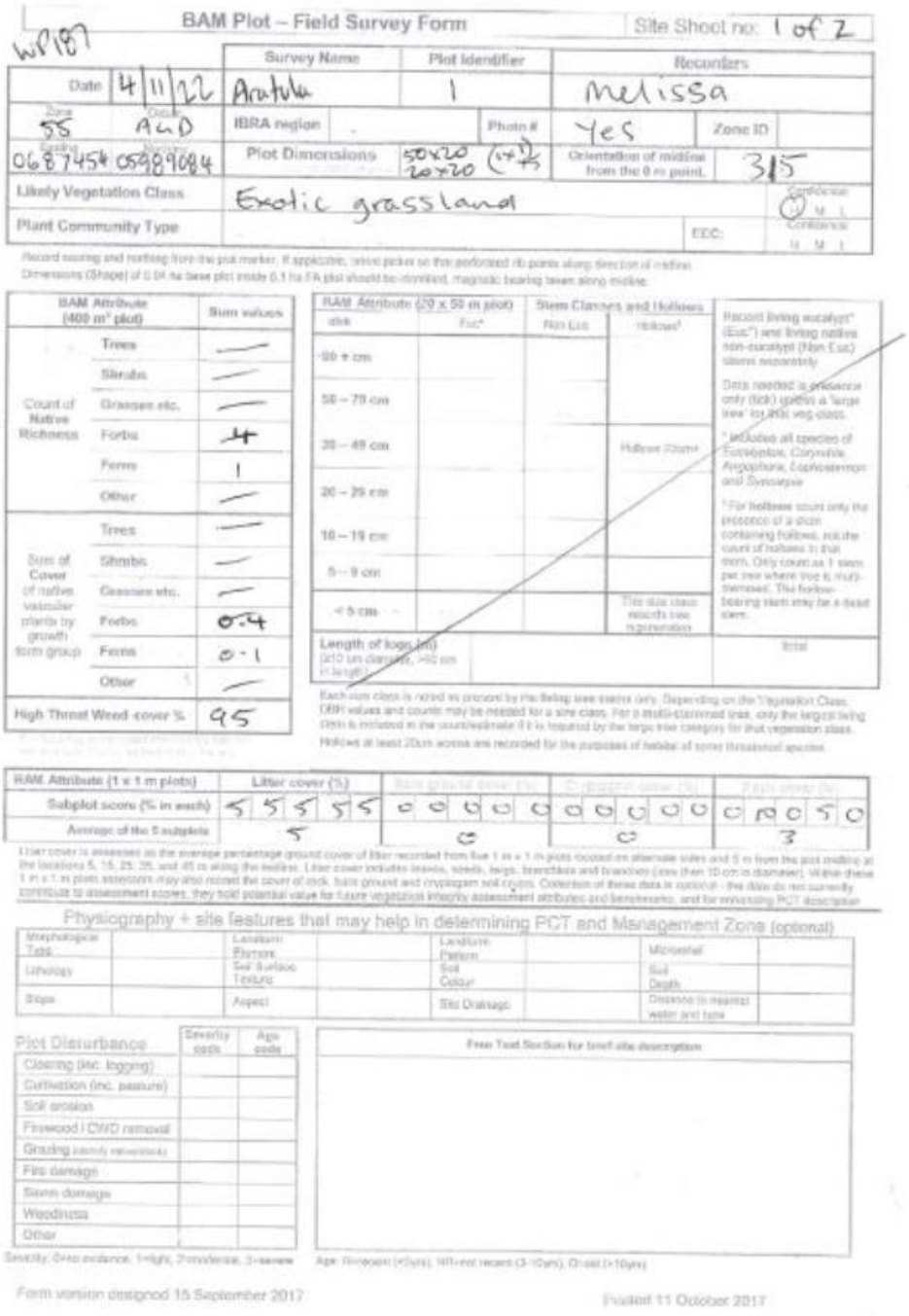
.Terrestrial Biodiversity



Riparian



Appendix E – Field data sheets



BAM Plot – Field Survey Form

Site Sheet no: 1 of 2

WP187

Survey Name	Plot Identifier	Recorders
Aratula	1	Melissa

Date: 4/11/22	IBRA region:	Photo #: Yes	Zone ID:
Zone: 55 Datum: AGD	Plot Dimensions: 50x20 20x20 (x4)	Orientation of midline from the 0 m point: 315	
Easting: 0687454 Northing: 6989084			
Likely Vegetation Class: Exotic grassland			Confidence: H M L
Plant Community Type:		EEC:	Confidence: H M L

Record existing and nothing from the plot marker. If applicable, select pickes on the perforated rib points along direction of midline.
Dimensions (Shape) of 0.04 ha base plot inside 0.1 ha FA plot should be monitored. Magnetic bearing taken along midline.

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	—
	Forbs	4
	Ferns	1
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	—
	Forbs	0.4
	Ferns	0.1
	Other	—
High Threat Weed cover %		95

RAM Attribute (20 x 50 m plot) dbh	Euc*	Stem Classes and Hollows: Non Euc	Hollows†
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollow Zone
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm	-	-	Tiny size class records tree regeneration
Length of logs (m) (≥10 cm diameter, ≥50 cm in length)			Total

Record living eucalypt* (Euc*) and living native non-eucalypt (Non Euc) stems separately.
Data needed is presence only (tick) unless a 'large tree' for MNC veg class.
* Includes all species of Eucalyptus, Corymbia, Angophora, Lophostemon and Syncarpia
† For hollows score only the presence of a stem containing hollows, not the count of hollows in that stem. Only count as 1 stem per tree where tree is multi-stemmed. The hollow-bearing stem may be a dead stem.
Each size class is noted as present by the Belong tree metric only. Depending on the Vegetation Class, DBH values and counts may be needed for a site class. For a multi-stemmed tree, only the largest living stem is included in the count/estimate if it is required by the large tree category for that vegetation class.
Hollows at least 20cm across are recorded for the purposes of habitat of some threatened species.

RAM Attribute (1 x 1 m plots)	Litter cover (%)	Bare ground cover (%)	Cryptogam cover (%)	Rock cover (%)
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	0 0 0 5 0
Average of the 5 subplots	5	0	0	1

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots located on alternate sides and 5 m from the plot midline at the locations 5, 15, 25, 35, and 45 m along the midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Within these 1 m x 1 m plots assessors may also record the cover of rock, bare ground and cryptogam soil crusts. Collection of these data is optional - the data do not currently contribute to assessment scores, they hold potential value for future vegetation integrity assessment attributes and benchmarks, and for reviewing PCT descriptions.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Landform Pattern		Microrelief	
Lithology		Soil Surface Texture		Soil Colour	Soil Depth
Slope		Aspect		Site Drainage	Distance to nearest water and type

Plot Disturbance	Severity code	Age code
Clearing (inc. logging)		
Cultivation (inc. pasture)		
Soil erosion		
Firewood / CWD removal		
Grazing (identify native/exotic)		
Fire damage		
Storm damage		
Weediness		
Other		

Severity: 0=no evidence, 1=slight, 2=moderate, 3=severe

Free Text Section for brief site description

Age: R=recent (<5yrs), M=mid recent (5-10yrs), O=old (>10yrs)

Form version designed 15 September 2017

Posted 11 October 2017

400 m² plot: Sheet 2 of 2

Date	Survey Name	Plot identifier	Recorders
4/11/22	Aratula	1	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers	N, E or HTE	Cover	Abund	Stem #	Height
	Eragrostis curvula - African Love Grass	HTE	95	500+		
	Acetosella vulgaris - Sheep sorrel		1			
	Trifolium arvense - Hare foot Clover		1			
	Plantago lanceolata - Plantain		1			
	Petrorhagia nanteuilii - Pink Proliferous		0.1			
	Hypochaeris radicata - False Dandelion		0.1			
	Rumex obtusifolius - Dock		0.1			
	Hirschfeldia incana - Mustard weed		0.1			
	Echium plantagineum - Patersons Curse		0.1			
	Verbascum thapsus - Giant Mullein		1			
	Cirsium vulgare - Spear thistle		1			
	Trifolium dubium - Yellow suckling Clover		1			
	Cymbonotus lawsonianus - Bears Ears	N	0.1			
	Cheilanthes sieberi - Rock Fern	N	0.1			
	Centaurium erythraea - Century		0.1			
	Vulpia myuros - Rats tail fescue		1			
	Bromus hordeaceus - Soft Brome		1			
	Acaena echinata - Sheeps Burr	N	0.1			
	Bromus carthaticus - Prairie Grass		1			
	Erodium crinitum - Blue Storksbill	N	0.1			
	Myosotis discolor - Forget Me Not		0.1			
	Oxalis perennans - Native Oxalis	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. N: native, E: exotic, HTE: high threat exotic.
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover). *Note:* 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 10% = 10 x 10 m
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000, ...

Print more copies of this sheet to allow for higher species counts in a plot. All species in a plot need to be recorded.
Form version designed 19 September 2017 Printed 11 October 2017

BAM Plot – Field Survey Form Site Sheet no: 1 of 2

WP188

Date	4/11/22	Survey Name: Aratula	Plot Identifier: 2	Recorders: Melissa			
Zone: 55	Datum: AGD	IBRA region		Photo #	Yes	Zone ID	
Easting: 0687818	Northing: 05999148	Plot Dimensions ~~50x20~~ 20x20 (1x1)x5		Orientation of midline from the 0 m point.	70		
Likely Vegetation Class	Exotic grass lands					Confidence: (H) M L	
Plant Community Type				EEC:		Confidence: H M L	

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	—
	Forbs	2
	Ferns	—
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	—
	Forbs	0.2
	Ferns	—
	Other	—
High Threat Weed cover %		

BAM Attribute (20 x 50 m plot) Stem Classes and Hollows dbh	Euc*	Non Euc	Hollows†
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of logs (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)			
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	10 0 0 0 0
Average of the 5 subplots	5	0	0	2

Free Text Section for brief site description

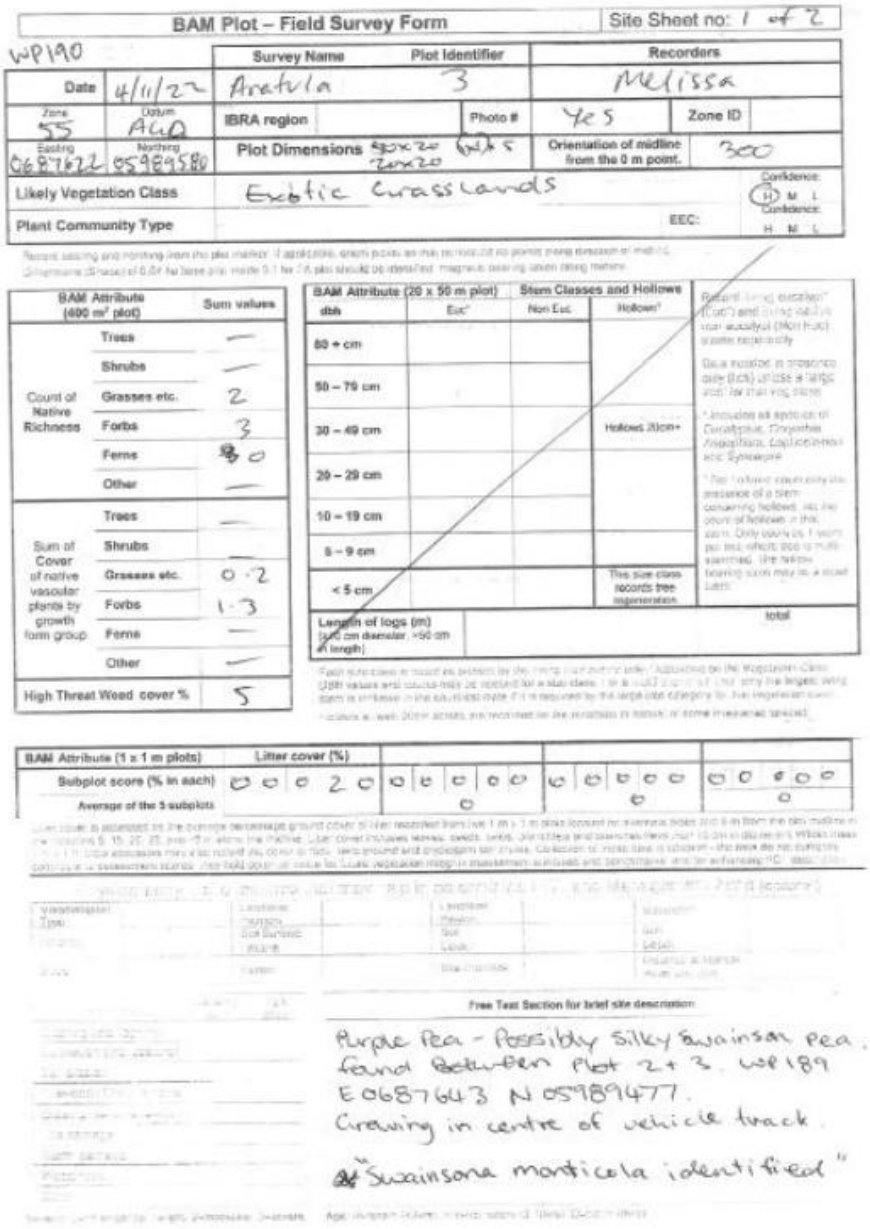
400 m² plot: Sheet 2 of 2

Survey Name	Plot Identifier	Recorders
Date 4/11/22	Brentwood 2	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata ex	vouch er
	Eragrostis curvula - African Love Grass		90			
	Vulpia myuros - Rats tail Fescue		8			
	Paspalum dilatatum - Paspalum		1			
	Trifolium dubium - Yellow suckling clover		1			
	Hirschfeldia incana - mustard weed		0.1			
	Plantago lanceolata - ~~Fleabane~~ Plantain		0.2			
	Conyza bonariensis - Fleabane		1			
	Acetosella vulgaris - Sheeps sorrel		1			
	Gamphalium coarctatum - cudweed		0.2			
	Hypericum perforatum - st johns wart		0.2			
	Cirsium vulgare - Spear thistle		0.1			
	Taraxacum officinale - Dandelion		0.1			
	Centaurium erythraea - Century		0.1			
	Rumex obtusifolius - Dock		0.1			
	Petrorhagia nanteuilii - Poliferous Pink		0.1			
	Acaena echinata - Sheeps Burr	N	0.1			
	Chrysocephalum apiculatum - Common Everlast		0.1			
	Hypericum gramineum - Small St Johns Wort		0.1			
	Bromus cartharticus - Prairie Grass		1			
	Hypochaeris radicata - Flatweed		0.1			
	Myosotis discolor - Forget me Not		0.1			
	Solenogyne dominii - Smooth solenogyne	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. **N:** native, **E:** exotic, **HTE:** high threat exotic.
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); *Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m*
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000.

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.



BAM Plot – Field Survey Form — Site Sheet no: 1 of 2

WP190

Survey Name	Plot Identifier	Recorders
Aratula	3	Melissa

Date	Zone	Datum	IBRA region	Photo #	Zone ID
4/11/22	55	AGD		Yes	

Easting	Northing	Plot Dimensions	Orientation of midline from the 0 m point.
0687622	6989580	20x20 10x10 5x5	360

Likely Vegetation Class: Exotic Grasslands — Confidence: H M L

Plant Community Type: — EEC: — Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	2
	Forbs	3
	Ferns	0
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	0.2
	Forbs	1.3
	Ferns	—
	Other	—
High Threat Weed cover %		5

BAM Attribute (20 x 50 m plot) dbh	Stem Classes and Hollows: Euc*	Non Euc	Hollows†
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 30cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of logs (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)																			
Subplot score (% in each)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots					0								0						0	

Free Text Section for brief site description

Purple Pea - Possibly Silky Swainsan Pea. found Between Plot 2 + 3. WP189
E0687643 N05989477.
Growing in centre of vehicle track.
"Swainsona monticola identified"

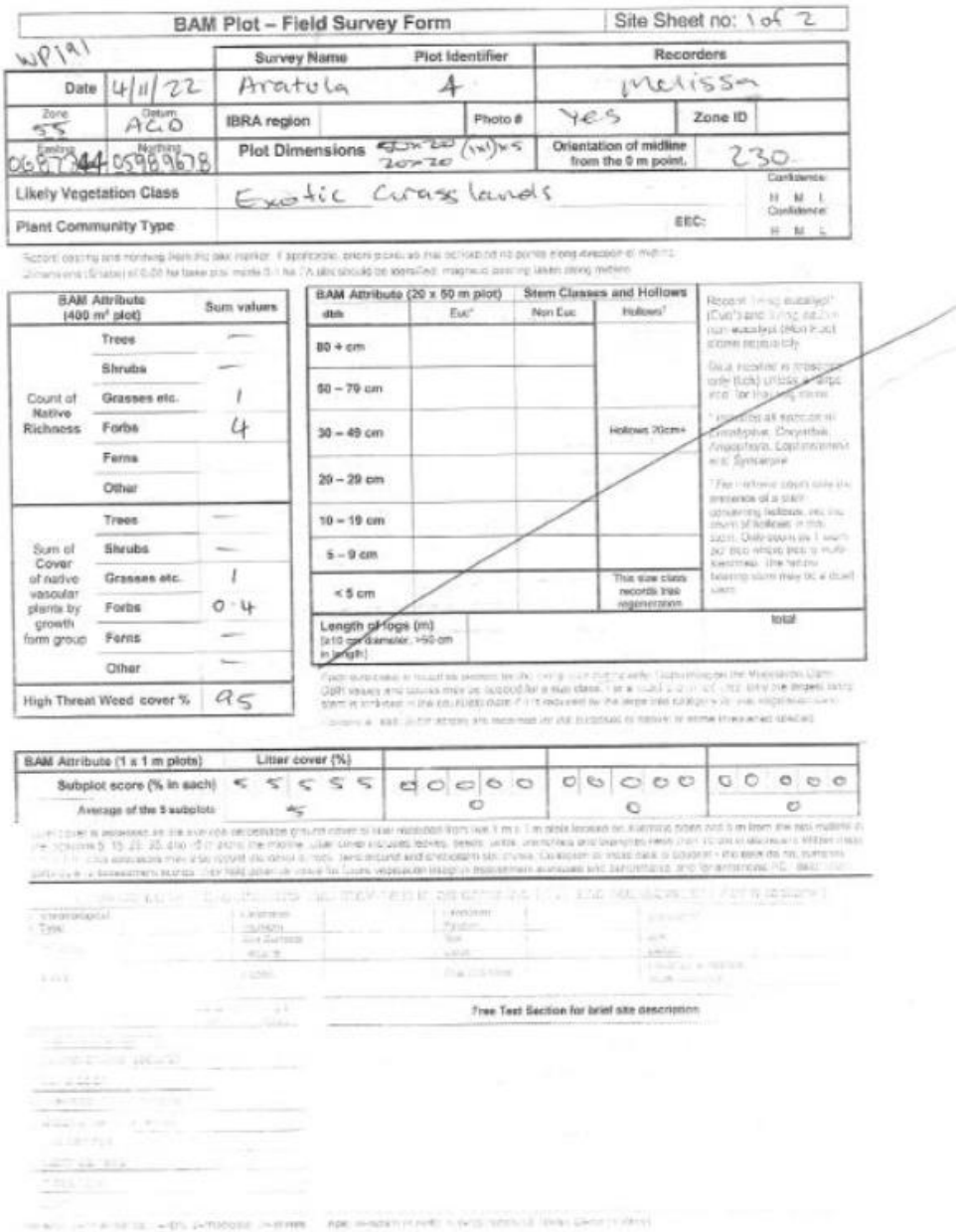
400 m² plot: Sheet 2 of 2

Date	Survey Name	Plot Identifier	Recorders
4/11/22	Arcotula	3	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata m	reach #
	Hordeum murinum - Barley Grass		70			
	Trifolium repens - White Clover		20			
	Rumex obtusifolia - Dock		1			
	Ajuga australis - Austral Bugle	N	1			
	Vulpia myuros - Rats tail fescue		2			
	Poa annua - Summer Grass		2			
	Onopordum acanthium - Scotch Thistle		5			
	Acetosella vulgaris - Sheep sorrel		1			
	Petrorhagia nanteuilii - Poliforious Pink		0.1			
	Acaena echinata - Sheeps Burr	N	0.1			
	Centaurium erythraea - Centuraury		0.2			
	Cymbonotus lawsonianus - Bears ear		0.2			
	Schoenus apogon - Bog rush	N	0.1			
	Chrysocephalum apiculatum - Common everlast		0.1			
	Cynodon dactylon - Couch		2			
	Trifolium arbense - Hares foot Clover		1			
	Plantago lanceolata - Plaintain		0.1			
	Cirsium vulgare - Speer thistle		0.1			
	Hypericum gramineum - Small St Johns wort		0.1			
	Hypochaeris radicata - Flatweed		0.1			
	Bromus carbatricus - Prairie Grass		1			
	Geranium antrorsum - Rosetted Cranesbill		0.1			
	Myosotis discolor - Forget Me Not		0.1			
	Sorghum halepense - Johnson Grass		1			
	Trifolium dubium - Yellow Suckling Clover		0.1			
	Holcus lanatus - Yorkshire Fog		0.1			
	Eleocharis acuta - Common Spike rush	N	0.1			
	Drosera peltata - Sundew	N	0.2			
HTE	Eragrostis curvula - African love Grass		5			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. N: native, E: exotic, HTE: high threat exotic.
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover). *Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m*
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000.

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.



BAM Plot – Field Survey Form — Site Sheet no: 1 of 2

WP191

Survey Name	Plot Identifier	Recorders
Aratula	4	Melissa

Date: 4/11/22		IBRA region:	Photo #: Yes	Zone ID:	
Zone: 55	Datum: AGD	Plot Dimensions: 20×20 20×20 (1x1)×5		Orientation of midline from the 0 m point:	230
Easting: 0687344	Northing: 6598678				
Likely Vegetation Class: Exotic Grasslands					Confidence: H M L
Plant Community Type:				EEC:	Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	1
	Forbs	4
	Ferns	
	Other	
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	1
	Forbs	0·4
	Ferns	—
	Other	—
High Threat Weed cover %		95

BAM Attribute (20 x 50 m plot) dbh	Stem Classes and Hollows: Exotic	Non Exotic	Hollows[1]
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 30cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			Tick size class records tree regeneration
Length of logs (m) [≥10 cm diameter, >50 cm in length]			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)			
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Average of the 5 subplots	5	0	0	0

Tree Test Section for brief site description

400 m² plot: Sheet 2 of 2

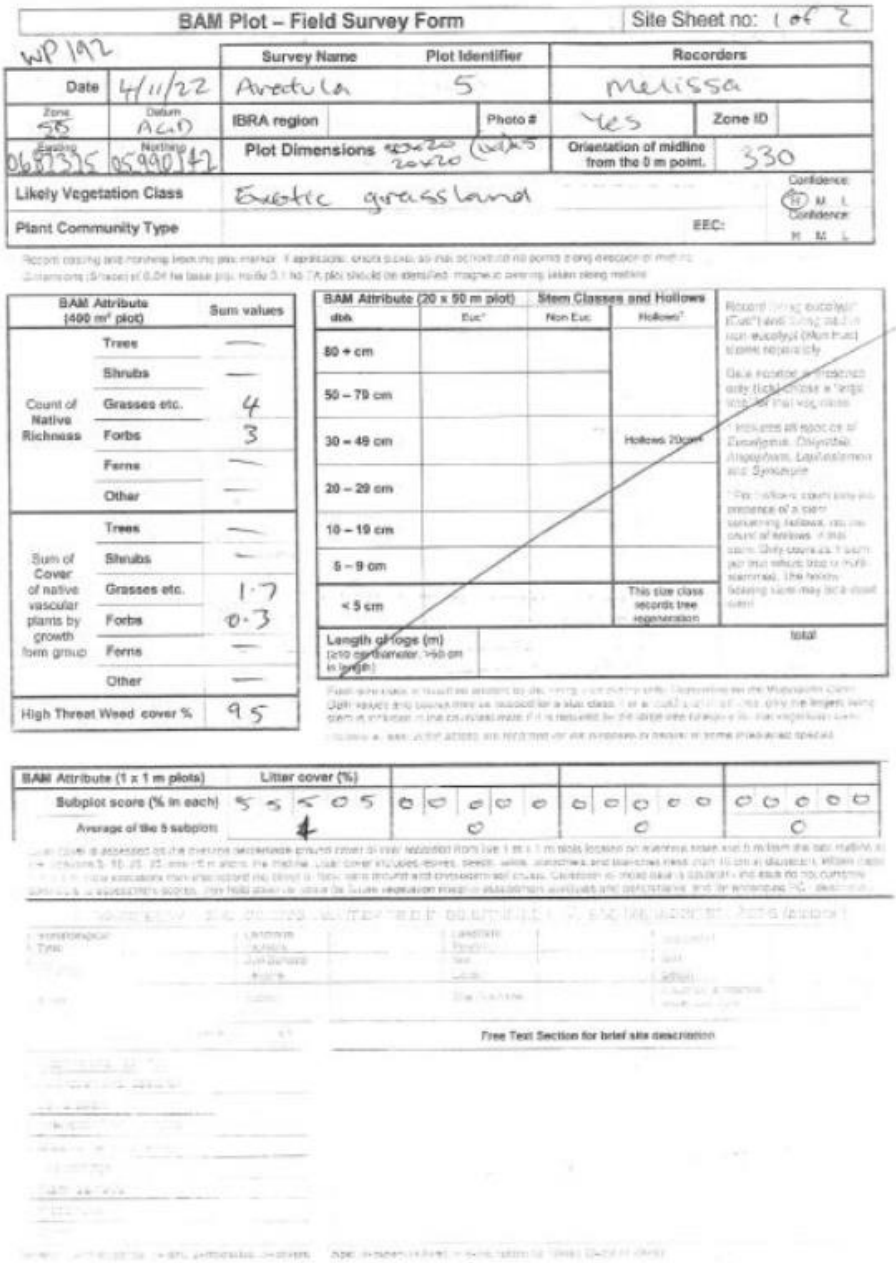
Survey Name	Plot Identifier	Recorders
Arafura	4	Melissa

Date: 4/11/2022

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata as	notch as
	Eragrostis curvula - African Lovegrass	HTE	95			
	Acetosella vulgaris - sheep sorrel		5			
	Conyza bonariensis - Flea bane		1			
	Plantago lanceolata - Plaintain		1			
	Rumex obtusifolia - Dock		1			
	Trifolium arvense - Hare foot clover		1			
	Cynbonotus lawsonianus - bears ear	N	0.1			
	Ajuga australis - Austral Bugle	N	0.1			
	Centaurium erythraea - Centuary		0.1			
	Petrorhagia nanteuilii - Poliferous Pink		0.1			
	Trifolium repens - White Clover		1			
	Acaena echinata - Sheeps Burr	N	0.1			
	Verbascum thapsus - Giant Mullein		0.1			
	Hypochaeris radicata - Flatweed?		0.1			
	Hypericum gramineum - Small St Johns Wort		0.1			
	Taraxacum officinale - Dandelion		0.1			
	Chrysocephalum apiculatum - Common everlast		0.1			
	Cirsium vulgare - Spear thistle		0.1			
	Hypericum perforatum - St Johns Wort		0.1			
	Vulpia myuros - Ratstail fescue		10			
	Bromus catharticus - Prairie Grass		0.1			
	Echium plantagineum - Pattersons Curse		0.1			
	Myosotis discolor - Forget Me Not		0.1			
	Drosera peltata - Sundew		0.1			
	Oxalis perennans - Native oxalis	N	0.1			
	Aristida ramosa - Purple wiregrass	N	1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. **N:** native, **E:** exotic, **HTE:** high threat exotic
Cover: 0.1, 0.2, 0.3 ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); **Note:** 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.



BAM Plot – Field Survey Form Site Sheet no: 1 of 2

WP 192

Survey Name	Plot Identifier	Recorders
Aretula	5	Melissa

Date	Zone	Datum	IBRA region	Photo #	Zone ID
4/11/22	55	AGD		Yes	

Easting 0687335 Northing 6599017

Plot Dimensions 20x20 (20x50) Orientation of midline from the 0 m point. 330

Likely Vegetation Class: Exotic grassland Confidence: H M L

Plant Community Type: EEC: Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	4
	Forbs	3
	Ferns	—
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	1·7
	Forbs	0·3
	Ferns	—
	Other	—
High Threat Weed cover %		95

BAM Attribute (20 x 50 m plot) dbh	Stem Classes and Hollows Euc*	Non Euc	Hollows*
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of loge (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)				
Subplot score (% in each)	5 5 5 0 5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	
Average of the 5 subplots	4	0	0	0	

Free Text Section for brief site description

400 m² plot: Sheet 2 of 2

Survey Name	Plot Identifier	Recorders
Date 4/11/2022	Aretula 5	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata ex	vouch er
	Eragrostis curvula – African love Grass		95			
	Acetosella vulgaris – Sheep sorrel		5			
	Vulpia myuros – Rats tail fescue		1			
	Hypericum perforatum – St Johns Wort		0.1			
	Centaurium erythraea – Centuary		0.1			
	Rumex obtusifolius – Dock		0.1			
	Conyza bonariensis – Fleabane		0.1			
	Hypochaeris radicata – Flatweed		0.1			
	Acaena echinata – Sheepos Burr	N	0.1			
	Trifolium arvense – Hares foot clover		0.1			
	Petrorhagia nanteuilii – Proliferous Pink		0.1			
	Cymbonotus lawsonianus – Bears ear	N	0.1			
	Cirsium vulgare – Spear thistle		0.1			
	Hypericum gramineum – Smallest Johnswort		0.1			
	Gnaphalium coarctatum – Cudweed		0.1			
	Chrysocephalum apiculatum – common everlast		0.1			
	Thenneda australis – Kangeroo Grass	N	1			
	Swainsona monticola – Purple Pea		0.1			
	Plantago lanceolata – Plaintain		0.1			
	Verbascum thapsus – Giant mullein		0.1			
	Aristida ramosa – Purple wire Grass	N	0.5			
	Schoenus apogon – Dog rush	N	0.1			
	Dichelachne crinita – Long hair Plume Grass	N	0.1			
	Asperula conferta – Common woodruff	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. **N:** native, **E:** exotic, **HTE:** high threat exotic.
Cover: 0.1, 0.2, 0.3 ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover). **Note:** *0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m*
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000.

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.

BAM Plot – Field Survey Form

Site Sheet no: 1 of 2

WP 193

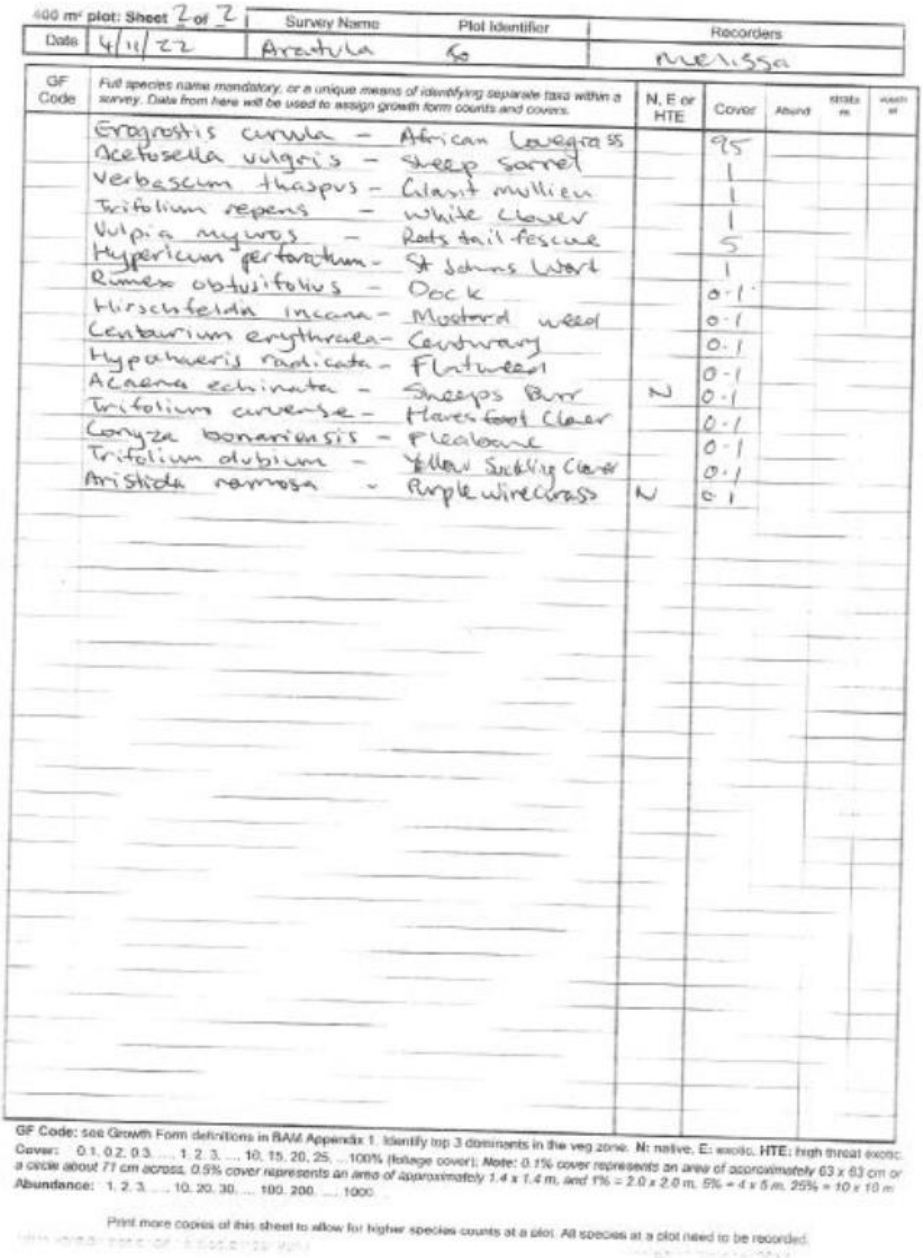
		Survey Name	Plot Identifier	Recorders	
Date	4/11/22	Aratula	6	Melissa	
Zone 55	Datum AGD	IBRA region	Photo #	Yes.	Zone ID
Easting 0687162	Northing 05990642	Plot Dimensions	50×20 (w)×5 20×20	Orientation of midline from the 0 m point.	220
Likely Vegetation Class		Exotic Grasslands.			Confidence: (H) M L
Plant Community Type				EEC:	Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	1
	Forbs	1
	Ferns	—
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	0.1
	Forbs	0.1
	Ferns	—
	Other	—
High Threat Weed cover %		95

BAM Attribute (20 x 50 m plot) dbh	Euc*	Non Euc	Hollows†
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of logs (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)			
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Average of the 5 subplots	5	0	0	0

Free Text Section for brief site description



400 m² plot: Sheet 2 of 2

Survey Name	Plot Identifier	Recorders
Date: 4/11/22	Arentula 50	RVE1.55a

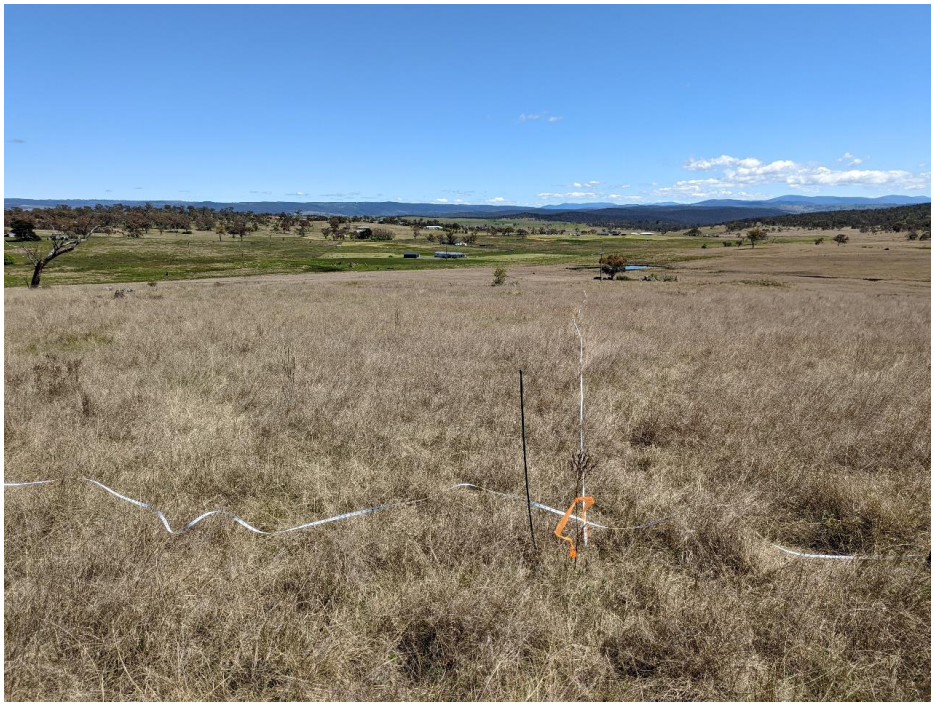
GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata m	width m
	Eragrostis curvula – African Lovegrass		95			
	Acetosella vulgaris – Sheep sorrel		1			
	Verbascum thapsus – Clasit mullien		1			
	Trifolium repens – White Clover		1			
	Vulpia myuros – Rats tail fescue		5			
	Hypericum perforatum – St Johns Wort		1			
	Rumex obtusifolius – Dock		0.1			
	Hirschfeldia incana – Mustard weed		0.1			
	Centaurium erythraea – Centuary		0.1			
	Hypaharris radicata – Flatweed		0.1			
	Acaena echinata – Sheeps Burr	N	0.1			
	Trifolium cuvense – Haresfoot Clover		0.1			
	Conyza bonariensis – Fleabane		0.1			
	Trifolium dubium – Yellow Suckling Clover		0.1			
	Aristida ramosa – Purple wirecross	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. **N:** native, **E:** exotic, **HTE:** high threat exotic
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); *Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m*
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.

Appendix F – Site photos

Start of Quad 1



Start of Quad 2

Start of Quad 3

Start of Quad 4

Start of Quad 5

Start of Quad 6

END
OF
REPORT

PROPOSED MULTIPLE STAGE LARGE LOT RESIDENTIAL SUBDIVISION,
TOWRANG VALE ROAD, DAIRYMANS PLAINS, NSW

ABORIGINAL DUE DILIGENCE ASSESSMENT

Report to Vision Town Planning Consultants Pty Ltd
on behalf of Cavallo Projects Pty Ltd

January 2023

APEX ARCHAEOLOGY

PO Box 236, Nowra, NSW 2541 | heritage@apexarchaeology.com.au | www.apexarchaeology.com.au
ABN 56 625 618 993

EXECUTIVE SUMMARY

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of Cavello Projects Pty Ltd in the assessment of a number of lots, located in Dairymans Plains, approximately 3km north west of Cooma, NSW. This assessment has been prepared in advance of the proposed Development Application (DA) for the project.

In order to assess the Aboriginal archaeological values of the study area, Apex Archaeology has been engaged to undertake a Due Diligence assessment of the archaeological values of the study area. This report has been produced in accordance with the DECCW 2010 *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (the Due Diligence Code of Practice).

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). It comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lots as Stage 2 of the development.

A site visit was conducted on Sunday 27 September 2020. No newly identified archaeological material was identified during the survey. Ground surface visibility (GSV) was moderate throughout the study area. GSV was rated at 30% overall.

Ground disturbance was low to moderate throughout the study area. Evidence of historical clearing of vegetation for agricultural use was evident along the flat and lower slopes to the east of Snake Creek with remnant bushland on the upper slopes. No areas of potential Aboriginal archaeological deposit were identified.

It is recommended that:

- No further Aboriginal archaeological assessment is required prior to the commencement of upgrade works as described in this report.
- This due diligence assessment must be kept by Cavello Projects Pty Ltd so that it can be presented, if needed, as a defence from prosecution under Section 86(2) of the *National Parks and Wildlife Act* 1974.
- The results of this assessment fulfil the requirement for Due Diligence in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Code of Practice). Works may proceed with caution.
- The proposed works must be contained to the area assessed during this due diligence assessment, as shown on Figure 1. If the proposed location is amended, further archaeological assessment may be necessary to determine if the proposed works will impact any Aboriginal objects or archaeological deposits.
- Should unanticipated archaeological material be encountered during site works, all work must cease and an archaeologist contacted to make an assessment of the find. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.

Apex Archaeology would like to acknowledge the Aboriginal people who are the traditional custodians of the land in which this project is located. Apex Archaeology would also like to pay respect to Elders both past and present.

DOCUMENT CONTROL

The following register documents the development and issue of the document entitled 'Proposed Multiple Stage Large Lot Residential Subdivision, Towrang Vale Road, Dairymans Plains, NSW – Aboriginal Due Diligence Assessment', prepared by Apex Archaeology in accordance with its quality management system.

Revision	Prepared by	Reviewed by	Comment	Issue Date
1 – Draft	Leigh Bate	Jenni Bate	Issue for client review	1 October 2020
2 - Final	Leigh Bate	Patrick Fitzsimmons	Final	13 October 2020
3 - Final	Leigh Bate	Patrick Fitzsimmons	Final – with minor updates	20 January 2023

GLOSSARY OF TERMS

Aboriginal Object	An object relating to the Aboriginal habitation of NSW (as defined in the NPW Act), which may comprise a deposit, object or material evidence, including Aboriginal human remains.
AHIMS	Aboriginal Heritage Information Management System maintained by Heritage NSW, detailing known and registered Aboriginal archaeological sites within NSW
AHIP	Aboriginal Heritage Impact Permit
ATER	Aboriginal Test Excavation Report
BP	Before Present, defined as before 1 January 1950.
Code of Practice	The DECCW September 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*
Consultation	Aboriginal community consultation in accordance with the DECCW April 2010 *Aboriginal cultural heritage consultation requirements for proponents 2010.* Consultation is not a required step in a due diligence assessment; however, it is strongly encouraged to consult with the relevant Local Aboriginal Land Council and to determine if there are any Aboriginal owners, registered native title claimants or holders, or any registered Indigenous Land Use Agreements in place for the subject land
DA	Development Application
DECCW	The Department of Environment, Climate Change and Water – now Heritage NSW
Disturbed Land	If land has been subject to previous human activity which has changed the land's surface and are clear and observable, then that land is considered to be disturbed
Due Diligence	Taking reasonable and practical steps to determine the potential for an activity to harm Aboriginal objects under the *National Parks and Wildlife Act 1974* and whether an application for an AHIP is required prior to commencement of any site works, and determining the steps to be taken to avoid harm
Due Diligence Code of Practice	The DECCW Sept 2010 *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*
DPIE	Department of Planning, Industry and Environment (formerly OEH)
GIS	Geographical Information Systems
GSV	Ground Surface Visibility
Harm	To destroy, deface or damage an Aboriginal object; to move an object from land on which it is situated, or to cause or permit an object to be harmed
Heritage NSW	Heritage NSW in the Department of Premier and Cabinet, incorporating the former DPIE/OEH and Heritage Branch
LALC	Local Aboriginal Land Council
LGA	Local Government Agency
NPW Act	NSW *National Parks and Wildlife Act* 1974
OEH	The Office of Environment and Heritage of the NSW Department of Premier and Cabinet – now Heritage NSW
RAPs	Registered Aboriginal Parties
SMRC	Snowy Monaro Regional Council

CONTENTS

FIGURES

PLATES

1.0 Introduction

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of Cavello Projects Pty Ltd in the assessment of a number of lots located in Dairymans Plains, approximately 3km north west of Cooma, NSW (Figure 1). This assessment has been prepared in advance of the proposed works to identify any potential Aboriginal heritage constraints.

In order to assess the Aboriginal archaeological values of the study area, Apex Archaeology has been engaged to undertake a Due Diligence assessment of the archaeological values of the study area. This report has been produced in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (the Due Diligence Code of Practice).

1.1 Study Area

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). The study area comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lot residential allotments as part of the subdivision works as Stage 2 of the development.

1.2 Investigators and Contributors

This report has been prepared by Leigh Bate, Director and Archaeologist with Apex Archaeology, and reviewed by Jenni Bate, Director and Archaeologist with Apex Archaeology. Both have over 16 years of consulting experience within NSW.

Name	Role	Qualifications
Leigh Bate	Project Manager, Primary Report Author, GIS, Field inspection	B.Archaeology; Grad. Dip. Arch; Dip. GIS
Jenni Bate	Review	B.Archaeology; Grad. Dip. CHM

1.3 Statutory Context

Heritage in Australia, including both Aboriginal and non-Aboriginal heritage, is protected and managed under several different Acts. The following section presents a summary of relevant Acts which provide protection to cultural heritage within NSW.

1.3.1 Commonwealth Native Title Act 1993

The *Native Title Act 1993*, as amended, provides protection and recognition for native title. Native title recognises the traditional rights of Aboriginal and Torres Strait Islanders to land and waters.

The National Native Title Tribunal (NNTT) was established to mediate native title claims made under this Act. Three registers are maintained by the NNTT, as follows:

- National Native Title Register
- Register of Native Title Claims
- Register of Indigenous Land Use Agreements.

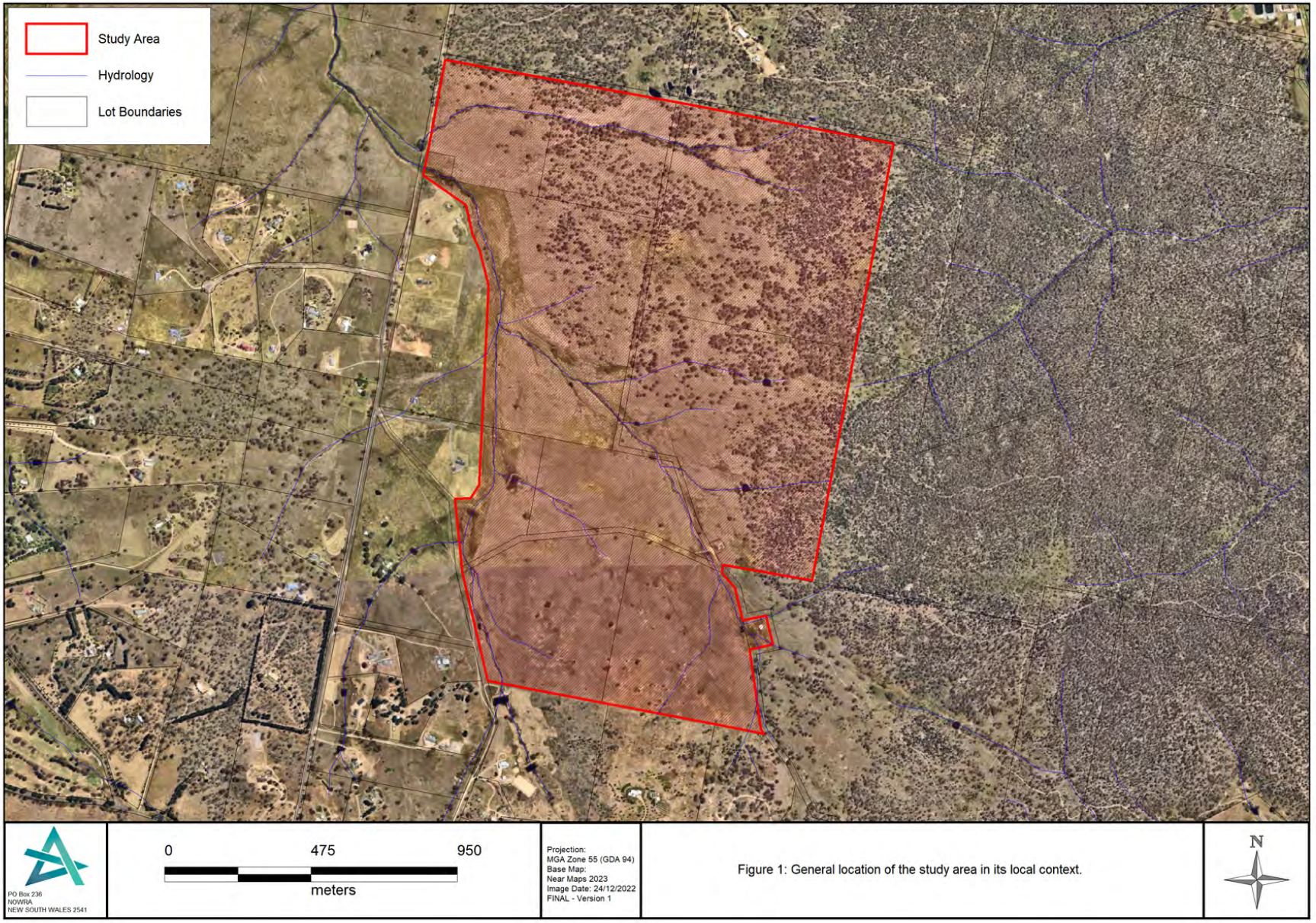


Figure 1: General location of the study area in its local context.

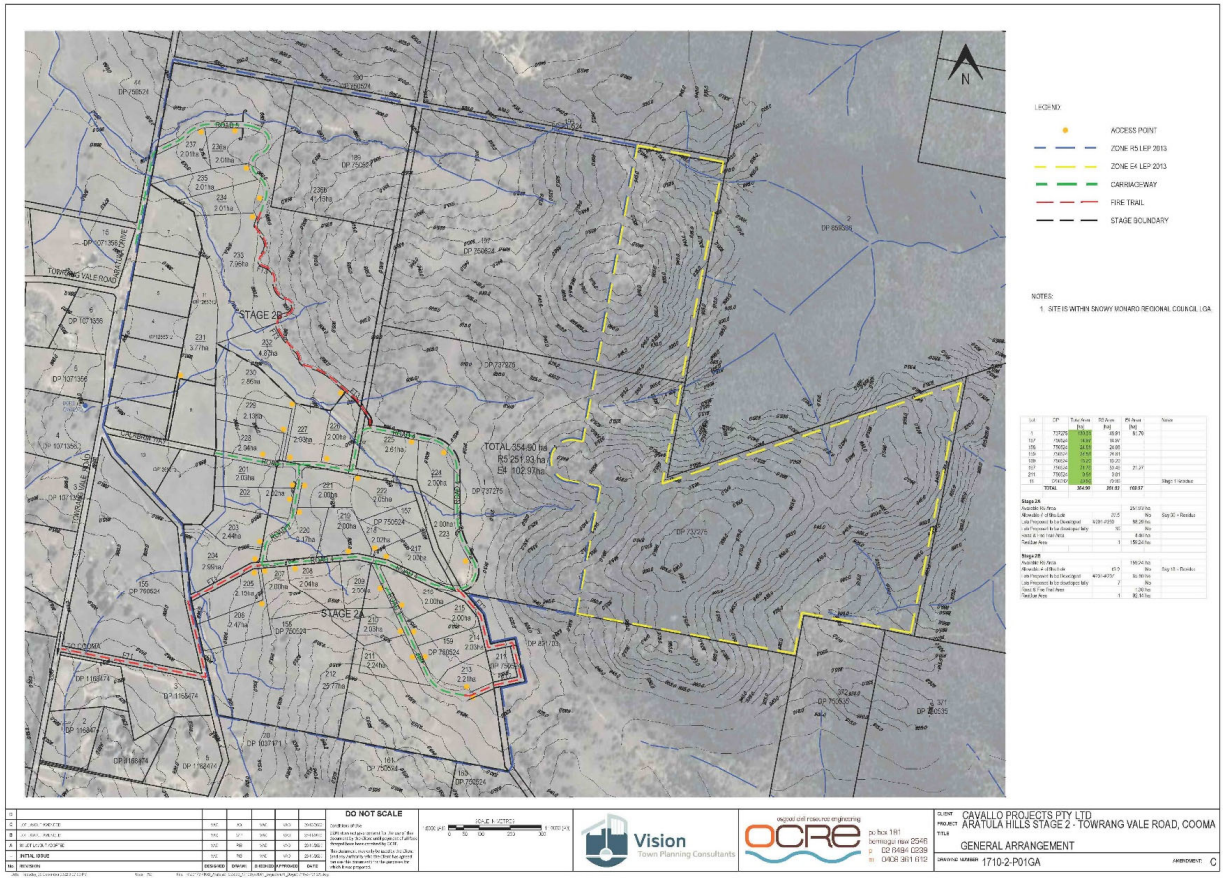


Figure 2: Development layout within the study area (Source: Vision Town Planning 2022).

A search of the above registers did not identify any applicable Native title claims, registrations, or applications, for the study area or surrounds.

1.3.2 NSW National Parks and Wildlife Act 1974

Protection for Aboriginal heritage in NSW is provided primarily under the *National Parks and Wildlife Act* 1974 (NPW Act). Although cultural heritage is protected by other Acts, the NPW Act is the relevant Act for undertaking due diligence assessments. Protection for Aboriginal sites, places and objects is overseen by the Heritage NSW.

Changes to the NPW Act with the adoption of the *NPW Amendment (Aboriginal Objects and Places) Regulation* 2010 led to the introduction of new offences regarding causing harm to Aboriginal objects or declared Aboriginal places. These new offences include destruction, defacement or movement of an Aboriginal object or place. Other changes to the NPW Act include:

- Increased penalties for offences relating to Aboriginal heritage for individuals and companies who do not comply with the legislation;
- Introduction of the strict liability offences, meaning companies or individuals cannot claim 'no knowledge' if harm is caused to Aboriginal objects or places; and
- Changes to the permitting process for AHIPs – preliminary archaeological excavations can be undertaken without the need for an AHIP, providing the excavations follow the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

A strict liability offence was introduced, meaning a person who destroys, defaces or moves an Aboriginal object without an Aboriginal Heritage Impact Permit (AHIP) is guilty of an offence, whether they knew it was an Aboriginal object or not. Exercising due diligence (as described in Section 1.4) provides a defence against the strict liability offence.

1.3.3 NSW National Parks and Wildlife Regulation 2019

Part 5, Division 2 of the National Parks and Wildlife Regulation 2019 addresses Aboriginal objects and places in relation to the NPW Act 1974, and outlines how compliance with relevant codes of practice can be met, including with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. Clause 57 states:

> *For the purposes of section 87(3) of the Act, compliance with any of the following codes of practice and documents (when undertaking an activity to which the code of document applies) is taken for the purposes of section (87(2) of the Act to constitute due diligence in determining whether the act or omission constituting the alleged offence would harm an Aboriginal object.*

Clause 58(1) outlines the defence of low impact acts or omissions to the offence of harming Aboriginal objects, which includes maintenance works on existing roads and

fire trails, farming and land management work, grazing of animals, activities on land that has been disturbed that is exempt or complying development, mining exploration work, removal of vegetation (aside from Aboriginal culturally modified trees), seismic surveying or groundwater monitoring bores on disturbed ground, environmental rehabilitation work (aside from erosion control or soil conservation works such as contour banks) or geological mapping, surface geophysical surveys, or sub-surface geophysical surveys.

Clause 58(4) outlines the definition of 'disturbed land', as land that "has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable".

'Disturbance' is further defined in a note to the above clause as follows:

Examples of activities that may have disturbed land include the following—

(a) soil ploughing,
(b) construction of rural infrastructure (such as dams and fences),
(c) construction of roads, trails and tracks (including fire trails and tracks and walking tracks),
(d) clearing of vegetation,
(e) construction of buildings and the erection of other structures,
(f) construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure),
(g) substantial grazing involving the construction of rural infrastructure,
(h) construction of earthworks associated with anything referred to in paragraphs (a)–(g).

1.4 NSW Due Diligence Code of Practice

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Code of Practice) was introduced in September 2010. It outlines a method to undertake 'reasonable and practical' steps to determine whether a proposed activity has the potential to harm Aboriginal objects within the subject area, and thereby determine whether an application for an Aboriginal Heritage Impact Permit (AHIP) is required. When due diligence has been correctly exercised, it provides a defence against prosecution under the NPW Act under the strict liability clause if Aboriginal objects are unknowingly harmed without an AHIP.

The Code of Practice provides the 'reasonable and practicable' steps to be followed when determining the potential impact of a proposed activity on Aboriginal objects. Due diligence has been defined by Heritage NSW as "taking reasonable and practical steps to determine whether a person's actions will harm an Aboriginal object and, if so, what measures can be taken to avoid that harm" (DECCW 2010:18).

These steps include:

- Identification of whether Aboriginal objects are, or are likely to be, present within the subject area, through completing a search of the Aboriginal Heritage Information Management System (AHIMS);
- Determine whether the proposed activity is likely to cause harm to any Aboriginal objects; and
- Determine the requirement for an AHIP.

Should the conclusion of a due diligence assessment be that an AHIP is required, further assessment must be undertaken, with reference to the following guidelines:

- DECCW, April 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010. Part 6 National Parks and Wildlife Act 1974*;
- DECCW, Sept 2010, *Code of Practice for Archaeological Investigation of Aboriginal Objects In New South Wales*;
- OEH, April 2011, *Guide to Investigation, assessing and reporting on Aboriginal cultural heritage in NSW*; and
- OEH, May 2011, *Applying for an Aboriginal Heritage Impact Permit: Guide for Applicants*.

2.0 The Due Diligence Code of Practice Process

The Due Diligence Code of Practice provides a specific framework to guide the assessment of Aboriginal cultural heritage. The following section presents the results of this process.

2.1 Step 1: Will the activity disturb the ground surface?

The proposed works will disturb the ground surface. The study area is proposed to be subdivided to create multiple large lots, along with the construction of access roads (Figure 2).

Excavation relating to the residential development will include infrastructure and levelling of the ground surface. Connection to services will require trenching. Earthworks would also include clearing, grubbing, stripping and stockpiling topsoil, excavation of soil and backfilling. On completion of the development the area would be landscaped. All proposed works would have an impact to some extent on the ground surface.

2.2 Step 2a: AHIMS and Available Literature Search

Heritage NSW is required to maintain a register of Aboriginal sites recorded during archaeological assessments and other activities within NSW. This is known as the Aboriginal Heritage Information Management System (AHIMS). This register provides information about site types, their geographical location, and their current status. It is the requirement for the recorder of a newly identified site to register this site with Heritage NSW to be placed onto the AHIMS register. It is a requirement of the Code of Practice to undertake a search of this register as part of undertaking a due diligence assessment.

Heritage NSW also maintains a register of archaeological reports relating to archaeological investigations throughout NSW. These reports are a valuable source of information regarding investigations previously completed and their findings, and can inform the assessment process regarding the potential for Aboriginal cultural material and archaeological potential within a study area.

2.2.1 AHIMS Results

A search of the study area with a 1km buffer did not identify any registered sites.

2.2.2 Literature review

A review of previous archaeological work within the surrounding region of the study area was undertaken. There were relatively few assessments that have been undertaken within the area surrounding Cooma so a wider area was reviewed. A number of reports were identified from background research and the AHIMS database and are detailed below.

Table 1: Previous assessments undertaken by archaeological consultants in the wider region

Consultant	Date	Sites Identified	Region
Flood, J	1973	2 artefact sites identified	South of Cooma
Djekic	1982	12 artefact sites identified	Cooma and Jindabyne
Lance and Hughes	1983	No sites identified	Cooma
Paton	1985	21 sites identified	North of Cooma
Comber	1988	4 quarry sites identified	Bredbo
Navin	1991	No sites identified	South of Cooma
Wellington	1992	2 sites identified	Chakola
Oakley	1994	No sites identified	Cooma
Navin	1994	3 sites identified	Cooma
Kuskie	1995	2 sites identified	Cooma
Carter	2003	1 site identified	North Cooma
Dibden	2003	No sites identified	West Cooma
Saunders	2005a	1 site identified	Kiah Avenue, Cooma
Saunders	2005b	5 sites identified	Kiah Avenue, Cooma
NOHC	2005	5 sites identified	Mittagang Road, Cooma
Saunders	2006	No sites identified	Binjura
Dibden	2009a	5 sites identified	North Cooma
Dibden	2009b	56 sites identified	Boco Rock Wind Farm
Dibden	2017	12 sites identified	Myalla
Dibden	2018	No sites identified	Towrang Vale Rd, Cooma

Dibden 2018 was prepared for Stage 1 of this project. The assessment concluded that there were no known sites within the Stage 1 development area, and the property was assessed to be “of very low archaeological potential”. No AHIP application was recommended.

2.2.1 SYNTHESIS

Archaeological works within the wider area have generally been related to development related proposals. It appears that artefact evidence generally comprises low density background scatter or discard distributed widely across the locality, with higher densities occurring occasionally in areas of more focused occupation such as camp sites or repeat occupation sites. This generally occurs in favourable environmental contexts such as elevated, well drained spur and ridge crests, flats, terraces and simple slopes in close proximity to watercourses, with a greater focus on higher order water courses. Artefacts tend to comprise raw materials such as quartz, tuff, silcrete and chert. In general, non-specific flaking activities are represented, although microlith and microblade production is also noted.

Rock shelter sites in the area are identified as varying in size and habitable area, their topographical location and also contents; with rock art occurring relatively infrequently in the locality and generally comprising red ochre hand stencils. Grinding groove sites are not only identified along watercourses on sedimentary bedrock such as sandstone, but also on open sandstone surfaces in other contexts such as in rock shelters. Scarred or culturally modified trees have been identified within the area and wider region, generally in areas of uncleared old growth

vegetation. Low numbers of other sites such as stone arrangements, a possible burial, and ochre or lithic quarries have also been identified.

2.3 Step 2b: Landscape Features

An assessment of landscape features is required to determine whether Aboriginal objects are likely to be present within the proposed activity area. Certain landscape features are more likely to have been utilised by Aboriginal people in the past and therefore are more likely to have retained archaeological evidence of this use. Focal areas of activity for Aboriginal people include rock shelters, sand dunes, water courses, waterholes and wetlands, as well as ridge lines for travel routes.

The presence of specific raw materials for artefact manufacture, as well as soil fertility levels to support vegetation resources, are also factors to be considered in the assessment of the environmental context of a study area. Geomorphological factors, such as erosion and accretion of soils, affect the preservation of potential archaeological deposits and therefore need to be considered when making an assessment of the potential for archaeological material to be present within a study

2.3.1 Existing Environment

Soils, Geology and Vegetation

The study area falls across the Dry Farm and Dairymans Plain soil landscapes. The Dry Farm soil landscape is located on rolling low hills to gently undulating rises on Cooma Metamorphic Complex schists. Soils are generally shallow (<50 cm), well-drained Earthy Sands. The Cooma Metamorphic Complex is made up of mica schist, biotite schist, andalusite-sillimanite bearing schist, orthoclase cordierite knotted schist. Close to Cooma the complex includes granodiorites, gneisses, migmatites and minor amphibolites. The area has been extensively cleared with heavily thinned low woodland to low open-forest (dry sclerophyll forest). On well-drained rocky crests and upper slopes black cypress pine (*Callitris endlicheri*) can be found and candlebark (*Eucalyptus rubida ssp. rubida*) and snow gum (*Eucalyptus pauciflora ssp. pauciflora*) are also common.

The Dairymans Plains soil landscape is characterised by level to gently undulating plains on alluvium and Cooma Metamorphic Complex schists. Local relief <9 m with elevations around 840–910 m. The underlying geology consists of quaternary alluvium, fine sand, silt and clay on Cooma Metamorphic Complex mica biotite schists. Vegetation has been extensively cleared however may have consisted of grassland of rough spear grass (*Stipa scabra*) to low open-woodland of candlebark (*Eucalyptus rubida ssp. rubida*). Spear grasses have largely been replaced through agricultural practices.

HYDROLOGY

The nearest major permanent water source is the Murrumbidgee River which is approximately 3.5 north of the study area. Snake Creek is a 2nd order watercourse which runs through the study area and is a tributary of the Murrumbidgee River however, it sees little to no flows of water. The Murrumbidgee River is a major tributary of the Murray River within the Murray–Darling basin and the second longest river in Australia. The Murrumbidgee River is defined as a fourth order water course according to the Strahler system as used by DPI Water (Figure 3). Watercourse classification ranges from first order through to fourth order (and above) with first order being the lowest, ie a minor creek or ephemeral watercourse.

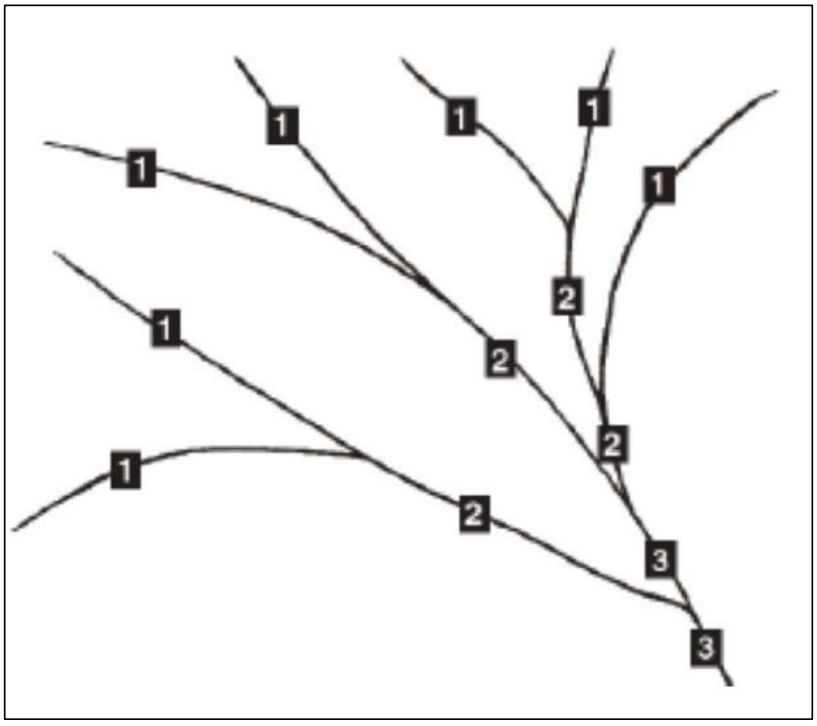


Figure 3: The Strahler system (Source: Department of Planning and Environment 2016).

The study area is located within 200m of a natural watercourse. The study area is considered to have moderate levels of disturbance relating to historic land clearance. However, as it is located along a watercourse, there is still a requirement to proceed to Step 3 of the due diligence assessment process as this landscape feature is associated with Aboriginal archaeological potential.

2.3.2 ETHNOHISTORY

According to Tindale (1974), the study area is located within the Ngarigo tribal and linguistic territory. This territory is described by Tindale (1974) as being from the:

> *Monaro tableland north to Queanbeyan; Bombala River from near Delegate to Nimmitabel; west to divide of the Australian Alps. The Wiradjuri considered the Ngarigo and Walgalu as one people using the name Guramal which has the basic meaning of ['gurai] or 'hostile people.' Canberra, the capital city of the federal capital territory is very close to the boundary line between this and the Ngunawal tribe. In winter these tableland people sometimes came down to the surrounding territories for shelter, hence their reputation for aggressiveness.*

Aboriginal society was constructed of a hierarchy of social levels and groups, with fluid boundaries (Peterson 1976), with the smallest group comprising a family of a man and his wife/wives, children and some grandparents. The next level consists of bands, which were small groups of several families who worked together for hunting and gathering purposes. The third level comprised regional networks with a number of bands, and these bands generally shared a common language dialect and/or had a belief in a common ancestor. Networks would come together for specific ceremonial purposes. The highest level is the tribe, which is usually described as a linguistic unit with flexible territorial boundaries (Peterson 1976).

Aboriginal people utilised a wide range of subsistence resources in the past, with ethnohistorical sources recording the diet of Aboriginal people including kangaroo, possum, kangaroo rat, lizards, birds, platypus, wallaby and a range of plants and insects as well as fish and shell fish (Pearson 1981). A wide range of native animals, including birds and reptiles, have been identified within the wider environment around Cooma, and are likely to have been utilised as food resources by Aboriginal people in the past.

2.3.3 RAW MATERIALS

A wide range of raw materials were selected by Aboriginal people for flaking to create stone implements. Material types ranged from high quality to poor quality for flaking purposes, depending on the geology of the area and readily available material types. The following is a description of a range of raw material types known to have been utilised by Aboriginal people for the creation of stone artefacts.

BRECCIA

Breccias are coarse, angular volcanic fragments cemented together by a finer grained tuffaceous matrix.

CHALCEDONY

Chalcedony is a microcrystalline, siliceous rock which is very smooth and can be glossy. Introduction of impurities can produce different coloured versions of chalcedony, including yellow/brown (referred to as carnelian), brown (sard), jasper (red/burgundy) and multicoloured agate. It flakes with a sharp edge and was a

prized material type for the creation of stone artefacts in parts of Australia (Kuskie & Kamminga 2000: 186).

CHERT

Chert is a highly siliceous sedimentary rock, formed in marine sediments and also found within nodules of limestone. Accumulation of substances such as iron oxide during the formation process often results in banded materials with strong colours. Chert is found in the Illawarra Coal Measures and also as pebbles and colluvial gravels. It flakes with durable, sharp edges and can range in colour from cream to red to brown and grey.

PETRIFIED WOOD

Petrified wood is formed following burial of dead wood by sediment and the original wood being replaced by silica. Petrified wood is a type of chert and is a brown and grey banded rock and fractures irregularly along the original grain.

QUARTZ

Pure quartz is formed of silicon dioxide, and has a glossy texture and is translucent. Introduction of traces of minerals can lead to colouration of the quartz, such as pink, grey or yellow. The crystalline nature of quartz allows for minute vacuoles to fill with gas or liquid, giving the material a milky appearance.

Often quartz exhibits internal flaws which can affect the flaking quality of the material, meaning that in general it is a low-quality flaking material (Kuskie & Kamminga 2000: 186). However, quartz is an abundant and widely available material type and therefore is one of the most common raw materials used for artefact manufacture in Australia. Flaking of quartz can produce small, very sharp flakes which can be used for activities such as cutting plant materials, butchering and skinning.

QUARTZITE

Formed from sandstone, quartzite is a metamorphic stone high in silica that has been heated or had silica infiltrate the voids found between the sand grains. Quartzite ranges in colour from grey to yellow and brown.

SILCRETE

Silcrete is a siliceous material formed by the cementing of quartz clasts with a matrix. These clasts may be very fine grained to quite large. It ranges in colour from grey to white, brown, red or yellow. Alluvial and terrace gravels of the Hunter River were a major primary source of silcrete within the Hunter Valley. Silcrete flakes with sharp edges and is quite durable, making silcrete suitable for use in heavy duty woodworking activities and also for spear barbs (Kuskie & Kamminga 2000:184).

TUFF/INDURATED MUDSTONE

There is some disagreement relating to the identification of lithic materials as tuff or indurated mudstone. The material is a finely textured, very hard yellow/orange/reddish-brown or grey rock from the upper Hunter Valley. Kuskie and Kamminga (2000: 6, 180) describe that identification of lithic materials within the Hunter Valley followed the classification developed by Hughes (1984), with indurated mudstone described as a common stone material in the area. However, Kuskie and Kamminga's analysis, which included x-ray diffraction, identified that lithics identified as 'indurated mudstone' was actually rhyolitic tuff, with significant differences in mineral composition and fracture mechanics between the stone types. They define mudstone as rocks formed from more than 50% clay and silt with very fine grain sizes and then hardened.

The lithification of these mudstones results in shale (Kuskie & Kamminga 2000: 181) and thus 'indurated mudstone', in the opinion of Kuskie and Kamminga, do not produce stones with the properties required for lithic manufacture.

In 2011, Hughes, Hiscock and Watchman undertook an assessment of the different types of stones within the Hunter Valley to determine whether tuff or indurated mudstone is the most appropriate terminology for describing this lithic material. The authors undertook thin section studies of a number of rocks from the Hunter Valley and determined that the term 'indurated mudstone' is appropriate, with an acknowledgment that some of this material may have been volcanic in origin. They also acknowledge that precise interpretation of the differences between material types is difficult without detailed petrological examination, and suggest that artefacts produced on this material are labelled as 'IMT' or 'indurated mudstone/tuff'.

2.3.4 PROCUREMENT

Assemblage characteristics are related to and dependent on the distance of the knapping site from raw materials for artefact manufacture, and different material types were better suited for certain tasks than other material types. Considerations such as social or territorial limitations or restrictions on access to raw material sources, movement of groups across the landscape and knowledge of source locations can influence the procurement behaviour of Aboriginal people. Raw materials may also have been used for trade or special exchange between different tribes.

2.3.5 MANUFACTURE

A range of methodologies were used in the manufacture of stone artefacts and tools, through the reduction of a stone source. Stone may have been sourced from river gravels, rock outcrops, or opportunistic cobble selection. Hiscock (1988:36-40) suggests artefact manufacture comprises six stages, as follows:

1. The initial reduction of a selected stone material may have occurred at the initial source location, or once the stone had been transported to the site.
2. The initial reduction phase produced large flakes which were relatively thick and contained high percentages of cortex. Generally the blows were struck by direct percussion and would often take advantage of prominent natural ridges in the source material.
3. Some of these initial flakes would be selected for further reduction. Generally only larger flakes with a weight greater than 13-15 grams would be selected for further flaking activities.
4. Beginning of 'tranchet reduction', whereby the ventral surface of a larger flake was struck to remove smaller flakes from the dorsal surface, with this retouch applied to the lateral margins to create potential platforms, and to the distal and proximal ends to create ridges and remove any unwanted mass. These steps were alternated during further reduction of the flake.
5. Flakes were selected for further working in the form of backing.
6. Suitable flakes such as microblades were retouched along a thick margin opposite the chord to create a backed blade.

Hiscock (1986) proposed that working of stone materials followed a production line style of working, with initial reduction of cores to produce large flakes, followed by heat treatment of suitable flakes before the commencement of tranchet reduction. These steps did not necessarily have to occur at the same physical location, but instead may have been undertaken as the opportunity presented.

2.3.6 PREDICTIVE MODEL

A general model for the Aboriginal occupation of the wider region can be applied. In general, it can be stated that:

- Aboriginal occupation focussed predominantly on resource rich zones, particularly along higher order watercourses (such as the Bombala River). Abundant resources for sustenance and water would supply longer stays for family and community base camps, as well as occasional gatherings of larger groups. These areas were considered to be primary resource zones;
- Secondary resource zones were focussed on watercourses, wetlands and/or swamps in close proximity to higher order watercourses and the associated flats and terraces. These areas were seasonally occupied during the course of hunting and gathering activities by small hunting parties and family groups. Generally level ground was selected for camping, near water sources, and was sporadic rather than continuous occupation;

- Outside of the primary and secondary resource zones, activities included resource gathering and movement across the landscape by small parties, in order to access areas with greater resources;
- Opportunistic reduction of raw materials to create stone artefacts would be quite widespread across the landscape, in order to produce stone tools on an 'as needed' basis;
- Locally available quartz was favoured for knapping activities, along with tuff and chert, depending on their availability;
- Exposed sandstone would be utilised for creating and maintaining ground edge hatchets, creating grinding grooves. This action may have been opportunistic rather than specific, with evidence of long term, repeated use not expected to occur; and
- Aboriginal occupation of the general area is believed to have occurred within the past 5,000 years, although it is possible it may extend as far as 30,000-40,000 years ago.

From these general predictions of how the area was utilised for occupation by Aboriginal people in the past, a predictive model for the location of archaeological sites can be summarised below:

- Low spurs within 100m of higher order streams are likely to contain sites with relatively higher numbers of artefacts;
- Very low density artefact scatters may occur throughout valley floor contexts;
- Elevated, level ground adjacent to major, permanent streams has the potential for open sites with higher concentrations of artefacts;
- Stone artefact scatters are likely to increase in number and density relative to the site's proximity to water and raw material sources;
- Suitable rockshelters with relatively level floors, adequate shelter and located in basal slope contexts in association with a drainage line may contain occupation deposit and/or pigment rock art;
- Grinding grooves are likely to occur only where suitable sandstone exposures occur in association with a source of water;
- Burials are rare but may occur in deep, fine grained alluvial or Aeolian sediments, or in the form of stone cairns;
- Scarred trees have the potential to survive in areas of suitable old growth trees;
- Archaeological deposits with high scientific significance are most likely to be found in rockshelters with suitable deposit depth, or on elevated areas with aggrading sediments in close proximity to permanent or reliable water sources, or within rockshelter contexts;
- Outside of these identified areas, stratified deposits or in situ archaeological material is unlikely to survive due to bioturbation and/or natural processes such as water action, erosion etc; and

- Isolated surface and subsurface archaeological material may exist as background scatter in very low densities, but the location of this potential material is impossible to predict.

The hydrology, topography, soils and geology of an area are all important considerations when developing a predictive model for an area.

2.4 Step 3: Avoid harm

Given the proximity to a watercourse (Snake Creek) it was necessary to undertake a visual inspection of the study area to identify any surface objects or landforms with potential archaeological deposits (PAD). This inspection would allow conclusions to be made regarding the probability of archaeological objects occurring within the proposed area of upgrade. This would assist in determining if there was any archaeological potential within the study areas which could potentially be harmed by the proposed works, and in turn, assist in determining if harm to the archaeological resource could be avoided.

The proposed development will impact a portion of the study area, through the proposed residential subdivision works and associated infrastructure (e.g. roads and services).

2.5 Step 4: Visual Inspection

A visual pedestrian inspection of the study area was undertaken on Sunday 27 September 2020 by Leigh Bate, Archaeologist with Apex Archaeology.

2.5.1 Survey Coverage

The area was inspected by pedestrian survey to identify any surface artefacts or any areas with potential for subsurface deposits to be present.

2.5.2 Results

No previously recorded archaeological sites were located within the study area. No newly identified archaeological material was identified during the survey. Ground surface visibility (GSV) was moderate throughout the study area. GSV was rated at 30% overall.

The area was considered to be moderately disturbed by previous historical clearance and land use practices. No areas of potential archaeological deposit (PAD) were identified within the study area.

Plate 1: General view looking at the southern portion of the study area.

Plate 2: Looking north east from the southern boundary of the study area.

Plate 3: Looking north east towards the eastern boundary of the study area

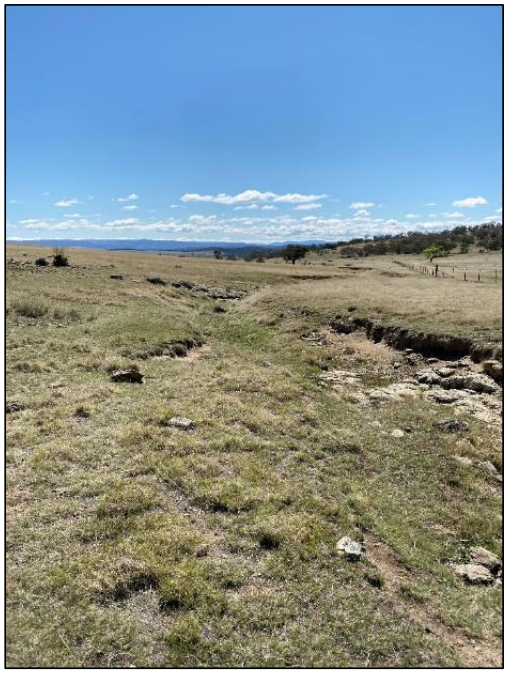


Plate 4: Looking along Snake Creek within the central portion of the study area.

Plate 5: Looking south along the central portion of the study area.

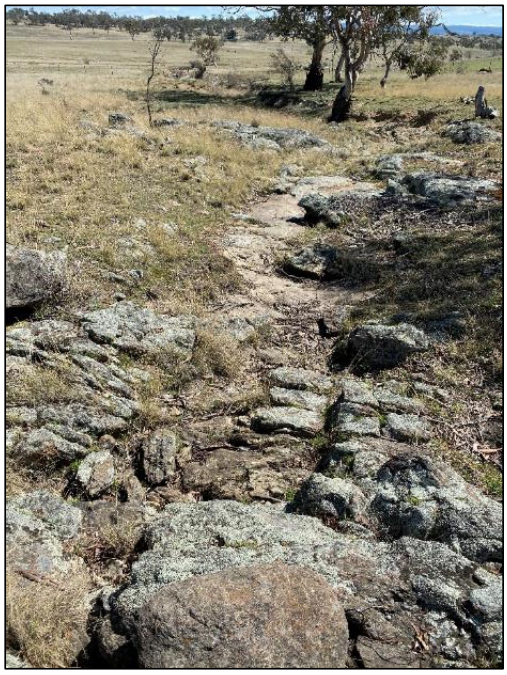


Plate 6: Looking west downslope along a drainage line within the central portion of the study area.

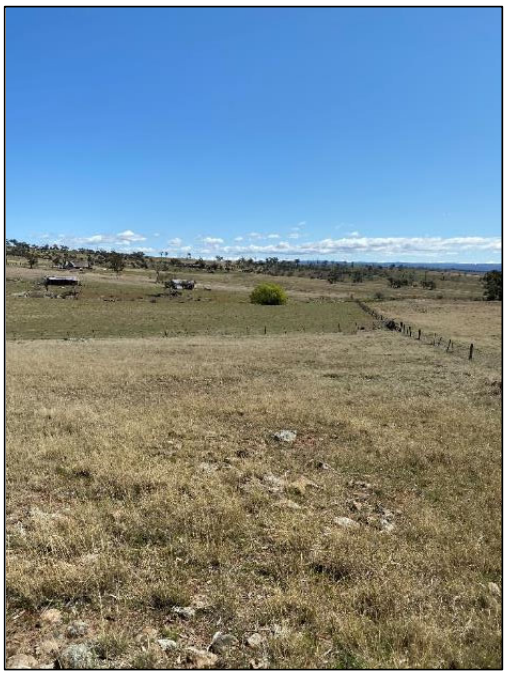


Plate 7: Looking towards the western boundary of the study area.

Plate 8: Looking towards the northern boundary of the study area

2.5.3 DISCUSSION

In accordance with the Due Diligence Code of Practice, land is considered disturbed if human activities within the area have left clear and observable changes on the landscape. The area assessed for this project meets the definition of disturbed land in general.

Areas of rocky outcrops were observed frequently throughout the study area. The outcrops were predominantly schist with some veins of poor-quality quartz eroding away and forming quartz float in some areas. Almost all outcrops were friable and in no way usable for engraving or grinding of implements. Although there was an abundance of quartz throughout the area, no activity areas were identified; likely due to the poor quality and coarse-grained nature of the raw material present.

Ground disturbance was moderate within the study area. Evidence of historic vegetation clearing and agricultural practices were evident throughout the study area.

The level of disturbance within the study area and skeletal nature of most soils means that there is a low chance of intact sub-surface deposits being present within the area.

3.0 Conclusions and Recommendations

3.1 Conclusions

- No previously recorded Aboriginal sites are located within the study area.
- No archaeological material was identified on the ground surface within the study area.
- The study area is assessed as having no potential for subsurface archaeological deposits and this is confirmed by the site inspection.
- This assessment was based on identification of landform elements, previous archaeological work undertaken within the wider Cooma region, and a visual inspection of the study area.

3.2 Recommendations

- No further Aboriginal archaeological assessment is required prior to the commencement of upgrade works as described in this report.
- This due diligence assessment must be kept by Cavello Projects Pty Ltd so that it can be presented, if needed, as a defence from prosecution under Section 86(2) of the *National Parks and Wildlife Act* 1974.
- The results of this assessment fulfil the requirement for Due Diligence in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Code of Practice). Works may proceed with caution.
- The proposed works must be contained to the area assessed during this due diligence assessment, as shown on Figure 1. If the proposed location is amended, further archaeological assessment may be necessary to determine if the proposed works will impact any Aboriginal objects or archaeological deposits.
- Should unanticipated archaeological material be encountered during site works, all work must cease and an archaeologist contacted to make an assessment of the find. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.

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APPENDIX A: AHIMS BASIC SEARCH RESULTS

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 2068
Client Service ID : 746936

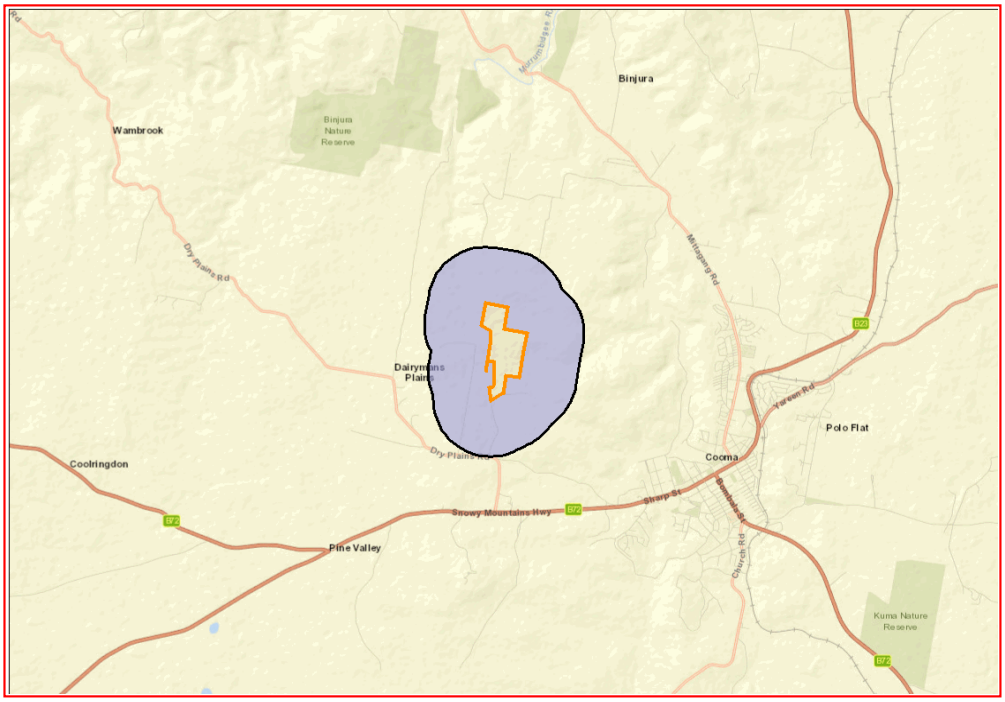
Apex Archaeology
PO BOX 236
Nowra New South Wales 2541
Attention: Leigh Bate
Email: leigh@apexarchaeology.com.au

Date: 20 January 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 11, DP:DP1266312, Section : - with a Buffer of 1000 meters, conducted by Leigh Bate on 20 January 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

ARATULA HILLS STAGE 2
TOWRANG VALE ROAD, DAIRYMANS PLAINS, NSW

STATEMENT OF HERITAGE IMPACT

Report to Vision Town Planning Consultants Pty Ltd
on behalf of Bottomline Group

August 2023

APEX ARCHAEOLOGY

PO Box 236, Nowra, NSW 2541 | heritage@apexarchaeology.com.au | www.apexarchaeology.com.au
ABN 56 625 618 993

EXECUTIVE SUMMARY

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of the Bottomline Group to undertake a Statement of Heritage Impact (SoHI) for a number of lots, located in Dairymans Plains, approximately 3km north west of Cooma, NSW. This assessment has been prepared in advance of the proposed Development Application (DA) for the project.

Snowy Monaro Regional Council (SMRC) have requested preparation of a SoHI to inform the DA due to the presence of a heritage item within the study area. This report has been prepared to address this request.

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). It comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lots as Stage 2 of the development.

The study area contains one heritage conservation area identified on the Cooma-Monaro Local Environmental Plan 2013 (LEP) heritage maps, known as item C9, 'Snake Creek (Geological Item). There are a number of other general heritage items in the wider vicinity of the study area, but these are not located immediately adjacent to the study area boundaries on in close proximity.

The project has the potential to impact on the geological heritage values of the Snake Creek Geological Feature – item C9.

The assessment found that:

- The study area contains a heritage conservation area, known as the Snake Creek (geological site) Conservation Area.
- This item is listed for its geological values.
- No other heritage items are listed within or in the immediate vicinity of the study area.
- No newly identified heritage items or areas of historical archaeological potential were identified within the study area.
- The proposed subdivision of the site is considered unlikely to impact on the heritage values of the conservation area.

It is recommended that:

RECOMMENDATION 1: NO FURTHER WORKS REQUIRED

On completion of this Statement of Heritage Impact, no further archaeological or heritage assessment is required prior to the commencement of development works.

RECOMMENDATION 2: STOP WORKS PROVISION

Should any unexpected relics be identified during works, works should cease in the area of the find and an archaeologist contacted to make an assessment of the find. Consultation with Heritage NSW may be necessary and approvals may be required before works are able to recommence in the area.

RECOMMENDATION 3: SITE WORKS

Works should be constrained to the area assessed as part of this assessment. Any amendment to the study area boundaries to include additional areas not assessed may require further assessment prior to the commencement of works.

Amendment of the proposed building envelopes within the subdivision may require further heritage assessment to determine if the heritage values of the conservation area would be impacted by the proposed works.

Apex Archaeology would like to acknowledge the Aboriginal people who are the traditional custodians of the land in which this project is located. Apex Archaeology would also like to pay respect to Elders both past and present.

DOCUMENT CONTROL

The following register documents the development and issue of the document entitled 'Aratula Hills Stage 2, Towrang Vale Road, Dairymans Plains, NSW – Statement of Heritage Impact', prepared by Apex Archaeology in accordance with its quality management system.

Revision	Prepared by	Reviewed by	Comment	Issue Date
1 – Draft	Leigh Bate	Jenni Bate	Issue for client review	20 August 2023
2 – Final	Jenni Bate	Vision PDH	Issue of final	28 August 2023

GLOSSARY OF TERMS

Burra Charter	*The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*
CBD	Central Business District
EP&A Act	The *Environmental Planning and Assessment Act 1979*
Heritage Act	The NSW *Heritage Act 1977*
Heritage Division	The Heritage Division of the Office of Environment and Heritage of the NSW Department of Premier and Cabinet – now Heritage NSW
Heritage NSW	Heritage NSW of the NSW Department of Premier and Cabinet. Responsible for overseeing heritage matters in NSW
HHA	Historical Heritage Assessment
IHO	Interim Heritage Order
LEP	Local Environmental Plan
LGA	Local Government Area
NPW Act	NSW *National Parks and Wildlife Act* 1974
OEH	The Office of Environment and Heritage of the NSW Department of Premier and Cabinet – now Heritage NSW
SEPP	State Environmental Planning Policies
SHR	State Heritage Register
SoHI	Statement of Heritage Impact

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FIGURES

PLATES

1.0 INTRODUCTION

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of the Bottomline Group to undertake a Statement of Heritage Impact (SoHI) for a number of lots, located in Dairymans Plains, approximately 3km north west of Cooma, NSW. This assessment has been prepared in advance of the proposed Development Application (DA) for the project.

Snowy Monaro Regional Council (SMRC) have requested preparation of a SoHI to inform the DA due to the presence of a heritage item within the study area. This report has been prepared to address this request.

1.1 METHODOLOGY

This Statement of Heritage Impact (SoHI) has been prepared with reference to the Cooma-Monaro Local Environmental Plan (LEP) 2013. It has been prepared in accordance with the requirements of *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013* (Burra Charter) and the best practice standards as provided by NSW Heritage of the Department of Premier and Cabinet, including *Assessing Heritage Significance* (Department of Planning and Environment 2023a) and *Statements of Heritage Impact* (Department of Planning and Environment 2023b).

A review of statutory registers was completed to identify listings for the study area. A literature search was completed to identify relevant previous assessments and research completed for the area. A site inspection was also completed. The results of these investigations guided the preparation of this report.

1.2 STUDY AREA

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). The study area comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lot residential allotments as part of the subdivision works as Stage 2 of the development.

1.3 AUTHORS

This report has been prepared by Jenni Bate, Director and Archaeologist with Apex Archaeology, and reviewed by Leigh Bate, Director and Archaeologist with Apex Archaeology.

1.4 LIMITATIONS

A visual inspection of the site was undertaken by Apex Archaeology on 27 September 2020. Photographs were taken for context only.

The historical overview is provided to assist in an understanding of the study area, to assist in the assessment of the significance of the site, and to inform the recommendations made. It does not form an exhaustive history of the study area.

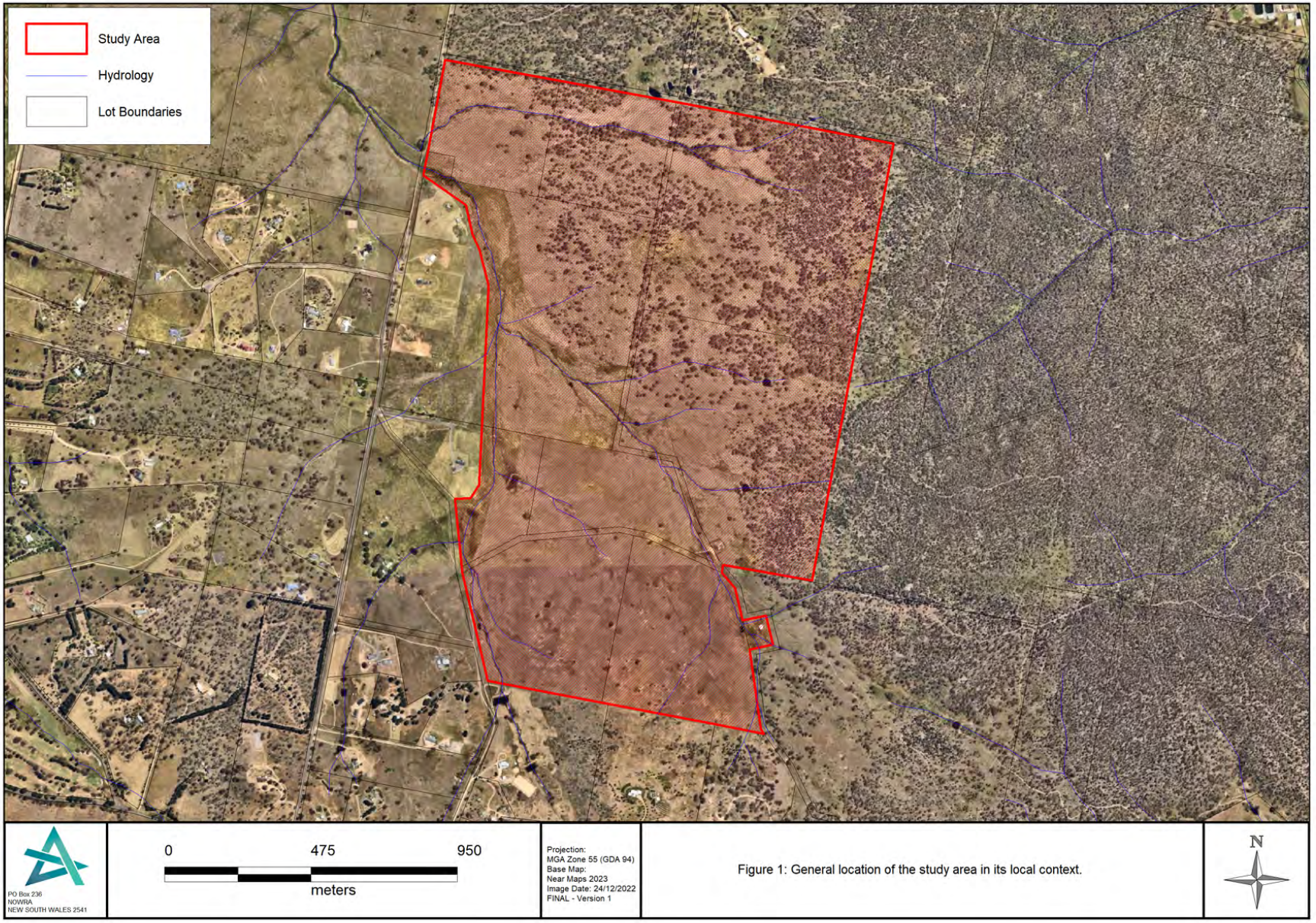

Figure 1: General location of the study area in its local context.

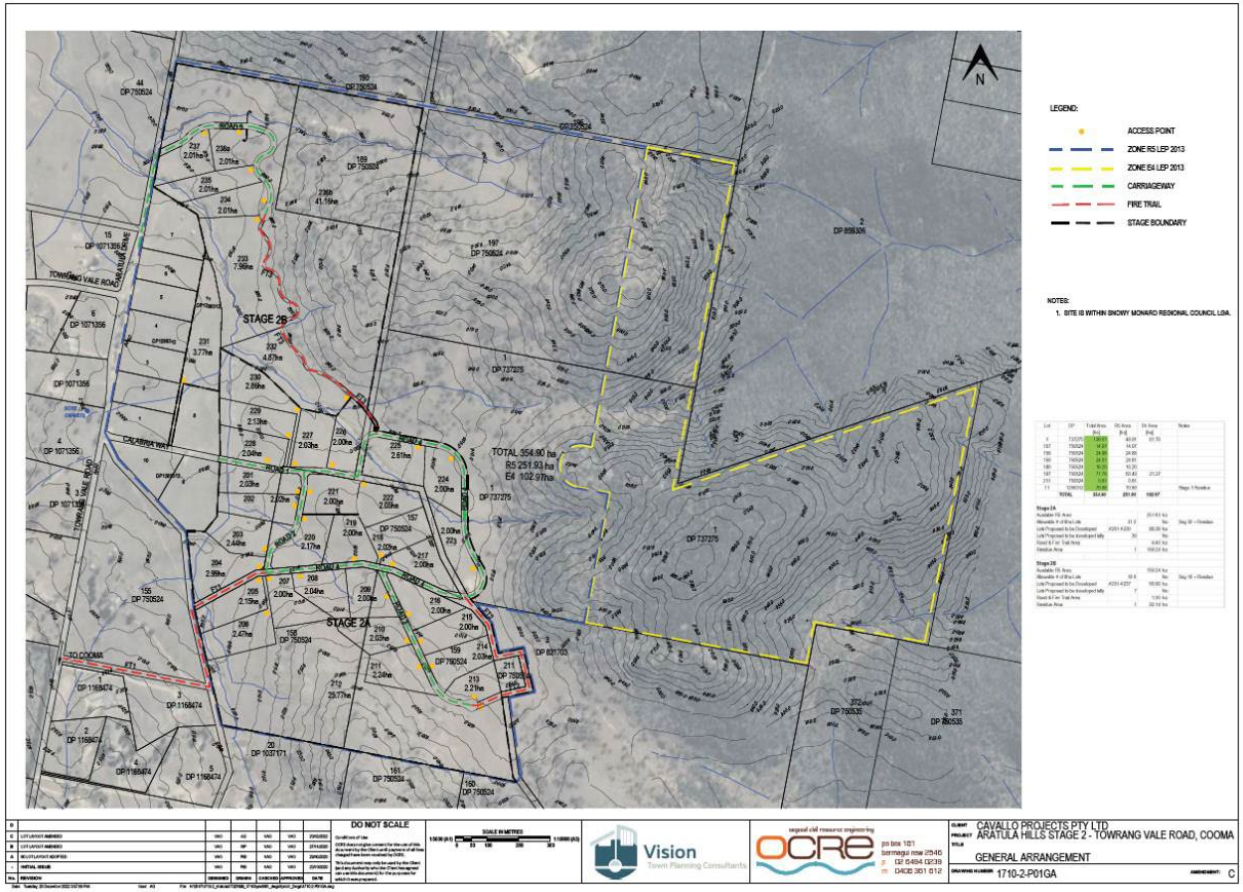

Figure 2: Development layout within the study area (Source: Vision Town Planning 2022).

2.0 NSW Heritage Legislation

2.1.1 Heritage Act 1977

The *Heritage Act 1977* (as amended) (the Heritage Act) provides protection for historical archaeological deposits, relics, structures, buildings, and features within NSW. These may be identified on the State Heritage Register (SHR) or an active Interim Heritage Order (IHO).

Under the Heritage Act, the Minister appoints the Heritage Council, which is responsible for heritage in NSW. The Council includes community, conservation and government experts. The Heritage Division provides operational support to the Council and helps communities to identify important heritage places and relics, as well as guidance on how to provide care for those items. It also provides funding and support for community heritage projects and maintains the NSW Heritage Database, which is a list of all heritage items included on statutory heritage lists within NSW.

Guidance for undertaking heritage assessments is provided by the NSW Heritage Division 1996 NSW Heritage Manual, and includes criteria to assist in assessing the significance of items.

Relics Provision

The 'relics' provision of the Heritage Act provide automatic statutory protection for historical archaeological remains. A relic is defined under the Act as any deposit, object or material evidence:

(a) That relates to the settlement of the area that comprised New South Wales, not being Aboriginal settlement; and
(b) That is of State or local heritage significance.

Section 139[1] of the Heritage Act states that:

> *A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.*

Approvals/permits for the excavation or disturbance of heritage sites are granted under Section 63 (for sites of State significance) or Section 141 (for sites of local significance) of the Heritage Act. These approvals are granted by either Heritage NSW (under delegation) or the Heritage Council of NSW. If works are minor and are likely to have minimal impact on heritage or archaeological items, exemptions under Section 57(2) may be granted for items of State significance, and exceptions for locally significant may be granted under Section 139(4).

If archaeological items of local or State significance are identified within the site, the relics provision would apply.

2.1.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides the environmental planning and assessment framework for NSW. Impacts on cultural heritage must be considered through the environmental impact assessment stage of any project. Generally, provision for the assessment of cultural heritage is made through statutory planning documents such as Local Environmental Plans (LEPs) or State Environmental Planning Policies (SEPPs).

This project falls under Part 4 of the EP&A Act, and Snowy Monaro Regional Council is the consent authority.

Cooma-Monaro Local Environmental Plan 2013

The Cooma-Monaro LEP 2013 guides heritage conservation and assessment within the Snowy Monaro LGA, with a number of heritage restrictions included. Clauses 5.10(4) and (5) state that the effect of any proposed development on a heritage item or heritage conservation area must be considered prior to approving any development works, through the preparation of a heritage management document.

2.2 Listings

Table 1 below outlines the heritage listings applicable to the study area itself.

Table 1: Heritage listings applicable to study area

Register/Listing	Item Listed (Y/N)	Item Name	Item Number
National Heritage List	N		
Commonwealth Heritage List	N		
State Heritage Register (SHR)	N		
S170 NSW State agency heritage register	N		
Cooma-Monaro *Local Environmental Plan* 2013	Y	Snake Creek (geological site) Conservation Area	C9

The study area includes a conservation area, known as the Snake Creek geological site (Figure 2). No other heritage items are within the study area, although there are other listed items in the wider vicinity. These items are well outside the impact area of the proposed development and are not considered further in this assessment.

2.2.1 Snake Creek Geological Site

Snake Creek (Geological Site) Conservation Area is located adjacent to Lots 16, 44, 47, 83 & 213 DP 750524 and Lot 21 DP 826170, as per the heritage listing. None of these lots are located within the study area, but the conservation area is shown as being located within the subject lot. Snake Creek is considered to be of significance due to its geological features, and is described as follows: “Snake Creek rises immediately west of Cooma and flows into the Murrumbidgee River. The site provides a geological section through the Cooma Complex” (SHI Heritage Item ID 1410423). The item is considered significant for its geological values.

2.2.2 HOMESTEAD – TUMBLEDOWN

Tumbledown Homestead is located in the wider vicinity of the study area but is not within or immediately adjacent to the study area. The item is listed as being "built c1875 for Fred Blaxland, solicitor. Brick house with servants' quarters, stables and small one-room cottage. Old garden. Historic and architectural significance" (SHI Heritage Item ID 1410072).

This item is located more than 1.5km to the west of the study area and would not be impacted by the proposed development. As such, it is not considered further as part of this assessment.

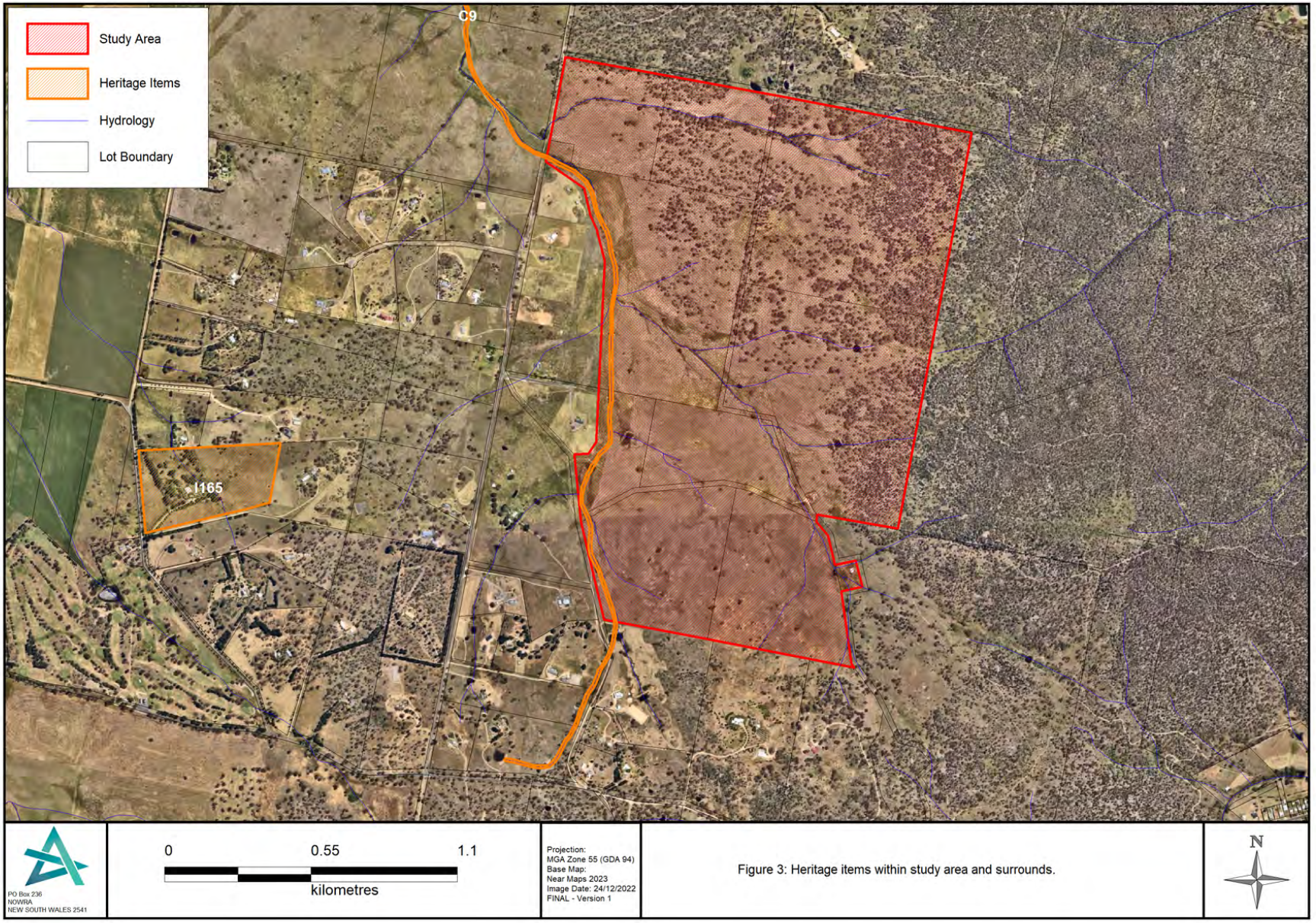

Figure 3: Heritage items within study area and surrounds.

3.0 Historical Context

3.1 Local Historical Context

Pre-Colonial Context

Ethnohistorical evidence is based on the reports of colonisers and do not tend to include the Aboriginal perspective, leading to a Eurocentric view of Aboriginality. Additionally, historical records can be contradictory and incomplete regarding the exact tribal boundaries and locations of ceremonial or domiciliary activities of Aboriginal people pre-contact. Phil Boot (2002:58) notes:

> *The problem associated with ethnohistoric documents include their tendency to record unusual, rather than everyday events, and their focus on religious behaviour to the exclusion of woman and children (Attenbrow 1976:34; Sullivan 1983:12.4).*

According to Tindale (1974) the current study area falls within the Ngarigo tribal area and linguistic territory. His observations are an attempt to depict Aboriginal occupation at the time of European contact. This territory is described by Tindale (1974) as being within the:

> *....Monaro tableland north to Queanbeyan; Bombala river from near Delegate to Nimmitabel; west to divide of the Australian Alps.*

Howitt and Matthews also place the study area with the Ngarigo territory, with Howitt (1904) describing the territory as follows:

> *The Ngarigo had the Wolgal on the north, the Ya-itmathang on the northwest, the Kurnai on the west and south-west, and the Yuin or Coast Murring to the southeast. The Ngarigo in fact occupied the Monaro tableland. The name of this tribe was that of its language, and the tribespeople called themselves "Murring", that is, "men", indicating that it belonged to another nation who used that term in common.*

Howitt further described those living in the high mountains as the Bemeringal, which included the people inhabiting the Monaro tablelands. The people on the coast were described as the Katungal, and the coastal hinterland people were described as the Paiendra. Boundaries between tribes were likely fluid and altered in response to the movement of family or clan groups.

Ngarigo people would meet with other tribes along the Tumut River and then travel towards the Bogong Mountains in order to celebrate the feasting of the Bogong Moth (Flood 1973; 1980). Messages were passed between the tribes, as described by Howitt (1904):

> *About the year 1840 my friend, the late Mr A.M. McKeachie, met two young men of the Ngarigo tribe at the Snowy River, near to Barnes's Crossing [near Dalgety]; one of them carried two peeled sticks each about two feet long [60cm] and with notches cut in them, which they told him reminded them of their message... their*

> *message was that they were to collect their tribe to meet those of the Tumut River [Walgalu] and Queanbeyan {Ngunawal] at a place in the Bogong Mountains, to eat the Bogong moths.*

It was considered likely that coastal tribes travelled inland to participate in the feast of the Bogong moths (Flood 1973; 1980) and there were generally cordial relations between the tribes when meeting for this purpose.

Aboriginal society in general was constructed of a hierarchy of social levels and groups, with fluid boundaries (Peterson 1976), with the smallest group comprising a family of a man and his wife/wives, children and some grandparents. The next level consists of bands, which were small groups of several families who worked together for hunting and gathering purposes. The third level comprised regional networks with a number of bands, and these bands generally shared a common language dialect and/or had a belief in a common ancestor. Networks would come together for specific ceremonial purposes. The highest level is the tribe, which is usually described as a linguistic unit with flexible territorial boundaries (Peterson 1976); although Attenbrow (2010) argues that "these groups were not tribes in the current anthropological sense of the word".

Aboriginal people utilised a wide range of subsistence resources in the past, with ethnohistorical sources recording the diet of Aboriginal people including kangaroo, possum, kangaroo rat, lizards, birds, platypus, wallaby and a range of plants and insects as well as fish and shell fish (Pearson 1981). A wide range of native animals, including birds and reptiles, have been identified within the wider environment around Jindabyne, and are likely to have been utilised as food resources by Aboriginal people in the past.

The traditional lifestyles of Aboriginal groups depended largely on the environment in which they lived. A range of resources were available within the sub-alpine region, including possum, snakes, wallabies and kangaroos, wombats, emus, brolgas and other birds, lizards, turtles, fish, yabbies, and Bogong moths were considered an important protein source during the summer months. Plant sources such as yams, berries and seeds of grasses were also eaten, along with the native carrot, orchid tubers, native flax seeds, and fern roots. There was anecdotal evidence that the moths were cooked and pounded into cakes, which resembled lumps of fat and then smoked to preserve them for as long as possible (Flood 1973).

Post Contact Occupation

Following the establishment of the first European settlement at Sydney Cove, the need for additional agricultural land was identified, as Sydney Cove was considered unsuitable for farming. By November 1788, food supplies were running low for the settlement, and an expedition led by Governor Philip set off up the Parramatta River in search of arable land. An area known as Rose Hill (now Parramatta) was settled by a small group of 11 soldiers and 10 convicts. The grain crops at Sydney Cove failed, and the settlement at Rose Hill was ordered to be used for agriculture. These

crops were luckily successful, and a further settlement comprising a convict farm was established at Toongabbie.

Exploration of the wider region continued, and in 1791, expeditions travelled the Hawkesbury and Nepean areas, identifying them as likely spots for agriculture. The first land grants in the Blacktown District were made in 1791, with 13 people granted land at Prospect Hill. By 1800, the population of the Blacktown area was 16.

However, more land for grazing was always necessary for the rapidly expanding colony, and an expedition in 1820 by Joseph Wild, an ex-convict employee of Charles Throsby, headed further south and reached the lake now known as Lake George. A sighting of snow covered peaks further south may have been the Snowy Mountains, although it was considered more likely to be the alpine area around Canberra (Neal 1976:4). This area was further explored by Charles Throsby and a number of other experienced explorers, who followed the Murrumbidgee to the south until they met with an Aboriginal tribe near Billilingra who advised the area they were in was called the Monaroo.

A number of European settlements were established within the Monaro from the late 1820s, outside the area known as the Limits of Location, which contained the land within which people could legally settle. Despite the lack of unofficial sanction, at least 20 new settlers were in the area by 1828 (Dibden 2019:61).

Development of Cooma and Surrounds

Further expansion occurred in the 1830s, with many new towns and villages established. The Monaro highland region was occupied by squatting runs by the late 1830s, with both sheep and cattle grazing the area. Stock were moved from the valleys, which they occupied in autumn and winter, to the higher alpine pastures in summer (HO DUAP 1996:119). This practice, known as transhumance, ceased in 1957 following acknowledgement of the damage being done to fragile ecosystems in the alpine regions.

By the mid 1840s, a list of lessees and runs in the Monaro Pastoral District showed a total of 172 runs in the area, although only 130 of these were within the specific Monaro area itself (HO DUAP 1996:119).

Kuma (Cooma) station was established by 1834 and was owned by Cooper & Levy, and later by James Kirwan. A residence and office were constructed in 1837 at the southern end of the future Lambie Street in Cooma, for the Crown Lands Commissioner for Maneroo, Mr John Lambie.

A Plan for the Village of Cooma was produced by Surveyor Thomas Townsend in 1849, which showed two main groups of buildings within the village. Land sales occurred in the area in 1850 and an inn opened in 1854.

The discovery of gold in the region in 1859 near Kiandra, and this led to miners and prospectors flocking to Cooma to try their luck on the goldfields. The goldrush was relatively short lived in the region and ended in the 1880s.

The arrival of the railway in 1889 provided access to the nearby snowfields, allowing Cooma to develop as a winter tourist town. Races were first held in the late 1860s or early 1870s (HO DUAP 1996: 123), and the formation of the Kiandra Snow-Shoe Club in 1870 showed the appeal of snow sports in the area. Hotel Kosciusko opened in 1909 and mountain tourism increased from then on. Skiing resorts were also established in the area, with Perisher Blue established in 1939 and Thredbo from 1957. Both of these led to further growth in the area to support the tourism industry.

Cooma was also the headquarters of the Snowy Mountains scheme, which saw an influx of migrants from around the world come to work on the enormous scheme.

Snake Creek Geological Area

The geology of Cooma was under investigation as early as the 1850s, when the potential for gold to be present was noted and detailed geological surveys were undertaken, such as that by Reverend W. B Clarke in 1851 and reported in numerous newspapers of the time. The geology around Cooma was noted as being significant as:

> *...it exposes in an almost continuous exposure, all rocks in the above sequence, as well as the deformation which these metasedimentary rocks have undergone. In succession, moving from the road (to the south) along Slacks Creek* [located approx. 4km west of Snake Creek], *exposures of the following are revealed: spotted granulites (i.e. granoblastic rocks, not of the granulite metamorphic facies) with biotite-rich patches, andalusite schist, cordierite schist and potassium feldspar porphyroblast bearing schist, referred to as the permeation zone. An extensive zone of retrogression to micaceous schists is exposed just to the east of the creek (Schon 1984).*

Although the above description applies specifically to Slacks Creek, located to the west of Snake Creek, the geological formation exposed along both watercourses is continuous. Additionally, Spring Creek, located approximately 1.9km west of Snake Creek, and between both Snake and Slacks Creeks, is also listed as a geological site with similar values and exposures.

Schon (1984) further notes:

> *Slacks Creek contains probably the best continuous exposure of structure and lithology within the biotite, andalusite and sillimanite (corduroy gneiss) zones of the complex. The section has been used by university groups for years without obvious damage to the outcrop, and the section, because of the almost continuous rock exposure, provides a very useful educational site. Threat to the area is low, although some of the smaller structures, especially folds, concretions and calc-silicate boudins, could be destroyed by indiscriminate hammering (Schon 1984).*

3.2 Documentary Evidence

The earliest parish map available over the study area dates to 1892 (Plate 1) and shows the northern portion of the study area as not yet alienated. The northern-most portion of the study area at the time had been reserved for police purposes by 1900, with the land most likely used for agistment of horses for police use. Further land to the north of the police land was purchased by JH Slattery by 1918 (Plate 2).

The remainder of the area had been granted to or purchased by James Fitzgerald, who then added to his holdings by 1918 when he purchased additional land to the south of his original holdings. By 1924, additional land had been purchased to the east of the original lots, with land purchased by JE Venables, GO Venables and Jas R Venables (Plate 3).

Aerial imagery from 1977 (Plate 4) shows the area as mostly cleared of vegetation with limited development within the site. Some access tracks are visible throughout the subject area and a small cluster of buildings is visible in the northern portion of the study area, just south of Snake Creek. A number of dams are also present within the site. Little had changed within the study area by 1985 (Plate 5). By 1996 (Plate 6) an additional small cluster of buildings was present on the eastern boundary of the site, although little else had occurred. The area appeared to have been utilised for agricultural purposes.

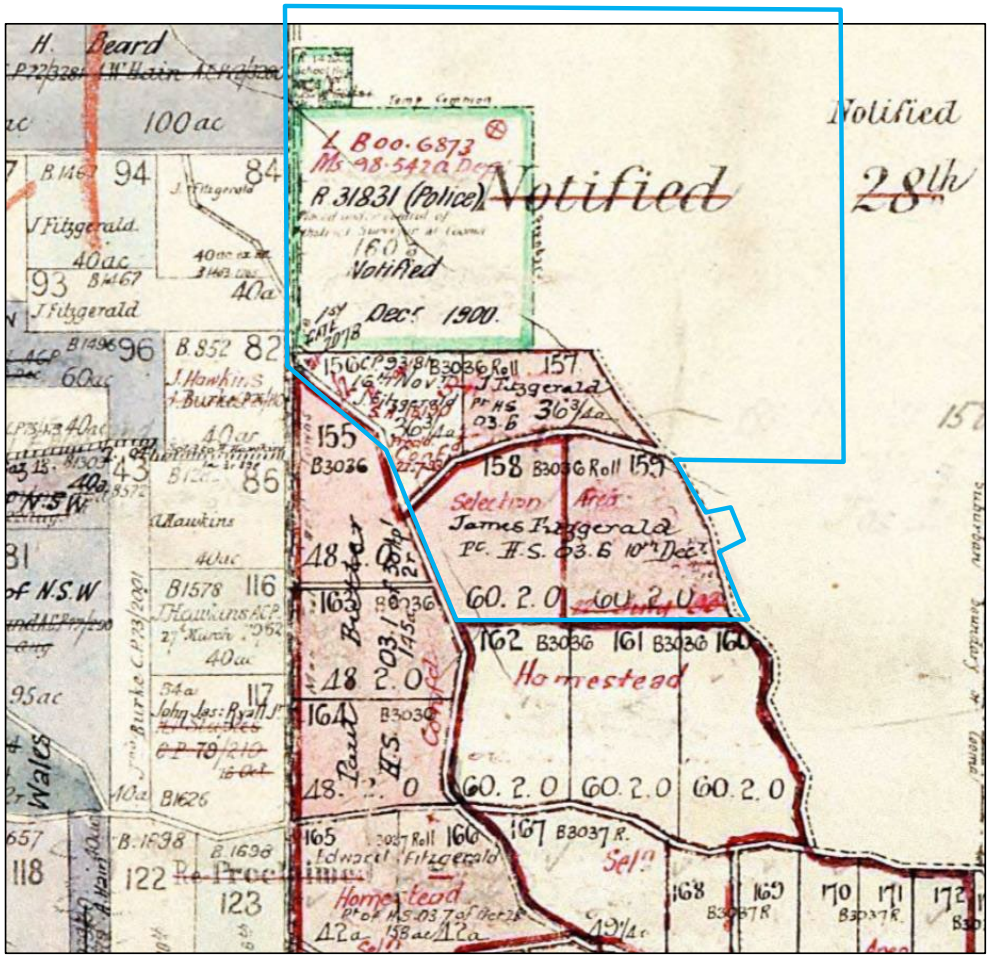

Plate 1: 1892 Parish of Binjura County of Beresford map, approx study area outlined in blue.

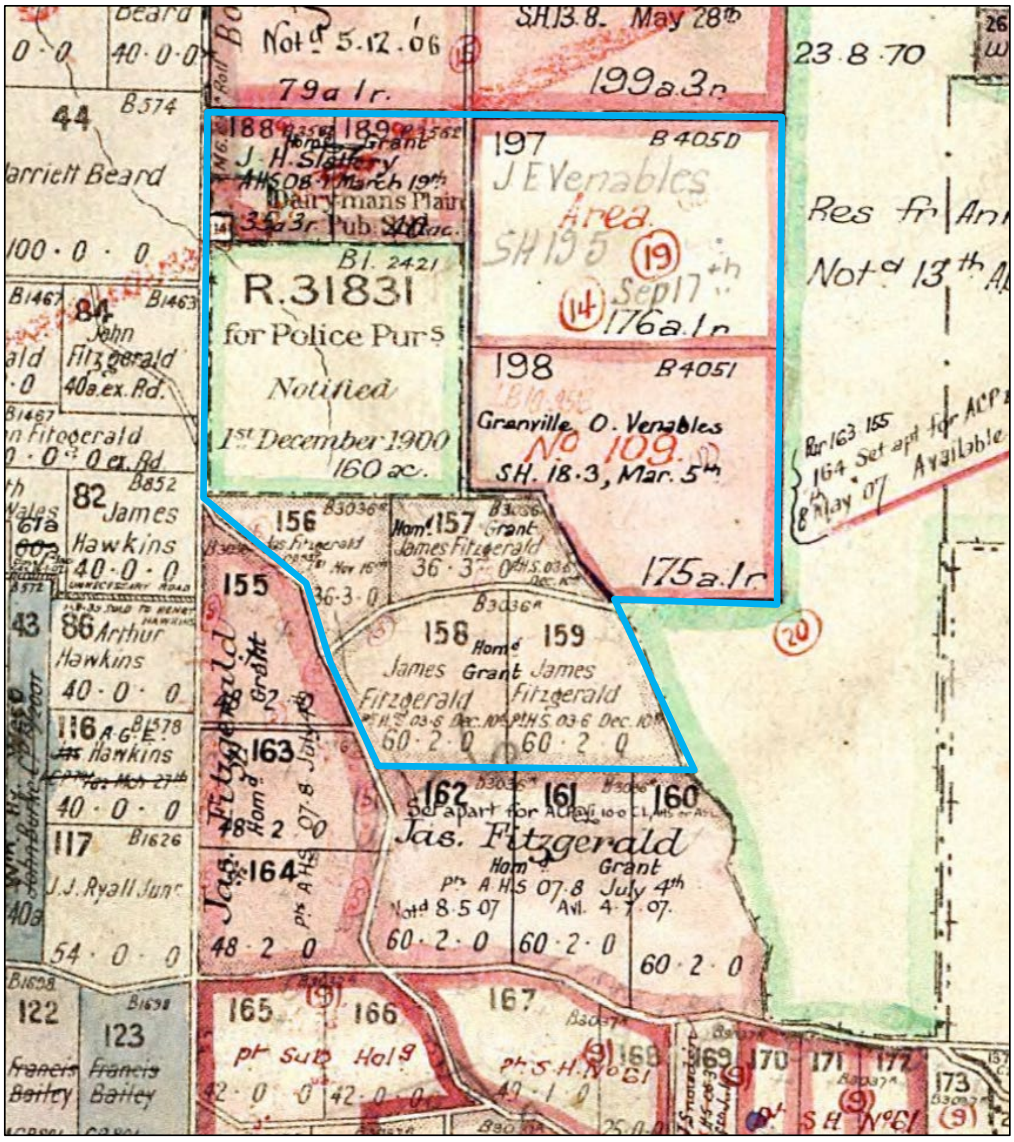

Plate 2: 1918 Parish of Binjura County of Beresford map, approx study area outlined in blue.

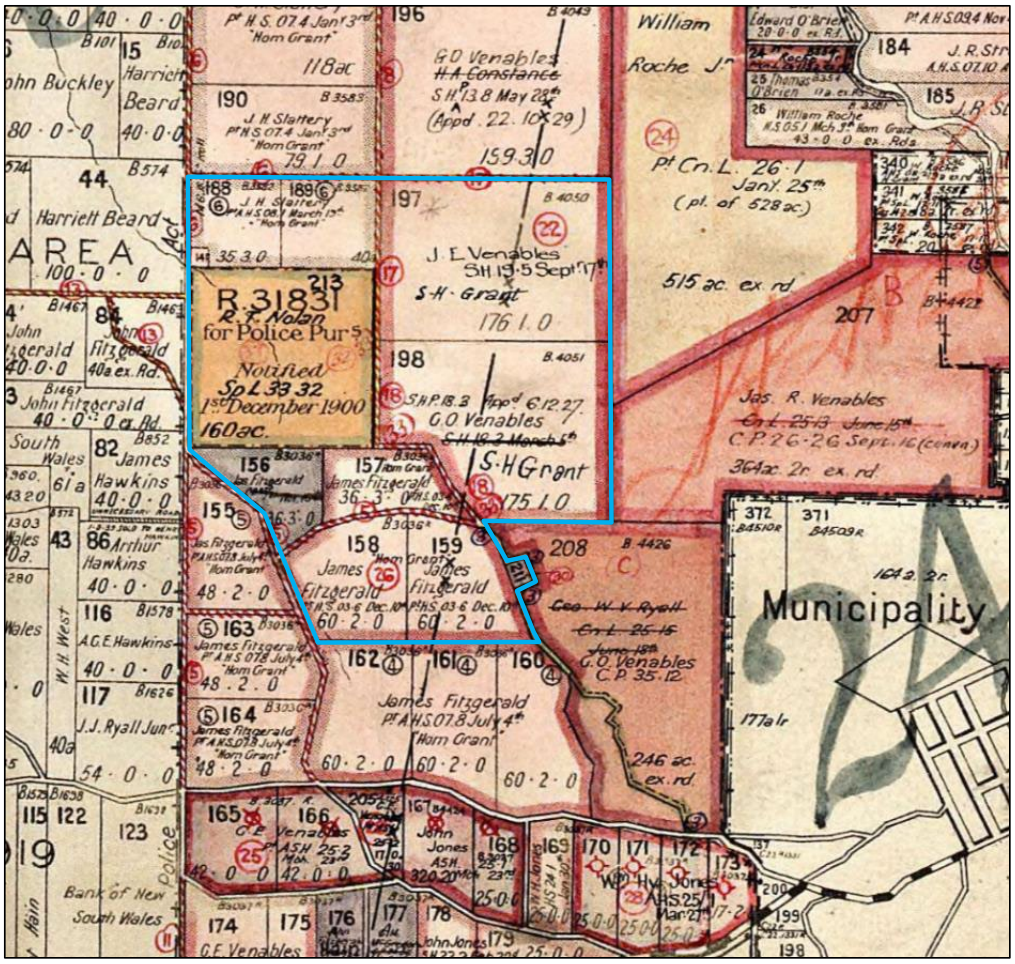

Plate 3: 1924 Parish of Binjura County of Beresford map, approx study area outlined in blue.

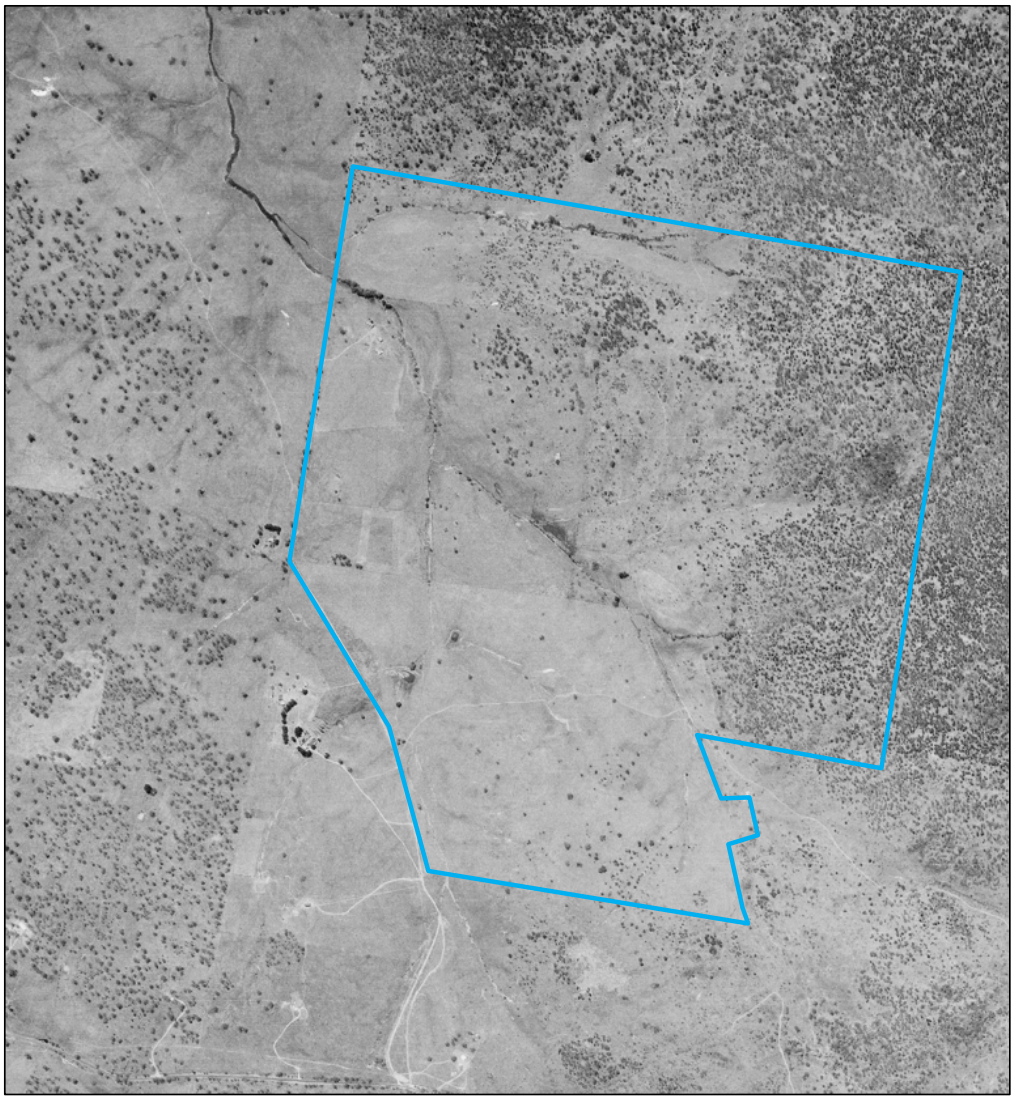

Plate 4: 1977 aerial imagery. Approx study area in blue.

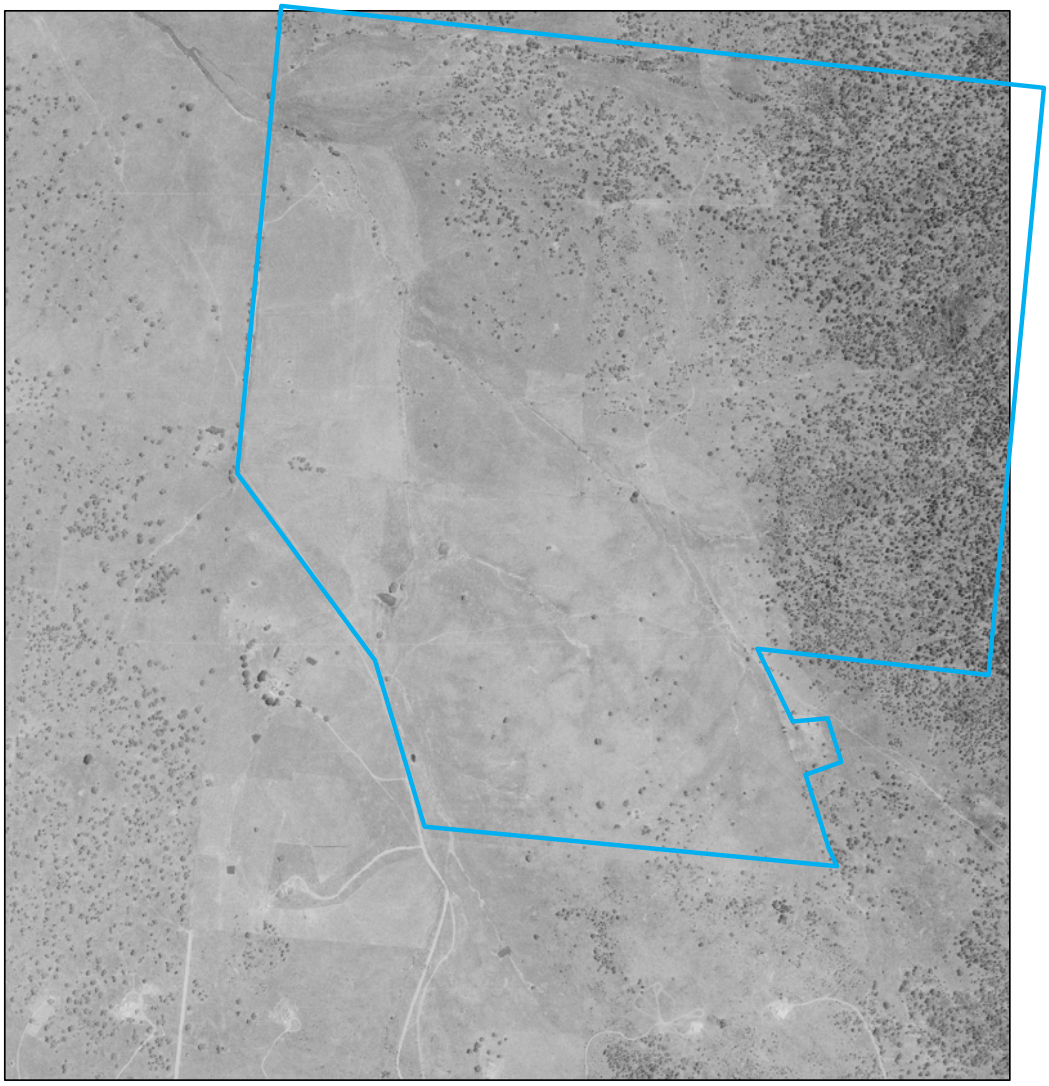

Plate 5: 1985 aerial imagery. Approx study area in blue.

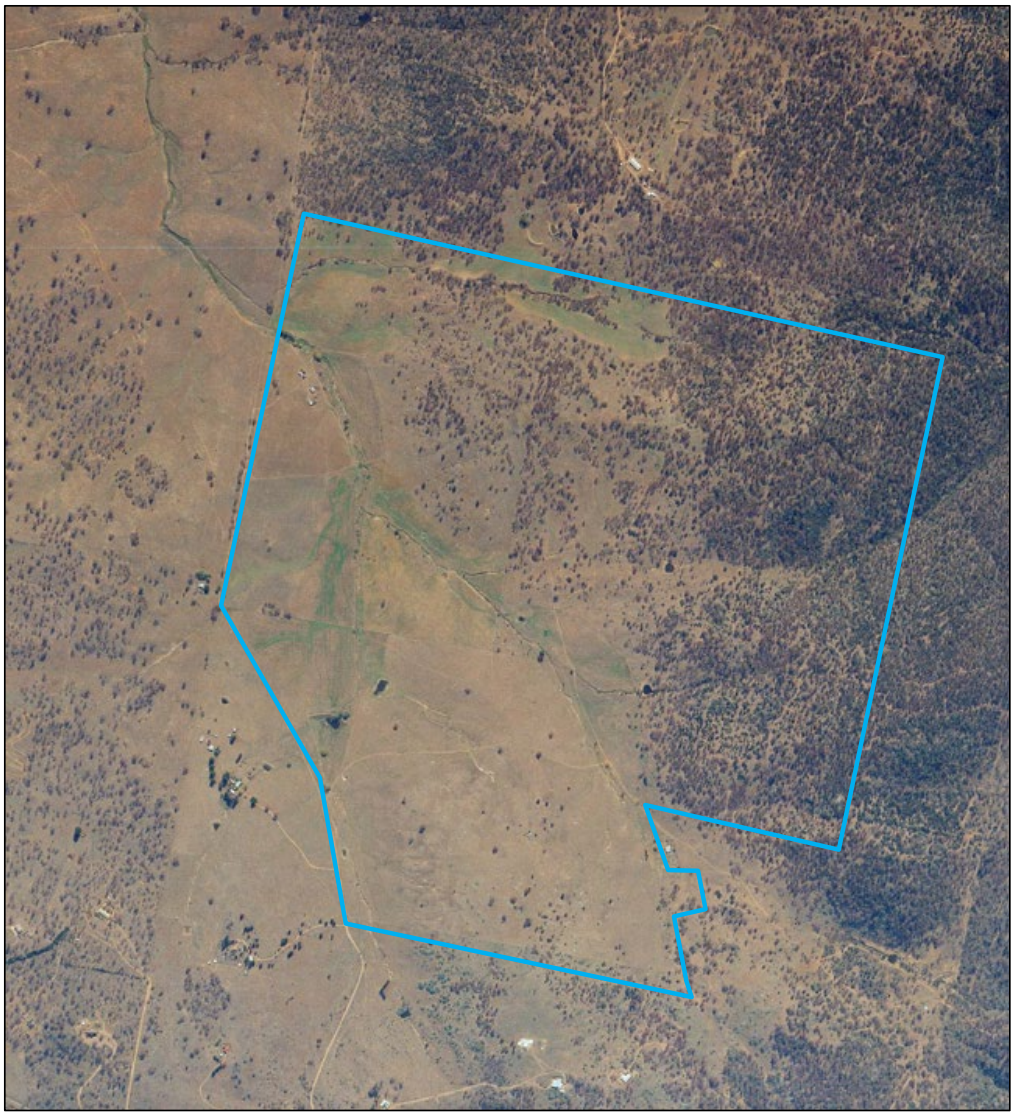

Plate 6: 1996 aerial imagery. Approx study area in blue

4.0 Step 4: Visual Inspection

A visual pedestrian inspection of the study area was undertaken on 27 September 2020 by Leigh Bate, Archaeologist with Apex Archaeology. The current condition of the site was investigated and photographs for context were taken. The potential for the proposal to impact historic relics was assessed.

4.1 Site Description

The study area comprises a relatively open, gently undulating rural landscape. The area has been cleared of historical vegetation and now contains pasture grasses. Paddocks are fenced with rural type fencing. Outcropping basalt is present throughout the site and particularly along Snake Creek.

Plate 7: General view looking at the southern portion of the study area.

Plate 8: Looking north east from the southern boundary of the study area.

Plate 9: Looking north east towards the eastern boundary of the study area

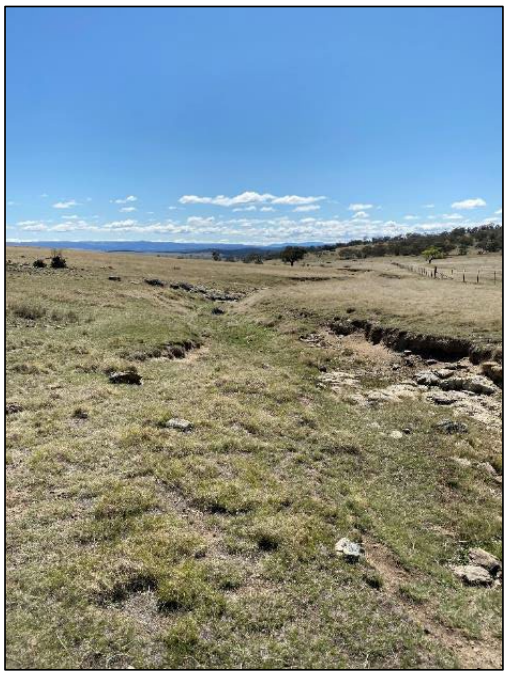

Plate 10: Looking along Snake Creek within the central portion of the study area.

Plate 11: Looking south along the central portion of the study area.

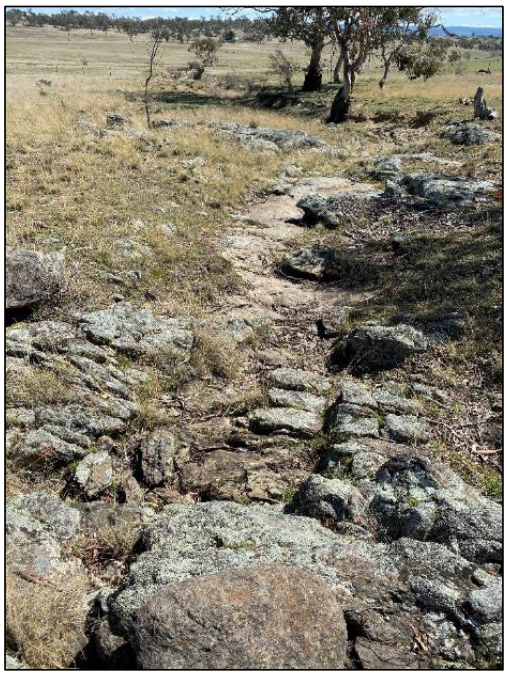

Plate 12: Looking west downslope along a drainage line within the central portion of the study area.

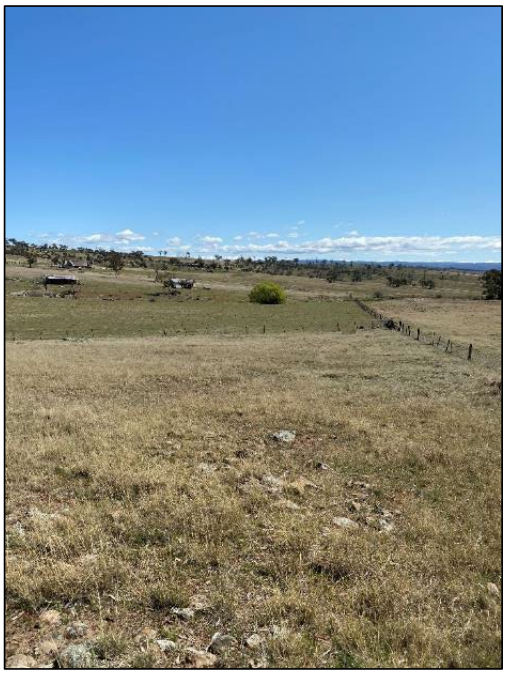

Plate 13: Looking towards the western boundary of the study area.

Plate 14: Looking towards the northern boundary of the study area

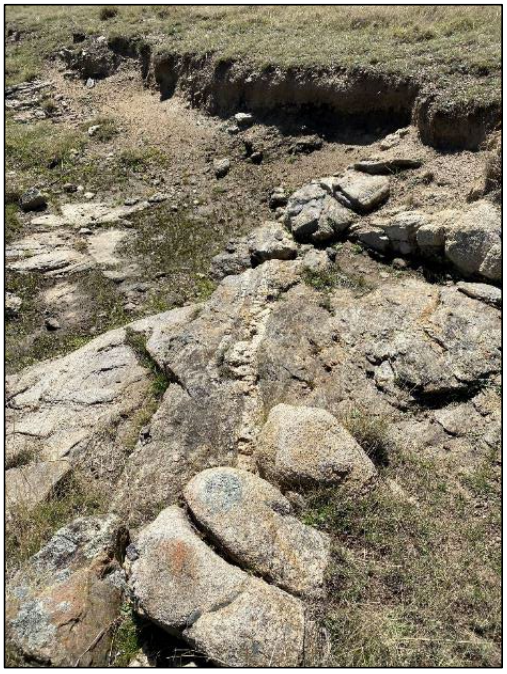

Plate 15: Outcrops associated with the Cooma Complex along Snake Creek.

4.2 DISCUSSION

Limited development has occurrent within the study area, beyond clearing of original vegetation in the historical period. No newly identified heritage items were identified within the study area. There is no evidence of historical construction or use of the area which would have resulted in intact historical relics or archaeological deposits being present within the study area.

The Snake Creek area was inspected and noted to be generally undisturbed and in a natural, original condition, aside from vegetation clearing in the vicinity.

5.0 Assessment of Significance

5.1 Understanding Heritage Significance

All places have unique combinations of values, and as such it is important to understand these values prior to making decisions about the future of a heritage item. This way heritage values can be retained when making decisions relating to the future management of a place.

A statement of heritage significance is prepared to summarise an item's heritage values.

5.2 Heritage Significance

The study area contains a conservation area considered to be of local heritage significance. The statement of significance for Snake Creek (geological site) Conservation Area as per the SHI database states "Geological features adjacent to multiple lots. Site not inspected in 2007".

5.3 Assessment of Criteria

The Heritage Council of NSW prepared a set of seven criteria for use in assessing heritage significance. Items are considered significant on two levels, these being State and local significance.

The following assessment of significance has been prepared in accordance with the *Assessing Heritage Significance* 2023 guidelines issued by the NSW Department of Planning and Environment. The following assessment considers the current study area specifically.

a) **An item is important in the course, or pattern, of the local area's cultural or natural history**

The study area contains part of the Snake Creek geological site conservation area, which is considered important in demonstrating the geological history of the area.

b) **An item has strong or special associations with the life or works of a person, or a group of persons, of importance in the local area's cultural or natural history**

The study area is not associated with any specific person or groups of people, and as such does not hold significance under this criterion.

c) **An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area**

The study area does not hold significance under this criterion.

d) **An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons**

The study area is not associated with any specific community or cultural group in the local area, and as such does not hold significance under this criterion.

e) An item has potential to yield information that will contribute to an understanding of the local area's cultural or natural history

Snake Creek geological site is considered to hold educational potential with regard to the natural (geological) history of the area. However, the wider study area is not considered to have any research potential with regard to cultural or natural history.

f) An item possesses uncommon, rare or endangered aspects of the local area's cultural or natural history

Snake Creek geological site is an uncommon site type in the local area, although both Slacks Creek (approx 4km to the west of the study area) and Springs Creek (approx 1.9km to the west of the study area) are both considered to demonstrate similar geological features as those seen at Snake Creek.

g) An item is important in demonstrating the principal characteristics of a class of the local area's

- **Cultural or natural places; or**
- **Cultural or natural environments**

The study area in general is not considered important in demonstrating the principal characteristics of the local area's cultural or natural places or environments, although Snake Creek itself is considered to demonstrate the principal characteristics of the local area's natural places and environment.

5.4 Statement of Significance

Snake Creek is considered to have significance in demonstrating the geological history od the region, along with the principal characteristics of the local area's natural places and environment. It is also considered to have educational potential and is a relatively uncommon site type in the area.

The wider development area outside of the S is not considered to have significance under any of the criteria.

6.0 Assessment of Heritage Impact

The proposed development works have the potential to impact on the heritage significance of the Snake Creek (Geological Site) Conservation Area, as well as any potential heritage sites which may fall within the study area. A Statement of Heritage Impact assists in the decision-making process when assessing the impact a development proposal may have on the heritage significance of heritage items.

6.1 Potential Impact

The proposed development has the potential to impact on the heritage significance of the heritage item through altering the setting and aesthetic of the area. Construction works such as levelling, construction of services, and other associated earthworks could impact any historical relics or items which may be present within the study area.

6.2 Impact Assessment

The study area itself has not been identified as having archaeological potential for historical relics to be present, as there is no evidence of previous construction within the site. As such, the proposed development is considered unlikely to impact on any historical relics or archaeological deposits within the study area.

The proposed development has the potential to impact on the heritage values of Snake Creek itself, through disturbance associated with the proposed development works. The development includes subdivision of the site to create residential lots with defined building envelopes within each lot. Construction works would be limited to within these envelopes. All proposed building envelopes are outside of the conservation area associated with Snake Creek and thus is unlikely to impact on the heritage significance of this item.

One small section of the creek may be impacted by construction of an internal access road (Road 4) as shown on Figure 5, outlined in orange.

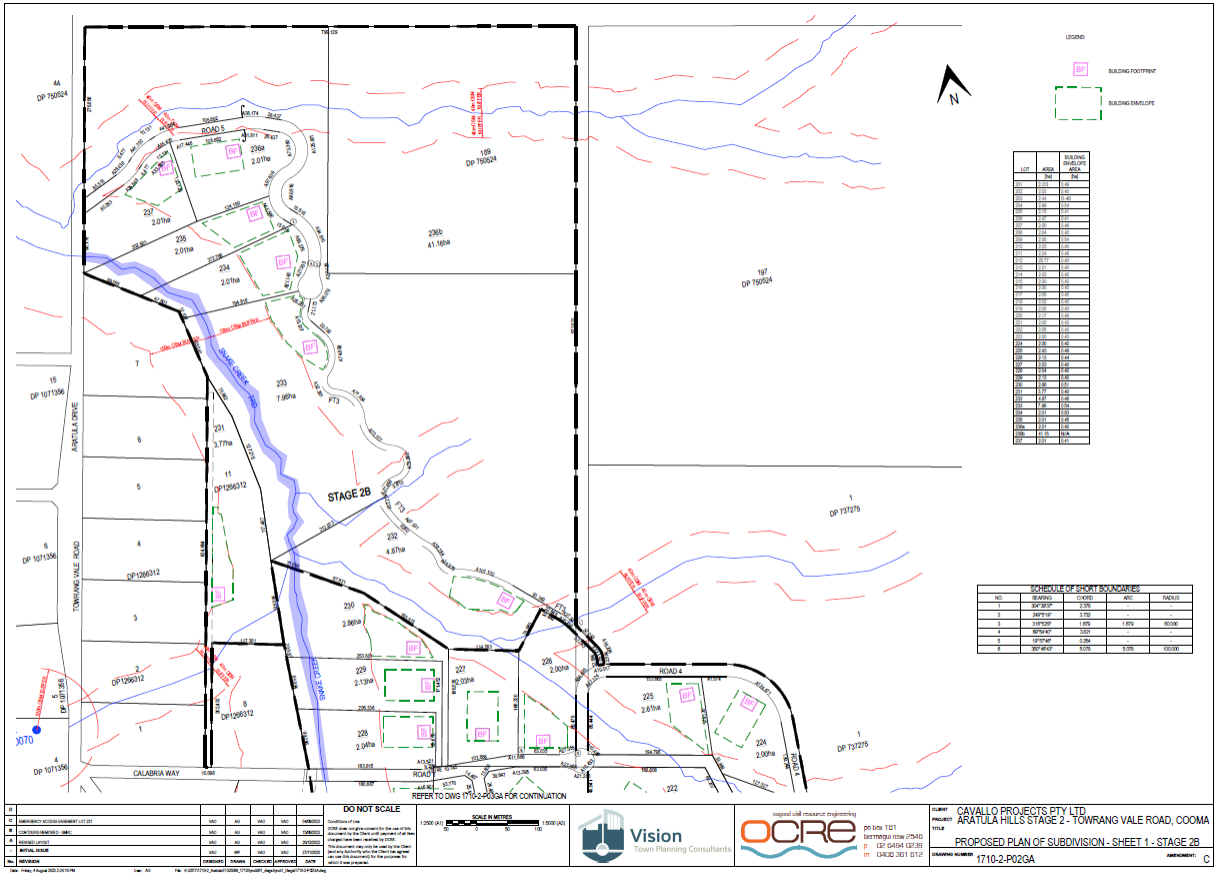

Figure 4: Building footprint (BF) and building envelopes (outlined in green) within each proposed lot. Snake Creek Conservation Area shaded blue.

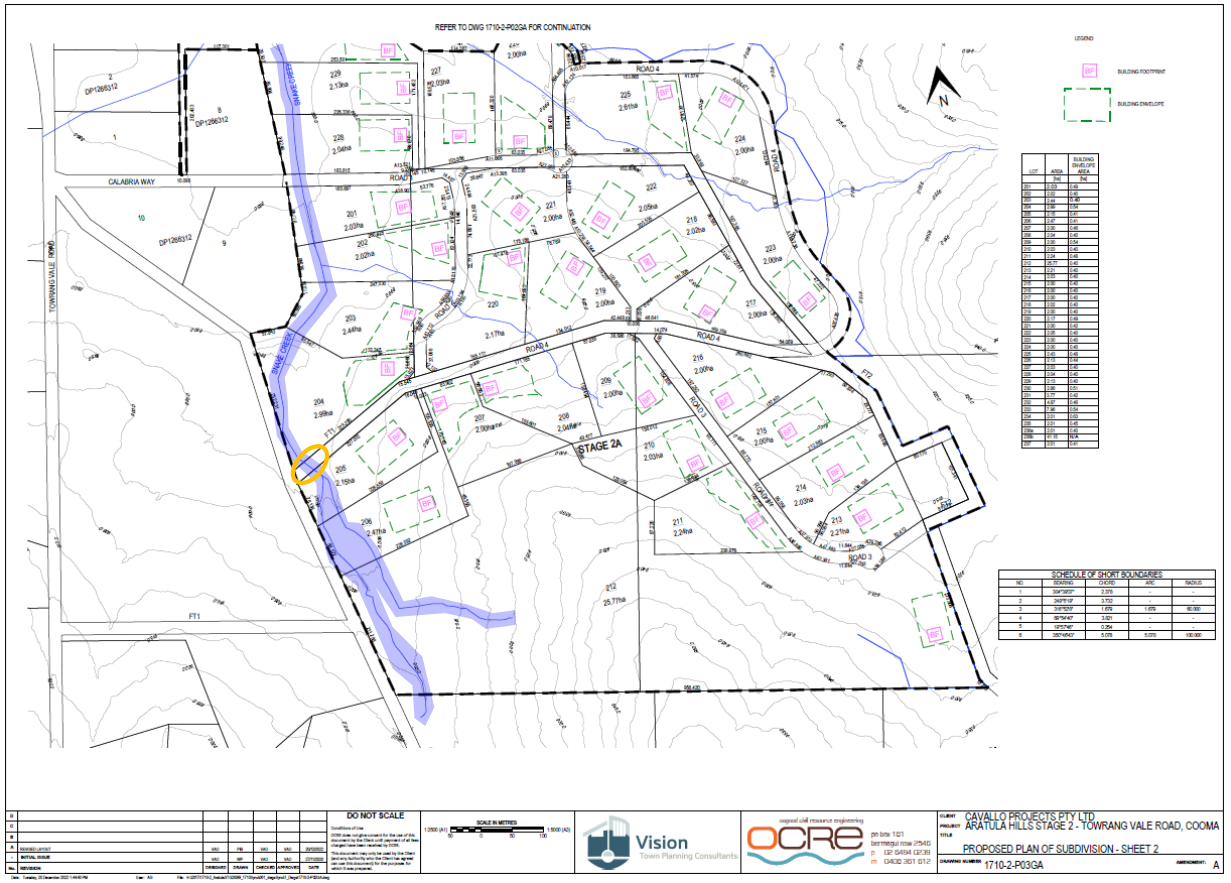

Figure 5: Building footprint (BF) and building envelopes (outlined in green) within each proposed lot. Snake Creek Conservation Area shaded blue.

6.3 Statement of Heritage Impact

The following table outlines the statement of heritage impact for the site, with the proposed change to the heritage item relating to subdivision of land containing a heritage item, as well as to works adjacent to a heritage item or heritage conservation area.

Table 2: Questions from DPE 2023b *Guidelines for preparing a statement of heritage impact*

Questions to be answered	Answer
Will the proposed subdivision retain an adequate setting or context for the heritage item?	The proposed subdivision comprises large lots of at least 2 hectares each, with individual building envelopes within each lot. These envelopes will ensure all development within the lots will be located at a distance from Snake Creek and hence the conservation area associated with the creek, and are considered to retain an adequate setting and context for the item.
Could the proposed subdivision compromise the heritage significance of the heritage item?	The proposed subdivision is considered unlikely to compromise the heritage significance of the Snake Creek geological site.
Do the proposed works comply with the *Subdivision and NSW State Heritage Register items policy* (Heritage NSW 2019)?	There are no items listed on the SHR within or adjacent to the study area and therefore compliance is not required in this instance.
Will the proposed works affect the heritage significance of the adjacent heritage item or the heritage conservation area?	There are no adjacent heritage items that would be impacted by the proposed works. Appropriate building envelopes have been proposed within each new lot that will assist in retaining the significance of the conservation area within the study area, and thus the proposed works would not affect the heritage significance of the heritage conservation area.
Will the proposed works affect views to, and from, the heritage item? If yes, how will the impact be mitigated?	The subdivision includes large rural lots with defined building envelopes which are sited at a distance from the heritage items. The low density of the proposed future residential development would not affect views from or to the heritage item.
Will the proposed works impact on the integrity or the streetscape of the heritage conservation area?	The proposed development works would have a minor impact on the integrity of the heritage conservation area through construction of an internal access road (Road 4). The remainder of the heritage conservation area would not be impacted by the proposed works.

7.0 Conclusions and Recommendations

7.1 Conclusions

- The study area contains a heritage conservation area, known as the Snake Creek (geological site) Conservation Area.
- This item is listed for its geological values.
- No other heritage items are listed within or in the immediate vicinity of the study area.
- No newly identified heritage items or areas of historical archaeological potential were identified within the study area.
- The proposed subdivision of the site is considered unlikely to impact on the heritage values of the conservation area.

7.2 Recommendations

Recommendation 1: No Further Works Required

On completion of this Statement of Heritage Impact, no further archaeological or heritage assessment is required prior to the commencement of development works.

Recommendation 2: Stop Works Provision

Should any unexpected relics be identified during works, works should cease in the area of the find and an archaeologist contacted to make an assessment of the find. Consultation with Heritage NSW may be necessary and approvals may be required before works are able to recommence in the area.

Recommendation 3: Site Works

Works should be constrained to the area assessed as part of this assessment. Any amendment to the study area boundaries to include additional areas not assessed may require further assessment prior to the commencement of works.

Amendment of the proposed building envelopes within the subdivision may require further heritage assessment to determine if the heritage values of the conservation area would be impacted by the proposed works.

8.0 BIBLIOGRAPHY

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Dibden, J. 2019, *Snowy 2.0 Main Works Historic Cultural Heritage Assessment.* Flood, J. 1973 The moth hunters – investigations towards a prehistory of the southeastern highlands of Australia. Unpublished PhD Thesis. Australian National University: Canberra

Evans, GW. 1815, *Two Journals of Early Exploration in New South Wales, by George William Evans, Assistant Surveyor of New South Wales; Sourced from Commonwealth of Australia Historical Records of Australia Series I. Governors' Despatches to and from England, Volume VIII. July 1813-December 1815.* The Library Committee of the Commonwealth Parliament, 1916.

Heritage Office and Department of Urban Affairs and Planning. 1996, *Regional Histories of New South Wales.*

NSW Heritage Office and Department of Infrastructure Planning and Natural Resources. 2001, *NSW Heritage Manual,* Sydney.

McHugh, S. 2019, *The Snowy: A History.* Newsouth, Sydney.

National Museum of Australia. 2021, 'Defining Moments: Snowy Mountains Hydro'. Online resource, available from https://www.nma.gov.au/defining-moments/resources/snowy-mountains-hydro#:~:text=The%20Snowy%20Mountains%20Hydro%2DElectric%20Scheme%20was%20one%20of%20the,of%20roads%20and%20train%20tracks.

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Peterson, N (ed). 1976, *Tribes and Boundaries in Australia – Ecology, spatial organisation and process in Aboriginal Australia.* Australian Institute of Aboriginal Studies, Canberra.

Schon, R.W. 1984, *The Geological Heritage of New South Wales: Volume 3.* Report to the Australian Heritage Commission and the New South Wales Department of Environment and Planning.

Tindale, N.B. 1974, *Aboriginal Tribes of Australia – Their Terrain, Environmental Controls, Distribution, Limits and Proper Names.* Online resource, accessed from http://archives.samuseum.sa.gov.au/tribalmap/index.html

APPENDIX A: HERITAGE LISTING

Item Details

Name

Snake Creek (geological site) Conservation Area

SHR/LEP/S170

LEP #C9

Address

DAIRYMANS PLAINS NSW 2630

Local Govt Area

Snowy Monaro Regional

Local Aboriginal Land Council

Unknown

Item Type	Group/Collection	Category
Conservation Area	Exploration, Survey and Events	Other - Exploration, Survey & Events

All Addresses

Addresses

Records Retrieved: 1

Street No	Street Name	Suburb/Town/Postcode	Local Govt. Area	LALC	Parish	County	Electorate	Address Type
		DAIRYMANS PLAINS/NSW/2630	Snowy Monaro Regional	Unknown			Unknown	Primary Address

Boundary Description

Adjacent to Lots 16, 44, 47, 83 & 213 DP 750524 and Lot 21 DP 826170

Significance

Statement Of Significance

Geological features adjacent to multiple lots.

Site not inspected in 2007.

Owners

Records Retrieved: 0

Organisation	Stakeholder Category	Date Ownership Updated
No Results Found		

Description

Designer **Builder/Maker**

Physical Description **Updated**

Geological features adjacent to multiple lots. Snake Creek rises immediately west of Cooma and flows into the Murrumbidgee River. The site provides a geological section through the Cooma Complex (NSW Department of Primary Industries, 2007, correspondence to Council).

Physical Condition **Updated**

Modifications And Dates

Further Comments

Current Use

Former Use

Listings

Listings

			Records Retrieved: 1		
Heritage Listing	**Listing Title**	**Listing Number**	**Gazette Date**	**Gazzette Number**	**Gazzette Page**
Local Environmental Plan	Cooma-Monaro Local Environmental Plan 2013	C9	10/25/2013 12:00:00 AM		90

Procedures/Exemptions

Records Retrieved: 0

Section of Act	Description	Title	Comments	Action Date	Outcome
No Results Found					

History

Historical Notes or Provenance **Updated**

Historic Themes

Records Retrieved: 0

National Theme	State Theme	Local Theme
No Results Found		

Recommended Management

Management Summary

Management

Records Retrieved: 2

Management Category	Management Name	Date Updated
		7/11/2023 1:32:01 PM
Statutory Instrument	List on a Local Environmental Plan (LEP)	

Report/Study

Heritage Studies

Records Retrieved: 0

Report/Study Name	Report/Study Code	Report/Study Type	Report/Study Year	Organisation	Author
No Results Found					

Reference & Internet Links

References

Records Retrieved: 0

Type	Author	Year	Title	Link
No Results Found				

Data Source

The information for this entry comes from the following source:

Data Source	Record Owner	Heritage Item ID
Local Government	Snowy Monaro Regional Council	1410423

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to **council@snowymonaro.nsw.gov.au**

SOILANDWATER

ARATULA HILLS STAGE 2 - LAND CAPABILITY ASSESSMENT

Version 1
25 January 2023

Franklin Consulting Australia Pty Limited

ACN: 611 394 953
ABN: 59 611 394 953

GPO Box 837
Canberra ACT 2601
Phone: (02) 6179 3491
Mobile: 0490 393 234
E-mail: soil.land.water@gmail.com

Servicing the agriculture, conservation and development sectors with soil and water management advice, land capability and soil assessment, erosion control and soil conservation planning, catchment and property planning, and natural resource management policy advice.

Contents

ASSESSOR DETAILS

John Franklin M App Sc, BSc, EIANZ, CEnvP

Franklin Consulting Australia Pty Ltd
(trading as) Soil and Water

GPO Box 837
Canberra ACT 2601

soil.land.water@gmail.com

P (02) 6179 3491

M 0490 393 234

John Franklin has over 26 years' experience in natural resource management in the ACT and Upper Murrumbidgee region. This experience includes providing extensive soil and water management advice to State and Local Government and the urban / rural residential development sector across the region. John has detailed knowledge of water resource policy and developed the NSW Farm Dams Policy in 1999 for the Department of Land and Water Conservation and provided strategic support and direction to the NSW water reform process.

Franklin Consulting Australia Pty Ltd holds Workers Compensation, Professional Indemnity and Public Liability cover.

LAND CAPABILITY ASSESSMENT

PROJECT DESCRIPTION	
Summary	Soil and Water was engaged by Cavallo Projects Pty Ltd, to assess the proposed development of a 38 lot subdivision [Stage 2] at Towrang Vale Road, Cooma. Stage 2 is located across Lot 1 DP 737275; Lots 157,158,159, 189, 197 & 211 DP 750524 and; Lot 11 DP 1266312 . Building lots range in size from 2 – 25.77 hectares in size. Each lot includes a Building Envelope of 4000-6300m^2. There is a large residual lot (Lot 236b) of 41.16 hectares which does not include a Building Envelope. An effluent disposal area of 1300m^2 has also been identified within the Building Envelope of each lot. The subdivision will be developed in two stages. Stage 2A comprises of 30 dwelling lots with Stage 2B having 7 dwelling lots and a residual lot with no Building Envelope. Refer to the Lot Summary below for additional detail. The development borders a previously developed 10 lot subdivision on Lots 156 & 213 DP 750524 to the northwest. The purpose of this assessment is to determine the suitability of the land for the planned 37 rural residential dwelling lots based on an analysis of constraints to the disposal of effluent and the construction of dwellings on each lot. Constraints to on-site effluent management and dwelling construction have been assessed in accordance with: • assessment of on-site effluent capability, based on Appendix C of ANZ Standard 1547:2012, *Site and Soil Evaluation for Planning, Rezoning and Subdivision of Land* and also the NSW guideline*, The Silver Book*; • assessment of land capability for dwellings is based on excluding land which has a slope grade in excess of 15 %, is seasonally waterlogged or eroding and, as a result, is constrained for the construction of dwellings. Potable water supply to service the dwelling lots will be through the independent capture and storage of roof water in potable water tanks. All lots will dispose of domestic effluent on-site via independent treatment and dispersal systems. It is recommended that all lots install secondary treatment systems (including disinfection), with the dispersal of treated effluent through surface spray or drip irrigation. The use of a primary treatment system (septic tank) and absorption bed is not recommended due to limited soil depth in many parts of the landscape, combined with lower permeability subsoils and the sensitive receiving environment in Snake Creek, which drains the area. It is considered that there are adequate areas of suitable site and soil conditions on all lots to enable the on-site disposal of effluent associated with proposed dwelling

lots. A suitable area of 1300m^2 has been identified within each Building Envelope for on-site effluent disposal activities.

There are adequate areas of unconstrained land within the identified Building Envelope for the construction of dwellings on each of the proposed lots.

Lot Summary

STAGE 2A

LOT	AREA	BUILDING ENVELOPE (HA.)	EFFLUENT DISPOSAL AREA m^2
201	2.03	0.49	1300
202	2.02	0.40	1300
203	2.44	0.40	1300
204	2.99	0.54	1300
205	2.15	0.41	1300
206	2.47	0.41	1300
207	2.00	0.46	1300
208	2.04	0.40	1300
209	2.00	0.54	1300
210	2.03	0.40	1300
211	2.24	0.48	1300
212	25.77	0.40	1300
213	2.21	0.40	1300
214	2.03	0.40	1300
215	2.00	0.40	1300
216	2.00	0.40	1300
217	2.00	0.40	1300
218	2.02	0.40	1300
219	2.00	0.40	1300
220	2.17	0.49	1300
221	2.00	0.42	1300
222	2.05	0.40	1300
223	2.00	0.40	1300
224	2.00	0.40	1300
225	2.43	0.48	1300
226	2.13	0.44	1300
227	2.03	0.40	1300
228	2.04	0.40	1300
229	2.13	0.40	1300
230	2.86	0.51	1300

STAGE 2B

231	3.77	0.42	1300
232	4.87	0.46	1300
233	7.96	0.54	1300
234	2.01	0.63	1300
235	2.01	0.45	1300
236a	2.01	0.40	1300
236b	41.16	N/A	N/A
237	2.01	0.41	1300

Key References

On-site Sewage Management for Single Households (The Silver Book) NSW Govt, 1998.

Soils and Construction: Managing Urban Stormwater - 4th Ed. Landcom NSW Government, 2004.

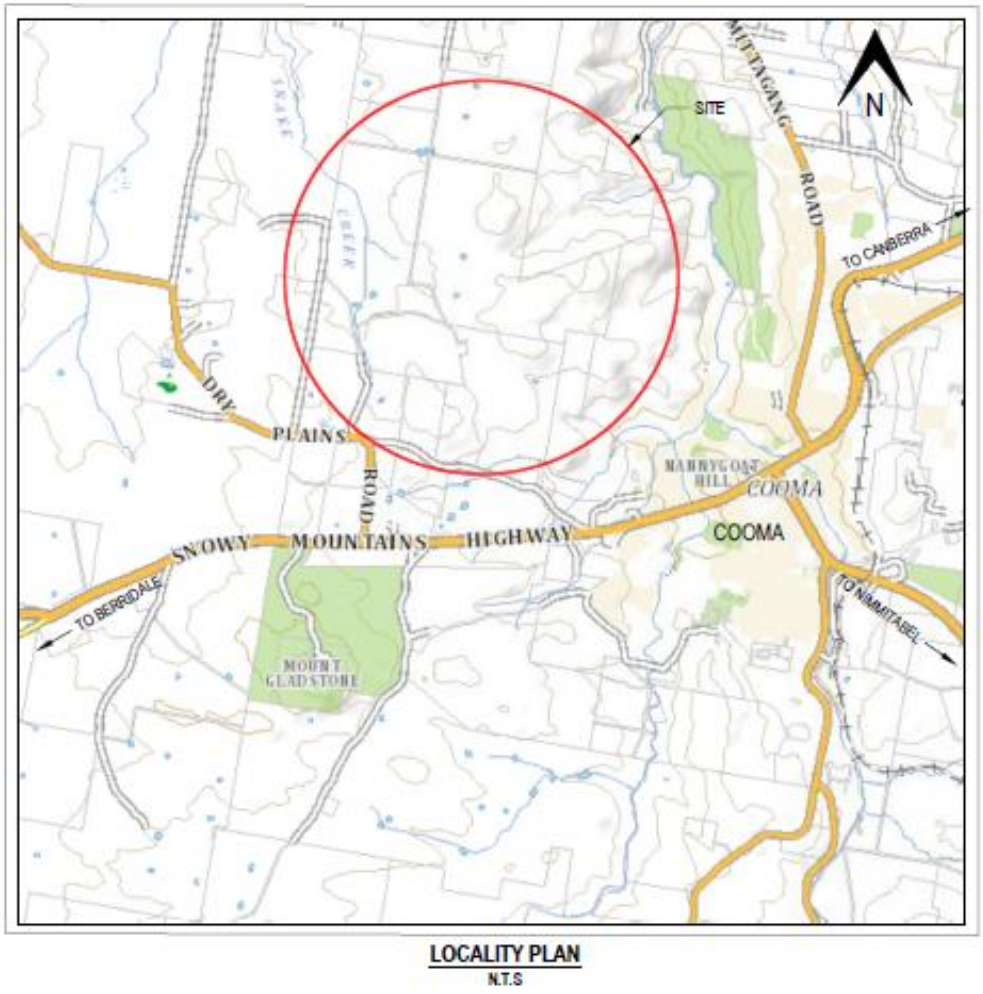
ANZ Standard 1547:2012 On-site Domestic Wastewater Management

Soil Landscapes of the Cooma 1:100,000 Sheet. Tulau,M.J. (1994) Department of Conservation and Land Management

Cooma – Monaro Local Environmental Plan (2013)

Methodology	A detailed on-site assessment of the proposed 38 lots was undertaken. The assessment included measurements of slope, aspect, exposure, visual appraisal of landform and soil conditions. The location of constraints identified during site inspection are included in the mapping provided in **Figures 5 & 6** in this report. The buffer distances required from drainage lines and dams have been mapped and are provided later in this report. Areas of rocky outcrop and erosion which are unsuited to effluent dispersal have also been mapped. The report includes a preliminary assessment of the suitability of soils for on-site effluent management. A landscape analysis of the property was undertaken and soil profiles sites were selected which were representative of all the landscape units which occur across the subdivision area. Soil profiles were augured in each of the representative landscape units on Lot 222 (sideslopes), Lot 212 (crest) and Lot 201 (lower slope/drainage depression). The soil profiles analysed are pictured and described in **Appendix 2a**. Samples were taken from the soil profile sites and laboratory soil testing was undertaken to analyse the suitability of soils for onsite effluent disposal. The results of laboratory soil testing are included in **Appendix 2b.** It should be noted that this report does not constitute a detailed Effluent Management Design Report as required by Council to approve the installation of systems associated with any new dwellings. It is expected that such reports will be required for each of the lots prior to the construction of dwellings.

SITE & DEVELOPMENT INFORMATION	
Local Government Area	Snowy Monaro Regional Council.
Address	Lot 1 DP 737275; Lots 157,158,159, 189, 197 & 211 DP 750524 and; Lot 11 DP 1266312. Towrang Vale Road, Dairyman's Plains, NSW 2630
Developer(s)	Cavallo Projects Pty Ltd



Site Location

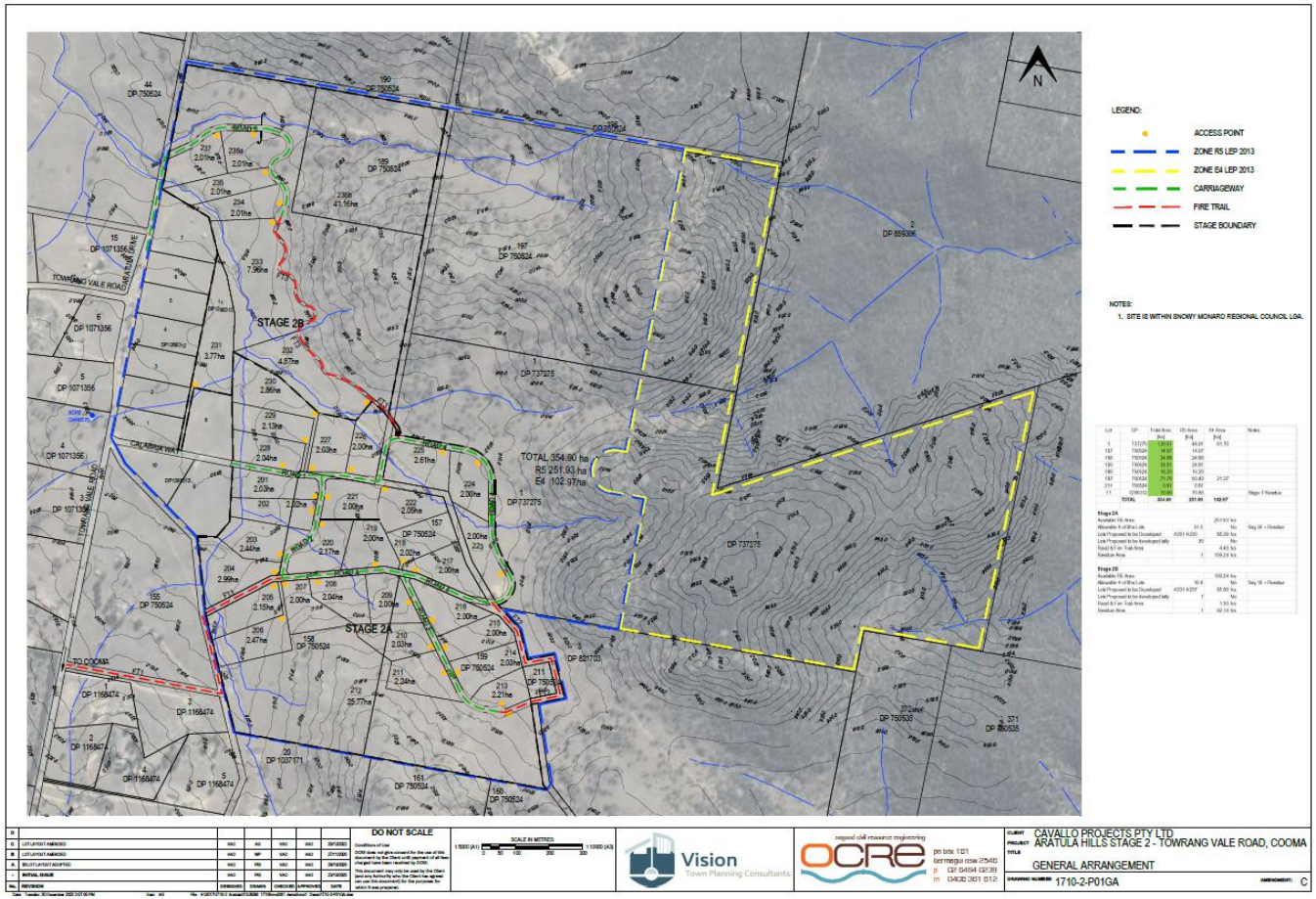


Figure 1: Block Layout

Intended water supply	Potable water provided through independent roof catchment and tank storage on each lot.
Effluent Management	Effluent for the new building envelopes created on Lots 201-237 will be managed on-site via a combination of secondary treatment systems (including disinfection) and effluent dispersal options including surface spray or drip irrigation. The use of a primary treatment system (septic tank) and absorption trench/bed is not recommended due to limited soil depth in many parts of the landscape, combined with lower permeability subsoils and the sensitive surface water receiving environment of Snake Creek.
Local experience	The major constraints related to on-site effluent dispersal are the buffer distances required from minor 1st, 2nd and 3rd Order drainage depressions including a section of Snake Creek. There are also localised areas of steep slopes, shallow soils and stony outcrop and minor erosion all of which are unsuited to effluent disposal. The lot layout and yield have been adapted to accommodate the multiple constraints identified across the property and all lots have an adequate unconstrained area available for onsite effluent disposal and dwelling construction.

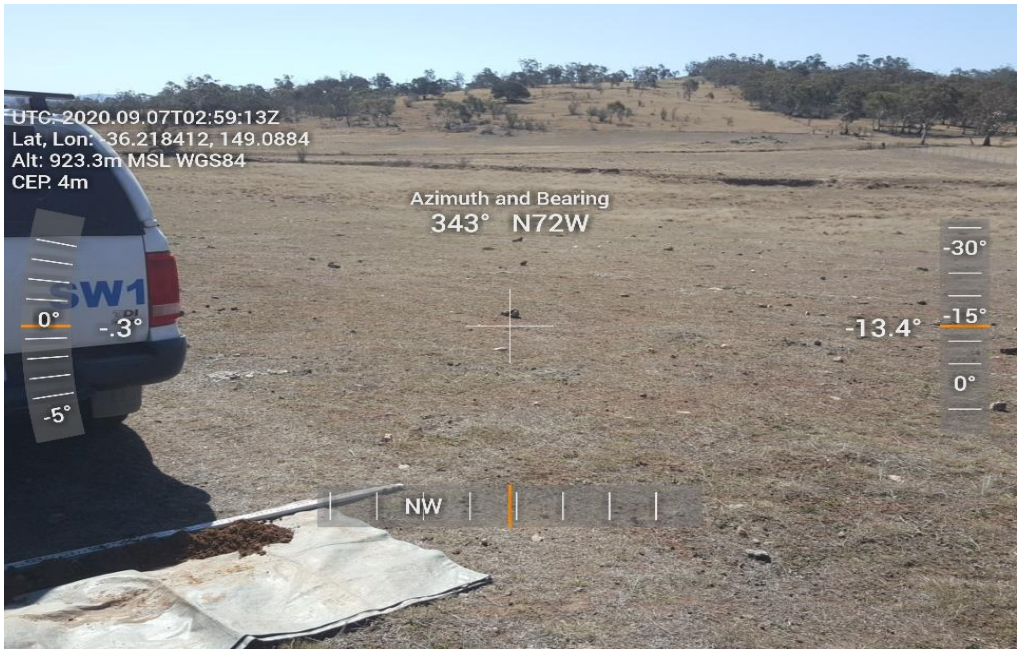


Figure 3: Gently sloping land adjacent to minor drainage depression

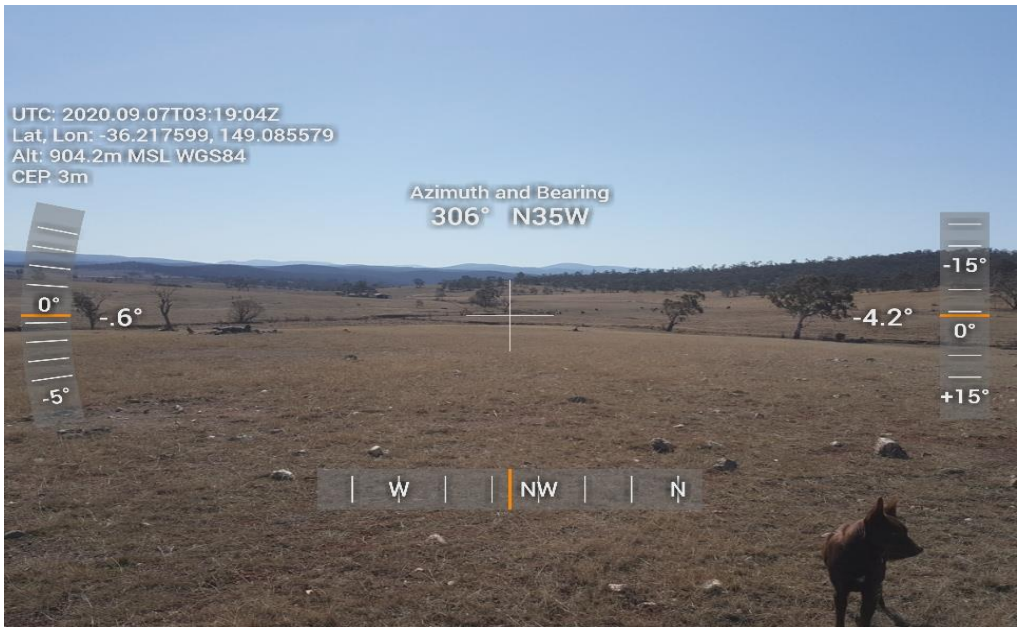


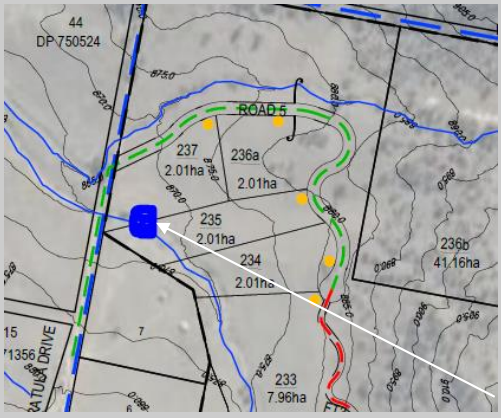
Figure 4: Gently sloping landscape generally unconstrained for effluent disposal

Figure 5: Moderately sloping landscapes generally unconstrained for effluent disposal

Figure 6: Localised area of moderate to steep slopes with outcropping rock constrained for effluent disposal

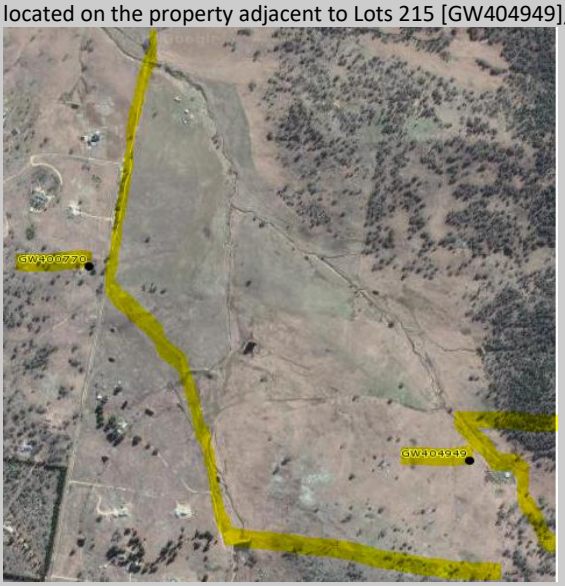
Figure 7: Looking south west from the development to neighbouring properties

SITE & SOIL ASSESSMENT	
Climate	Cool temperate climate with mean annual rainfall of approximately 550 mm, pan evaporation is 1200mm and evaporation exceeds rainfall in all months of the year. ***Climate is well suited to dispersal by surface spray or drip irrigation of secondary treated, disinfected effluent.***
Exposure	The area occupied by Stage 2 is extensively cleared with scattered remnant native trees and shrubs. Proposed effluent disposal and building areas on Stage 2 lots are located in open exposed areas with limited shading from remnant vegetation and are therefore suitable for the surface irrigation of secondary treated effluent. ***The level of exposure on Stage 2 lots is suitable for dispersal of secondary treated effluent via surface irrigation.***
Slope	The site displays a range of slope gradients, from extensive areas of gently sloping land to undulating to moderately sloping land with slopes of 8-15% across Stage 2 lots, refer **Figures 8d and 9d**. The areas of steep land with slope above 15% are constrained for effluent disposal and dwelling construction however these areas are generally confined to Lot 236b which does not contain a Building Envelope, and Lot 212 which is large with steep areas outside the Building Envelope. ***Effluent disposal and dwelling construction is moderately constrained by slope on some Stage 2 lots however not within the nominated Building Envelopes and associated effluent disposal areas.***
Landscape	The landscape is dominated topographically by the elevated vegetated areas to the east of the property with slopes falling from this feature towards the central 3rd order Snake Creek which flows through some of the lots in Stage 2. The areas considered suitable for effluent disposal and dwelling construction Building Envelopes on Stage 2 lots are generally gentle to moderately sideslope to lower slope parts of the landscape and as such generally have a divergent to flat slope form which spreads run-on/run-off. Limited areas of convergent slope form generally coincide with the central Snake Creek drainage depression and are mapped within the watercourse buffers. ***Slope form is suited to the dispersal of secondary treated effluent through surface or shallow subsurface irrigation.***
Surface rock and outcrop	The underlying geology is the Cooma Metamorphic Complex and includes micaschist, andalusite-sillimanite bearing schist, orthoclasecordierite knotted schist. In areas clos to Cooma the complex includes granodiorites, gneisses, migmatites and minor amphibolites. Rock outcrops are common in this landscape and loose surface rock is

	also prevalent. Areas of shallow stony soils and rocky outcrops have been mapped as constrained for effluent disposal in **Figure 8.** These are generally confined to Lot 236b which does not contain a Building Envelope, and Lot 212 which is large with areas of rocky outcrop outside the Building Envelope ***There are significant areas of rock outcrop and associated shallow soils which would constrain effluent disposal within Stage 2 however these are located outside the nominated Building Envelopes and associated effluent disposal areas which are unconstrained for effluent disposal. Areas of rocky outcrop associated with Stage 2 lots are not a constraint to dwelling construction.***
Hydrology	The fine sandy loam textured topsoil across the site have a moderate to high permeability, of 0.5 to 3.0 m/day. The sandy clay loam subsoils have a moderate permeability in the range of 0.5 to 1.5 m/day (from table L1 of ANZ STD 1547:2012). Approximately 5-10% of annual rainfall forms surface runoff, although in individual high intensity storm events over 50% of rainfall may form runoff. Rainfall that does not form surface runoff is either lost through evaporation and transpiration or infiltrates the soil. Rainfall which infiltrates soil generally drains vertically through the soil profile until it meets a less permeable subsoil layer (e.g. hard pan or clay layer), where a significant proportion drains laterally downslope as subsurface flows. In very permeable highly fractured bedrock a substantial amount of rainfall infiltrating the soil can move into the local groundwater table. Local groundwater tables can then rise to the point that discharge of groundwater occurs on the surface at points of topographical change (i.e. break of slope) or subsurface bottle necks caused by topography and / or geology. This occurs in association with the bedrock outcrops which intersect Snake Creek in several places and form an impediment to groundwater drainage which results in groundwater being brought to the surface in the bed of the creek as a spring, such as the spring fed dam on Snake Creek adjacent to Lots 237/235, see below.  **Location of Spring fed dam**.

	Drainage in the lower parts of the landscape is inherently slower due to lower slopes. The cumulative impact of the concentration of surface water, groundwater discharge and subsurface flows in these parts of the landscape can be considerable seasonal waterlogging and sometimes saline discharge areas. There are limited areas of seasonal waterlogging on the property however these seasonally waterlogged areas generally occur within the mapped drainage buffers and are therefore constrained for effluent disposal in any case. ***Effluent disposal will need to be properly designed and located on suitable soil types (including depths) to minimise hydrological impacts from surface irrigation, such as effluent run-off or rapid effluent drainage through permeable soil profiles into groundwater systems. Areas mapped as seasonally waterlogged are constrained for effluent disposal and mostly occur within drainage buffers. Stage 2 lots have adequate areas of well drained non-waterlogged soils for suitable for dwelling construction and effluent disposal.***
Soils	Detailed soil profile descriptions are provided in **Appendix 2a** of this report. Tenosols and Rudosols occur in limited areas adjacent to rocky outcrops and on steeper slopes and crests and are constrained for effluent disposal. The soils which are generally suitable for effluent dispersal range from Kandosols to Red/Brown Chromosols. These were formed in situ and on alluvial and colluvial material derived from the Cooma Metamorphic Complex. Soils comprise a massive to weakly structured sandy loam textured upper layer overlying a weak to moderately structured yellow-orange coloured sandy light clay loam subsoil. Soil depth varies considerably but typically ranges from 40 - >100cm, with shallower soil on crests and in the localised areas of rock outcrop. Extrapolating from the soil survey of the Cooma 1:100,000 sheet (Tulau, M.J., 1993), the soils on the gently sloping areas suitable for dwelling construction and effluent dispersal fit the Dairymans Plain and Dry Farm Soil Landscape Units. Soil samples from representative parts of the landscape were analysed in a NATA accredited laboratory. The analytical data shows a moderate phosphorous sorption level, non-saline subsoils and low to very low exchangeable sodium. As such the soils are free of any significant chemical limitations to effluent dispersal, refer **Appendix 2b**. ***Soils are generally unconstrained for dwelling construction. Soil depth in upper slopes and crests and close to rocky outcrops may be a major limitation to effluent disposal and are mapped as shallow soils /rocky outcrops and are constrained for effluent disposal. The remaining areas not mapped are unconstrained for effluent disposal.***

CONSTRAINTS ANALYSIS	
Soil erosion	The soil types associated with the Dairymans Plain Soil Landscape Unit, which dominate the western portion of the lot including the lower slopes and drainage lines, are susceptible to sheet, rill and even wind erosion if groundcover levels are depleted. The undulating and moderately sloping areas in the eastern portion of the block (Dry Farm Soil Landscape Unit) have a moderate risk for sheet erosion and low to moderate risk for gully erosion. As the undulating to moderately sloping areas have steeper slopes, they are also at an elevated risk for erosion. Cooma-Monaro LEP 2013 mapping does not identify any areas to be at risk of landslide. The property includes several areas of historic stream incision, gully erosion and sheet erosion which are currently relatively stable due to conservative stocking rates, refer image below. Some of these areas coincide with Stage 2 lots. Areas of erosion are unsuited to the dispersal of effluent due to the potential for effluent irrigation practices to exacerbate erosion, combined with the reduced capacity of eroded soil profiles to assimilate nutrients due to the loss of productive topsoil. Areas of erosion are also unsuited to dwelling construction due to the potential for erosion to undermine and damage built infrastructure. Most of these constrained erosion areas are mapped within the 40 m drainage buffer zones, refer **Figures 8 & 9**.  **Stabilised gully erosion on Lot 215**

	Recommendations • Greater than 70% groundcover be maintained across the property as far as practical. • Areas of historical gully and streambank erosion need to be managed to prevent the reactivation of stabilised erosion by maintaining 100% groundcover at all times. • Treated effluent should not be dispersed in area of active or historic erosion. • The construction of dwellings should not occur in areas of active or historic erosion. • Areas of erosion potential around drainage depressions and steep slopes should be monitored and remedial measures implemented should erosion issues persist or worsen.
Groundwater	The site is mapped as having Moderate groundwater vulnerability on the Department of Land and Water Conservation (2001) Groundwater Map of the Murrumbidgee Catchment. The site is not mapped as groundwater vulnerable on the Groundwater Vulnerability Map – Sheet CL1_013 in the Cooma-Monaro Local Environmental Plan 2013. There are two domestic bores registered in the vicinity of Stage 2 lots, including one located on the property adjacent to Lots 215 [GW404949], refer below image.  It is proposed to permanently decommission GW404949 located on the property adjacent to Lots 215. The next closest bore to Stage 2 lots is (GW 400770) which is approximately 550m west of the western boundary of Stage 2 and Lots 228/229/231. This bore is 30m deep with water bearing zones at 22-25m and has a yield of 1.25L/sec.

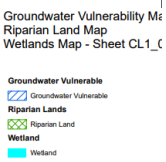
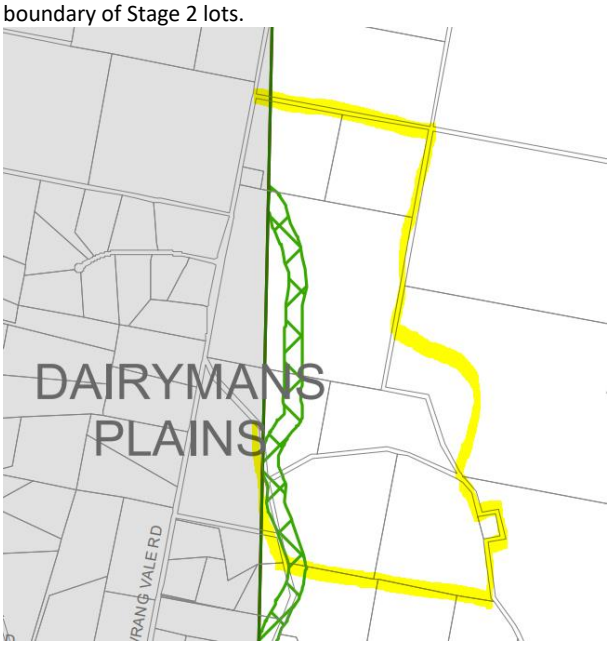
	There is a low risk of contamination of adjacent bores or the groundwater system, given a spatial (horizontal) separation of minimum 550m, and vertical separation of > 30m between effluent dispersal areas and water yielding zones, low rate of secondary treated and disinfected effluent to be applied to the surface, low density development with minimum size of 2 hectares, and the low transmissivity of the fractured rock groundwater aquifers that underlay the area. **Recommendations** • Maintain a minimum 250 m buffer between effluent dispersal areas and existing or any future bores. • Ensure a water supply works approval is sought prior to constructing a bore, (even though each landholder is entitled to take water from an aquifer which is underlying their land for domestic consumption and/or stock watering without the need for a water access licence under Basic Landholder Rights - application is available at www.water.nsw.gov.au and the fee is currently $241.83)
Riparian lands  	The Cooma-Monaro Local Environmental Plan 2013 - Riparian Land Map Sheet CL1_013 includes the riparian zone of Snake Creek which forms the western boundary of Stage 2 lots.  NSW DPI Office of Water (Guidelines for riparian corridors on waterfront land) defines appropriate riparian buffers for various stream orders to maintain the integrity of these sensitive areas, as below:

Figure 2. The Strahler System

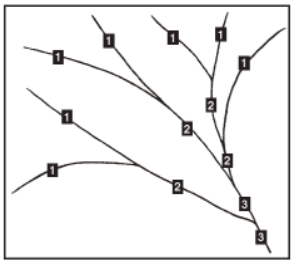
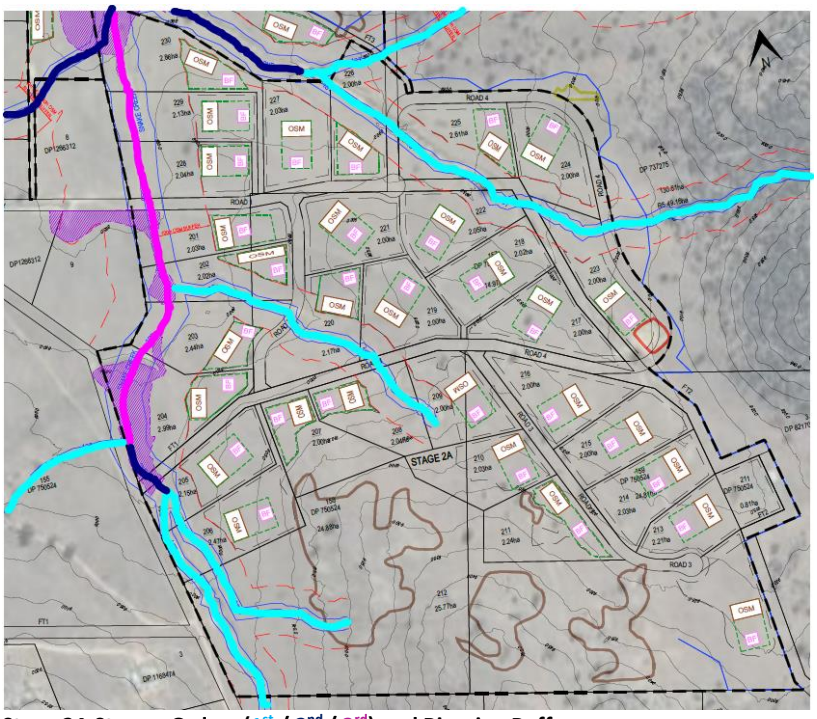
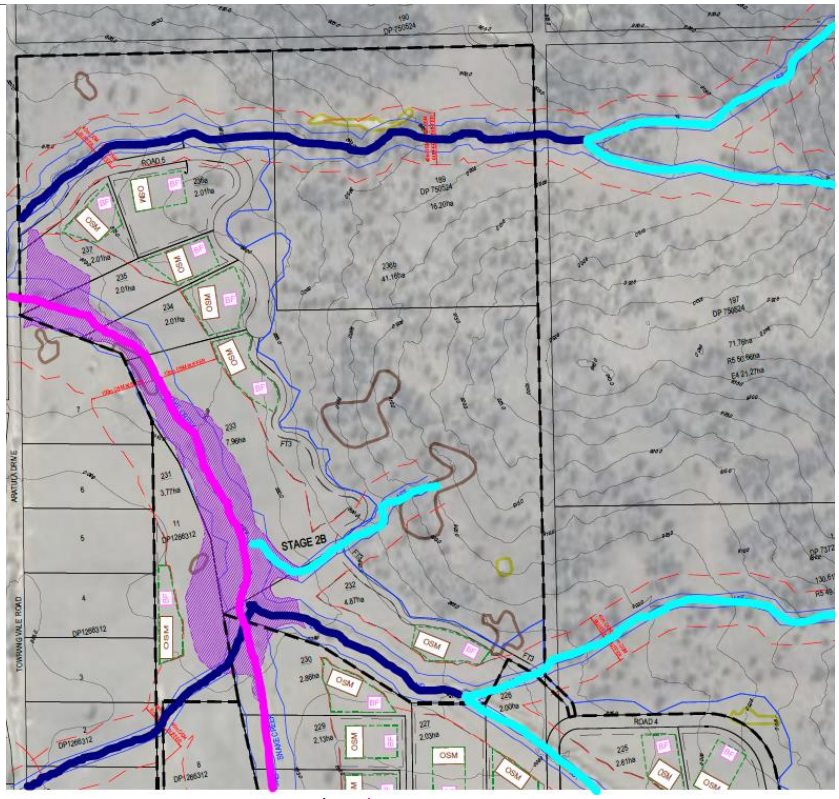


Table 1. Recommended riparian corridor (RC) widths

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1st order	10 metres	20 m + channel width
2nd order	20 metres	40 m + channel width
3rd order	30 metres	60 m + channel width
4th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 metres	80 m + channel width



Stage 2A Stream Orders (1st / 2nd / 3rd) and Riparian Buffers



Stage 2B Stream Orders (1st / 2nd / 3rd) and Riparian Buffers

The lots which border the 3rd Order section of Snake Creek will require a 30m riparian buffer within which effluent disposal and dwelling construction is not appropriate. The area mapped on Councils Riparian Land Map is also considered to be unsuited for effluent disposal or dwelling construction.

The lots which border and/or include 1st and 2nd Order Streams will require 10 and 20m buffers respectively. These buffers have been mapped as a constraint to dwelling construction as construction within these riparian zones would be inconsistent with DPI Water Guidelines, refer **Figures 9.**

These riparian buffer areas are all contained within the 40 metre buffer area required between drainage features and effluent disposal practices and are therefore already constrained for effluent disposal practices and are therefore not mapped separately in **Figure 8.**

Building Envelopes and associated effluent disposal areas on all dwelling lots are located outside the riparian corridors and buffers required from these features.

	Recommendations • Stage 2 lots which border and/or include 1st, 2nd or 3rd Order Streams will maintain a 10/20/30 m riparian zone either side of the stream, which excludes Building Envelopes and associated effluent disposal areas. • Building Envelopes and associated effluent disposal areas on Stage 2 lots should be located outside areas mapped on the Council Riparian Land Map shall exclude dwellings and major built infrastructure from mapped areas.
Drainage buffers - effluent dispersal	The *ANZ Standard 1547:2012 On-site Domestic Wastewater Management and On-site* and *Sewage Management for Single Households* (The Silver Book) NSW Govt, 1998, require appropriate buffers between drainage depressions, creeks and rivers and effluent dispersal areas. These include a 100 m buffer from major or permanent surface waters including 3rd order streams and creeks, and a 40 m buffer from any other water including dams, minor intermittent waterways and drainage channels. The Stage 2 lots which include or are adjacent to sections of Snake Creek (which is a 3rd order stream), require a 100m drainage buffer distance from effluent dispersal areas. Stage 2 lots which border and/or include 1st and 2nd order streams and/or drainage depressions will require a 40m buffer between these and effluent dispersal areas. Approximate locations for drainage buffers are shown in **Figure 8.** **Recommendations** • The land designated for effluent dispersal on lots including/bordering the 3rd Order section of Snake Creek will require a minimum 100m buffer from Snake Creek. • The land designated for effluent dispersal on Stage 2 lots including and/or bordering 1st or 2nd Order Streams and/or minor drainage depressions (including dams) will require a minimum 40m buffer from these features.

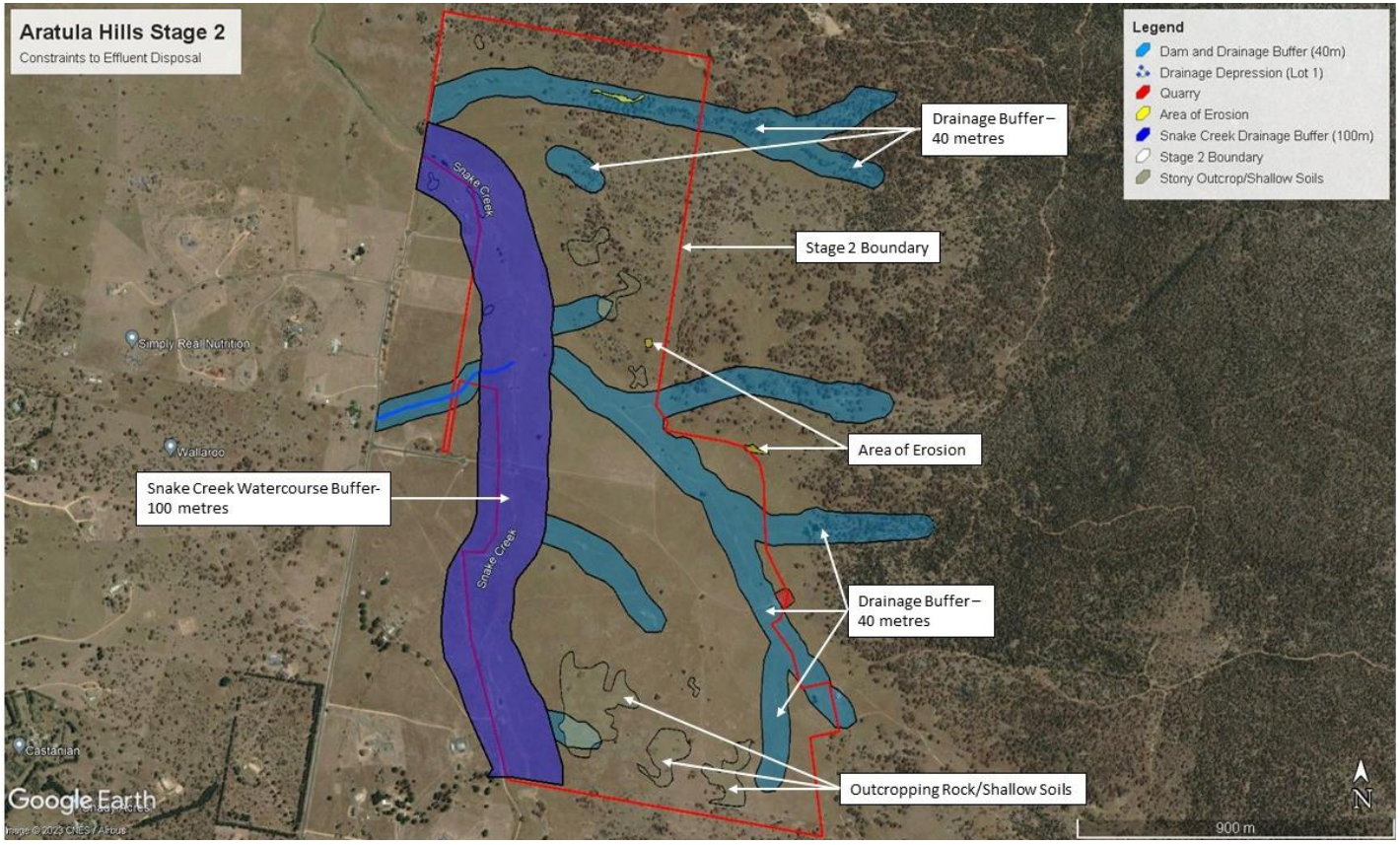


Figure 8a: Constraints to Effluent Dispersal – Stage 2

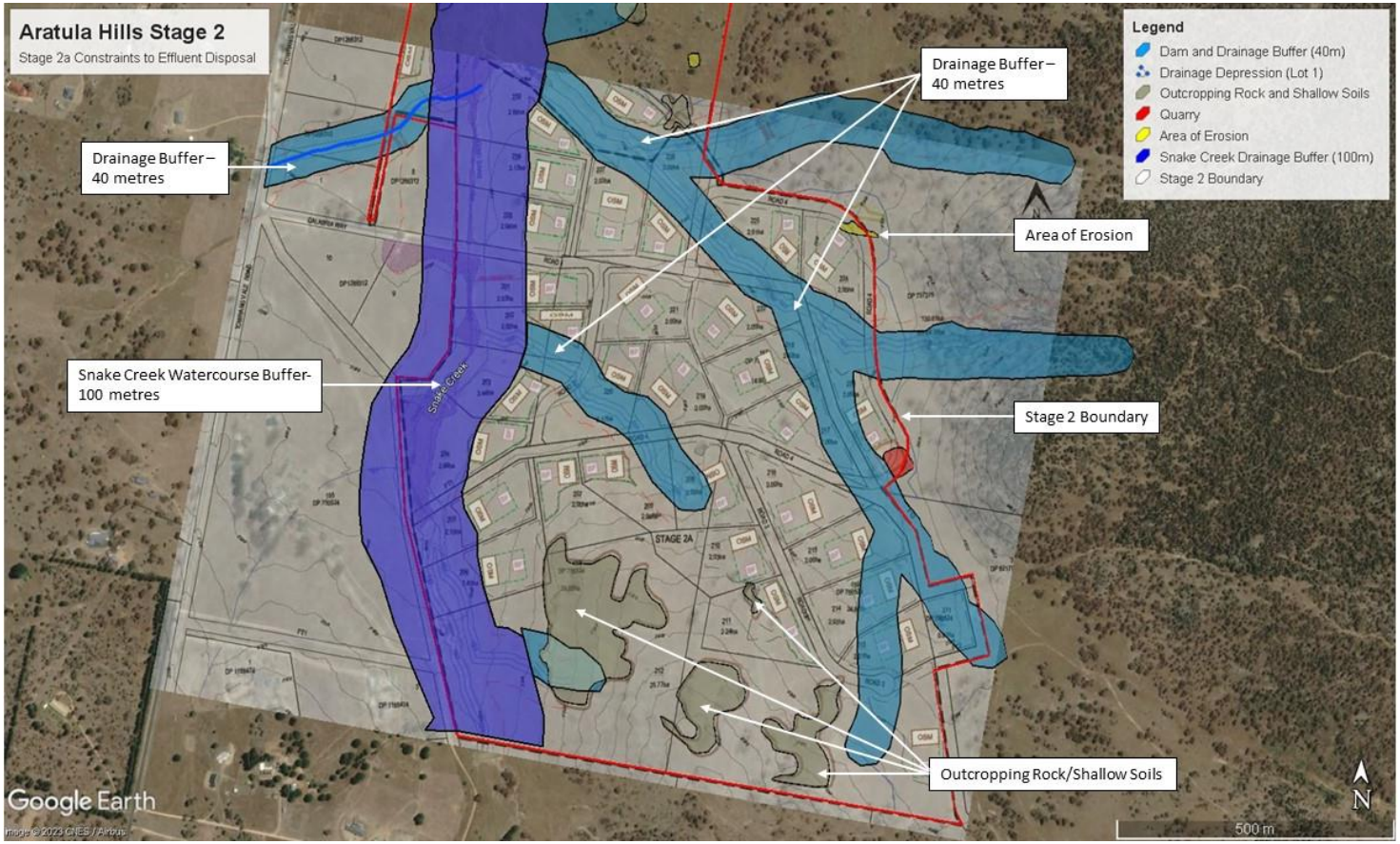


Figure 8b: Constraints to Effluent Dispersal – Stage 2a (southern section)

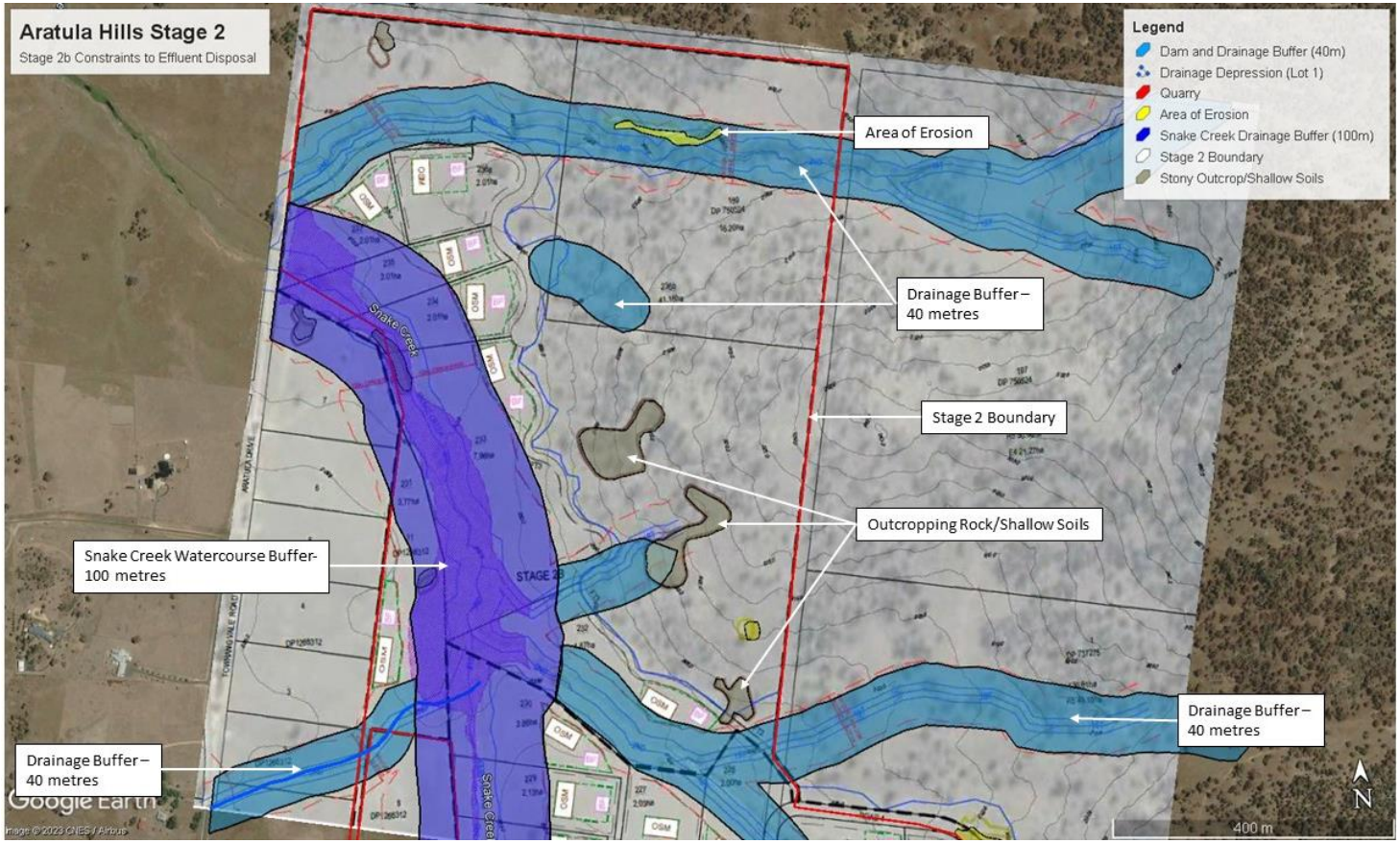


Figure 8c: Constraints to Effluent Dispersal – Stage 2b (northern section)

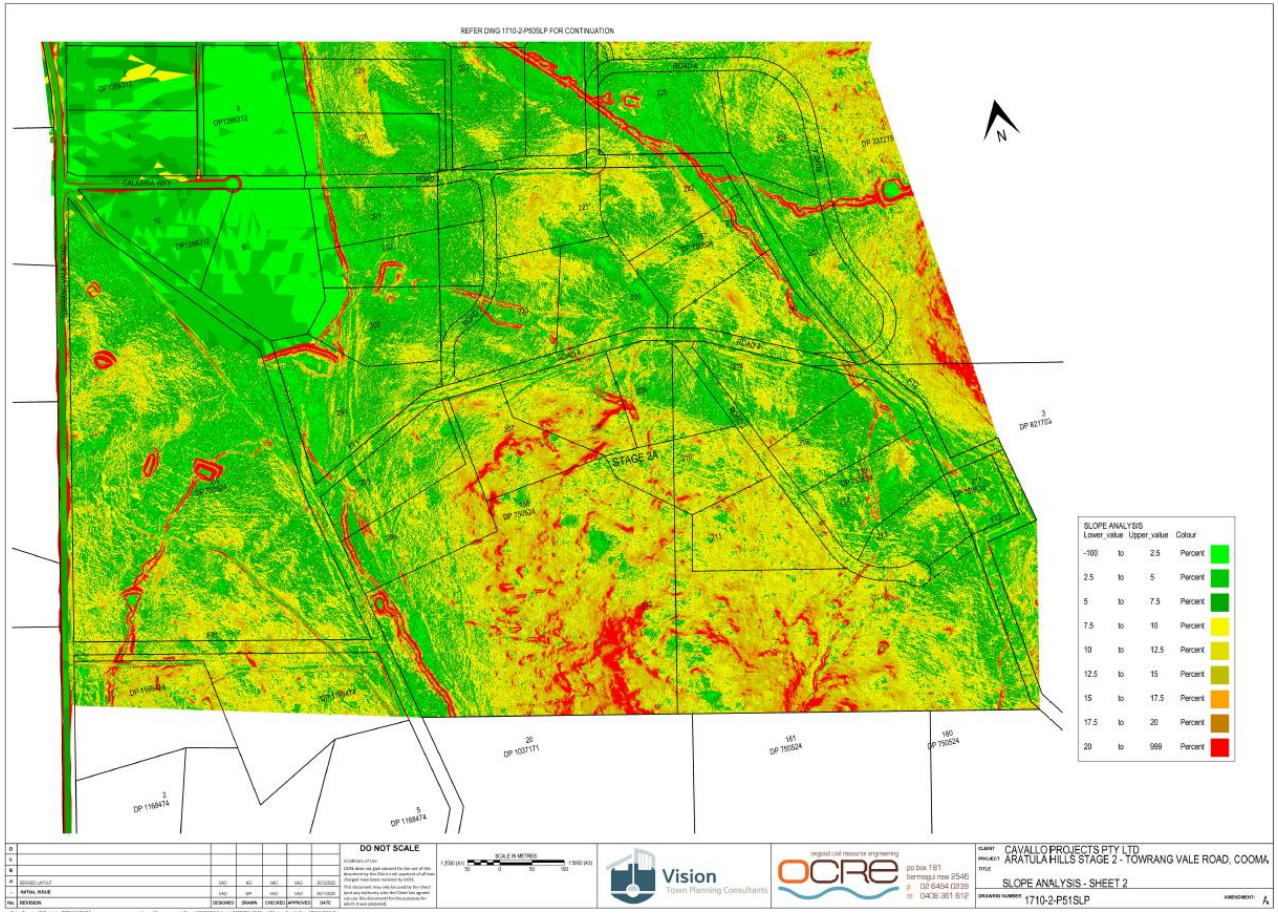


Figure 8d: Slope Analysis – Stage 2a

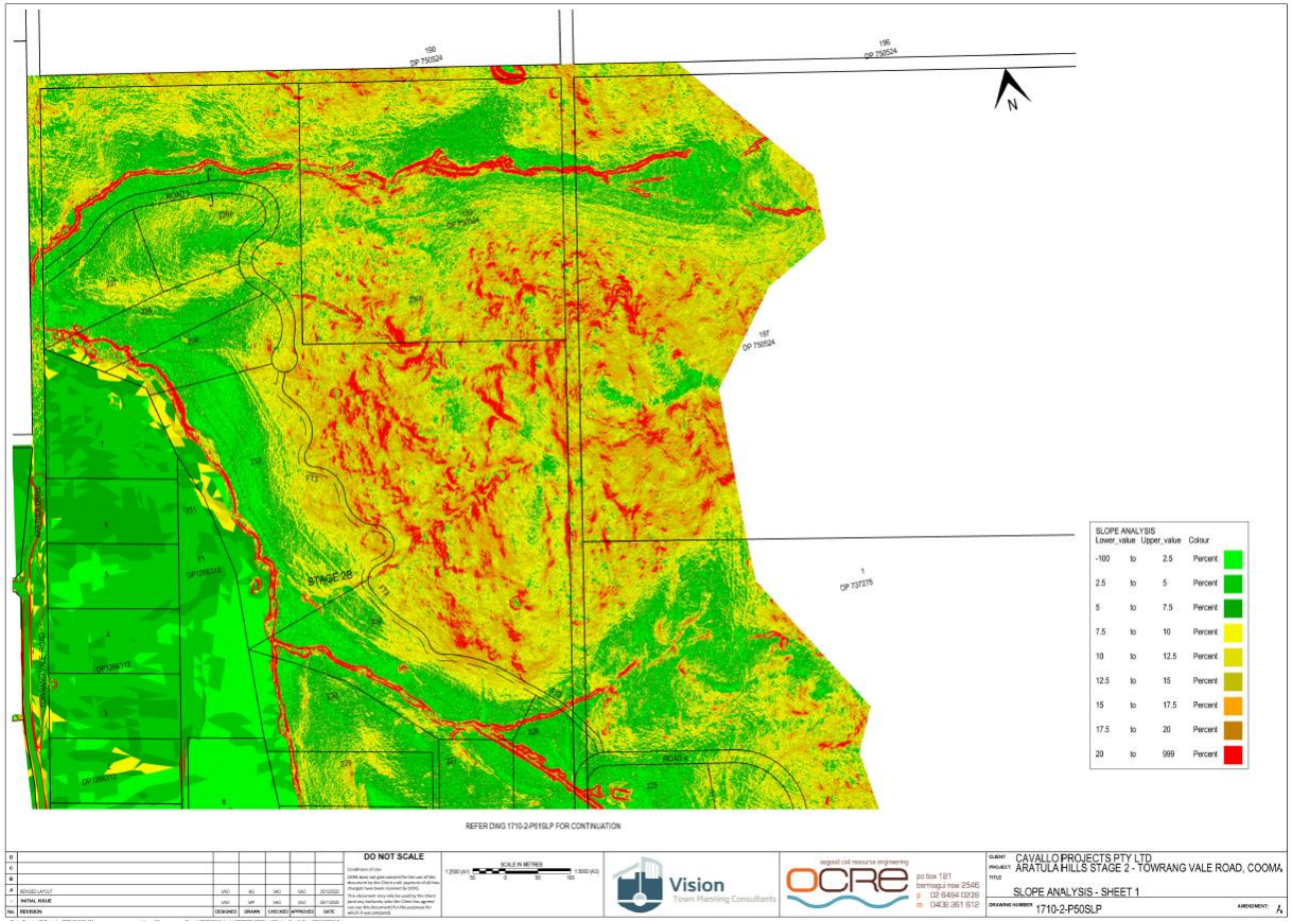


Figure 8e: Slope Analysis – Stage 2b

MANAGEMENT OF EFFLUENT

Summary

This report assesses the general availability of adequately sized areas of land which are well drained, gently sloping and with moderately deep soil cover and suitable site conditions for the dispersal of effluent on all Stage 2 lots.

For Stage 2 lots, a minimum area of 1,300 m^2 has been used as the benchmark for the area required for the effluent dispersal. This is a conservative approach, given that an irrigation area for a six-bedroom dwelling will be around 450 m^2, but accounts for the requirement to have a reserve area.

Key constraints to effluent dispersal on the property are:

- Rocky outcrops and limited soil depth
- Areas of erosion
- Drainage depression buffers of 40m (including dam)
- Snake Creek buffers of 100m

All Stage 2 lots have adequate areas of unconstrained land that is suited to effluent dispersal. Effluent disposal areas have been nominated within the Building Envelopes on all Stage 2 dwelling lots.

The most widely used form of effluent treatment on relatively unconstrained rural residential developments in the region is a NSW Health accredited aerated wastewater system, with the secondary treated, disinfected effluent irrigated onto the surface. Reliability and maintenance issues with such systems are well known and the risk of failure is relatively low.

There are a number of more innovative options for effluent treatment and disposal. The most promising of these is the Wisconsin sand mound, of which there are a small number in the region. These systems have a small footprint, (less than 150m^2), have a high degree of reliability and have a low energy requirement. There is however a lack of experienced installers for such systems in the region and the climate presents some issues in terms of maintaining grass cover through long dry summers if effluent is not being regularly loaded into the mound. This is generally only an issue if the attached dwelling is not permanently or fully occupied.

	In general, the area is not suited to subsoil absorption of primary treated effluent, due to the limited depths of soils across much of the landscape. The use of beds for dispersal of wet composting closet treatment systems (eg worm farms) is also considered unsuitable due to limited soil depth. The following section addresses the specific requirements of a number of effluent management options in order to show that on-site effluent can be achieved sustainably on the subdivision. This report assumes that detailed planning for effluent management on each lot will occur at the time of submitting building plans to council. At this stage the exact location, footprint, occupancy and usage patterns of the proposed dwelling will be known. These are all critical elements of the final design process which cannot be addressed by this report.
Secondary treatment system and surface irrigation	NSW Health accredited systems treat effluent to a minimum secondary standard, suitable for disposal by surface or subsurface irrigation (see list at http://www.health.nsw.gov.au/PublicHealth/environment/water/wastewater.asp). This includes aerated wastewater treatment systems (AWTS), sand and textile filters and biological filters. The sizing of the effluent irrigation area is based on nutrient balance which gives a general guide to a sustainable area required for irrigation. Significant improvement in effluent dispersal can be achieved by having at least two or three lines of sprinklers on risers attached to rigid supports, 30-50cm above ground level, with each riser tied into the delivery line. A manual valve on each line allows all or some of the lines to be used. The buried distribution lines with risers minimises the risk of damage by mowing and encourages the irrigation area to be better managed than currently common practice. The size of the area required for effluent irrigation will vary according to the number of bedrooms in the dwelling, which determines the design effluent loading. Based on the hydraulic and nutrient balance shown in **Appendix 3**, the sizing of the irrigation area is shown below: Three bedrooms…….250m^2 Four bedrooms……320m^2 Five bedrooms…….380m^2 Six bedrooms……450m^2

	Council also requires adequate suitable land for a reserve effluent dispersal area. Additionally, buffers with the boundary are required. *On-site Sewage Management for Single Households (The Silver Book) NSW Govt,* (1998), prescribes 6 m from driveways and property boundaries, 15 from dwellings, 3m from paths and walkways 40m from minor drainage depressions and 100m from permanent surface waters (i.e Snake Creek). **Hence, a conservative minimum area of suitable land for each lot is 1,300m^2.**
Primary treatment and subsoil absorption	Not generally suitable due limitations of soil depth.
Innovative effluent management systems	A Wisconsin mound pump dosed from a septic tank is feasible but is not ideal due to the limited availability of suitably experienced contractors to construct and maintain the system and the difficulty in maintaining a vegetative groundcover in the prevailing dry climate. Mound design would need to be developed on a site by site basis, including a soil profile at the mound site. Indicatively, based on the soil profiles for this assessment, the Basal Loading Rate would be 16mm/day and Linear Loading rate 47mm/day. The footprint would be slightly less than 150m^2 on a flat or gently sloping site.

Effluent management	**Recommendations**
	• A lot specific *site and soil assessment for on-site effluent management* will be required at the time of submitting building plans to Council for all Stage 2 lots, and the prescriptions of this report should be applied to the design process of each respective lot.
	• Buffers to be applied to effluent dispersal areas will include:
	  • 40 m from all dams and drainage depressions
	  • 100 m from permanent creeks
	  • 250 m from any existing or future bores
	  • 6 m from lot boundaries
	  • 15 from dwellings (for surface spray irrigation)
	  • 6 m from buildings
	• Effluent management systems suitable for Stage 2 lots include aerated wastewater treatment systems (and other systems capable of secondary standard treatment) with NSW Health accreditation, dispersing effluent to a surface spray and/or drip irrigation area.

	• The irrigation area size should be based on potential occupancy derived from the number of bedrooms. As a guide, the following areas would be appropriate for the soil and site conditions of the site: ▪ Three bedrooms……..250m^2 ▪ Four bedrooms……320m^2 ▪ Five bedrooms……380m^2 ▪ Six bedrooms……450m^2 • To ensure effective distribution of treated effluent, and provide protection of irrigation lines, the minimum requirement for irrigation dispersal should be buried distribution lines with decoupling sprinkler heads. There should be a minimum of two runs of distribution lines connected by a manual valve to allow for alternating dispersal areas. • More innovative systems such as a Wisconsin sand mound treating primary effluent from a septic tank, or a recirculating sand filter with a subsurface irrigation field, may be suitable but have practical limitations on this site due to climate. • A subsoil absorption bed receiving primary treated effluent is not suitable for the site.

CAPABILILTY FOR DWELLING CONSTRUCTION	
Summary	Land considered unsuitable or constrained for the construction of dwellings generally consists of areas with the following attributes: • a slope grade of 15% - the threshold is consistent with many building codes and Council requirements and also corresponds to the slope above which erosion hazard significantly increases (Landcom, 2004) • seasonally waterlogged or flood prone land - including the minor flow lines which drain the site • erosion affected land – including highly erodible dispersive soils, low wet bearing strength soils and unstable soils prone to movement In addition, under NSW DPI Office of Water (Guidelines for riparian corridors on waterfront land) requires a 30m buffer from the 3rd order stream (Snake Creek), a 20m buffer from 2nd Order Streams and 10m buffer from the 1st Order Streams which border and/or intersect Stage 2 lots. Dwelling construction within these buffers is inconsistent with DPI Water policy and these areas are therefore constrained for dwelling construction. The area mapped on Council's Riparian Land Map is also considered to be unsuited for the construction of dwelling or other major infrastructure. The crossing of drainage features by major access roads will require a Controlled Activity Approval from the Natural Resource Access Regulator under the Water Management Act. The 100m buffer on permanent drainage lines and the 40m buffer on drainage depressions required for effluent disposal areas, do not apply to dwelling construction. The remaining gently sloping, free draining land can be considered as suitable for dwelling construction. A slope analysis has identified numerous areas in excess of 15% on Stage 2 lots. These areas are generally located on the residual lot 236b, which does not include a Building Envelope, or the large Lot 212 where the Building Envelope is located outside the areas mapped as steep land. There are small areas of historical streambank erosion along Snake Creek and minor gully erosion elsewhere, that are constrained to dwelling

	construction. These areas are generally located Lot 236b which does not include a Building Envelope. Areas within the Riparian buffers required from 1st, 2nd or 3rd Order Streams, mapped on the Riparian Land Map and/or areas of historical or active erosion, have been mapped as constraints to dwelling construction in **Figure 9**.
Dwelling Construction	**Recommendations** • Building Envelopes will be restricted to suitable land which excludes areas of erosion and land within the 10, 20 or 30m riparian corridors from 1st, 2nd or 3rd order streams or mapped as Riparian Land (refer **Figure 9**) • Road crossings of 1st, 2nd or 3rd Order Streams will require a Controlled Activity Approval prior to construction.

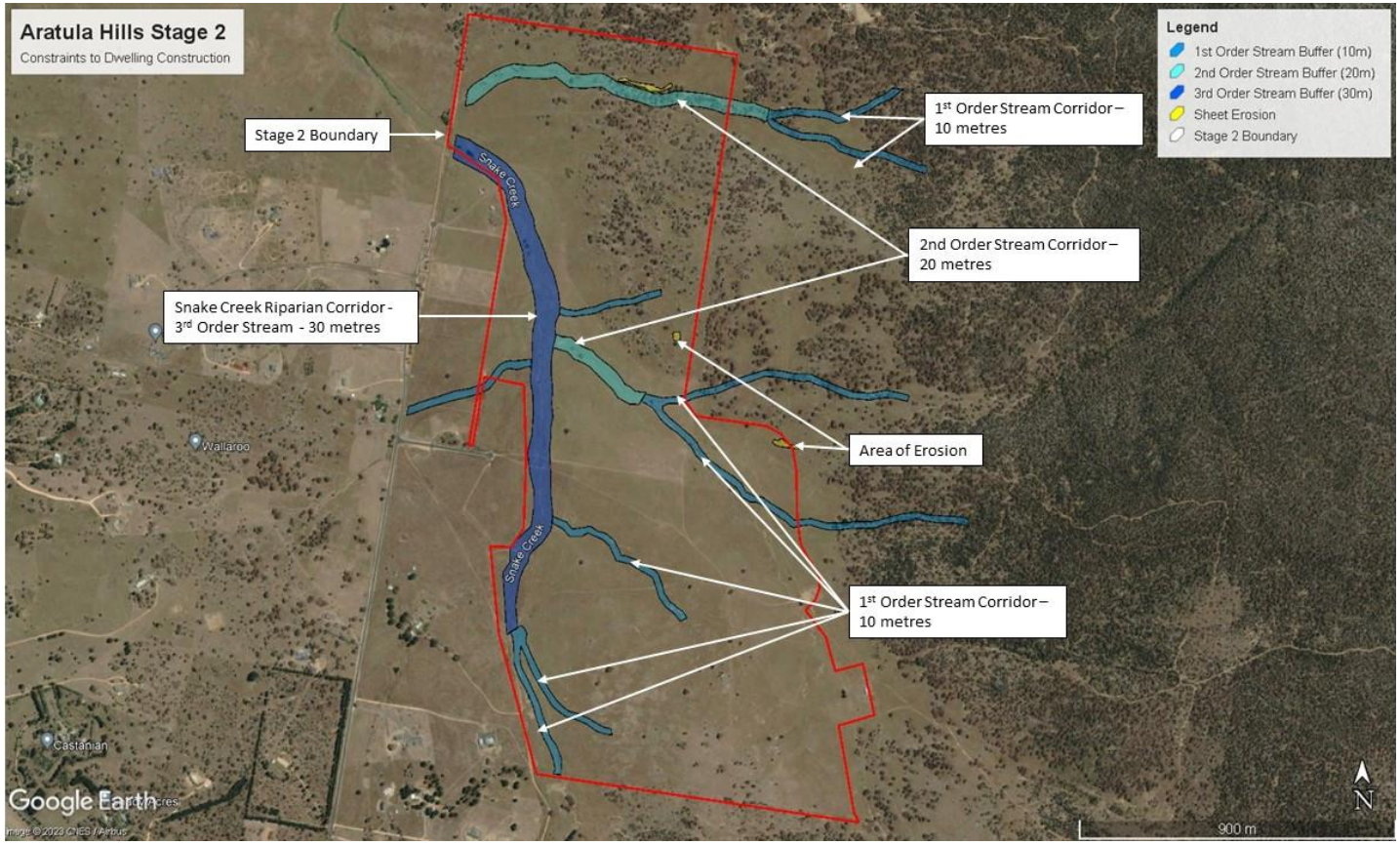


Figure 9a: Constraints to dwelling and infrastructure construction – Stage 2

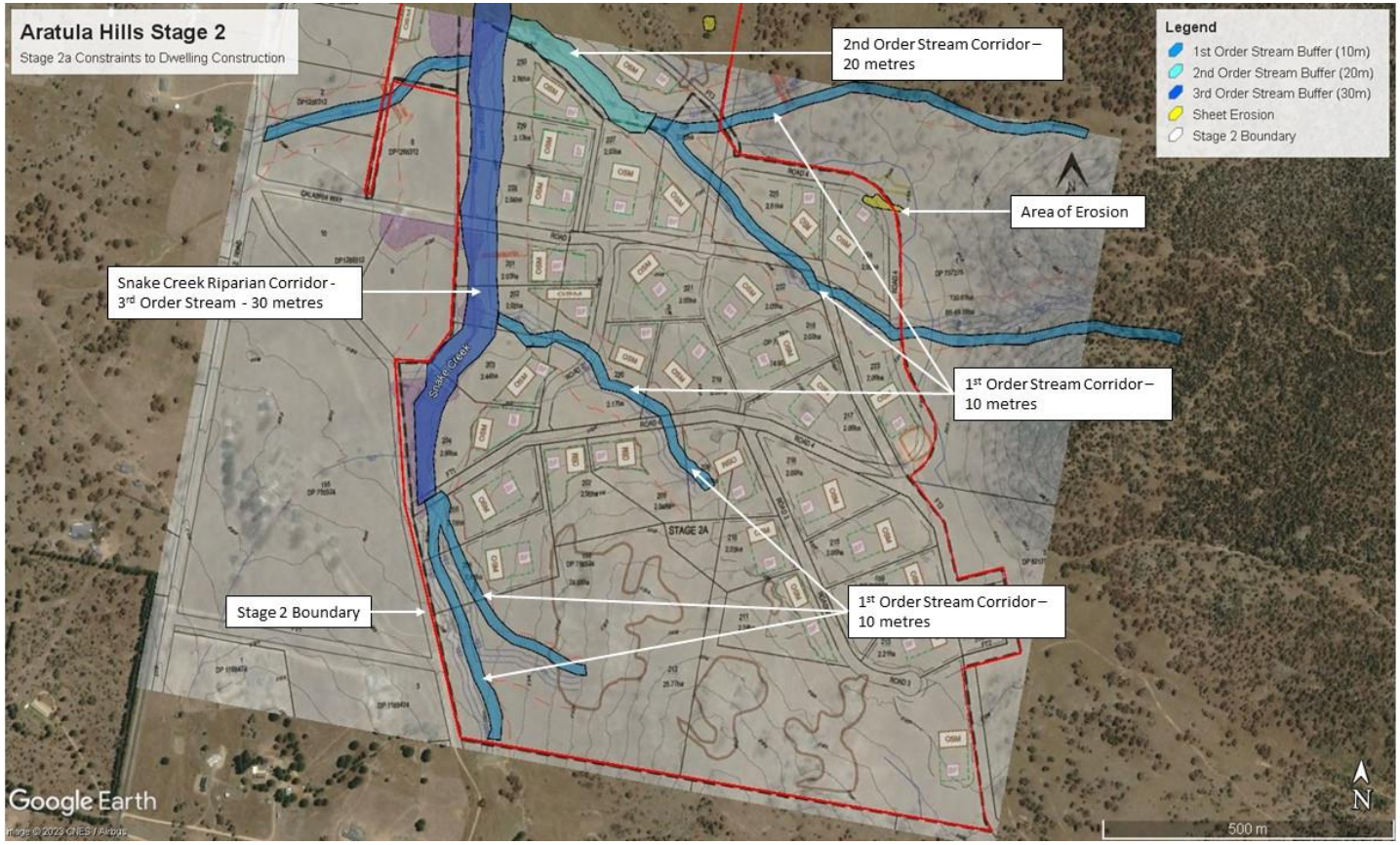


Figure 9b: Constraints to dwelling and infrastructure construction – Stage 2a (southern section)

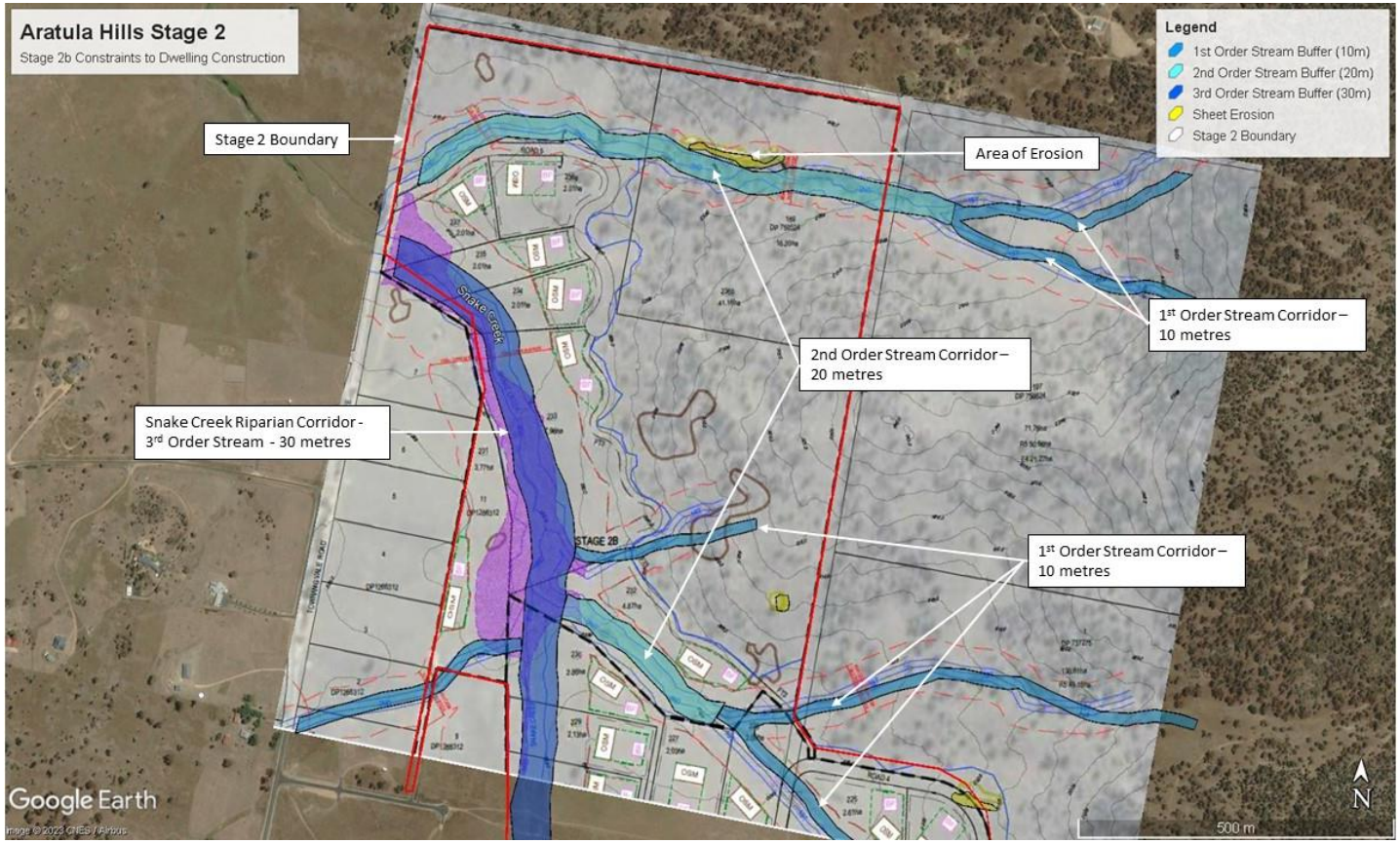


Figure 9c: Constraints to dwelling and infrastructure construction – Stage 2b (northern section)

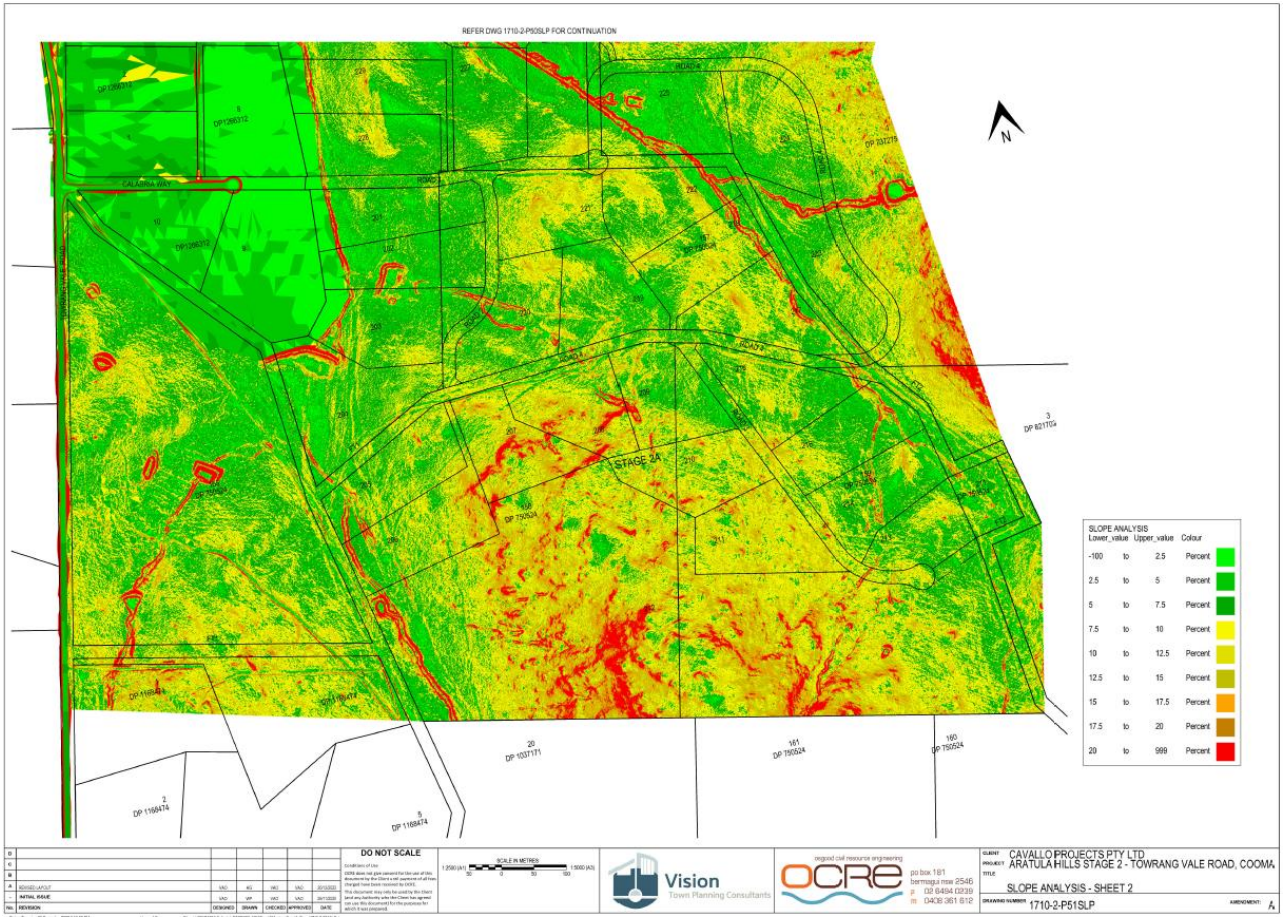


Figure 9d: Slope Analysis – Stage 2a

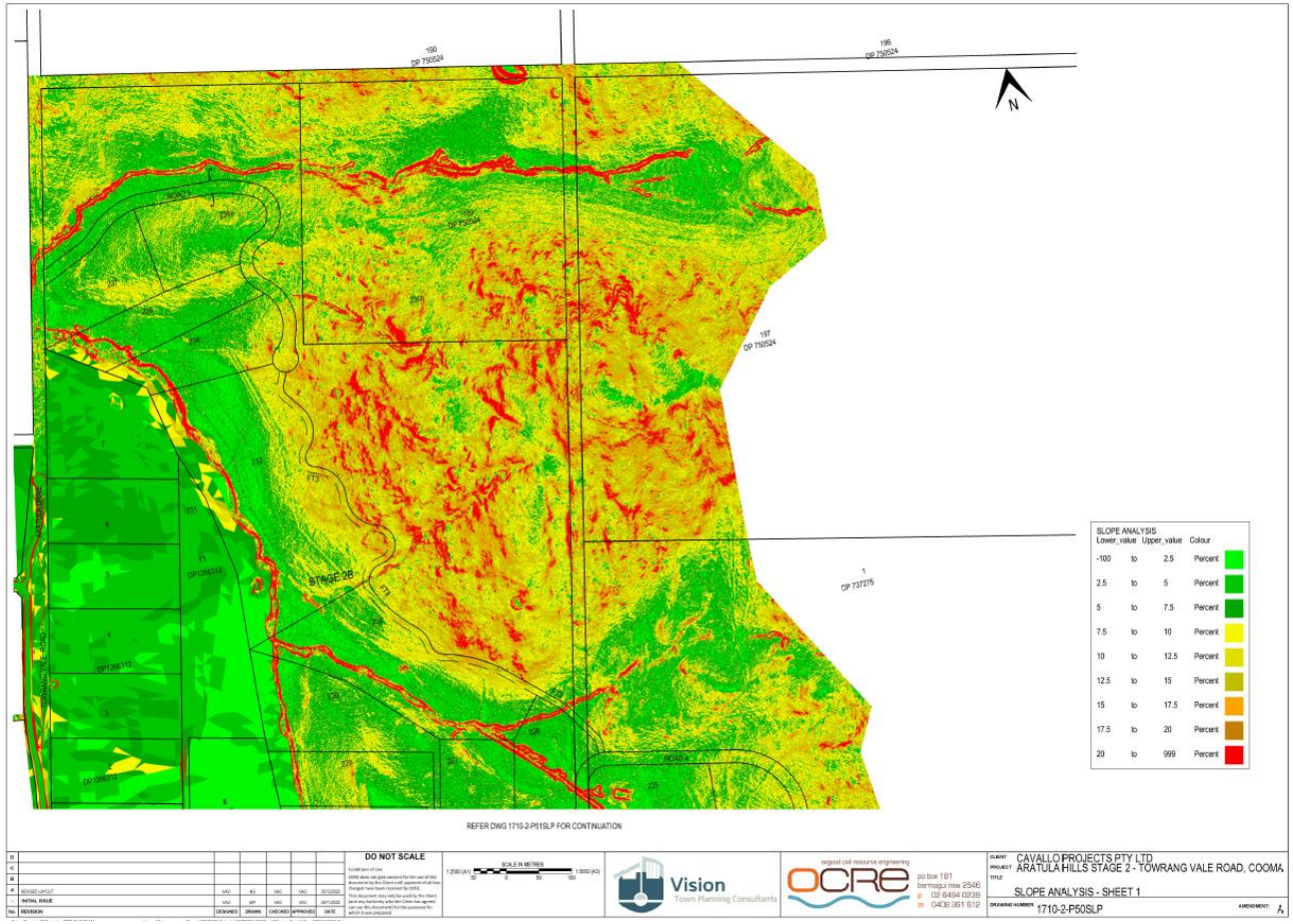


Figure 9e: Slope Analysis – Stage 2b

APPENDICES

Appendix 1: Site and Soil Limitation Assessment

The following two limitation tables are a standardised guide to the site and soil characteristics which may limit the suitability of the site for effluent disposal and which would require attention through specific management practices. The tables have been reproduced from *On-site Sewage Management for Single Households* (tables 4 and 6, Anon, 1998). The highlighted categories represent site and soil conditions of the land covered in this report. The tables show that the land designated for effluent application has slight to moderate limitations, but no severe limitations.

Site limitation assessment – Stage 2

Site feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Flood potential	All land application systems	> 1 in 20 yrs.		Frequent, below 1 in 20 yrs	Transport in wastewater off site
	All treatment systems	components above 1 in 100 yrs.		Components below 1 in 100 yrs.	Transport in wastewater off site, system failure
Exposure	All land application systems	High sun and wind exposure		Low sun and wind exposure	Poor evapo-transpiration
Slope %	Surface irrigation	0-6	6-12	>12	Runoff, erosion potential
	Sub-surface irrigation	0-10	10-20	>20	Runoff, erosion potential
	Absorption	0-10	10-20	>20	Runoff, erosion potential
Landform	All systems	Hillcrests, convex side slopes and plains	Concave side slopes and foot slopes	Drainage plains and incised channels	Groundwater pollution hazard, resurfacing hazard

Site feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Run-on and seepage	All land application systems	None-low	Moderate	High, diversion not practical	Transport of wastewater off site
Erosion potential	All land application systems	No sign of erosion potential	Minor stabilized sheet and gully erosion	Indications of erosion e.g. rills, mass failure	Soil degradation and off-site impact
Site drainage	All land application systems	No visible signs of surface dampness		Visible signs of surface dampness	Groundwater pollution hazard, resurfacing hazard
Fill	All systems	No fill	Fill present		Subsidence
Land area	All systems	Area available		Area not available	Health and pollution risk
Rock and rock outcrop	All land application systems	<10%	10-20%	>20%	Limits system performance
Geology	All land application systems	None	Small areas of isoclinal fractured regolith outcrop	Major geological discontinuities, fractured or highly porous regolith	Groundwater pollution hazard

Soil limitation assessment

Soil feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Depth to bedrock	Surface and sub surface irrigation	> 1.0	.5-1.0	< 0.5	Restricts plant growth
or hardpan (m)	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Depth to seasonal water table (m)	Surface and sub surface irrigation	> 1.0	0.5-1.0	< 0.5	Groundwater pollution hazard
	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Permeability	Surface and sub surface irrigation	2b, 3 and 4	2a, 5	1 and 6	Excessive runoff and waterlogging
Class	Absorption	3, 4		1, 2, 5, 6	Percolation
Coarse fragments %	All systems	0-20	20-45	>40	Restricts plant growth, affects trench installation
Bulk density (g/cc) **SL** **L, CL** **C**	All land application systems	 < 1.8 < 1.6 < 1.4		 > 1.8 > 1.6 >1.4	restricts plant growth, indicator of permeability
pH	All land application systems	> 6.0	4.5-6.0	-	Reduces plant growth
Electrical conductivity (dS/m)	All land application systems	<4	4-8	>8	Restricts plant growth

Soil feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Sodicity (ESP)	Irrigation 0-40cm; absorption 0-1.2mtr	0-5	5-10	> 10	Potential for structural degradation
CEC mequiv/100g	Irrigation systems	> 15	5-15	< 5	Nutrient leaching
P sorption kg/ha	All land application systems	> 6000	2000-6000	< 2000	Capacity to immobilise P
Aggregate stability	All land application systems	Classes 3-8	class 2	class1	Erosion hazard

Appendix 2a: Soil Profile Descriptions

Soil Profile 1: Lot 201 – representative of lower slope landscape position

Soil classification	Depth (cm)	Properties
Brown Chromosol	0- >100cm	A/B Medium brown fine sandy loam, no coarse material, massive to weak structure, moist and friable consistence, gradational colour change to

Soil profile augered in area suited to effluent disposal on Lot 201

Soil Profile 2: Lot 222 – representative of midslope landscape position

Soil classification	Depth (cm)	Properties
Rudosol	0-7	A Medium brown fine sandy loam, <5% coarse material, massive to weak structure, moist and friable consistence, gradational colour change to
	7- >100cm	B Brown sandy loam, 5% coarse fragments, weak structure, moist and friable, continues

Soil profile augered in area suited to effluent disposal on Lot 222

Soil Profile 3: Lot 212 – representative of crest landscape position

Soil classification	Depth (cm)	Properties
Brown Chromosol	0-10 10- 70cm	A Medium brown fine sandy loam, <5% coarse material, massive to weak structure, moist and friable consistence, gradational colour change to B Brown sandy loam, 5% coarse fragments, weak structure, moist and friable, degrades to bedrock parent material

Soil profile augered in area suited to effluent disposal on Lot 212

Appendix 2b: Laboratory Soil Test Results

NSW GOVERNMENT Department of Primary Industries

Report No. **WN201270**

Biosecurity Laboratory Operations
Environmental Laboratory
1243 Bruxner Highway, WOLLONGBAR NSW 2477
Phone: 02 6626 1103 Email: wollongbar.csu@dpi.nsw.gov.au

John Franklin
Soil & Water
GPO Box 837
CANBERRA ACT 2601

Soil Analysis Report

2 sample(s) of soil received on 10/09/20. Tested as per the following methods.
Testing commenced 10/09/20

Method	Method Description
S202	Soil Electrical Conductivity (1:5 soil/water extract)
S201	Soil pH in 1:5 water or 1:5 $CaCl_2$ suspension
SP901	Soil colour and texture **
SP903	Determination of the Emerson Class Number of Soil **
S259	Determination of Soil Phosphorus Sorption**
S273	Gillman & Sumpter Exchangeable Cations

** Where shown, indicates NATA accreditation does not cover the performance of this service.

Results relate only to the items tested.
Notes: Towrang Vale Road

- When required, samples air dried at 40ºC as per Soil Chemical Methods - Australasia (Rayment and Lyons 2011).
- Results are expressed on an air-dry weight basis unless otherwise stated.
- Physical soil testing results are calculated on 105ºC dry weight.
- This report should not be reproduced except in full.
- Samples will be retained for one calendar month from the date of the final report. Samples will then be discarded.
- Clients wishing to recover their samples must contact the laboratory within this period. This laboratory will return residual samples at client expense.

Date of issue 25/09/20

NATA ACCREDITED FOR TECHNICAL COMPETENCE
Accredited for compliance with ISO/IEC 17025 – Testing
Accreditation No. 14173

ASPAC

Approved for Release by:
Craig Hunt
Technical Officer

Report No. **WN201270**

Laboratory No. Client's ID	Units	Limit of Reporting	1 Minor Crest	2 Mid Slope
Soil Analysis				
Electrical Conductivity	dS/m	0.0010	0.021	0.038
pH (Water)	pH units	0.04	6.1	6.9
pH (CaCl2)	pH units	0.04	5.0	5.9
Texture			Sand	Sandy clay loam
Emerson aggregate test			Class 3 Sub(2)	Class 3 Sub(2)
P Sorption	mg/kg	25	67	38
Exchangeable Cations				
Aluminium	cmol(+)/kg	0.10	<0.1	<0.1
Calcium	cmol(+)/kg	0.030	1.7	2.9
Potassium	cmol(+)/kg	0.010	0.27	0.68
Magnesium	cmol(+)/kg	0.0070	1.0	0.66
Sodium	cmol(+)/kg	0.030	<0.03	<0.03
CEC (effective)	cmol(+)/kg	0.20	3.0	4.3
Calcium/Magnesium			1.7	4.4
Percent Aluminium Saturation	% of ECEC		N/A	N/A
Exchangeable Calcium	% of ECEC		58	69
Exchangeable Potassium	% of ECEC		9.0	16
Exchangeable Magnesium	% of ECEC		33	15
Exchangeable Sodium Percentage	% of ECEC		N/A	N/A

Appendix 3: Effluent Area Design

Using the DIR for surface spray or drip irrigation on weak loam soils of 4 mm/day and design loading of 600 L/day (4-bedroom dwelling loading), the following land application areas are required to manage additional hydraulic loading, nitrogen and phosphorous generated.	
Water balance	• Sizing based on hydraulic loading: A = Q (l/day)/DIR (mm/day) where A = area; Q = 600 l/day; DIR = 4 mm/day A = 600/4 = 150 m^2 **Area required = 150 m^2**
Nitrogen balance	• Sizing based on nitrogen balance: A = Q(l/day) X TN (mg/l)/L_n (critical loading of TN, mg/m^2/day) where A = area; Q = 600 l/day; TN = 25mg/l (from Silver Book) Assume 20% loss by denitrification; 25mg/l – (25 X .2) = 20mg/l L_n = 15,000mg/m^2/yr (ie 150kg/ha/yr, for introduced species) A = 600 X 20 X 365/15,000 = 292 m^2 **Area required = 300 m^2**
Phosphorous balance	• Sizing based on phosphorous balance A = P_{gen}/(P_{uptake} + P_{sorb}) [P sorption capacity in upper 50cm & 50 year design period] P_{gen} = 10mg/l X 600 X 365 X 50 = 109.5kg P_{uptake} = 4.4mg/m^2/day X 365 X 50 = .080kg/m^2 P_{sorb} = 2,746kg/ha = .275kg/m^2 A = 109.5/(.08+ .275) = 308 m^2 **Area required = 320 m^2**
Effluent irrigation area required	Therefore, a land application area of **320 m^2** will account for phosphorous, nitrogen and water applied based on usage patterns associated with a 4-bedroom dwelling on Stage 2 lots. An allowance of a reserve land application area will double this area to **640 m^2**. Irrigation areas required for different dwelling sizes are as follows: • 3-bedroom – 250m^2 • 5-bedroom – 380m^2 • 6-bedroom – 450m^2

Submission: 1

Sharon Thompson

From:
Sent: Tuesday, 7 December 2021 11:02 AM
To: Records Snowy Monaro Regional Council
Subject: Public Notification – Updated Proposal – Amended Plans Received – 10.2020.215.1, 10.2021.321.1, 10.2020.325.1 & 10.2021.326.1

ATTENTION: Mr John Gargett

RE: Public Notification – Updated Proposal – Amended Plans Received – 10.2020.215.1, 10.2021.321.1, 10.2020.325.1 & 10.2021.326.1

Dear John

Thank you for meeting with this morning regarding the above proposed development applications. Peter represents us as part of a group of concerned property owners surrounding the proposed large lot residential subdivisions.

In brief we fully concur with . on a number of items surrounding these applications including, and not limited to, the fact that the submitted plans on exhibition are incorrect on more than one point.

We now await further advice from SMRC on whether the incorrectly exhibited plans are to be resubmitted and then exhibited in order to be correctly considered for submission/s of support or objection.

Regards

Submission: 2

The General Manager
Snowy Monaro Regional Council
P.O. Box 714
COOMA NSW 2630

26TH November, 2021

ATT'n Tim Pepperell

Dear Mr Pepperell, **10.2020.215.1 - ARATULA ESTATE**
10.2021.326.1 "
10.2021.321.1 "
10.2021.325.1 "

I refer to the above public notifications and our phone call of today's date.

As discussed, this development is of great concern to existing homeowners in the area who feel their rural lifestyle is being threatened by this development seeking to subdivide R5 zoned land down to 2ha lots. The LEP rule calls for 8ha lots.

The above notifications are confusing and the accompanying plans, for at least 10.2020.215.1, are incorrect. Consequently the documentation supplied by the developer, as notified by Council, is inadequate for purpose. The exhibition is confusing and does not enable the public to understand the proposed subdivision and consequently affected residents are denied their basic right to make an informed submission.

Consequently we formally ask Council to withdraw all 4 notifications and not to issue any further notification until the developer provides accurate, not confusing documentation any unsophisticated member of our community can understand in order they can make an informed submission. This should include explanation of how this subdivision can legally produce a development with an average lot size of 2ha's versus the LEP's 8ha requirement.

In anticipation we look forward to Councils favourable consideration and written confirmation within 5 working days.

Until then,

Yours sincerely

Submission: 3

09.12.2021

Chief Executive Officer

Snowy Monaro Regional Council

Dear Sir/Madam

Subject: Development Application number- 10.2021.325.1

Applicants name-Cavallo Projects Pty Ltd

Proposed Development- Large Lot Residential Subdivision 2B – 23 Lots

Property Description-Old Dry Plains Road Cooma 2630

Lot:1 DP:737275, Lot:11 DP:1266312, Lot: 157 DP750524,

Lot: 158 DP: 750524, Lot:159 DP:750524, Lot:189 DP:750524,

Lot: 97 DP: 750524, Lot: 211 DP:750524

This letter will formally register our strong objection to the proposed Twenty Three lot subdivision to be located at the above property. Whilst not completely exhaustive, it includes most points to why the proposal should not go ahead.

The following points are not in order of importance but do describe why we believe the Applicants proposal is not suited to the area.

Traffic

We reject the DA' s advice the road has been upgraded to accept the eventual number of blocks, 86 blocks (first stage 10, second 76). Towrang Vale Road possibly, but other roads in the area have not. This will create a massive amount of extra traffic in the area. The average Australian household has 1.8 cars, meaning potentially an extra 139 cars and allowing 2 trips into town per car per day means 277 additional cars on Towrang Vale Road, Dry Plains Road and Snowy Mountains Highway. In winter, we experience traffic banking up from town over Mt Gladstone. With the number of extra vehicles, there is the potential to have an additional 139 cars waiting at the intersection of Dry Plains Road and Snowy Mountains Highway. The highway is already seeing an increase of traffic with Snowy 2.0 works. This is a single lane major highway and therefore all traffic could be halted out of Cooma due to cars banked up to turn right into Dry Plains Road. Potential for future litigation is high. Serious accidents have already occurred on and adjacent to this intersection. The intersection is made worse with a low westerly sun in the afternoon. Towrang Vale Road and Dry Plains Road intersection will also be congested, potentially we could have a traffic jam of the same amount waiting to return home over a crest, which again in the afternoon, is obscured by blinding westerly sun.

Rural Lifestyle.

, moving out of town for privacy, silence and space. We are not against development, we did not object to the first DA and feel other people have the right to also live the rural lifestyle. But 86 blocks are obscene. The land will be over developed to the detriment of the current residents, future residents and the environment. An official from Council needs to travel to Towrang Vale Road to visit our homes to become familiar with what we have now and how it will become with an extra 76 homes, nearly all of them seen from our homes, some as close as 100 metres. I strongly object to DA's suggestion that an extra 76 homes will fit in with the already established homes on "large residential blocks". The homes which already exist are on "true" large residential blocks of 8ha or more, all fed from a single road, not 2ha blocks like proposed, accessed via a maze of roads throughout the subdivision, meaning that the new subdivision will not be the same as existing, it will be in fact 4 times as dense.

Use of Leased Crown Road for Fire Trail.

I strongly object to the use of the paper road for a fire trail in

. This is important as the prevailing wind of the Monaro is from the north west. If a fire trail was to be constructed it would remove vegetation from the soil, releasing airborne debris and our house will be covered in dust as well as large rock outcrops would have to be removed and a large gully would have to have pipes installed. All this when another paper road is currently is being used with access to Dry plains road directly. The other option is using the same paper road and head back to the intersection of Towrang Vale Road and Calabri way. I believe once people purchase their properties, they will use the fire trail as a more direct route to Towrang Vale road reducing our privacy, and rural aspect further while creating more airborne debris.

Noise and Vibration pollution.

Silence and darkness are one of the key features to living in a rural setting with large block sizes. We are very fortunate in the area that residents are considerate. Light and noise pollution is extremely low which will definitely change if 76 lots are approved. Dogs barking, lawn mowing, sounds of 139 cars travelling within the proposed subdivision. If this is what the residents crave, we would move into Cooma where we could also have town water, rubbish collection and sewage. This not what we want, so we compromise essential services that are provided in exchange for silence, darkness and privacy.

Fire risk.

I have read the included bush fire report conducted by Blackash. Blackash's report notes on the included map, (page 10) that although the area not coloured and is not a classified fire risk, it needs to be considered as one. I agree with this but believe this is understated as it in fact heavily infested with African Lovegrass. Unlike natural grassland as implied by the map, African Lovegrass is extremely flammable and is known to burn twice in one fire event. The gradient and the direction of wind also need to be considered with density of African Love grass. The entire land is a fire risk which is amplified by averaging the lot sizes to 2 hectares. In the PEARS report it concludes that every section studied is affected by African Lovegrass.

Objectives of the Zoning

Objectives of the Zone 5 Large Residential Blocks- Note 1, ***To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally and sensitive locations and scenic quality.*** It is my belief this cannot be achieved when decreasing lot sizes one quarter the minimum land size. The surrounding blocks are not 2ha's, they are 8 ha or larger and are all in view of the proposed subdivision. How is it possible to preserve scenic quality when our rural setting will have 77 extra houses, sheds and infrastructure including roads and fencing in sight.

Sensitive locations, Cooma's water catchment area, could be impacted with an additional 77 septic systems and run off, off roads into local waterways.

Clause 4.1B ***Subdivision using averaging lot sizes.*** I do not believe this clause applies to this subdivision as the objective of the clause **is to *facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes as possible.*** Have essential Biodiversity analyses been conducted in this regard? Nowhere is it described in the proposal what the values and constraints are to which land that is listed as minimum lot size of 8ha must be reduced to 2ha. To use averaging to the extent where the residual blocks are also averaged until the lots are all 2ha's is inconceivable and insulting. Environmentally it will have a much larger impact in this case if the lots are averaged rather than kept to minimum sizing. I don't believe the objective of *Subdivision using averaging lot sizes* clause was designed to be used in this way and is not in the spirit of LEP.

Effluent Disposal

As you are aware the proposed sub division sits in the catchment area of the Cooma's water source. I believe sections of the subdivision cannot be approved due to the unsuitability of the land for construction and/or effluent disposal.

In the reports which are submitted, I refer you to; Soil and Water, Towrang Vale Road, Cooma-Land Capability Assessment document, in which it states ***"Slope-The areas of steep land above 15% are constrained for effluent and dwelling construction"***, page 5. With this in mind, I refer you to Slope analysis sheet 1 and 2 (ORCE report), where it shows in shading slope percentages. Stage 2B, East of Road 5 towards 2D is unsuitable when both Slope percentages and Figure 8c: Constraints to effluent Dispersal (page 16) are viewed concurrently.

Summary

We don't believe the proposed subdivision should proceed as it will have a major impact on existing residents, environment, bush fire control and traffic flow. It is unreasonable to have an area which is classed as R5 Large Residential Lots with legislated minimum lot sizes of 8ha to be subjected to Small Residential Lots which are one quarter the size stated in the current and draft LEP. The LEP is designed to protect the environment it covers. Minimum lot sizes take into consideration the environment and land use, current and future residents and their lifestyle, impact on rate payers, traffic etc. If land is needed for an expanding town and its residents, it should be provided with

essential services such as water, sewage, rubbish collection and postal delivery. Towrang Vale has none of these services and as such should not be over developed in this way and is not Councils answer to land release. I note that, Draft Land Use Strategies Public Exhibition, (4.5) Combined Constraints and Findings, states *Greendale Road could be further explored with the potential to provide urban residential growth*. This proposal is totally inconsistent with the objectives and the expectations of the LEP and therefore must not proceed.

Submission: 4

Sophie Ballinger

From:
Sent: Sunday, 5 December 2021 9:14 PM
To: Records Snowy Monaro Regional Council
Subject: Submission regarding Residential Subdivision

Re: Large Lot Residential Subdivision - Stage 2B. Old Dry Plains Road Cooma 2630
Cavallo Projects
App No: 10.2021.325.1

Preferred contact by email.

In accordance with Section 147 of the Environmental Planning and Assessment Act 1979, I declare that I have not made any political donations or gifts within the last 2 years, nor any associate.

My submission concerns Stage 2B, Lot 201, 3.77 Ha.
Lot 201 has a western boundary with the Stage 1 Lots 3, 4, 5 and 6.
Each of these Stage 1 Lots has a 9.6m double rural gate in this boundary fence for firefighting access.
The Development drawings do not resolve how access to each of these Stage 1 Lots will be maintained for firefighting vehicles. The Building Footprint (BF) for Stage 2B Lot 201, appears to restrict access to these firefighting access gates.

Please advise how the development proposal will retain firefighting access to my Stage 1 Lot 4 block (and also Lots 3, 5 and 6) with regard to Stage 2B Lot 201.

Thank you for considering my submission.

Submission 1

[redacted]

17 June 2023

Re: Large Lot Residential Subdivision - Stage 2A. Old Dry Plains Road Cooma 2630

Cavallo Projects
App No: 10.2023.150.1

[redacted]

My submission concerns Stage 2B, Lot 231, 3.77 Ha. (Previously called Lot 201)

Lot 231 has a western boundary with the Stage 1 Lots 3, 4, 5, 6 and 7.

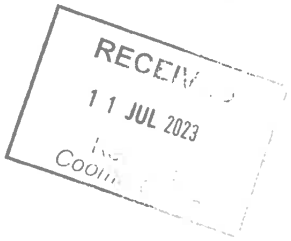
Each of these Stage 1 Lots has a 9.6m double rural gate in this boundary fence for firefighting access.

The Building Footprint (BF) for Stage 2B Lot 231, restricts access to these firefighting access gates. The easement provided between the Stage 1 Lots 1,2 and 8 to provide firefighting access should be continued along the eastern boundary of Stage 1 Lots 3, 4, 5, 6 and 7.

Please advise how the development proposal will retain firefighting access to my Stage 1 Lot 4 block (and also Lots 3, 5, 6 and 7) with regard to Stage 2B Lot 231.

[redacted]

SUBMISSION 2



10.07.2023

Chief Executive Officer

Snowy Monaro Regional Council

Dear Sir

Subject: Development Application number- 10.2023.149.1

Applicants name-R Papalia c/- Vision Property Development Hub

Proposed Development-Clause 37 Amendment to DA 10.2021.321.1- Proposed Large Lot Residential Subdivision - Stage 2B

Property Description-Old Dry Plains Road Cooma 2630

Lot:1 DP:737275, Lot:11 DP:1266312, Lot: 157 DP: 750524 Lot: 158 DP750524,

Lot:159 DP:750524, Lot:189 DP:750524, Lot: 197 DP: 750524,

Lot 211 DP: 750524

This letter will formally register our strong objection to the proposed 7 plus residue lot subdivision to be located at the above property. Whilst not completely exhaustive, it includes most points to why the proposal should not go ahead.

The following points are not in order of importance but do describe why we believe the Applicants proposal is not suited to the area.

Traffic

We reject the DA' s advice the road has been upgraded to accept the number of blocks, 47 blocks (first stage 10, second 37). Towrang Vale Road possibly, but other roads in the area have not. This will create a massive amount of extra traffic in the area. The average Australian household has 1.8 cars, meaning potentially an extra 85 cars and allowing 2 trips into town per car per day means 170 additional cars on Towrang Vale Road, Dry Plains Road and Snowy Mountains Highway. In winter and now summer too, we experience traffic banking up from town over Mt Gladstone. With the number of extra vehicles, there is the potential to have an additional 85 cars waiting at the intersection of Dry Plains Road and Snowy Mountains Highway. The highway is already seeing an increase of traffic with Snowy 2.0 works. This is a single lane major highway and therefore all traffic could be halted out of Cooma due to cars banked up to turn right into Dry Plains Road. Potential for future litigation is high. Serious accidents have already occurred on and adjacent to this intersection. The intersection is made worse with a low westerly sun in the afternoon. Towrang Vale Road and Dry Plains Road intersection will also be congested, potentially we could have a traffic jam of the same amount waiting to return home over a crest, which again in the afternoon, is obscured by blinding westerly sun.

Rural Lifestyle.

My husband and I have lived in the area since 2003, moving out of town for privacy, silence and space. We are not against development, we did not object to the first DA and feel other people have the right to also live the rural lifestyle. But an extra 47 (10 + 37) blocks are obscene. The land will be over developed to the detriment of the current residents, future residents and the environment. An official from Council needs to travel to Towrang Vale Road to visit our homes to become familiar with what we have now and how it will become with an extra 38 homes, nearly all of them seen from our homes, some as close as 100 metres. I strongly object to DA's suggestion that an extra 38 homes will fit in with the already established homes on "large residential blocks". The homes which already exist are on "true" large residential blocks of 8ha or more, all fed from a single road, not 2ha blocks like proposed, accessed via a maze of roads throughout the subdivision, meaning that the new subdivision will not be the same as existing, it will be in fact 4 times as dense. The development also features a residue block with no building envelope of 92.14 hectares, which I can only assume with previous development proposals will be developed further unless guarantees of being permanently secured for biodiversity/true use of averaging are made. If this occurred, my fears of this application and future ones would be alleviated.

Use of Leased Crown Road for Fire Trail.

I strongly object to the use of the paper road which is to the north of our property for a fire trail in the evacuation of a bush fire. We have leased this parcel of land since purchasing our property 18 years ago. I have continually paid fees for the use of the land. My use of the land is to have a buffer from other land users and their lack of weed control, grazing, privacy and keeping vegetation on the ground. Over the years we have paid thousands of dollars in lease payments and weed control maintaining this section of land. This is important as the prevailing wind of the Monaro is from the north west. If a fire trail was to be constructed it would remove vegetation from the soil, releasing airborne debris and our house will be covered in dust as well as large rock outcrops would have to be removed and a large gully would have to have pipes installed. The other option is using the same paper road and head back to the intersection of Towrang Vale Road and Calabri way. I believe once people purchase their properties, they will try to use the fire trail as a more direct route to Towrang Vale road reducing our privacy, use of land for grazing, rural aspect further while creating more airborne debris.

Noise and Vibration pollution.

Silence and darkness are one of the key features to living in a rural setting with large block sizes. We are very fortunate in the area that residents are considerate. Light and noise pollution is extremely low which will definitely change if 37 lots are approved. Dogs barking, lawn mowing, sounds of 85 cars travelling within the proposed subdivision. If this is what the residents crave, we would move into Cooma where we could also have town water and sewage. This not what we want, so we compromise essential services that are provided in exchange for silence, darkness and privacy.

Fire risk.

I have read the included bush fire report conducted by Blackash. Blackash's report notes on the included map, (page 10) that although the area not coloured and is not a classified fire risk, it needs to be considered as one. I agree with this but believe this is understated as it in fact heavily infested with African Lovegrass. Unlike natural grassland as implied by the map, African Lovegrass is

extremely flammable and is known to burn twice in one fire event. The gradient and the direction of wind also need to be considered with density of African Love grass. The entire land is a fire risk which is amplified by averaging the lot sizes to 2 hectares. In the PEARS report it concludes that every section studied is affected by African Lovegrass.

Objectives of the Zoning

Objectives of the Zone 5 Large Residential Blocks- Note 1, ***To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally and sensitive locations and scenic quality.*** It is my belief this cannot be achieved when decreasing lot sizes one quarter the minimum land size. The surrounding blocks are not 2ha's, they are 8 ha or larger and are all in view of the proposed subdivision. How is it possible to preserve scenic quality when our rural setting will have 47 (10+37) extra houses, sheds and infrastructure including roads and fencing in sight.

Sensitive locations, Cooma's water catchment area, could be impacted with an additional 37 septic systems and run off, off roads into local waterways.

Clause 4.1B ***Subdivision using averaging lot sizes***. I do not believe this clause applies to this subdivision as the objective of the clause **is to *facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes as possible*** which it doesn't, as no guarantees are made to what will happen to the residue land, in fact the opposite. I understand the theory behind the use of above-mentioned clause and agree that the land has limitations due to gradient percentages, biodiversity concerns, water courses etc, but where is the guarantee that residue land will not be developed further which is clearly the goal with the previous applications as evidence. If guarantees were given and no further development could be taken with legal restraints in place, clause 4.1B would apply, but as it currently stands it doesn't. To use averaging to the extent where the residual blocks are also averaged until the lots are all 2ha's is inconceivable and insulting. Environmentally it will have a much larger impact in this case if the lots are averaged rather than kept to minimum sizing. I don't believe the objective of *Subdivision using averaging lot sizes* clause was designed to be used in this way and is not in the spirit of LEP.

Summary

We don't believe the proposed subdivision should proceed as it will have a major impact on existing residents, environment, bush fire control and traffic flow. It is unreasonable to have an area which is classed as R5 Large Residential Lots with legislated minimum lot sizes of 8ha to be subjected to Small Residential Lots which are one quarter the size stated in the current and draft LEP. The LEP is designed to protect the environment it covers. Minimum lot sizes take into consideration the environment and land use, current and future residents and their lifestyle, impact on rate payers, traffic etc. If land is needed for an expanding town and its residents, it should be provided with essential services such as water, sewage and postal delivery. Towrang Vale has none of these services and as such should not be over developed in this way and is not Councils answer to land release. I note that, Draft Land Use Strategies Public Exhibition, (4.5) Combined Constraints and Findings, states *Greendale Road could be further explored with the potential to provide urban residential growth*. This proposal is totally inconsistent with the objectives and the expectations of the LEP and therefore must not proceed.

SUBMISSION 3

[redacted]

Chief Executive Officer
Snowy Monaro Regional Council
PO Box 714, Cooma NSW 2630

OBJECTION TO:

Proposed development – Clause 37 Amendment to DA 10.2021.3251 – Proposed Large Lot Residential Subdivision – Stage 2A

Proposed development – Clause 37 Amendment to DA 10.2021.3251 – Proposed Large Lot Residential Subdivision – Stage 2B

Old Dry Plains Rd, Cooma NSW 2630
Lot: 1 DP 737275, Lot: 11 DP: 1266312, Lot: 157 DP: 750524, Lot: 158 DP: 750524, Lot: 159 DP 750524, Lot: 189 DP 750524, Lot: 197 DP 750524, Lot: 211 DP: 750524

ATTN: SARAH BROWN

Dear Sarah,

As an adjoining landholder, I thank you for extending an opportunity to review the latest proposal for this subdivision. Please accept this letter as my submission.

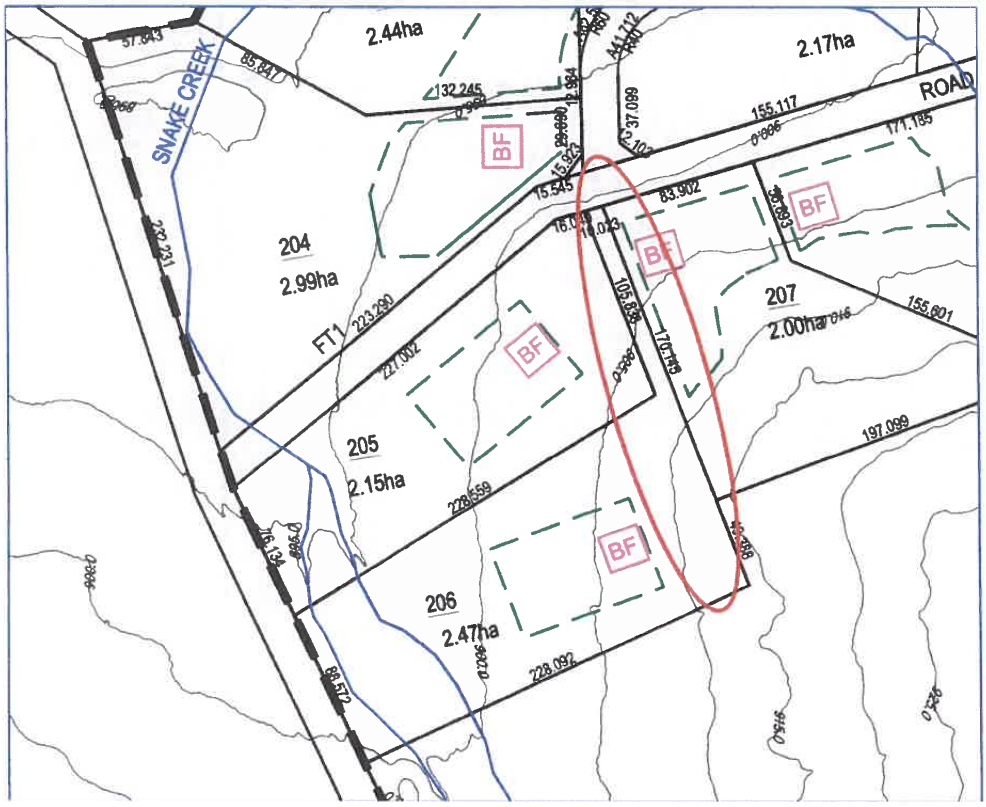
I would like to acknowledge the changes to previous applications that have been made in these amendments. However, on review, I wish to highlight several deficiencies that ought to be addressed:

TWO BATTLE AXE HANDLES LONGER THAN THE MAXIMUM LENGTH STIPULATED IN THE DCP / REASON INSUFFICIENT

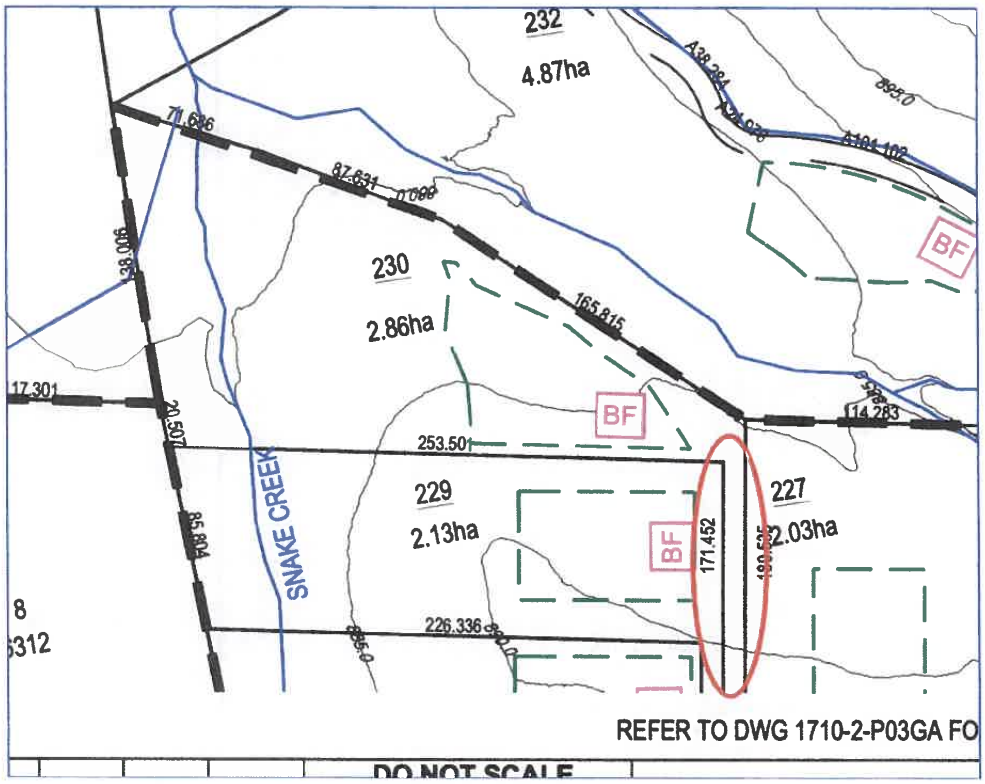
Section 4.1.3.2 of the *Cooma-Monaro Shire Development Control Plan 2014 (Amendment 4)* stipulates that the maximum length of a battle axe handle in a subdivision in the R5 zone be 100 metres (Table 9: *Design requirements for battle axe access handles on new lots (in metres)*, pages 92-3).

The development applications propose three lots that exceed this requirement. According to maps supplied in the application (shown below):

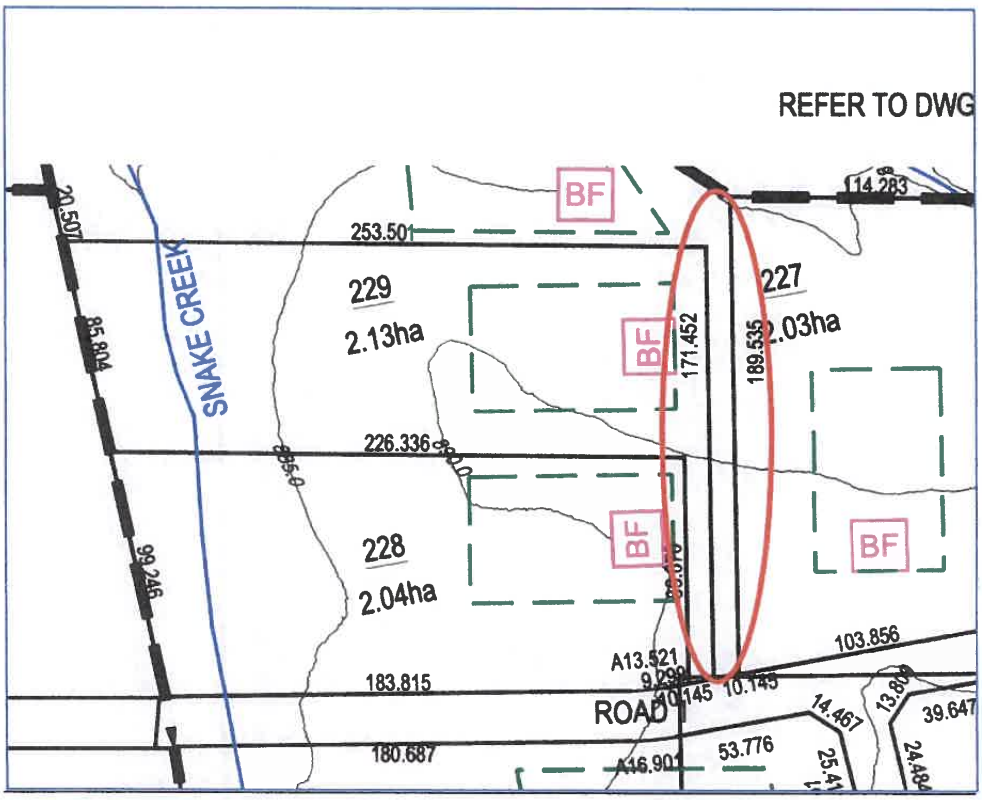
- Lot 206 (Stage 2A) contains a battle axe handle of 105.838 metres in length
- Lot 230 (Stage 2A) contains a battle axe handle of 171.452 metres in length
- Lot 231 (Stage 2B) contains a battle axe handle of 202.43 metres in length



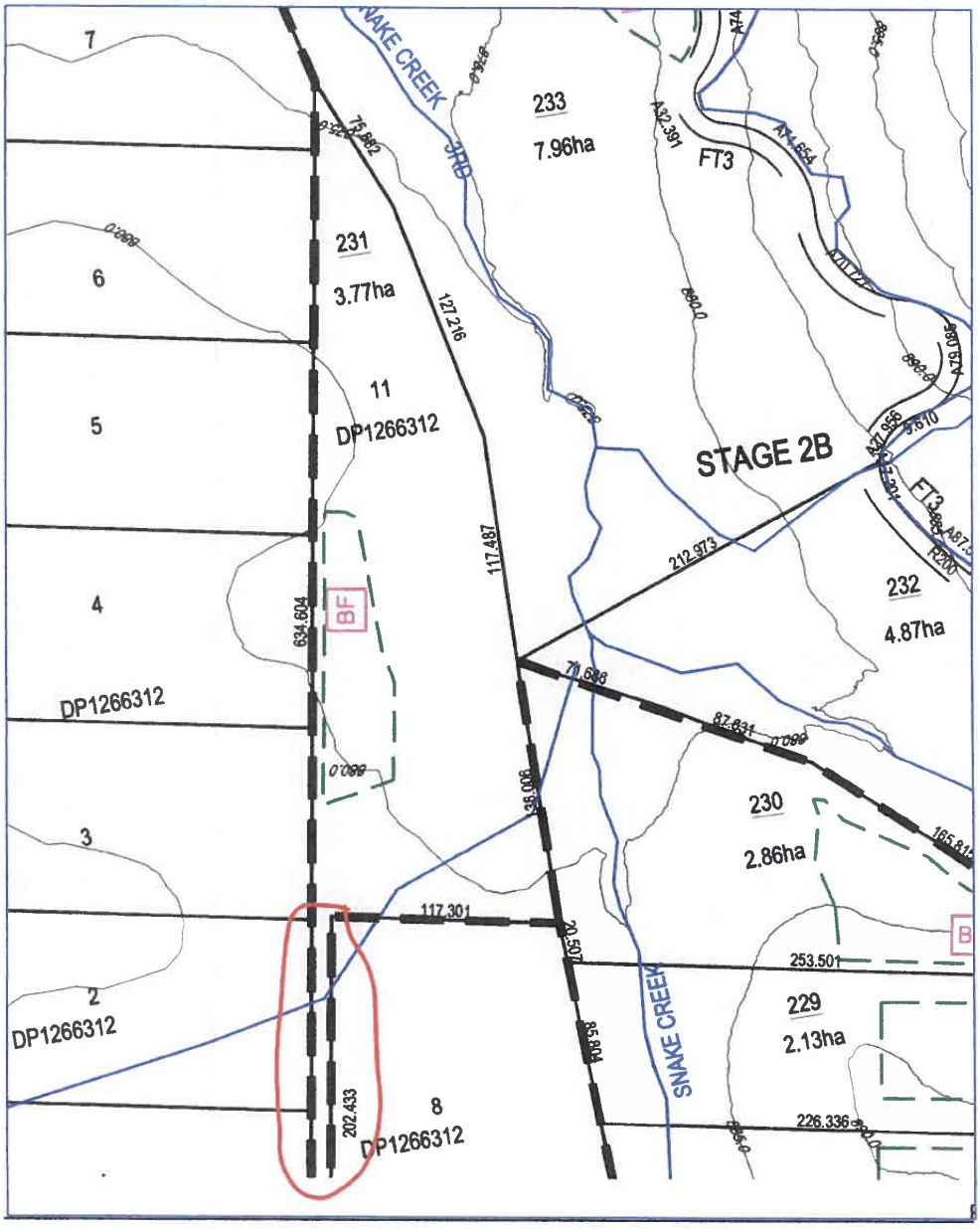
Proposed Lot 206



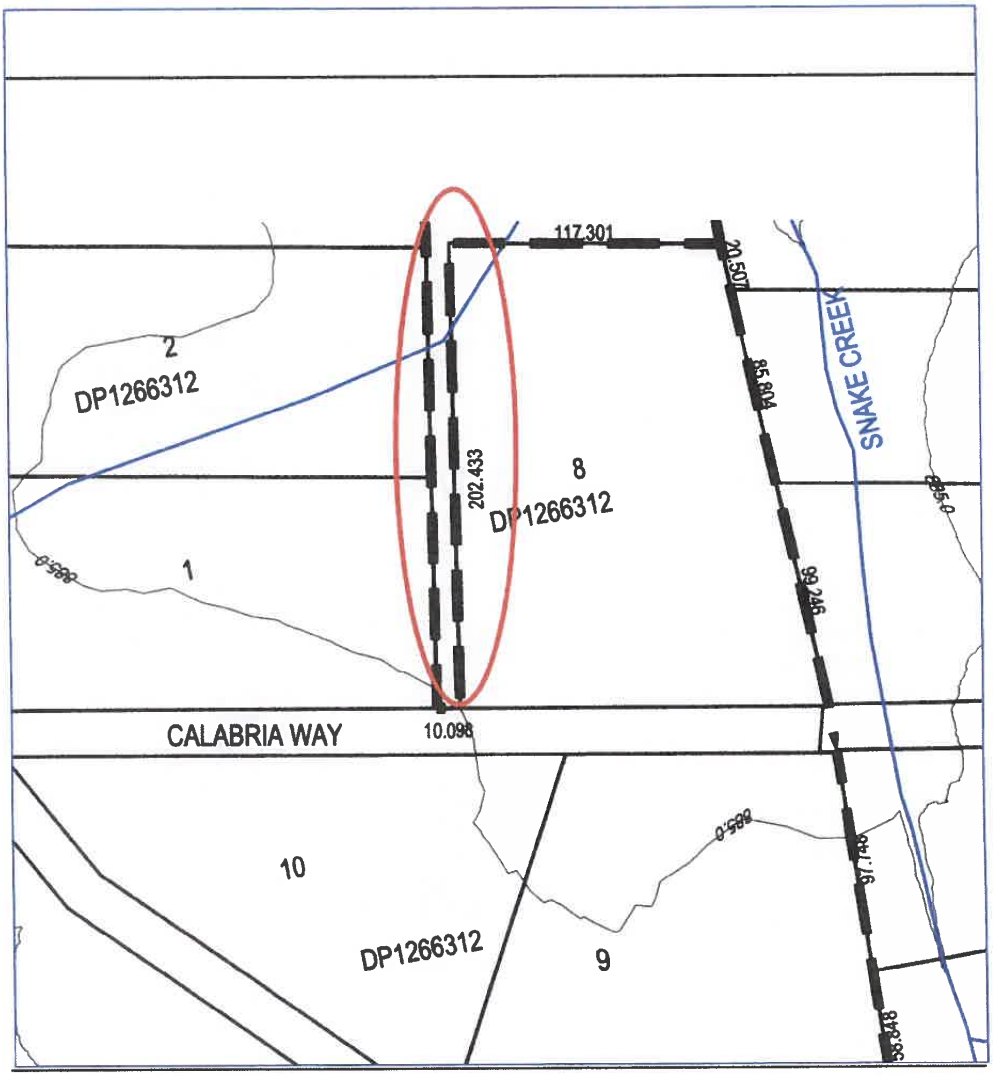
Proposed Lot 230



Proposed Lot 230 – alternate view



Proposed Lot 231



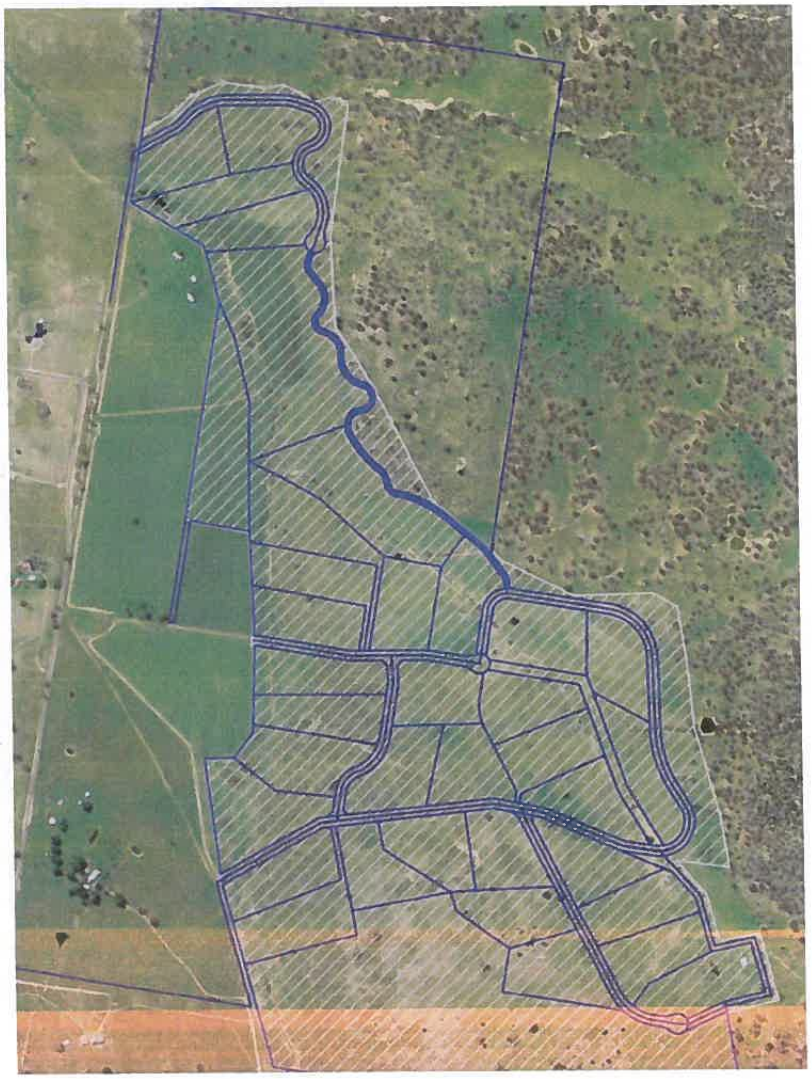
Proposed Lot 231 – alternate view

The applications seek to justify exceeding the length with the following reason on page 20:

> *Development includes some allotments with battle-axe handle driveways greater than 100 metres in length. This is included to reduce the amount of tree vegetation required to be removed by roadways. This is considered an appropriate design and environmental outcome.*

However, the following screenshot from the application's *Biodiversity Assessment Report* (page 6) demonstrates that the number of trees to be removed in the construction of roads

is negligible (possibly just one). Therefore it would be remiss to use this reason to justify adding as many as three extra lots in a way that does not comply with the DCP's battle axe handle requirements.



Roads overlay from the application's Biodiversity Assessment Report (page 6)

DCP REQUIREMENT FOR PUBLIC OPEN SPACE HAS NOT BEEN MET

Section 4.1.5 of the *Cooma-Monaro Shire Development Control Plan 2014 (Amendment 4)* requires "the provision of open space where appropriate within a subdivision, for the general welfare of the wider community" (page 94).

According to Section 4.1.5.2,

> *For subdivisions of ten (10) lots or more within Zones R1, R2, R5 and RU5, a dedicated area of open space is to be provided such that all lots within the subdivision are within 1,200 metres of either an existing or proposed area of public open space that contains a playground (ie playground equipment).*

This section of the DCP also offers an alternative method of open space provision, with the option of public access to a natural stormwater drainage or area of high conservation or environmental value.

The applications do not meet the requirement for the provision of open public space in either of these ways.

NUMBER OF PROPOSED LOTS EXCEEDS ALLOWABLE QUANTITY

In Clause 4.1 of the *Cooma-Monaro Local Environmental Plan (2013)*, the minimum lot size stipulated for R5-zoned land (according to *Lot Size Map - Sheet LSZ_013*) is 8 hectares.

The applications have utilised Clause 4.1B (*Subdivision using average lot sizes*) to create a large number of smaller lots as little as 2 hectares in size. However the average across the entire proposed subdivision – in the sections zoned R5 – must still average 8 hectares according to the planning standard.

The development applications state that a total of 251.93 hectares of R5-zoned land across Stages 2A and 2B (submitted to Council together and therefore should be assessed together).

A simple calculation (251.93 hectares divided by 8 hectares) demonstrates that the maximum number of potential lots ***no more than 31.49***, however the application proposes 37 lots to be developed (30 in Stage 2A and 7 in Stage 2B).

Clause 4.1B of the LEP states that the objectives of this clause are to:

1) *(a) facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes possible, and*

As described above, the objectives of the clause are to facilitate better subdivision design – not to override the minimum lot size stipulated in Section 4.1 of the Act.

It should also be noted that Stage 2B comprises residual land from Stage 2A, and Stages 2A and 2B combined comprise residual land from Stage 1 (10 lots approved in 2018). By repeatedly activating Clause 4.1B over the entire lifetime of this subdivision, these applications seek to maximise the number of lots well beyond the objectives of Clause 4.1 of the LEP, and well beyond the intent of both Clauses 4.1 and 4.1B.

THE APPLICATION ADVERSELY AFFECTS THE AMENITY OF EXISTING LANDHOLDERS THROUGH OVERDEVELOPMENT

According to the *Cooma-Monaro Local Environment Plan (2013)*, the first objective of the R5 zoning is to:

> *provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.*

The applications propose overdevelopment – as evidenced in the previous section of this submission – which affects my amenity and scenic quality as an adjoining landholder, as well as being detrimental to the rural character of the Dairymans Plains area.

According to page 4 of the application for Stage 2A, the proposed subdivision "will have positive outcome without negative impacts". However, the application fails to demonstrate what those positive outcomes might be for neighbouring residents.

While I do not oppose development in principle – nor seek to deprive others of accessing the kind of lifestyle that I enjoy – I cannot support excessive development which negatively impacts on the amenity and rural lifestyle that myself and fellow neighbours have sought to secure through the acquisition of R5 land that meets the development standard set out in the *Cooma-Monaro Local Environment Plan (2013)*.

SUBMISSION 4

[redacted]

11 July 2023

Snowy Monaro Regional Council
PO Box 714
Cooma NSW 2630

RE: DA 10.2021.325.1 AND DA 10.2021.321.1

Further to correspondence of 30 January 2021 where I submitted an objection to this development, I submit further objection to the development continuing to corrupt the intent and spirit of the LEP.

I would again re-iterate that utilising residual areas from previously approved sub-divisions in order to circumvent the intended minimum lot size and quadruple housing density is blatant manipulation and in opposition to the intent of the LEP.

Despite changes to the application, the developer still seeks to create and sell lots of around 2ha with none exceeding 3ha. This is in no way could be considered an 'average minimum' of 8ha. The development is completely inconsistent with the character of the precinct. The block size should be restricted to a MINIMUM 5ha to maintain the existing ambiance.

With only 5 houses erected on the original sub-division that created 10 x 2ha blocks using residual as the methodology for sliding the application through the development process, is already impacting the visual and practical amenity of the valley and the increase in traffic on Towrang Vale Rd is noticeable.

A further 37 blocks with single access from Towrang Vale Rd via Dry Plains Rd will significantly increase traffic on these roads. Both of these roads have exceedingly dangerous sections including the 90 degree intersection of Old Dry Plains Rd and Dry Plains Rd where there is no verge with a sever drop off and the excessive incline of Towrang Vale Rd at the intersection of Dry Plain Rd.

The upgrade of Towrang Vale Rd undertaken as a condition of the original sub-division has visibly deteriorated in a short period of time. The road builders have destroyed my driveway which previously had bitumen surface right through to the bitumen of the road. The school bus now uses this road with several stops including the top of the rise near the intersection of Dry Plains Rd. This is a hazard for the existing users. Increased traffic would further increase the hazard to road users and children catching the bus.

Please deny this application in its current format and insist on realistic application of the 8ha minimum lot size.

[redacted]

Submission 5

10.07.2023

Chief Executive Officer

Snowy Monaro Regional Council

Dear Sir

Subject: Development Application number- 10.2023.149.1

Applicants name-R Papalia c/- Vision Property Development Hub

Proposed Development-Clause 37 Amendment to DA 10.2021.321.1- Proposed Large Lot Residential Subdivision - Stage 2B

Property Description-Old Dry Plains Road Cooma 2630

Lot:1 DP:737275, Lot:11 DP:1266312, Lot: 157 DP: 750524 Lot: 158 DP750524,

Lot:159 DP:750524, Lot:189 DP:750524, Lot: 197 DP: 750524,

Lot 211 DP: 750524

This letter will formally register our strong objection to the proposed 7 plus residue lot subdivision to be located at the above property. Whilst not completely exhaustive, it includes most points to why the proposal should not go ahead.

The following points are not in order of importance but do describe why we believe the Applicants proposal is not suited to the area.

Traffic

We reject the DA' s advice the road has been upgraded to accept the number of blocks, 47 blocks (first stage 10, second 37). Towrang Vale Road possibly, but other roads in the area have not. This will create a massive amount of extra traffic in the area. The average Australian household has 1.8 cars, meaning potentially an extra 85 cars and allowing 2 trips into town per car per day means 170 additional cars on Towrang Vale Road, Dry Plains Road and Snowy Mountains Highway. In winter and now summer too, we experience traffic banking up from town over Mt Gladstone. With the number of extra vehicles, there is the potential to have an additional 85 cars waiting at the intersection of Dry Plains Road and Snowy Mountains Highway. The highway is already seeing an increase of traffic with Snowy 2.0 works. This is a single lane major highway and therefore all traffic could be halted out of Cooma due to cars banked up to turn right into Dry Plains Road. Potential for future litigation is high. Serious accidents have already occurred on and adjacent to this intersection. The intersection is made worse with a low westerly sun in the afternoon. Towrang Vale Road and Dry Plains Road intersection will also be congested, potentially we could have a traffic jam of the same amount waiting to return home over a crest, which again in the afternoon, is obscured by blinding westerly sun.

Rural Lifestyle.

My wife and I have lived in the area since 2003, moving out of town for privacy, silence and space. We are not against development, we did not object to the first DA and feel other people have the right to also live the rural lifestyle. But an extra 47 (10 + 37) blocks are obscene. The land will be over developed to the detriment of the current residents, future residents and the environment. An official from Council needs to travel to Towrang Vale Road to visit our homes to become familiar with what we have now and how it will become with an extra 38 homes, nearly all of them seen from our homes, some as close as 100 metres. I strongly object to DA's suggestion that an extra 38 homes will fit in with the already established homes on "large residential blocks". The homes which already exist are on "true" large residential blocks of 8ha or more, all fed from a single road, not 2ha blocks like proposed, accessed via a maze of roads throughout the subdivision, meaning that the new subdivision will not be the same as existing, it will be in fact 4 times as dense. The development also features a residue block with no building envelope of 92.14 hectares, which I can only assume with previous development proposals will be developed further unless guarantees of being permanently secured for biodiversity/true use of averaging are made. If this occurred, my fears of this application and future ones would be alleviated.

Use of Leased Crown Road for Fire Trail.

I strongly object to the use of the paper road which is to the north of our property for a fire trail in the evacuation of a bush fire. We have leased this parcel of land since purchasing our property 18 years ago. I have continually paid fees for the use of the land. My use of the land is to have a buffer from other land users and their lack of weed control, grazing, privacy and keeping vegetation on the ground. Over the years we have paid thousands of dollars in lease payments and weed control maintaining this section of land. This is important as the prevailing wind of the Monaro is from the north west. If a fire trail was to be constructed it would remove vegetation from the soil, releasing airborne debris and our house will be covered in dust as well as large rock outcrops would have to be removed and a large gully would have to have pipes installed. The other option is using the same paper road and head back to the intersection of Towrang Vale Road and Calabri way. I believe once people purchase their properties, they will try to use the fire trail as a more direct route to Towrang Vale road reducing our privacy, use of land for grazing, rural aspect further while creating more airborne debris.

Noise and Vibration pollution.

Silence and darkness are one of the key features to living in a rural setting with large block sizes. We are very fortunate in the area that residents are considerate. Light and noise pollution is extremely low which will definitely change if 37 lots are approved. Dogs barking, lawn mowing, sounds of 85 cars travelling within the proposed subdivision. If this is what the residents crave, we would move into Cooma where we could also have town water and sewage. This not what we want, so we compromise essential services that are provided in exchange for silence, darkness and privacy.

Fire risk.

I have read the included bush fire report conducted by Blackash. Blackash's report notes on the included map, (page 10) that although the area not coloured and is not a classified fire risk, it needs to be considered as one. I agree with this but believe this is understated as it in fact heavily infested with African Lovegrass. Unlike natural grassland as implied by the map, African Lovegrass is

extremely flammable and is known to burn twice in one fire event. The gradient and the direction of wind also need to be considered with density of African Love grass. The entire land is a fire risk which is amplified by averaging the lot sizes to 2 hectares. In the PEARS report it concludes that every section studied is affected by African Lovegrass.

Objectives of the Zoning

Objectives of the Zone 5 Large Residential Blocks- Note 1, ***To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally and sensitive locations and scenic quality.*** It is my belief this cannot be achieved when decreasing lot sizes one quarter the minimum land size. The surrounding blocks are not 2ha's, they are 8 ha or larger and are all in view of the proposed subdivision. How is it possible to preserve scenic quality when our rural setting will have 47 (10+37) extra houses, sheds and infrastructure including roads and fencing in sight.

Sensitive locations, Cooma's water catchment area, could be impacted with an additional 37 septic systems and run off, off roads into local waterways.

Clause 4.1B ***Subdivision using averaging lot sizes***. I do not believe this clause applies to this subdivision as the objective of the clause **is to *facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes as possible*** which it doesn't, as no guarantees are made to what will happen to the residue land, in fact the opposite. I understand the theory behind the use of above-mentioned clause and agree that the land has limitations due to gradient percentages, biodiversity concerns, water courses etc, but where is the guarantee that residue land will not be developed further which is clearly the goal with the previous applications as evidence. If guarantees were given and no further development could be taken with legal restraints in place, clause 4.1B would apply, but as it currently stands it doesn't. To use averaging to the extent where the residual blocks are also averaged until the lots are all 2ha's is inconceivable and insulting. Environmentally it will have a much larger impact in this case if the lots are averaged rather than kept to minimum sizing. I don't believe the objective of *Subdivision using averaging lot sizes* clause was designed to be used in this way and is not in the spirit of LEP.

Summary

We don't believe the proposed subdivision should proceed as it will have a major impact on existing residents, environment, bush fire control and traffic flow. It is unreasonable to have an area which is classed as R5 Large Residential Lots with legislated minimum lot sizes of 8ha to be subjected to Small Residential Lots which are one quarter the size stated in the current and draft LEP. The LEP is designed to protect the environment it covers. Minimum lot sizes take into consideration the environment and land use, current and future residents and their lifestyle, impact on rate payers, traffic etc. If land is needed for an expanding town and its residents, it should be provided with essential services such as water, sewage and postal delivery. Towrang Vale has none of these services and as such should not be over developed in this way and is not Councils answer to land release. I note that, Draft Land Use Strategies Public Exhibition, (4.5) Combined Constraints and Findings, states *Greendale Road could be further explored with the potential to provide urban residential growth*. This proposal is totally inconsistent with the objectives and the expectations of the LEP and therefore must not proceed.

Submission 6

[redacted]

10th July 2023

The Chief Executive Officer
Snowy Monaro Regional Council
81 Commissioner Street
(PO Box 714)
Cooma NSW 2630

Dear Chief Executive Officer

REF: Application Number 10.2023.1501 - Proposed Large Lot Residential Subdivision – Stage 2A
Application Number 10.2023.149.1 - Proposed Large Lot Residential Subdivision – Stage 2B

Thank you for the opportunity to submit our objection to the new proposals above. We strongly object to these DAs on the following grounds:

1. LOT AVERAGING/EXCEPTIONS TO DEVELOPMENT STANDARDS

The land proposed for subdivision is zoned R5 being Large Lot Residential – with the standards being minimum 8ha lots. If the consenting authority permits lot averaging then minimum block size will be slashed by up to 75% of what the current zoning permits. That would be in direct contrast to the intent of R5 Zoning as stated in the Cooma-Monaro Local Environmental Plan 2013 Land Use table which is "to provide residential housing in a rural setting" size of 8ha and not at all fitting with any of the surrounding development/s.

2ha blocks have a village or town aesthetic – definitely not a 'rural setting'. Permitting 2ha blocks will be in complete contrast to any of the recent development already permitted and approved in the Towrang Vale Road, Dry Plains Road, and Old Dry Plain Road areas.

Using the proposed 'lot averaging' method as the application states will mean that the development does not respect the local character and amenity and/or will result in unreasonable impacts and/or burden (visual, economic and environmental) on an area that is zoned as R5 and has been zoned to ensure the locality retains a pleasing aspect and outlook for generations of Monaro residents.

This DA has not demonstrated how it addresses Part 4 – Principal development standards of the Cooma-Monaro Local Environmental Plan 2013. To be effective all of part 4 needs to be considered when making a determination on development standards. Noting Section 4.1B states that despite clause 4.1 (which is the standard for minimum lot sizing) development consent may be granted if the development meets parts 3a, b and c. But in granting development consent the subdivision must still meet the requirements of this being **an exception** to the development standards as set out in Part 4. Therefore, in determining what is classed as an exception to the Cooma-Monaro Local Environmental Plan 2013 standard for R5, using average lot sizes to reduce minimum lot then this DA has not considered or made a determination **how** the exception is to be applied as per section 4.6.

The DA has not shown as per 4.6(b) below - how a **reduction in allowable lot sizes will achieve a better outcome** for and from this development and **in what particular circumstances.** In fact applying average lot sizes in the manner of the application completely obliterates the R5 zoning or the intent thereof.

4.6 Exceptions to development standards

(1) The objectives of this clause are as follows—

b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

The DA does not show as per section 3 below - that the applicant has supplied a written request to the consenting authority showing how the development justifies contravention to the development standard showing that the compliance to the standard is unreasonable or unnecessary. Hence the DA cannot now show the consenting Authority is satisfied that the development has demonstrated how it has justified that the development standard is unreasonable or unnecessary. And it cannot show that this development is in public interest by being consistent with the objectives of the standard for the development within the R5 level for development standards.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating—

*(a) that **compliance with the development standard is unreasonable or unnecessary in the circumstances** of the case, and*

(b) that there are sufficient environmental planning grounds to justify contravening the development standar..

(4) Development consent must not be granted for development that contravenes a development standard unless—

(a) the consent authority is satisfied that—

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

*(ii) the **proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone** in which the development is proposed to be carried out.*

The DA has not met section 4.6 6 below - which shows that development consent must not be granted under this clause (ie Part 4) if part (a) cannot be met.

(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone C2 Environmental Conservation, Zone C3 Environmental Management or Zone C4 Environmental Living if—

(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or

(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.

The application states '4.6 Variation applied for – not applicable'. We firmly believe that under 4.6 of Cooma-Monaro Local Environmental Plan 2013 that the applicant has not 'applied to make an application' to use lot averaging to determine lot size that varies from that Cooma-Monaro Local Environmental Plan 2013 standards set out for R5 zoning standards. Instead the applicant is attempting to obliterate the zoning standards that do apply. If approved by the consenting authority, this would set a precedent that allows developers to circumnavigate the Cooma-Monaro Local Environmental Plan 2013 and the planning standards which have been put in place to maintain a standard of planning to ensure the unique qualities of our various landscapes are maintained and developed to benefit our communities – not hinder or burden.

2. Vehicle/Road Safety Concerns

The application has proposed across the two DA's that there will be an additional 37 lot residential subdivision. This will generate a large increase on current vehicle movement. These increased vehicle movements will be using the existing Towrang Vale Road, Dry Plains Road and the intersection of the Dry Plains Road and Snowy Mountains Hwy.

Within the DAs there has been no planning that addresses the increased vehicle movements. The only mention of external road infrastructure is in section 2 which states:

The developers also opted to complete roadworks to widen and improve an existing section of Towrang Vale Road back to Dri (Sic) Plains Road providing greatly improved roadway access to stage 1 of the subdivision and other existing residences.

In the comments section of Clause 7.1 which states:

does not unreasonably increase any demand for public services as a section of Towrang Vale Road leading to the development has been previously upgraded.

The DA does not provide any validation or certification that Towrang Vale Road is now of sufficient standard to meet current or increased, usage levels.

The DA does not show a determination of how many additional vehicle movements this subdivision will involve and place onto the existing roadways.

Note:

1. There are no turning lanes from Towrang Vale Road into Calabria Way. Towrang Vale road is a high-speed road with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from Towrang Vale Road.

2. There are no turning lanes from Dry Plains Road into Towrang Vale Road. Both Towrang Vale Road and Dry Plains Road are high-speed roads with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from and to Dry Plains Road and Towrang Vale Road.

3. The DA has not determined with RMS that the uphill turning lane from Snowy Mountains Highway into Dry Plains Road is adequate to safely take the extra vehicle movements. Consideration has not been given that the Snowy Mountains Highway is a **high-volume, high-speed** road.

4. Currently there is no turning lane on the downhill section of Snowy Mountains Highway into Dry Plains Road. The DA has not considered the number of extra vehicle movements that would be turning into Dry Plains Road coming from the Jindabyne end of Snowy Mountains Highway.

5. The DA has not considered the already substandard Dry Plains Road and the impact/safety of increased traffic.

6. The DA has not considered with RMS the safety of road users due to the increased vehicle movements.

7. Considering there have been two road fatalities related to turning off the Snowy Mountains Highway in this locality in recent times then it is evident that all these road/traffic issues need to be investigated very carefully and remediation's implemented before any further loss of life or injury is incurred.

To ensure the safety of all road users the Cooma- Monaro Local Environmental Plan 2013 covers that if a DA does not satisfy any of the following services then the development consent must not be granted see below section 6.10 e:

6.10 Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required

(e) suitable vehicular access.

The Cooma-Monaro Shire Development Control Plan 2014 (Amendment 1) Further makes determination on the requirements for vehicle access. The DA has only made a determination of internal access roads, and only touched on the external access roads that will have extra vehicle movement due to this subdivision. The DA does not validate how it has come to the determination that Towrang Vale Road is adequate and has not considered Dry Plains Roads or the turn off at Snowy Mountains Highway into Dry Plains Road.

Section 2.5 states that suitable and safe vehicle access be provided to all road users.

2.5 Vehicular access and roads

It is a requirement of the Cooma-Monaro Local Environmental Plan 2013 *that suitable vehicular access be provided to all new development (clause 6.10(e)). Council considers a "suitable vehicular access" to be one which complies with the requirements of this DCP, in particular the requirements of this Section.*

Within Cooma-Monaro Shire there are two types of public roads – those vested or owned by the Crown, known as Crown roads, and those vested or owned by the Council, known as Council roads. Some Council roads are also known as 'classified' roads under the Roads Act 1993. The major highways (Monaro Highway and Snowy Mountains Highway) through the Shire are classified roads.

Objectives

- *To ensure that roads and access points to properties are safe for all road users.*
- *To ensure that construction is to a satisfactory standard which minimises future maintenance.*
- *To minimise disputes over access roads amongst members of the community.*
- *To provide access to multiple lots from the same road where possible.*
- *The vehicular access is legal and practical.*
- *Roads and property access points must be safe for all road users.*

Section 2.5.3 also covers that the development may be required to upgrade the road to the relevant standards.

2.5.3 Prescriptive Requirements

Road and vehicular access to a development must be constructed at the developer's expense to meet the standaRoads specified in Appendices 5 and 6 and Council's Specification for Engineering Works – Volume 1 (Design) and Specification for Engineering Works – Volume 2 (Construction) (SFEW). If a development is proposed which will utilise a sub-standaRoad public road for access, an assessment will be made by Council as to the likely impact of the proposed development on the road. The proposed development may be required to upgrade the road (or parts of the road) to the relevant standaRoads in this DCP for the particular class of road.

3. Open space

To date there has been no allowance or provision of open space. This is a requirement from the Cooma-Monaro Shire Development Control Plan2014 (Amendment 4):

4.1.5 Provision of open space

4.1.5.1 Objectives

- *To require the provision of open space where appropriate within a subdivision, for the general welfare of the wider community.*

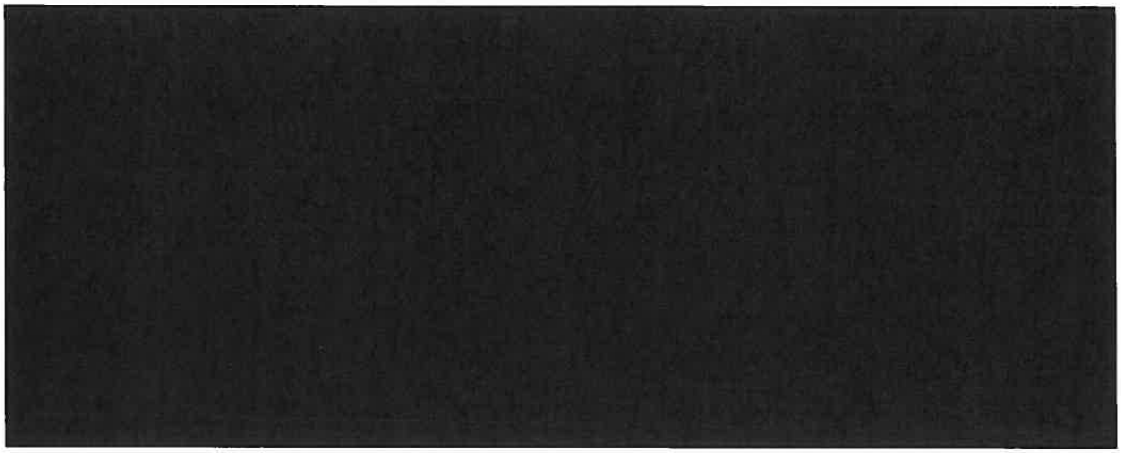
4.1.5.2 Requirements

- *For subdivisions of ten (10) lots or more within Zones R1, R2, R5 and RU5, a dedicated area of open space is to be provided such that all lots within the subdivision are within 1,200 metres of either an existing or proposed area of public open space that contains a playground (ie playground equipment).*
- *Where a playground is to be provided, the land and design of the playground must meet the relevant principles in Council's Playgrounds Strategy in terms of accessibility, safety and usability.*
- *A new park provided within a subdivision should have street frontage and be fronted by houses rather than being located at the rear of houses.*
- *Land to be provided as open space in accordance with this provision is to be 95 dedicated to Council as part of the subdivision.*
- *Open space may also be provided as part of a 'natural' stormwater drainage system or to protect or provide public access to areas of high conservation or environmental values (eg a river or creek frontage), provided the on-going management costs are acceptable to Council.*

4. Provision of services

We also have justified concerns relating to water availability for such a high risk bushfire area.

We also have justified concerns re the concentrated number of septic systems in what is a catchment area for the Murrumbidgee water supply.



Submission 7

Chief Executive Officer
Snowy Monaro Regional Council
Email: council@snowymonaro.nsw.gov.au

July 13, 2023

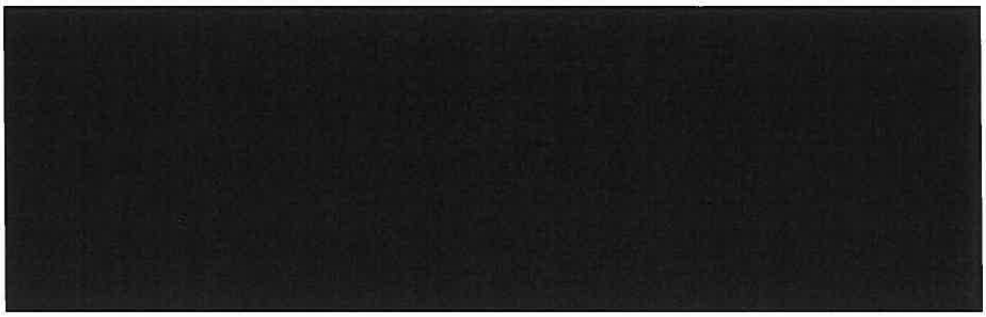
Dear Mr Bascomb

Submission on DA 10.2023.150.1

Thank you for the opportunity to comment on the above Development Application.

The subdivision includes Lot 197 DP737275, as confirmed in the Statement of Environmental effects, the application portal description, the cover letter from the developer, the overview map, the lot averaging calculation, and the discussion on "residues". Yet the biodiversity values assessments fail to address this Lot in full: they simply address those in the building envelope. This is not acceptable as the development will undoubtedly have impacts on the adjacent bushland areas within this Lot. Further documentation on the impacts of the development on the full Lot area are required and these new environmental assessments should then be made publicly available for review.

It is not clear from the application that the areas classed as "residue", i.e., outside the building envelope, would not become unavailable for further sub-division if this DA was approved. Given the history of this application, which included a much larger area for residential development under Stage 2c and Stage 2d, it is in the public interest that there be transparency on this issue in the public review of this application.



Submission 8a

The General Manager
Snowy Monaro Regional Council
P.O. Box 714
COOMA NSW 2630

11H July , 2023

Dear Sir, DA 10.2023.150.1 - Stage 2 A - Clause 37 Amendment to 10.2021.325.1
DA 10.2023.149.1 - Stage 2 B - Clause 37 Amendment to 10.2021.325.1

Attached please see:

i) Notification Non-Compliance Statement
ii) Submissions regarding both DA's
iii) Political Donation disclosure

My property at Old Dry Plans Road Cooma abuts the proposed development. Please accept this letter and its attachments as my submission regarding the above Development Applications

As detailed in the attachments, we say the Application, in its current form, cannot be considered a complying Application suitable for Notification and exhibition, and must be withdrawn.

The Application and supporting documentation would suggest it wrongly considers Council's role is one of playing 'tick the box'. The Application and the supporting Reports lack the required depth and accuracy of the information to enable the community or the Consent Authority to assess the merit of the Application without further information.

In anticipation we trust Council, as the Consent Authority, finds our submission helpful, and assists in producing an Application worthy of Council's and the community's consideration.

In anticipation we look forward to Councils consideration of these submissions.

1. INVALID NOTIFICATION:

i) **The Notification documents do not meet the 'notification objectives' of SMRC's Community Participation Plan: 5.1 Objectives:** "To provide clarity and consistency"

Lot	DP	Total Area [ha]	R5 Area [ha]	E4 Area [ha]	Notes
1	737275	130.61	48.91	81.70	
157	750524	14.97	14.97		
158	750524	24.88	24.88		
159	750524	24.81	24.81		
189	750524	16.20	16.20		
197	750524	71.76	50.49	21.27	
211	750524	0.81	0.81		
11	1266312	70.86	70.86		Stage 1 Residue
	TOTAL	***354.90***	***251.93***	***102.97***	
Stage 2A					
Available R5 Area				251.93 ha	
Allowable # of 8ha Lots			*31.5*	No	Say 30 + Residue
Lots Proposed to be Developed		#201-#230		88.29 ha	
Lots Proposed to be developed tally			30	No	
Road & Fire Trail Area				4.40 ha	
Residue Area			1	159.24 ha	
Stage 2B					
Available R5 Area				159.24 ha	
Allowable # of 8ha Lots			*19.9*	No	Say 18 + Residue
Lots Proposed to be Developed		#231-#237		65.80 ha	
Lots Proposed to be developed tally			7	No	
Road & Fire Trail Area				1.30 ha	
Residue Area			1	92.14 ha	

Stage One "Say 30 + Residue"
Stage Two "Say 18 + Residue"
Total 48

(a) The above table exert from the Application states authority to the create **48 Lots** over Stage 2 A & B combined. However, the maps accompanying these tables indicate a total of **37 Lots.**

(b) 1.4.1 Description of proposed development (Biodiversity Assessment Report)
The proposed development consists of subdividing the 336ha property into **forty lots** with three lots being retained for the conservation of biodiversity. The footprint of residential lots and roads would total 130ha, leaving 206ha for conservation.

Is it 48Lots, 40Lots or 37Lots. The Application requires clarification and consistency, it does NOT meet the requirements of a Notifiable Application.

ii) **The Application cannot be made at clause 37 of the Regulations as an "amendment":**
The Application fails to comply with 37(6): *"If the amendment will result in a change to the development, the application must contain details of the change, including the name, number and date of any plans that have changed, to enable the consent authority to compare the development with the development originally proposed".*

iii) **The Application breaches s.38(2)(a) as the amendments are not minor.**

iv) **The Application does not have any supporting documentation to meet the requirements of s.38(3)** *"If the consent authority approves an amendment to a development application for integrated development or development requiring concurrence, the consent authority must, as soon as practicable after approving the amendment, give a copy of the amended development application to the approval body or concurrence authority through the NSW planning portal."*

v) **The Application seeks approval 'in unison' of both 2A and 2B. As such averaging, if it can be applied at all in the way the application seeks, can only be applied once. That is to 251.93ha, not to both 251.93ha and any resulting residual Lot of 2A. (at the same time.)**

vi) **The Application does not meet the requirement at s.4.6 of the Cooma-Monaro LEP, "exceptions to a development standard".**
The Application seeks to modify 'development standard' s.4.1(3) using averaging at s.4.1B(3). s.4.1B(3) is an exemption to a development standard. An Application seeking to contravene a 'development standard' is to be accompanied by a written request at s.4.6(3). There is no request attached to the Application.

vii) **The Application has not considered the objectives of 4.6 at 4.6(1):**
(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

viii) **The Application does not satisfy s.4.6(6)**
Development consent must not be granted under Zone R5 Large Lot Residential, if—
(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or
(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.
The purpose of 4.1B(3) is only to set the minimum lot size to be created. NOT to extinguish the development standard at 4.1(3) or be applied in isolation of s.4.6 or the Zone Objectives.

ix) **The Application is false or misleading:**

i) In applying DCP: s.4.1.3.2 of the *Cooma-Monaro Shire Development Control Plan 2014 (Amendment 4)* stipulates that the maximum length of a battle axe handle in a subdivision in the R5 zone be 100 metres (Table 9: *Design requirements for battle axe access handles on new lots (in metres)*, pages 92-3).

The Applicant is 'false or misleading' where the Application states: *"The Development includes some allotments with battle-axe handle driveways greater than 100 metres in length. This is included to reduce the amount of tree vegetation required to be removed by roadways. This is considered an appropriate design and environmental outcome."*

However the Biodiversity Assessment Report confirms the area is African Lovegrass grassland. The Application is false or misleading to seek advantage.

ii) In applying SEPP 55 the Application fails to recognise the change in land use from grazing to residential.

iii) In applying "State Environmental Planning Policy (Infrastructure) 2007 (SEPP Infrastructure)" the Application fails to address safety issue at intersections of the subdivision access roads to a main highway. The only way in or out. These costs should not be borne by the community or taxpayer. They are a subdivision cost to provide safe access to and from the subdivision.

x) **The Application leaves the C3 zoning landlocked without access:**
No access for firefighting purposes **or** access for a future owner. Landlocked.

SUBMISSIONS:

A. APPLICATION OF 4.1B CMLEP - "AVERAGING":

COOMA-MONARO LEP - R5 LARGE LOT RESIDENTIAL:

i) Objectives of Zone:

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To promote an innovative and flexible approach to rural residential development.

ii) **Minimum Subdivision Lot Size:**
4.1 (3) : *"The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map*[8ha] *in relation to that land."*

iii) **Subdivision using Averaging:**
4.1B(3) : *"Despite clause 4.1, development consent **may** be granted for the subdivision of land to which this clause applies if (d) for land in Zone R5 Large Lot Residential, each lot created by the subdivision will have an area of at least 2 hectares".*

iv) **4.6 Exceptions to development standards:**
*(3) Development consent **must not be granted** for development that contravenes a development standard **unless** the consent authority has considered a **written request** from the applicant that seeks to justify the contravention of the development standard by demonstrating:*
(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and
(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

v) **Case-Law:**
*(a) **Elimatta Pty Ltd v Read and Anor** [2021] NSWLEC 75 (Elimatta, Land and Environment Court*
Court ruled that clause 4.1B is **not** a "development standard" where the relevant "development standard" is clause 4.1. Rather 4.1B(3) is an 'exemption' to a development standard.

(b) ***Project Blue Sky Inc v Australian Broadcasting Authority*** (1998) 194 CLR 355; [1998] HCA 28 at [69], [78]. As stated by the High Court in *SZTAL v Minister for Immigration and Border Protection* (2017) 262 CLR 362; [2017] HCA 34 at [14]:

"The starting point for the ascertainment of the meaning of a statutory provision is the text of the statute whilst, at the same time, regard is had to its context and purpose. Context should be regarded at this first stage not at some later stage"

The Application asks the consent authority to solely apply 4.1(B) in the absence of, and without consideration and regard to context and purpose of other Legislative requirements including other sections of the Cooma-Monaro LEP , e.g. s.4.6.

c. **Interpretations Act:**
33 - Regard to be had to purposes or objects of Acts and statutory rules
"In the interpretation of a provision of an Act or statutory rule, a construction that would promote the purpose or object underlying the Act or statutory rule (whether or not that purpose or object is expressly stated in the Act or statutory rule or, in the case of a statutory rule, in the Act under which the rule was made) shall be preferred to a construction that would not promote that purpose or object".

CONCLUSION:
A. The above case law and section of the interpretations act require the Application to apply the CMLEP with consideration as a whole in order to arrive at the purpose and objectives. Consequently we say s.4.1(3), 4.1B(3) and 4.6 – **must** be considered in the context of the CMLEP by virtue of s.4.15 of the Environment Planning and Assessment Act.

However the Application seeks to apply 4.1B(3) in isolation. This is not the intention of the legislation as evidenced in (a), (b) and (c) above. Simply stated, had the intention of the Legislation been to create developments with all Lot sizes less than the 8ha development standard it would done so.

The Application seeks to "contravene" the "development standard" at 4.1(3) by creating only Lot sizes less than the required 8ha minimum 'development standard' (CMLEP's R5 zoning.) And in doing so it seeks to defeat the objectives of the R5 Residential Large Lot Zoning, not to produce a better outcome but to maximise return.

The Application has not satisfied the condition prerequisite at 4.6(3): *"Development consent must not be granted for development **that contravenes a development standard unless** the consent authority has considered a **written request from the applicant** that seeks to justify the contravention of the development standard by demonstrating....."*

And/Or:

The Application fails to demonstrate how the objectives of the R5 Zoning are better achieved via the proposed development that considers only Lot sizes less that the "development standard" in isolation from the objectives of the CMLEP and EPAA

Clause 4.1B(3) **'may'** provide an "exception" to a development standard, it is not a standard in itself (Elimatta) and therefore not a rite of passage. 4.1B(3) is required to be considered in context with the Objectives of the zoning of the land, and the holistic intention of the Legislation. (Project Blue Sky and 33 of the Interpretations Act). We say the intent of 4.1(B) is to set the minimum Lot size but the number of such Lots is controlled at 4.6(6) to two.

The application does not demonstrate how it supports and promotes the objectives of the R5 and E4 zonings. Impacts are exacerbated by the applicant's desire to create a 2ha lot subdivision in an 8-ha zoning that will maximize impacts on and destroy the fabric of the R5 and abutting E4 zonings.

The consent authority is not in a position to considerer the Application or to grant consent to any application where subdivision consent cannot be granted at 4.6(4) CMLEP and 4.15 EPAA.

B. BUSHFIRE PRONE LAND:

Bush fire prone land (BFPL) is land that has been identified by **local council** which can support a bush fire or is subject to bush fire attack. Bush fire prone land maps are prepared by local council and certified by the Commissioner of the NSW RFS. https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/planning-for-bush-fire-protection/bush-fire-prone-land#:~:text=Bush%20fire%20prone%20land%20(BFPL,Commissioner%20of%20the%20NSW%20RFS

i) NSW RSF ACT:

s.3 Objects:

The objects of this Act are to provide:

(a) *"for the prevention, mitigation and suppression of bush and other fires in local government areas (or parts of areas) and other parts of the State constituted as rural fire districts, and"*

s.7 Responsible local authorities in rural fire districts (NSW RFS Act)

Snowy Monaro Regional Council has a function conferred or imposed by or under this Act in respect of a rural fire. This is over and above taking receipt of and ticking the box for a 100B Certificate issued. The SMRC is responsible to declare bushfire prone land and to ensure the objects of the RFS Act.

N.B. Where a Council is the Consent Authority it has very high duty of care in regard to dealing with, and consenting to Development that is at threat from designated Bushfire Prone Land where a Council:-

a) **has a role in identifying and designating Bushfire Prone Land, and**
b) **has a designated responsibility under the NSW Rural Fire Services Act, and**
c) **Is the consent authority in the creation of land subject to hazard from Bushfire Prone Land.**

ii) Application's Bushfire Hazard Report(BHR):

The proposed development abuts mapped bushfire prone land. This Bushfire Prone Land includes large areas Zoned C3 which are habitat for flora and fauna.

The BHR is insufficient as it does not adequately address the following dangers:

a) **Identification of any dangers from, and to, the abutting Bushfire Prone Land**

b) **African Lovegrass:**

Lovegrass is a recognised fire accelerant and high danger fire risk. Both to the proposed lots to be created and to the adjacent Bushfire Prone Land.

The Application's Biodiversity Assessment Report identifies infestation levels of 95% African Lovegrass across the proposed development site. However, there is no mention of the word 'Lovegrass 'anywhere in the Bushfire Hazard Report.

5.1.4 Subdivision in grassland hazard areas (pg. 41)

The risk posed by grass fires is different to that of fires in other vegetation types. Grass fires burn at a higher intensity and spread more rapidly with a shorter residence time. Embers produced by grass fires are smaller and fewer in number than those produced from forest fires.

At residential subdivision stage, an assessment must be carried out to determine whether an APZ can be provided around the proposed development to avoid flame contact.

Subdivision will not be supported where the development would be BAL-40 or BAL-FZ. The APZ distances identified in Tables A1.12.2 and A1.12.3 provide the acceptable solutions for meeting this threshold.

All of the other performance criteria and acceptable solutions within Tables 5.3a to 5.3d apply to residential and rural residential proposals in grassland hazard areas. Table 5.1.4a (see over) provides the relevant FFDI to utilise for grassland hazard areas. https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0005/130667/Planning-for-Bush-Fire-Protection-2019.pdf

The Application is 'false or misleading where it omits to identify the fire hazard of African Lovegrass.

c) The Report does not consider the impacts from **"absentee landlords"** and the current duty under the Biosecurity Act regarding African Lovegrass. These duties and costs should not pass to the new lot owners. Cost includes "risk".

d) **Access:**
The BHR does not adequately address access. The Application seeks to create additional and high residential use 4 times greater than the Legislated minimum 8ha R5 Lot size. The only access in and from the proposed development is via one road Towrang Vale Road. **https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0005/130667/Planning-for-Bush-Fire-Protection-2019.pdf**

Clause 1.2: (pg. 10) "enable appropriate access and egress for the public and firefighters.

N.B. The Application and BHR does not correctly address the requirements at the "State Environmental Planning Policy (Transport and Infrastructure) 2021": Schedule 3 Traffic-generating development to be referred to TfNSW—Chapter 2:
The threshold for subdivision is 50 allotments:

Stage 1	**10**
Stage 2A	**31**
Stage 2B	**19**
Residual	**? (Potential future subdivision)**
TOTAL	**60 Lots**

At 4.14 (EPAA) the Consent Authority is to be satisfied that RISK from Bushfire is eliminated or minimised and manageable.

The Report fails to recognise all the hazards and consider the required risk assessment and risk management. This report is not 'fit for purpose'.

C. PROVISION OF THE ESSENTIAL SUPPLY OF WATER:

LEP Clause 6.10 - Essential services
Development consent must not be granted *to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required—*
(a) the ***supply*** *of water,*

The application does not demonstrate how the essential supply of water will be provided. The application fails to demonstrate how the subdivision will supply each lot created with the average water usage per household. In NSW the accepted a minimum of 190,000 litres p.a. is the essential service of water to be provided to each lot created.

Council's 2014 DCP refers to the construction of new dwellings and calls for the supply of a tank. However the LEP is the "superior" document and requires at Clause 6.10(a) the Council to be "satisfied" the Application will provide the essential service of water.

NOTE: *Cooma-Monaro DCP – "In the hierarchy of the State-wide planning system a Development Control Plan sits beneath a State Environmental Planning Policy (SEPP) or a Local Environmental Plan (LEP). As such, in the event of any inconsistency between the provisions of this plan and the provisions of the Cooma- Monaro Local Environmental Plan 2013, the Cooma-Monaro Local Environmental Plan 2013 will prevail to the extent of the inconsistency.*

NSW Water Management Act:
Cooma Monaro Council approved 15 Lots along Towrang Vale Road conditioned to the provision of a communal bore for all lots created.
Assuming the Application intends to supply water via rain harvesting considerations need to be given to:

i) Any impacts to ground water by rain harvesting
ii) If rain harvesting will require supplementation.
ii) Compliance with the requirements of the NSW Water Management Act.

D. COOMA-MONARO DCP

i) Open Space 4.1.6:

The Stage 2A and Stage 2B Applications and Stage 1 Approval have not considered the CM-DCP requirements

ii) Landscaping: 4.1.5

The Stage 2A and Stage 2B Applications and Stage 1 Approval have not considered the CM-DCP requirements.

E. REMEDIATION OF LAND

The application does not address the remediation of the land to be subdivided for residential purposes in area zoned high-risk fire-zone. This land includes R5 and E4 zonings contaminated with infestation levels of African Lovegrass 95% (see Biodiversity Assessment Report Appendix A pg. 41)

The site subject of the development application abuts land zoned a "high-risk fire danger". with an extensive seedbank. 25+ year viable seed bank. African Lovegrass is a known fire accelerant.

The application has not complied with Clause 7(2) of the NSW SEPP 55: *" before determining an application for consent to carry out development that would cause a change of use on any land specified in subclause (4)(residential purposes) the consent authority **MUST** consider a report specifying the findings of a preliminary investigation of the land concerned".*

CHANGE OF USE: Currently and historically this land has been used as grazing land, the applications seeks to change this current usage by subdividing the land for residential usage.

CONTAMINATION: *Means land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.*

The application should have been accompanied by an appropriate report.

F. POEO ACT (as per E above)

Pollution under the POEO Act includes land and plant matter. As per point 5 above, the land is polluted by infestation levels of African Lovegrass and a long established(25+ Year viable seed bank) annual production of seed accumulated into the ground seed bank. The application does not consider or demonstrate how the requirements of NSW POEO legislation will be complied.

The Application cannot simply transfer risk and costs to the next land holder.

G. NSW BIOSECURITY ACT:

The current owner is in breach of duties under the Biosecurity Act. The Application does not consider the impacts from "absent landlords" and the current requirements under the Biosecurity Act. These duties and any costs should not pass to the new lot owners or be left with the community .

H. OBJECTIVES OF THE COOMA-MONARO LEP R5 & E4 ZONINGS

LEP Clause 2.3(2)

The consent authority **must have regard to the objectives** for development in a zone when determining a development application in respect of land within the zone.

LEP- Zone R5 - Large Lot Residential

Objectives of zone

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

- To promote an innovative and flexible approach to rural residential development.

LEP - Zone - E4 - Environmental Living

Objectives of zone

- To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.
- To ensure that residential development does not have an adverse effect on those values.

The application does not demonstrate how it supports and promotes the objectives of the R5 and E4 zonings. Impacts are exacerbated by the applicant's desire to create a 2ha lot subdivision in an 8-ha zoning that will maximize impacts on and destroy the very fabric of the R5 and E4 zonings abutting the site of the Applications..

I. ROADS COOMA MONARO - DCP 2.5.3 Prescriptive Requirements:

The road proposed to service the subdivision does not comply with Council's DCP requirements. Ultimately the upkeep of roads will become the responsibility of the Snowy Monaro Council. Council has an obligation to ensure at the time roads are upgraded to the required standards they have meet a professional standard:
REASON: To ensure the community is not burdened with unnecessary infrastructure costs.

The Application is required to consideration of impacts on services and infrastructure. The proposed subdivision relies on an existing one road in, one road out, Towrang Vale Rd access.

INTERTSECTIONS:
The development will use existing roads to obtain access to the development site via Towrang Vale Rd from Kosciuszko Rd(100kpm highway):
Dry Plains Rd
Old Dry Plains Rd(currently dirt access road providing access to properties off Old Dry Plains Rd but is used as a short cut to Kosciuszko Rd Highway at Cooma Steel.

The proposed development will increase daily vehicular movements by 400 plus. This will place additional stress on the key intersection of
Dry Plains Rd and Towrang Vale Rd
Dry Plains Rd and Kosciuszko Rd Highway
Dry Plains and Old Dry Plains Rd
Old Dry Plains Road and Kosciuszko Rd Highway.
N.B. Kosciusko Rd Highway is the highway taking "snow traffic' to the ski fields. At times this traffic can be bumper to bumper at the intersections of the highway with Old Dry Plains Rd and Dry Plains Rd

The above intersections do not meet the current standards to provide the required safety standards. On ???? there was a fatal accident at the intersection of Dry Plains Rd and the Kosciuszko Rd Highway.

At ???? the Developer is responsible to meet these costs ????

J. BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT:
Is not fit for purpose
Does not consider any of the adjoining C3 Land
Hears frogs but doesn't determine if any are vulnerable

Identifies the vulnerable Striped Earless Lizard but does call for a species impact statement
Does not consider night-time Owls etc.
Does not consider flight paths and animal corridors
Does not consider impacts via increased residential dwelling on resident Gang Gang birds located adjacent to the site.

The proposed subdivision is over a large parcel of land. The proposed subdivision will abut a High-Risk Fire Zone including a large parcel of E4 land and a riparian zone, snake creek. There are at least one pair of Gang Gang parrots who live in and around this area.

Gang-gang's are listed as "threatened":
https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2000-2003/gang-gang-cockatoo-callocephalon-fimbriatum-endangered-population-listing

The area is also known to home the "endangered" Grassland Earless Dragon lizard:
https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10817

What steps were undertaken to determine their presence? And establish what impacts a 2ha high density residential development, in a R5 Rural setting calling for an average Lot size of 8ha

The application does not address the flora and fauna impacts. It does not state if the application is biodiversity compliant as required by the Regulations: *"(ea) for biodiversity compliant development, an indication of the reason why the development is biodiversity compliant development"*

K. ABORIGINAL HERITAGE SURVEY

Living on the Australian continent for over 60,000 years. The oldest known aboriginal burial site in the Monaro discovered in 1996 was 7,000+ years old.
https://www.snowymonaro.nsw.gov.au/files/assets/public/community/documents/20150525_kangaroo_tooth_necklace.pdf

The Application's Report fails to consider anything below the ground in an area with a water course and known passage of Aboriginal ancestors

L. CLIMATE CHANGE

The application is silent on the impacts of climate change on future generations of landowners of the proposed subdivision.

Global warming is an accepted impact across the Snowy Monaro Region, producing rising temperatures and reduced rainfall. This is particularly relevant where Council approves new subdivision that does not connection to town water and sewerage.

Land is a finite asset and should not be compromised, the "precautionary principle" applies. Council may expose itself to future legal, and or, class action, based on decisions of today that do not take into account global warming.

Council must ensure compliance with biosecurity concerns particularly in relation to small holdings. Negligent, absentee landholders and developers further exacerbate climate change related risks of disasters such as bush fires, flooding and weed infestations.

Global warming is already having a negative impact, these impacts will only become more pronounced and severe over time. The future is now!

M. RIPARIAN ZONE

The application does not demonstrate how onsite sewerage and stormwater will not impact on the Riparian zone.

Submission 8b

[redacted]

Hi Sarah,

[redacted]

Over all this Application makes your job difficult as the work required to produce the necessary Reports has not been done, they are not fit for purpose.
The Reports are some of the poorest I have ever seen, and don't produce the intent or objects of the legislation that requires them.

BIODIVERSITY:
Wild life does not stay in bed all day, and they have BIG backyards. This land has been an open corridor and flight path for millions of years.
We abut this property as does our neighbour. There have been a pair go Gang Gang's nesting in a tree on our neighbours land for as long as we have been here. The Report failed to identify these birds.
The Report did not consider any bushland adjacent to the site of even the tree covered C3 ridge line land they own.
The Report heard frogs in Snake Creek! BUT made NO attempt to establish what type of Frog.
The Report confines itself to two days and NO nights
It identified striped earless lizards(vulnerable) and identified a habitat area, but fell short of saying it represented a colony.
Does not identify the wild life corridor or flight paths or the family of Wedge Tail eagles that live in the C3 ridge line and hunt on the updraft at the rear of my property and rest in a BIG gum on the land the subject to the development.
Did not talk to neighbours or Ngarigo people.

ABORIGINAL HERITAGE:
The Report makes no effort to discover anything.
Aboriginal people have been coming thru here for thousands of years, on my block and my neighbour there were camp sites until the land was carved up to make the blocks we own.
The land subject to the DA contains Snake Creek the only water source in the immediate area. Makes sense Aboriginal mobs camped there too.

The Report basically says nothing on the ground nothing to report. It makes no attempt, to establish the Aboriginal Heritage within this area.
Did not talk to neighbours or Ngarigo people.

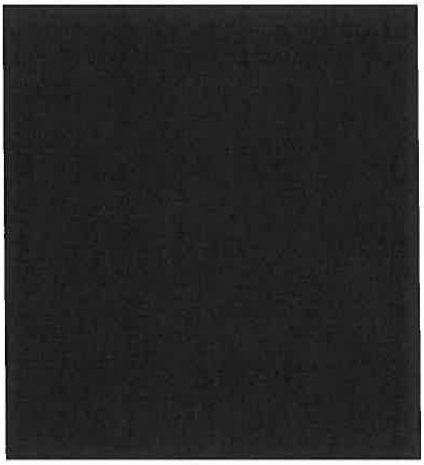
These and the other Reports, just don't produce the necessary depth of information, and consequently don't enable the trust to rely on them.
The fire report is down right scary and does not consider the real safety of future owners, nor the danger future owners may impose on the high fire zone C3 land where the majority of our wild life live.

We are not anti development. But we cant support development for no sake other than to maximise the profit by producing unlawful yields and spending minimum money. The Objects of the zoning will be stripped by this development and some folk have already made plans to move on. They have no confidence we can produce a better outcome. They feel like the area, their home, is dying the death of a thousand lashes.

What supports their view is that Council has accepted a substandard finish to the required upgrade of Towrang Vale Rd as a part of Stage 1, it's a bandaid. This will push costs, that should be subdivision costs, onto the rate payer via Council. The fact that Council has not ensured a better outcome, has some members questioning how high Council will set the bar for this current development application.

We would all support a development sympathetic to the location that reflects the objects of the zoning, and delivers landscaping and quality infrastructure. One that as a consequence of the development produces a safer environment Spec call the intersections of Dry Plains Rd/Kosciuszko Rd Highway and Art Plains Rd/Towrang Vale Rd.
Currently moving to the location of the development is dangerous, moving onto and off the 100kph highway with no proper safety areas.

Hopefully with Council's support we can encourage the developer to produce something, that long after the developer has moved on, we, you, Council, the Developer, the community and future generation can be proud of the outcome we were all able to deliver.



Submission 9

[redacted]

12th July 2023

The Chief Executive Officer
Snowy Monaro Regional Council
81 Commissioner Street
(PO Box 714)
Cooma NSW 2630

REF: Application Number 10.2023.1501 - Proposed Large Lot Residential Subdivision – Stage 2A

Application Number 10.2023.149.1 - Proposed Large Lot Residential Subdivision – Stage 2B

Dear Chief Executive Officer
Thank you for the opportunity to submit our objection to the new proposals as above. We strongly object to these DAs not only on the fact that the blocks on offer are basically a town block size but also on the following grounds:

1. LOT AVERAGING/EXCEPTIONS TO DEVELOPMENT STANDAROADS

The land that is being considered for development is designated R5, which refers to large lot residential, with minimum 8ha lot requirements. Lot averaging will result in a minimum block size that is up to 75% less than what the existing zoning allows if the consenting authority approves it. That would be completely at odds with the purpose of the R5 Zoning, which is "to provide residential housing in a rural setting" and has an area of 8 ha, as stated in the Cooma-Monaro Local Environmental Plan 2013 Land Use table, and would also not fit in at all with any of the other developments.

2 ha blocks do not have a "rural setting"; rather, they have a town vibe and not a rural vibe as to why we chose to live out of town in the first place. The approval of 2ha blocks will be completely at odds with any recent development that has previously been granted approval along Towrang Vale Road, Dry Plains Road, and Old Dry Plain Road.

According to the application, if the proposed "lot averaging" method is used, the development will not respect the neighbourhood's character and amenities and/or will have unreasonable impacts and/or burdens (visual, economic, and environmental) on a region that is zoned R5, which was done so to ensure the neighbourhood retains a pleasing appearance and outlook for future generations of Monaro residents.

This DA has not demonstrated how it addresses Part 4 – Principal development standards of the Cooma-Monaro Local Environmental Plan 2013. To be effective all of part 4 needs to be considered when making a determination on development standards. Noting Section 4.1B states that despite clause 4.1 (which is the standard for minimum lot sizing) development consent may be granted if the development meets parts 3a, b and c. But in granting development consent the subdivision must still meet the requirements of this being **an exception** to the development standards as set out in Part 4. Therefore, in determining what is classed as an exception to the Cooma-Monaro Local Environmental Plan 2013 standard for R5, using average lot sizes to reduce minimum lot then this DA has not considered or made a determination **how** the exception is to be applied as per section 4.6.

According to 4.6(b) below, the DA has not demonstrated how, for this development, and under what specific conditions, a reduction in allowed lot sizes will lead to better results. In actuality, the R5 zoning and/or its objectives are utterly destroyed by applying average lot sizes in the manner of the application.

4.6 Exceptions to development standards

(1) The objectives of this clause are as follows—

b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

According to section 3 below, the DA does not demonstrate that the applicant has given a formal request to the consenting authority outlining how the development justifies deviating from the development standard and why doing so would be inappropriate or unnecessary. Therefore, the DA is no longer able to establish that the consenting Authority is convinced that the development has shown why the development standard is inappropriate or superfluous. Additionally, the development's compliance with the goals of the standard for the development within the R5 level for development standards cannot demonstrate that it is in the public interest.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating—

(a) that ***compliance with the development standard is unreasonable or unnecessary in the circumstances*** *of the case, and*

(b) that there are sufficient environmental planning grounds to justify contravening the development standar..

(4) Development consent must not be granted for development that contravenes a development standard unless—

(a) the consent authority is satisfied that—

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

(ii) the ***proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone*** *in which the development is proposed to be carried out.*

The DA has not met section 4.6 6 below - which shows that development consent must not be granted under this clause (ie Part 4) if part (a) cannot be met.

(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone C2 Environmental Conservation, Zone C3 Environmental Management or Zone C4 Environmental Living if—

(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or

(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.

The application states '4.6 Variation applied for – not applicable'. We firmly believe that under 4.6 of Cooma-Monaro Local Environmental Plan 2013 that the applicant has not 'applied to make an application' to use lot averaging to determine lot size that varies from that Cooma-Monaro Local Environmental Plan 2013 standards set out for R5 zoning standards. Instead the applicant is attempting to obliterate the zoning standards that do apply. If approved by the consenting authority, this would set a precedent that allows developers to

circumnavigate the Cooma-Monaro Local Environmental Plan 2013 and the planning standards which have been put in place to maintain a standard of planning to ensure the unique qualities of our various landscapes are maintained and developed to benefit our communities – not hinder or burden.

2. Vehicle/Road Safety Concerns

The application has proposed across the two DA's that there will be an additional 37 lot residential subdivision. This will generate a large increase on current vehicle movement. These increased vehicle movements will be using the existing Towrang Vale Road, Dry Plains Road and the intersection of the Dry Plains Road and Snowy Mountains Hwy.

Within the DAs there has been no planning that addresses the increased vehicle movements. The only mention of external road infrastructure is in section 2 which states:

The developers also opted to complete roadworks to widen and improve an existing section of Towrang Vale Road back to Plains Road providing greatly improved roadway access to stage 1 of the subdivision and other existing residences.

In the comments section of Clause 7.1 which states:

Does not unreasonably increase any demand for public services as a section of Towrang Vale Road leading to the development has been previously upgraded.

The DA does not provide any validation or certification that Towrang Vale Road is now of sufficient standard to meet current or increased, usage levels.

The DA does not show a determination of how many additional vehicle movements this subdivision will involve and place onto the existing roadways.

Note:

1. There are no turning lanes from Towrang Vale Road into Calabria Way. Towrang Vale road is a high-speed road with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from Towrang Vale Road.

2. There are no turning lanes from Dry Plains Road into Towrang Vale Road. Both Towrang Vale Road and Dry Plains Road are high-speed roads with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from and to Dry Plains Road and Towrang Vale Road.

3. The DA has not determined with RMS that the uphill turning lane from Snowy Mountains Highway into Dry Plains Road is adequate to safely take the extra vehicle movements. Consideration has not been given that the Snowy Mountains Highway is a **high-volume, high-speed** road.

4. Currently there is no turning lane on the downhill section of Snowy Mountains Highway into Dry Plains Road. The DA has not considered the number of extra vehicle movements that would be turning into Dry Plains Road coming from the Jindabyne end of Snowy Mountains Highway.

5. The DA has not considered the substandard Dry Plains Road and the impact/safety of increased traffic. Apart from the above the Dry Plains Road has its own issues with one bend at the end of Old Dry Plains Road in particular being dangerous and therefore more traffic on this road will increase risk of a serious accident if this is not dealt with. We have on a number of occasions reported the said bend to be extremely dangerous as I myself have been run off the road on a number of occasions.

6. The DA has not considered with RMS the safety of road users due to the increased vehicle movements.

7. Considering there have been two road fatalities related to turning off the Snowy Mountains Highway in this locality in recent times then it is evident that all these road/traffic issues need to be

investigated very carefully and remediations implemented before any further loss of life or injury is incurred.

To ensure the safety of all road users the Cooma- Monaro Local Environmental Plan 2013 covers that if a DA does not satisfy any of the following services then the development consent must not be granted see below section 6.10 e:

6.10 Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required

(e) suitable vehicular access.

The Cooma-Monaro Shire Development Control Plan 2014 (Amendment 1) Further makes determination on the requirements for vehicle access. The DA has only made a determination of internal access roads, and only touched on the external access roads that will have extra vehicle movement due to this subdivision. The DA does not validate how it has come to the determination that Towrang Vale Road is adequate and has not considered Dry Plains Roads or the turn off at Snowy Mountains Highway into Dry Plains Road.

Section 2.5 states that suitable and safe vehicle access be provided to all road users.

2.5 Vehicular access and roads

It is a requirement of the Cooma-Monaro Local Environmental Plan 2013 *that suitable vehicular access be provided to all new development (clause 6.10(e)). Council considers a "suitable vehicular access" to be one which complies with the requirements of this DCP, in particular the requirements of this Section.*

Within Cooma-Monaro Shire there are two types of public roads – those vested or owned by the Crown, known as Crown roads, and those vested or owned by the Council, known as Council roads. Some Council roads are also known as 'classified' roads under the Roads Act 1993. The major highways (Monaro Highway and Snowy Mountains Highway) through the Shire are classified roads.

Objectives

- *To ensure that roads and access points to properties are safe for all road users.*
- *To ensure that construction is to a satisfactory standard which minimises future maintenance.*
- *To provide access to multiple lots from the same road where possible.*
- *To minimise disputes over access roads amongst members of the community.*
- *The vehicular access is legal and practical.*
- *Roads and property access points must be safe for all road users.*

Section 2.5.3 also covers that the development may be required to upgrade the road to the relevant standards.

2.5.3 Prescriptive Requirements

Road and vehicular access to a development must be constructed at the developer's expense to meet the standaRoads specified in Appendices 5 and 6 and Council's Specification for Engineering Works – Volume 1 (Design) and Specification for Engineering Works – Volume 2 (Construction) (SFEW). If a development is proposed which will utilise a sub-standaRoad public road for access, an assessment will be made by Council as to the likely impact of the proposed development on the road. The proposed development may be required to upgrade the road (or parts of the road) to the relevant standaRoads in this DCP for the particular class of road.

3. Open space

To date there has been no allowance or provision of open space. This is a requirement from the Cooma-Monaro Shire Development Control Plan2014 (Amendment 4):

4.1.5 Provision of open space

4.1.5.1 Objectives

• To require the provision of open space where appropriate within a subdivision, for the general welfare of the wider community.

4.1.5.2 Requirements

• For subdivisions of ten (10) lots or more within Zones R1, R2, R5 and RU5, a dedicated area of open space is to be provided such that all lots within the subdivision are within 1,200 metres of either an existing or proposed area of public open space that contains a playground (ie playground equipment).

• Where a playground is to be provided, the land and design of the playground must meet the relevant principles in Council's Playgrounds Strategy in terms of accessibility, safety and usability.

• A new park provided within a subdivision should have street frontage and be fronted by houses rather than being located at the rear of houses.

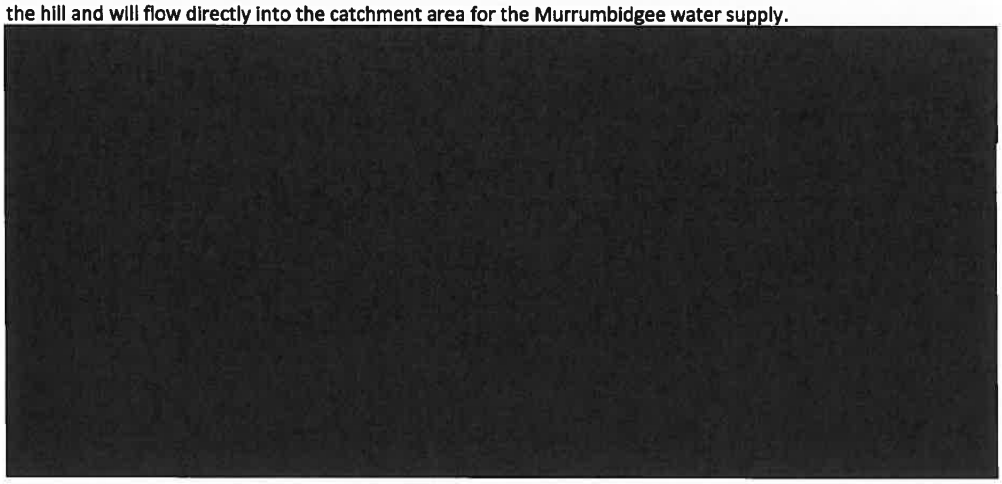
• Land to be provided as open space in accordance with this provision is to be 95 dedicated to Council as part of the subdivision.

• Open space may also be provided as part of a 'natural' stormwater drainage system or to protect or provide public access to areas of high conservation or environmental values (eg a river or creek frontage), provided the on-going management costs are acceptable to Council.

4. Provision of services

We also have concerns relating to water availability for such a high-risk bushfire area.

We also have concerns re the concentrated number of septic systems as most of the blocks are on the side of the hill and will flow directly into the catchment area for the Murrumbidgee water supply.



Submission 10

[redacted]

Snowy Monaro Regional Council
POBox 714
Cooma NSW 2603

Dear Sir/Madam,

RE: Thirty Seven (37) Large Lot Residential Subdivision Old Dry Plains Road COOMA 2630, stage 2A and stage 2B. Development Application No. 10.2023.150.1 and Development Application No. 10.2023.149.1.

Objection

Land Value:

1. Large number of properties being released will lower existing property valve (risk of oversupply in the area). Smaller stage releases should be considered.
2. When purchasing our 11 Calabira Way property, both the developer, real estate agent and Vision Town Planning informed us that there was only going to be a further 17 properties released (total 27 including the initial 10).

Roads:

1. Dangerous intersection Snowy Mountains Highway/Dry Plains Road, poor vision, narrow lane width and fast moving traffic.
2. Dangerous corner on Dry Plains (just past wrecking yard, heading to Towrang Vale Road). Limited shoulder for oncoming large trucks, etc.
3. Road width, heading down Towrang Vale Road, there is a coulvet which is narrow and has started to sink on the east side, limit/no shoulder. With increased traffic this should be addressed.
4. Speed limit down Towrang Vale Road, does not support sporting and lifestyle adopted by the locals.
5. All vehicle movement are along Towrang Vale Road, no second means of entry and exist into Towrang Vale and new estate (dead end). This is a large development and a second access must be considered.
6. It is not clear if a traffic impact assessment has been complete or not. 37 new lots will have a significant impact on vehicle movement on Towrang Vale Road and Dry Plains Road (possibly 440 movements a day).

Lifestyle and Services:

1. Developer has been marketed the pervious 10 lots as a rural lifestyle, this will be compromised with the proposed additional 37 lots.
2. The current proposal does not include any community recitational areas (parks, gardens and etc).
3. The proposal does not include walking and bike paths.
4. This development does not appear to consider the wildlife.
5. This development application does not include bus stops or shelters for school children.

It appears that the developer has taken the quick development approach, however Snowy Monaro Council must give consideration to the long-term development, items listed under "Lifestyle and Services" may become a liability to the ratepayer.

We have not received any update on how the original objection/s items have been addressed. May please Snowy Monaro Council please provide an update for these it?

[redacted]

Submission 11

[redacted]

11 July, ,2023

Dear Sir/Madam

RE: Stage 2A & 2B Large Lot Residential Subdivision, Old Dry Plains Road Cooma 2630
Application numbers: 10.2023.150.1 & 10.2023.149.1

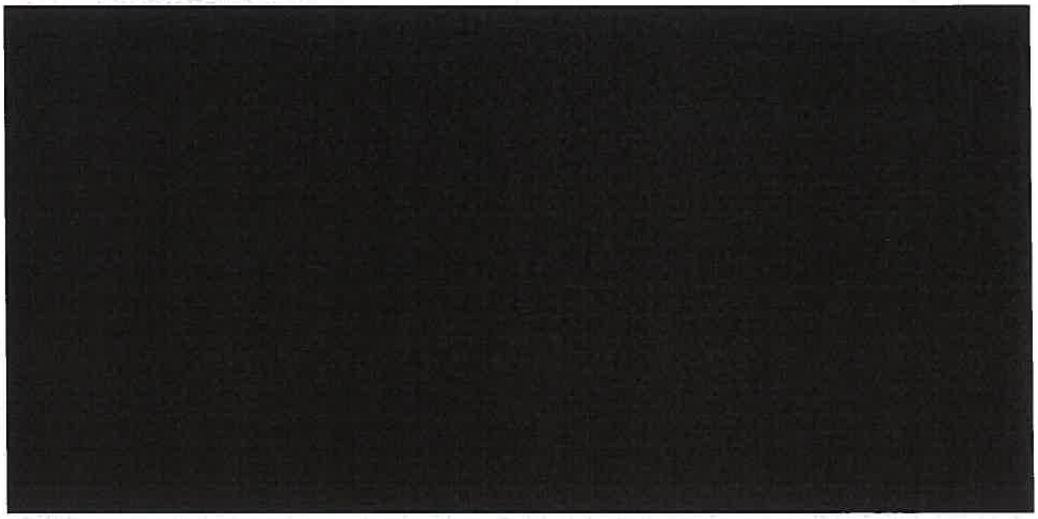
We refer to the development applications that have been submitted for the above subdivisions. We wish to lodge an objection on the following grounds:

- The road works that were done to widen Towrang Vale Road, Dairymans Plains as part of the previous subdivision are inadequate. The bitumen that was added to the side of the original road is starting to sink causing unevenness to the road. The road has also had to be patched several times since it was initially done and the first part of the road where it meets Dry Plains Road is continually in need of repair.
- Towrang Vale Road is a high speed road with a speed limit of 100km/h. With the addition of a further 37 households, that speed limit is excessive for that road when vehicle numbers, wildlife and road conditions are taken into consideration.
- The intersection of Towrang Vale Road and Calabria Way is at a point in the road where there is a slight bend just prior to the intersection when heading south. With a speed limit of 100km/h and in the absence of a turning lane, that intersection has the potential to become hazardous.
- No maintenance has been done to the nature strip for a long period of time resulting in grass being severely overgrown. This creates a danger to road users due to the large number of kangaroos in the area. Kangaroos are unpredictable and visibility is poor for a large portion of both Towrang Vale Road and Dry Plains Road.
- Dry Plains Road is not wide enough to accommodate another 37 households and their vehicles. The edges of the road are crumbling away in sections and when forced to leave the roadway to make way for larger oncoming vehicles, there is very little verge available for vehicles. On certain parts of the road there is no space to take such evasive action.
- Dry Plains Road has a speed limit of 100km/h. This road is dangerous, particularly at the sweeping bend at the intersection of Old Dry Plains Road. If vehicles were to collide at that bend, there is nowhere for the vehicles to go other than down a small embankment. There is evidence of a fatal motor vehicle accident on that bend in the past. With an increase in vehicle numbers, and the current speed limit, there is an increased risk that this may occur again at some time in the future.

- The intersection of Dry Plains Road and Towrang Vale Road would need to have either a roundabout or turning lane/s added to safely accommodate the increase in traffic should this subdivision be approved. The roadway at this intersection is only one lane in each direction and the addition of 37 households and their vehicles has the potential to create congestion at this intersection.
- The intersection of Snowy Mountains Highway and Dry Plains Road Cooma does not have adequate turning lanes in any direction to safely accommodate another 37 households and their vehicles. The turning lane on the highway when coming from the Cooma direction is not long enough. There is no turning lane on the highway when coming from the Berridale direction which makes turning left off the highway onto Dry Plains Road particularly hazardous, especially in peak seasons. There was a fatal motor vehicle accident at that intersection in October 2020.
- Access to the proposed subdivision is entirely via Towrang Vale Road. In the event of a fire or other catastrophe, there is not a sufficient network of roads for all residents to safely evacuate the area. There is a crown road that goes from Towrang Vale Road to Woodlands Drive, however, this road is rutted, overgrown and unsuitable for 2WD vehicles and inexperienced 4WD users.

We request that Council consider the following issues:

- The 100km/h speed limit on Dry Plains Road and Towrang Vale Road.
- The unsatisfactory condition of Dry Plains Road and Towrang Vale Road to cope with increased traffic flow.
- The lack of maintenance by Council of Dry Plains Road and Towrang Vale Road.
- The need for adequate turning lanes on Snowy Mountains Hwy, Dry Plains Road and Towrang Vale Road.



Department of Planning and Environment

Letter to Applicant
(consent granted)

Our reference: 23/08498
LOC No: 643280

28 November 2023

Vision Property Development Hub
PO Box 852
COWRA NSW 2794

Attn: Joanne Chambers & Rocco Papalia

By Email: admin@visiontpc.com.au
Cc: office@visiontpc.com.au

Dear Sir/Madam

Consent for Development Comprising:	Access to Crown roads for 37 Lot residential subdivision – Stages 2A and 2B
Crown Land	Crown Road adjoining Lot 1 DP 737275, Lots 157, 189 & 197 DP 750524 and Lot 11 DP 1266312
Parish	Binjura
County	Beresford
Applicant	Rocco Papalia

Consent is granted by the Minister for Water, Property & Housing to the lodgement of applications for approval under the *Environmental Planning and Assessment Act 1979*, and other associated applications required under other legislation, for the development proposal described above.

The Land Owner Consent is granted conditional to the following:

1. Land Owner Consent will expire after a period of 12 months from the date of this letter if not acted on within that time. Extensions of this consent may be sought
2. You are required to forward a copy of the DA approval to the NSW Department of Planning, Industry & Environment – Crown Lands ("the Department") after approval and prior to commencing works.
3. You are required to ensure that the approval provided is consistent with this Land Owner Consent.
4. The Land Owner Consent is provided for the works detailed on the plans provided by you and retained by the Department as DOC23/233016

Land Owner Consent is granted in accordance with the following:

- Land Owner Consent is given without prejudice so that consideration of the proposed development may proceed under the *Environmental Planning and Assessment Act 1979* and any other relevant legislation.
- The grant of this Land Owner Consent does not guarantee that any subsequent authority to occupy will be granted.

- Land Owner Consent does not imply the concurrence of the Minister for Water, Property & Housing for the proposed development and does not provide authorisation under the Crown Lands Act 1989 for this proposal.
- The issue of Land Owner Consent does not prevent the Department from making any submission commenting on, supporting or opposing an application.
- The Minister reserves the right to issue Land Owner Consent for the lodgement of applications for any other development proposals on the subject land concurrent with this Land Owner Consent.
- Any changes made to the proposal, including those imposed by the consent authority, must be consistent with the Land Owner Consent and therefore if modifications are made to the proposed development details must be provided to the Department for approval.
- Land Owner Consent also allows application to any other approval authority necessary for this development proposal.

This letter should be submitted to the relevant consent or approval authority in conjunction with the development application and/or any other application. You are responsible for identifying and obtaining all other consents, approvals and permits required under NSW and Commonwealth laws from other agencies for the proposed development.

It is important that you understand your obligations relating to Condition 3. If any alterations are made to the application (whether in the course of assessment, by conditions of consent, or otherwise), it is your responsibility to ensure the amended or modified development remains consistent with this Land Owner Consent. If there is any inconsistency or uncertainty you are required to contact the Department before undertaking the development to ensure that the Department consents to the changes. A subsequent LOC application may incur additional application fees.

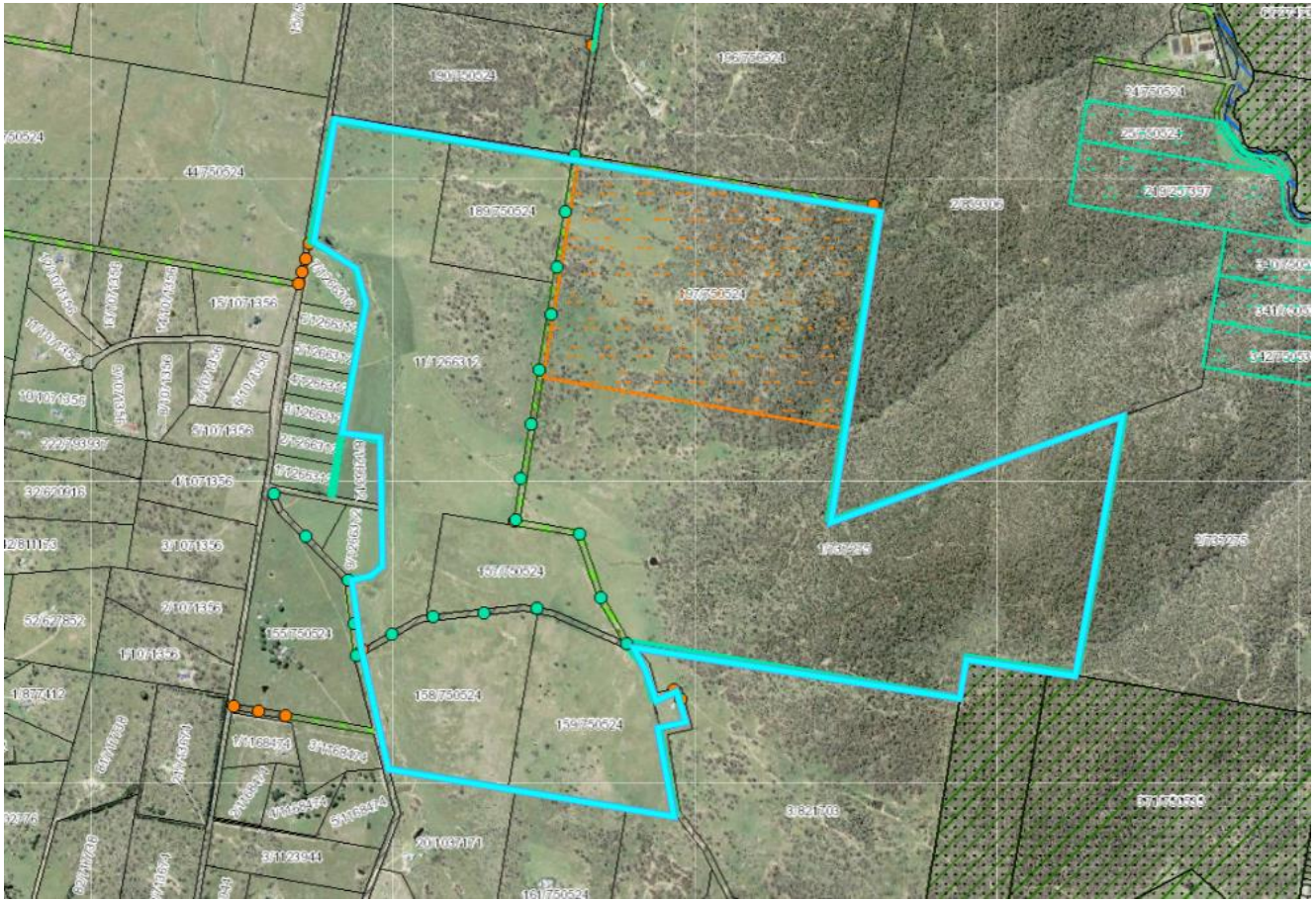
It is advised that the Department will provide Snowy Monaro Regional Council a copy of this Land Owner Consent and will request that Snowy Monaro Regional Council notify the Department of the subsequent development application, for potential comment, as part of any public notification procedure.

Should you require any further information, please do not hesitate to contact me at the Goulburn Crown Lands Office by phone on 02 4824 3731 or email tia.galvin@dpie.nsw.gov.au

Yours sincerely

Tia Galvin
Property Services Officer
Department of Planning, Industry & Environment - Crown Lands
29 November 2023

Attachment A – Location Map



Department of Planning and Environment

CM9 Ref: 23/00005#45/46

The General Manager
Snowy Monaro Regional Council
PO Box 714
COOMA NSW 2630

Attn: Sarah Brown

Email: council@snowymonaro.nsw.gov.au

Dear Sir/Madam

Adjoining Owner Notification – Old Dry Plains Road, Cooma Stage 2A & 2B

Proposed Development:	DA10.2021.321.1 and DA10.2021.325.1
Applicant:	R Papalia
Location:	Old Dry Plains Road, Cooma

I refer to previous correspondence with Council regarding DA10.2021.321.1 and DA10.2021.325.1 providing the Department of Planning and Environment – Crown Lands (the Department) the opportunity to comment on the subject development proposal.

The Department as adjoining landowner has reviewed both stages of this proposal in accordance with the principles of Crown land management (s.1.4 *Crown Lands Management Act 2016*).

Both stages of the proposed development represent a significant intensification of the use of the adjacent Crown road for part of its length adjoining Lot 158 DP 750524, Lot 11 DP 1266312, Lot 157 DP 750524, and Lot 189 DP 750524. In accordance with Departmental policy, any Crown roads proposed to be upgraded or utilised for access in conjunction with this development will need to be transferred to Council for management as a Council public road.

Please see page 2 of this letter showing map of roads requiring transfer as indicated by green dots.

Should the development be modified in any manner that impacts the adjoining Crown land, e.g., by amendment to the development proposal or draft conditions of consent, the Department requests an opportunity to further review the application prior to determination.

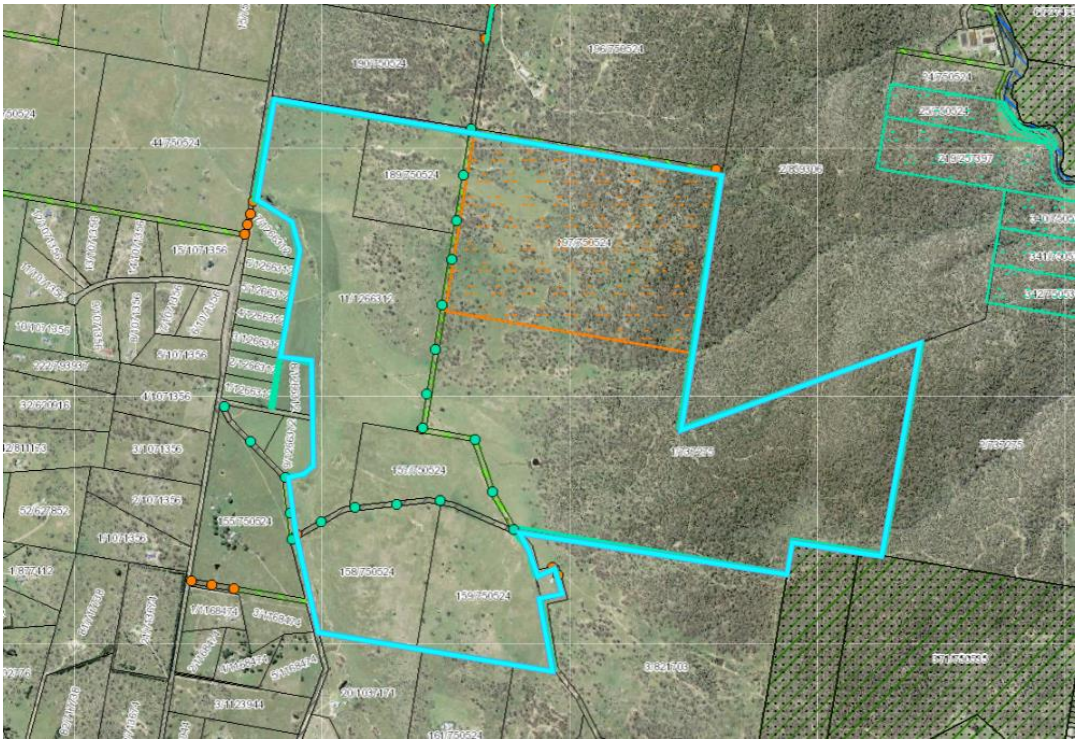
Should you require any further information, please do not hesitate to contact me at the Goulburn Crown Lands Office by tia.galvin@dpie.nsw.gov.au

Yours sincerely

Tia Galvin
Property Services Officer
Department of Planning & Environment - Crown Lands

Date: 24 January 2024

Department of Planning and Environment



PO Box 2215, Dangar, NSW 2309
Tel: 1300 886 235 Visit: www.industry.nsw.gov.au/lands

SNOWY MONARO REGIONAL COUNCIL

CONDITIONS OF CONSENT

10.2021.321.1

Part A – Administrative Conditions

Reason for imposition of conditions: Unrestricted consent may affect the environmental amenity of the area and would not be in the public interest.

ADM_01 - Endorsed plans and supporting documentation

Reason

To ensure all parties are aware of the approved plans and supporting documentation that applies to the development

Development must be carried out in accordance with the following plans and documentation, except where amended by Council and/or the conditions of this development consent.

Plan No.	Plan Title.	Drawn By.	Date
1710-2	Cover Page	OCRE	undated
1710-2-P01GA_C	The General Arrangement Plan	OCRE	20/12/2023
1710-2-P02GA_C	Proposed Plan of Subdivision (1)	OCRE	20/12/2023
1710-2-P03GA_C	Proposed Plan of Subdivision (2)	OCRE	20/12/2023
SD002	Residual Lot plan	Vision Property Development Hub	02/04/2024

Approved documents

Document Title.	Rev	Prepared By.	Date
Statement of Environmental Effects	2	Vision Property Development Hub	19/04/2023
S37 Letter Amendment		Vision Property Development Hub	16.05.2023
Biodiversity Assessment Report	V.1	South East Environmental	Dec 2022
Bushfire Assessment Report	1.0	Blackash	Jan 2023
Addendum to Bushfire Report	-	Blackash	08.11.2023
Aboriginal Due Diligence Assessment Report	3	Apex Archaeology	Jan 2023

PO Box 714 COOMA NSW 2630 | 1300 345 345 | council@snowymonaro.nsw.gov.au | www.snowymonaro.nsw.gov.au

Statement of Heritage Impact	2	Apex Archaeology	August 2023
Land Capability Assessment Report	1	Franklin Consulting	25.01.2023

In the event of any inconsistency between the approved plans and the supporting documentation, the approved plans prevail. In the event of any inconsistency between the approved plans and a condition of this consent, the condition prevails. Note: an inconsistency occurs between an approved plan and supporting documentation or between an approved plan and a condition when it is not possible to comply with both at the relevant time.

ADM_02 - Inconsistency between documents **Reason**

In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, the conditions of this consent prevail.

ADM_07 Aboriginal Objects **Reason**

No Aboriginal objects may be harmed without an approval from Heritage NSW.

To ensure compliance with the provisions of the National Parks and Wildlife Act.

Part B – Other Approvals

OA_01 Separate Section 138 Permit - Roads Act 1993 **Reason**

Notwithstanding the issue of this development consent, separate consent from Council under Section 138 of the Roads Act 1993, must be obtained prior to any works taking place on a public road including the construction of a new driveway access (or modification of access) and prior to the issue of an occupation certificate. Applications for consent under Section 138 must be submitted on Council's standard application form and be accompanied by the required attachments and prescribed fee.

Part C – Prior To the Commencement of Works

SUB_01 Prior to the commencement of works **Reason**

Construction of subdivision works (including clearing, earthworks, demolition or other works) must not commence unless the following have been satisfied:

A. Subdivision Works Certificate for those works has been issued by Council in conformity with the relevant provisions of the Environmental Planning and Assessment Act and related Regulations.

SUB_02 Pre-commencement Meeting **Reason**

Prior to the commencement of subdivision works for each stage of development, the developer and contractor shall meet on site with Council's representative to review the scope of works, soil and water management control measures and the inspection and testing regime. The developer or his representative shall make arrangements with Council for this meeting not less than seven days in advance.

SUB_04 Soil and Water Management **Reason**

The developer shall prepare and implement an effective Soil and Water Management Plan in conformity with Council's Development Design and Construction Specifications prior to the commencement of any works on site and shall maintain the control measures until after the effective stabilisation and revegetation of the site.

No Subdivision Works Certificate shall be issued for this development until the certifying authority (Council or accredited certifier) is satisfied that the Soil and Water Management Plan satisfies this condition.

SUB_05 Construction Environmental Management Plan (CEMP) **Reason**

A Construction Environmental Management Plan must be developed and implemented prior to the commencement of any works, to the satisfaction of the Council. The construction environmental management plan must include the following measures, as applicable to the type of development:

- location and construction of protective fencing to the perimeter site disturbance;
- location of site storage areas/sheds/equipment;
- location of building materials for construction;

To ensure that appropriate measures have been considered during all phases of the construction process in a manner that maintains the environmental amenity and ensures the ongoing safety and protection of people.

- location of stockpiles;
- provisions for public safety;
- dust control measures;
- site access location and construction
- details of methods of disposal of demolition materials;
- protective measures for tree preservation;
- provisions for temporary sanitary facilities;
- location and size of waste containers/bulk bins;
- details of proposed sediment and erosion control measures;
- provisions for temporary stormwater drainage;
- construction noise and vibration management;
- construction traffic management details.

The site management measures must be implemented prior to the commencement of any site works and must be in place throughout the works, to the satisfaction of Council. A copy of the Construction Environmental Management Plan must be provided to Council prior to commencing site works.

SUB_06 Protection of Electricity Infrastructure **Reason**

Essential Energy's records indicate there is electricity infrastructure located within the property. Any activities within this location must be undertaken in accordance with the latest industry guideline currently known as ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure.

SUB_07 Work in areas with existing Electricity Infrastructure **Reason**

Given there is electricity infrastructure in the area, it is the responsibility of the person/s completing any works around powerlines to understand their safety responsibilities. SafeWork NSW (www.safework.nsw.gov.au) has publications that provide guidance when working close to electricity infrastructure. These include the Code of Practice - Work near Overhead Power Lines and Code of Practice - Work near Underground Assets.

SUB_08a Before You Dig Australia **Reason**

Prior to carrying out any works, a "Before You Dig Australia" enquiry should be undertaken in accordance with the requirements of Part 5E (Protection of Underground Electricity Power Lines) of the Electricity Supply Act 1995 (NSW).
In addition the Before You Dig Australia enquiry must be current at the

To protect electricity assets from damage during construction works.

time of undertaking the construction activity in accordance with the requirements of the Infrastructure Asset Owner'.

SUB_09 Environmental Management Documentation **Reason**

Prior to the commencement of works, the developer shall provide the following documentation to Council:

a) details of the sediment and erosion control devices to be installed; including proposed locations.

b) details of the protective fencing to be installed around hollow bearing trees and habitat trees; including proposed locations.

c) location details of all hollow bearing trees and habitat trees, particularly paddock trees to be retailed; as referred to in the approved Biodiversity Assessment Report.

d) A stormwater management plan for use during all stages of the construction to reduce the impacts of changed water quality and quantity.

Part D – During Construction

DC_05 Use of Power Tools - Residential and Village Areas **Reason**

The developer is to ensure that work on the development site by all persons using power tools and equipment is limited to the following hours:

To ensure building works do not have adverse effects on the amenity of the area.

Monday to Friday:	7.00am to 6.00pm
Saturday:	7.00am to 5.00pm
Sunday:	No work
Public Holidays:	No work

DC_10 Contaminated, scheduled, hazardous or asbestos materials **Reason**

Should any contaminated, scheduled, hazardous or asbestos material be discovered before or during construction works, the owner, principal contractor or owner-builder must ensure the appropriate regulatory authority (for example: Office of Environment and Heritage, SafeWork NSW, Council, Fire and Rescue NSW) is notified, and that such material is contained, encapsulated, sealed, handled or otherwise disposed of the appropriate regulatory authority.

DC_11 Archaeology – Unexpected Finds **Reason**

If any Aboriginal object(s) is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the applicant must:

To ensure the protection of objects of potential significance during works

- Not further harm the object(s).
- Immediately cease all work at the particular location.
- Secure the area so as to avoid further harm to the Aboriginal object(s)
- Notify Heritage NSW as soon as practical by calling 131 555 or emailing: info@environment.nsw.gov.au, providing any details of the Aboriginal object(s) and its location
- Not recommence any work at the particular location unless authorised in writing by Heritage NSW.

All Aboriginal cultural heritage items must be mapped as polygons on all subdivision and operational plans to ensure these areas are not inadvertently impacted.
If harm to Aboriginal objects cannot be avoided, an application for an Aboriginal Heritage Impact Permit (AHIP) must be prepared and submitted to Heritage NSW before work may continue.

In the event that skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and Heritage NSW contacted.

DC_23 Approved Plans on Site **Reason**

A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification will be kept on the site at all times during construction and will be readily available for perusal by any officer of the Council or the PCA.

To the works are being completed in accordance with the approved plans.

DC_24 Public Access and Site Security **Reason**

It is the responsibility of the applicant to restrict public access to the building site, building works or materials or equipment on the site when building work is not in progress or the site is otherwise unoccupied.

The ensure community is safe from the construction works.

DC_25 Environmental Management Measures **Reason**

During all works associated with the development, the developer shall

implement and maintain the following to the satisfaction of Council:

a) sediment and erosion control devices;

b) stormwater management system;

c) protective fencing around habitat trees to be retained.

All measures must be erected prior to the start of earthworks and should be removed after the earthworks and all construction is complete;

DC_26 Dust Control Measures **Reason**

Adequate measures will be taken to prevent dust from affecting the amenity of the neighbourhood during construction. In particular, the following measures must be adopted:

To reduce impact on surrounding properties during construction.

a) Physical barriers will be erected at right angles to the prevailing wind direction or will be placed around or over dust sources to prevent wind or activity from generating dust emissions,

b) Earthworks and scheduling activities will be managed to coincide with the next stage of development to minimise the amount of time the site is left cut or exposed, All materials will be stored or stockpiled at the best locations,

c) The surface should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs,

d) All vehicles carrying spoil or rubble to or from the site will at all times be covered to prevent the escape of dust or other material,

e) All equipment wheels will be washed before exiting the site using manual or automated sprayers and drive-through washing bays,

f) Gates will be closed between vehicle movements and will be fitted with shade cloth, and Cleaning of footpaths and roadways will be carried out regularly.

DC_27 Revegetation Works **Reason**

At the completion of site works the following landscaping works are to be carried out:

a) all disturbed areas are to be weed free hay mulched.

b) topsoil is spread over all disturbed areas with priority given to cut and fill batters;

c) All disturbed areas are re-vegetated using drylands grass mix with a complete fertiliser;

PART E – SUBDIVISION ENGINEERING

SUB_08 Works as Executed Plans **Reason**

Upon completion of the subdivision works for each stage of the development, the developer shall provide Council with a complete set of plans of the works as constructed, detailing all variations from the approved plans and to the acceptance of the Council's Development Engineer.

To ensure adequate records are made of systems installed.

The Works-As-Executed plans shall be submitted to Council in electronic format (.pdf) and must be prepared and certified by a Registered Surveyor or Chartered Professional Engineer and define the location of all water supply, sewerage and, stormwater infrastructure to the acceptance of the Council's Development Engineer.

SUB_10 Electricity Service Easements **Reason**

As part of the subdivision, an easement/s are/is created for any existing electrical infrastructure. The easement/s is/are to be created using Essential Energy's standard easement terms current at the time of registration of the plan of subdivision.

Note - Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the above property should be complied with.

SUB_12 Electricity Servicing **Reason**

All proposed lots in the subdivision shall be serviced with electricity at no cost to Council. A “Notice of Arrangement” from Essential Energy shall be sufficient to establish compliance with this condition.

To ensure that each proposed lot in the subdivision will be provided with an electricity connection at no cost to Council and no cost to the future lot owner.

Alternatively, the s. 88B Instrument include a restriction on title that notes each will not be serviced by mains electricity at the time of the creation of the allotment.

SUB_13 Telecommunication Servicing **Reason**

The developer shall make arrangements for the provision of telephone services to each proposed lot in the subdivision at no cost to Council and no cost to the future lot owner. Prior to the endorsement of a subdivision certificate, the developer shall submit to the Principal Certifying Authority written notification from a recognized telecommunications carrier to confirm that arrangements have been undertaken to satisfy this condition.

SUB_15 Traffic Control **Reason**

The developer shall ensure that traffic control measures are implemented for all works within public roads in conformity with Traffic Control Plans prepared and approved by a competent person accredited by Transport for NSW. A traffic control plan prepared and approved by a competent person accredited by the Transport for NSW must be submitted to Council for each stage of development if working on a public road prior to the issue of an approved subdivision certificate.

SUB_16 Road Construction /Widening **Reason**

Road Widening Aratula Drive - Stage 2B

The developer shall widen the existing pavement of Aratula Drive from the Towrang Vale Road intersection with Aratula Drive to the existing cul-de-sac adjacent to lot 6 DP 1266312 in conformity with Council's Development Design and Construction Specifications to include the following:

(a) Widening to 6m bitumen sealed pavement.
(b) Table drain of either side of the road 1.
(c) Grassing of footway areas.

Road Construction Road 5 - Stage 2B

The plan of subdivision shall include the dedication of proposed Road 5 as a public road, not less than 20 meters wide as shown on the Approved Development Plan. This road shall be constructed in conformity with Council's Specification for Engineering Works, including:

(a) 8m wide bitumen sealed pavement
(b) Storm water and subsoil drainage works.
(c) Minimum l.5m wide table drains on each side of the pavement
(d) Erection of road name signs.
(e) Installation of guideposts, protection fencing, pavement markings and signposting.
(f) The road name must be approved by Council in advance and must be shown on the final plan of subdivision.
(g) A suitable vehicle turning facility (minimum 12.5 metre radius) at the end of Road 5.
(h) The crossing of Snake Creek shall be designed for 1% AEP flood event.

All the works shall be designed and constructed in accordance with Cooma Monaro Shire Design and Construction specification.

SUB_19 Independent services **Reason**

Each lot shall be provided with independent services i.e. electricity, gas, telecommunications, sewer and water, and inter-allotment drainage, all

in accordance with the requirements of the relevant authority.

SUB_32 Creation and Construction of Rural right of carriageway **Reason**

Road Construction - FT3 - Stage 2B

The plan of subdivision shall include the creation of a right-of-carriageway to provide access to proposed lots 232, 233, 234, 235, 236, 237 from proposed road 4 and prosed road 5 as shown on the Approved Development Plan. Constructed access within this right of carriageway shall be constructed in conformity with Council's Development Design and Construction Specifications to include the following:

a) a 4.0 metre wide gravel pavement
b) Sealed pavement from CH-OO to Ch-200
c) Sealed pavement from CH-600 to the intersection of right of Carriageway and the proposed road 4
d) minimum gravel thickness of 150 mm
e) suitable drainage works
f) suitable erosion protection measures
g) Installation of guide posts

The registered surveyor who prepares the plan of subdivision shall certify to the Principal Certifying Authority that the vehicular access track is wholly contained within the right-of-carriageway as defined on the plan.as defined on the plan.

SUB_33 Rural Property Access – All Lots **Reason**

The developer shall construct a vehicular verge crossing between the edge of the seal and the property boundary in conformity with Council's standard drawing No. B238.

The vehicular entrance is required to be sealed for the first 10m or to the property boundary (whichever is longer). Arrangements for inspections can be made by telephoning 1300 345 345 during office hours. Inspection fees are payable for these inspections.

Location of the vehicular entrance achieve safe Intersection Sight Distance in accordance with AGRD part 4A for the speed environment 0 100km/h at the reaction time of 2 seconds and perpendicular to the road.

Vehicular entrance shall be a minimum distance of 500mm from all service assess points, riser, meters, hydrant and pits.

Formwork and reinforcing for the vehicular footpath crossing shall be inspected by Council's Development Engineer or his delegate prior to the pouring of concrete. Arrangements for inspections can be made by telephoning (02) 6451 1550 during office hours.

SUB_34 Restrictions on Use - 88B Instrument **Reason**

The applicant must provide an 88B instrument with the application for a Subdivision Certificate with the following restrictions:

- No buildings, sewer management systems or structures are permitted within 100m of the high-water mark of Snake Creek.
- Building Envelopes as indicated on the approved plan/s.

SUB_35 Owners Consent - Neighbouring Properties **Reason**

Evidence of owners consent shall be submitted to Council prior to the issue of a Subdivision Works Certificate for any works proposed on any lot not part of this application.

SUB_36 Road Maintenance – Deed of Agreement **Reason**

a. The applicant shall develop a Road Maintenance Agreement that will put in place a requirement for the proposed lots to satisfactorily maintain the rights of carriageway (FT3) to a standard agreed upon by the Council.

b. A Section 88B instrument shall be put in place for this Road Maintenance Agreement indicating the requirement for the proposed lots 232 and 233 to satisfactorily maintain the access right of carriageway to a standard agreed upon by the Council. Any expenses involved in the upgrade of the right of carriageway to the required standard will be met by the applicant or equivalent.

SUB_40 Battle-Axe - Stage 2B – Lot 231 **Reason**

The developer shall provide a driveway for the entire length of the access corridor to battleaxe lot 231, in conformity with Council's Development Design and Construction Specifications, to include the following:

a) A minimum 10m wide access handle
b) concrete or bitumen sealed pavement not less than 3.0 metres wide for single lot and 3.5 for 2 lots.
c) minimum concrete thickness 150mm
d) minimum concrete strength grade 25MPa
e) minimum reinforcement SL72 steel mesh
f) suitable stormwater drainage

Reason to seal: Battle-axe handle is longer than permitted length of Battle-axe in R5 zoning in the CM DCP and building envelopes of proposed lots 228, 229 and 205 are less than 100m distance from the centre line of the battle-axe.

SUB_41 Vegetation management **Reason**

The developer shall implement the following management measures during works:

- Install sediment and erosion control devices prior to clearing or earthmoving works;
- Identify and mark, to Councils satisfaction, hollow bearing trees for retention, particularly paddock trees;
- remove any exotic weed species listed as a Weed of National Significance as determined by the NSW Department of Primary Industries;
- Install protective fencing around habitat trees to be retained. Fencing should be erected prior to the start of earthworks and should be removed after the earthworks and construction is complete;
- Development of a stormwater management plan and submit to Council prior to the commencement of works, including clearing and earthmoving works. The plan must be implemented during all stages of the construction to reduce the impacts of changed water quality and quantity.

Note: It is also recommended that the owner investigates a Biodiversity Stewardship Site to enhance the biodiversity quality of remaining bushland areas within the subject property.

Compliance Certificate Inspections (For information only - this is NOT a condition of consent)

The developer must obtain a Compliance Certificate, either from Council or an approved certifier to demonstrate that all subdivision works have been completed. The subdivision works must be inspected by Council's inspector at each of the following stages of construction to confirm compliance with the standards set out in Council's Development Design and Construction Specifications.

(a) After placement of all signs in accordance in with the approved Traffic Control Plan.

(b) After stripping of topsoil from roads and fill areas, all Soil and Water Management Plan controls shall be in place at this stage.

(c) After completion of road subgrade.

(d) During field density testing, string line checking and proof rolling of the finished subgrade.

(e) After placement of water service conduits prior to backfilling.

(f) After placement and compaction of each layer of gravel pavement material.

(g) During field density testing, string line checking and proof rolling of each finished gravel pavement layer.

(h) During application of bitumen seal or asphaltic concrete wearing surface.

(i) After laying and jointing of all water supply pipelines prior to backfilling and after installation of all water meters.

(j) After laying and jointing of all sewerage pipelines prior to backfilling.

(k) During pressure testing of all water supply pipelines.

(l) During pressure testing of all sewerage pipelines.

(m) During testing of all sewer manholes.

(n) After completion of works prior to acceptance and commencement of "on-maintenance" period.

(o) During the "off-maintenance" period inspection.

(p) As otherwise required to confirm that the works are satisfactorily executed and in conformity with environmental controls.

It should be noted that Council charges fees for inspections and Compliance Certificates.

These fees must be paid prior to the endorsement of a Subdivision Certificate.

PART J – AGENCY SPECIFIC CONDITIONS

AS_01 Agency Specific **Reason**

General Conditions

For administrative purposes these General Terms of Agreement apply to Council ref DA 10.2021.321.1.

1. The development proposal is to generally comply with the following plans/documents except where amended by the conditions of this Bush Fire Safety Authority.

- The plan titled "Rural Residential Subdivision - Aratula Hills Stage 2", drawn by Osgood Civil Resource Engineering. Job no 1710-2, dated 20/12/2022.
- The bush fire assessment titled "Bushfire Hazard Assessment, Large Lot Subdivision, Towrang Vale Road, Cooma. Aratula - Stage 2", Prepared by BlackAsh Bushfire Consulting. Project ref J2988, dated 31 January 2023.
- The additional information provided by Blackash dated 8 November 2023.

2. In recognition of the isolated nature of the vacant lots, at the issue of a Subdivision Certificate, a suitably worded legal instrument shall be created over all proposed Lots which requires;

- Future dwellings are situated within 200 metres of the public road;

- Future dwellings to be sited in a location which ensures that the dwelling will not be exposed to radiant heat levels that exceed 29kw/m2;
- As per the recommendations contained within the additional information provided by Blackash, dated 8th November 2023, lots 201 to 211 (Inclusive) and 213 to 215 (inclusive) are not benefitted by the provision of a suitable perimeter road and therefore shall have a suitably worded legal instrument which requires that any subsequent proposal for the construction on subject lots shall include;
    - minimum BAL-19 construction
    - minimum 30m APZ

Access - Public Roads

The intent of measure is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

General

4. Access roads must comply with the following general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- subdivisions of three or more allotments have more than one access in and out of the development;
- traffic management devices are constructed to not prohibit access by emergency services vehicles;
- maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient;
- dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;
- where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road;
- one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression;
- the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/causeways are to clearly indicate load rating;
- there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.

Perimeter roads

5. Perimeter roads must comply with the general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- are two-way sealed roads;
- minimum 8m carriageway width kerb to kerb;
- parking is provided outside of the carriageway width;
- hydrants are located clear of parking areas;
- are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- curves of roads have a minimum inner radius of 6m;
- the maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Non - Perimeter roads

6. Non-perimeter roads must comply with the general requirements of Table 5.3b of Planning for Bush Fire Protection 2019 and the following:

- minimum 5.5m carriageway width kerb to kerb;
- parking is provided outside of the carriageway width;
- hydrants are located clear of parking areas;
- roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- curves of roads have a minimum inner radius of 6m;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Access - Property Access

7. Property access roads must comply with the general requirements of Table S.3b of Planning for Bush Fire Protection 2019 and the following:

- property access roads are two-wheel drive, all-weather roads;
- minimum 4m carriageway width;
- in forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay;
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;

- provide a suitable turning area in accordance with Appendix 3;
- curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
- the minimum distance between inner and outer curves is 6m;
- the crossfall is not more than 10 degrees;
- maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and
- a development comprising more than three dwellings has access by dedication of a road and not by right of way.

Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.

Access - Fire Trails

8. As per the recommendations contained within the additional information provided by Blackash, dated 8th November 2023, at the issue of a Subdivision Certificate, a suitably worded legal instrument shall be created to ensure that the trail labelled as Fire Trail 3 on the above referenced plans will be provided within a 'Right of

Carriageway' and a Deed of Agreement created to ensure access from residents of lots 232-237 have mutually beneficial rights of way to use the fire trail in the event of a fire. The Fire trail is to be maintained by the owners of Lots 232 and 233. Fire trail 3 should be referred to the Snowy Monaro Bush Fire Management Committee for its potential inclusion in their Fire Access and Fire Trails plan.

AS_02 Agency Specific – Essential Energy **Reason**

Essential Energy makes the following general comments:

- As part of the subdivision, an easement is created for any existing electrical infrastructure. The easement is to be created using Essential Energy's standard easement terms current at the time of registration of the plan of subdivision;
- If the proposed development changes, there may be potential safety risks and it is recommended that Essential Energy is consulted for further comment;
- Any existing encumbrances in favour of Essential Energy (or its predecessors) noted on the title of the above property should be complied with;
- Council should ensure that a Notification of Arrangement (confirming satisfactory arrangements have been made for the provision of power) is issued by Essential Energy with respect to all proposed lots which will

form part of the subdivision, prior to Council releasing the Subdivision Certificate. It is the Applicant's responsibility to make the appropriate application with Essential Energy for the supply of electricity to the subdivision, which may include the payment of fees and contributions;

Added by Council - *alternatively, a s. 88B Instrument including a restriction on title which notes each will not be serviced by mains electricity at the time of the creation of the allotment must be provided.*

- In addition, Essential Energy's records indicate there is electricity infrastructure located within the property. Any activities within this location must be undertaken in accordance with the latest industry guideline currently known as *ISSC 20 Guideline for the Management of Activities within Electricity Easements and Close to Infrastructure;*
- Prior to carrying out any works, a "Dial Before You Dig" enquiry should be undertaken in accordance with the requirements of *Part 5E (Protection of Underground Electricity Power Lines)* of the *Electricity Supply Act 1995 (*NSW);
- Given there is electricity infrastructure in the area, it is the responsibility of the person/s completing any works around powerlines to understand their safety responsibilities. SafeWork NSW (www.safework.nsw.gov.au) has publications that provide guidance when working close to electricity infrastructure. These include the *Code of Practice – Work near Overhead Power Lines and Code of Practice – Work near Underground Assets*.

PART K – PRIOR TO THE RELEASE OF THE SUBDIVISION CERTIFICATE

SUB_20 Utilities / Services – Electricity and Telecommunications **Reason**

Prior to the issue of the relevant Subdivision Certificate, the following written evidence of service provider requirements must be submitted to Council:

a. Electricity Supply Authority – a Notice of Arrangement demonstrating that satisfactory requirements have been made to service the proposed development.

   Alternatively, the s88B instrument includes a restriction on title.

b. Telecommunication Provider – a letter of consent demonstrating that satisfactory requirements have been made to service the proposed development.

Note - It is the Applicant's responsibility to make the appropriate application with Essential Energy for the supply of electricity to the subdivision, which may include the payment of fees and contributions.

SUB_21 Maintenance Period for Subdivision Works **Reason**

The developer shall carry out any maintenance works required to the completed subdivision works and shall rectify any defects becoming apparent within a period of twelve months after the date that Council accepts that the works have reached practical completion.

Prior to the release of the Subdivision Certificate, the developer shall provide Council with financial security (cash bond or unconditional bank guarantee) for compliance with this condition in an amount of five percent of the value of the subdivision works.

The developer shall pay to Council a Bond Administration Fee in accordance with Council's Fees and Charges.

SUB_22 Subdivision Certificate Application **Reason**

The developer is to submit to Council through the NSW Planning Portal a Subdivision Certificate application together with:

a) Electronic subdivision plan and Administration sheet;

b) Any required or relevant Section 88B instrument under the Conveyancing Act 1919;

c) The applicable fee;

d) Documentation from a recognised telecommunications carrier certifying that telephone connection has been provided to the site;

e) Notice of Arrangement from Essential Energy certifying that electricity connection has been provided to each lot.

   Alternatively, the s88B Instrument include a restriction on title that notes each will not be serviced by mains electricity at the time of the creation of the allotment.

f) Certificate from Snowy Monaro Regional Council certifying that all necessary and appropriate weed eradication work has been completed on all lots in the subdivision.

Optional

Original /Hard copy linen plans and administration documents, where the applicant require original copies to signing by Council, hard copy plans shall be received at a council office within two (2) business days after submission of the application on the Planning Portal.

SUB_23 Payment of section 7.11 contributions

Reason

The payment of contributions to Council is required to cater for the increased demand for infrastructure resulting from the approved development pursuant to Section 7.11 of the Environmental Planning and Assessment Act, 1979 and Council's adopted Contributions plans, the following contributions apply to the development:

To ensure development contributions are paid to address the increased demand for public amenities and services resulting from the approved development

Rural Roads	$ 30,012.00
Open Space	$ 4,935.78
Total	**$34,947.78**

The above contributions have been imposed in accordance with the Cooma Monaro s94 Contributions Plan. The contribution is based on an additional six (6) residential allotments. Contributions will be reassessed at the time of payment in accordance with Council's adopted Fees and Charges and may be subject to an increase by CPI. Contributions will be reassessed at the time of payment in accordance with Council's adopted Fees and Charges and may be subject to an increase by CPI. The above-specified Contribution Plans may be inspected at Council offices

It is the responsibility of the Principal Certifying Authority that the nominated contributions have been paid to Council, prior to the issue of the Subdivision Certificate.

SUB_25 Creation and Construction of Rural right of carriageway

Reason

The final plan of subdivision and 88B instrument shall include the creation of a right-of-carriageway to provide access to proposed lots 239 and 240.

To ensure legal access is available to lots 239 and 240.

SUB_26 Services

Reason

Any adjustment or augmentation of any public utility services including gas, water, sewer, electricity, street lighting and telecommunications required as a result of the development must be at no cost to Council and undertaken prior to the issue of the relevant Subdivision Certificate.

SUB_27 Completion of Engineering Works

Reason

The developer shall complete all engineering works in accordance with the conditions of this consent together with any necessary work to make the construction effective. The costs of all engineering works shall be fully borne by the applicant/developer and any damage to Council's assets shall be made good, prior to the issue of the Subdivision Certificate.

SUB_28 Landscaping **Reason**

Prior to the issue of the subdivision certificate for each stage of the subdivision the developer shall ensure that the landscaping as shown in the Landscape Concept Design plan has been completed to the satisfaction of Council.

SUB_29 Bushfire Compliance Inspection **Reason**

Prior to the issue of the subdivision certificate an inspection is to be carried out by a suitably qualified consultant demonstrating compliance with ensure condition AS_01.

SUB_30 Road Naming **Reason**

The road names for each road in the subdivision are to be submitted to Council prior to the release of the Subdivision Works Certificate.

To ensure that the road naming process is completed in time for issuing of a subdivision certificate.

The Geographical Names Board provides a guide on road name proposals and also provides a tool to evaluate the eligibility of road name proposals.

https://proposals.gnb.nsw.gov.au/public/road-names/evaluation

Road names should:

1) Not be a duplicate or very similar to other road names within a 30km radius of the new road
2) Not include the name of current persons, persons deceased in previous 12 months or businesses
3) Not include variations of Mountain, Snow, High, Alpine or River due to the significant number of local current place and road names that are variations of these names
4) Be locally relevant with reasons for relevance to the local community well documented.
5) No prefix, suffix or directions ie East, West, North and South
6) Themes to consider are commemoration of significant past residents (ie early settlers, sporting champions, exceptional service to community), flora and fauna names, established names for nearby local places ie creeks/rivers/hills/mountains or war serviceman and woman who died in service to Australia.

The road names for each road in the subdivision are to be approved by the Geographical Names Board (GNB) and Council prior to the release of the Subdivision Certificate.

The approved road names are to be shown on the administration sheet

accompanying the Subdivision Certificate.

Note – The approval of road names can be lengthy and Council recommends applicants commence this process at least 6 months prior to the finalisation of the subdivision so as not to delay the issue of the subdivision certificate.

SUB_31 Street Numbers **Reason**

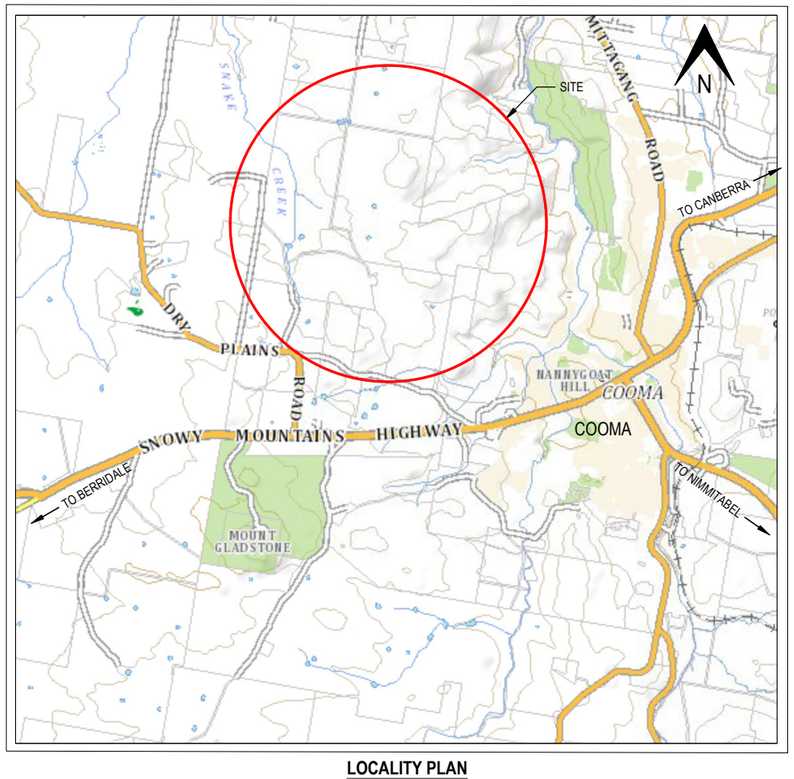
The street numbers for each lot in the subdivision are to be shown on the administration sheet accompanying the final plan of subdivision when lodged with the subdivision certificate. The subdivision certificate cannot be released until such time as the street numbers of each lot have been allocated and shown on the administration sheet.

SUB_42 Residual Lot **Reason**

The final plan of subdivision must include the residual lot 239 (size 92.14ha) as shown in approved plan SD002.

LOT 1 DP737275, LOTS 157, 158, 159, 189, 197, 211 DP750524, LOT 11DP1266312 TOWRANG VALE ROAD, COOMA
RURAL RESIDENTIAL SUBDIVISION - ARATULA HILLS STAGE 2
DEVELOPMENT APPLICATION

CLIENT: CAVALLO PROJECTS PTY LTD
LGA: SNOWY MONARO REGIONAL COUNCIL
DA: TBA



LOCALITY PLAN
N.T.S

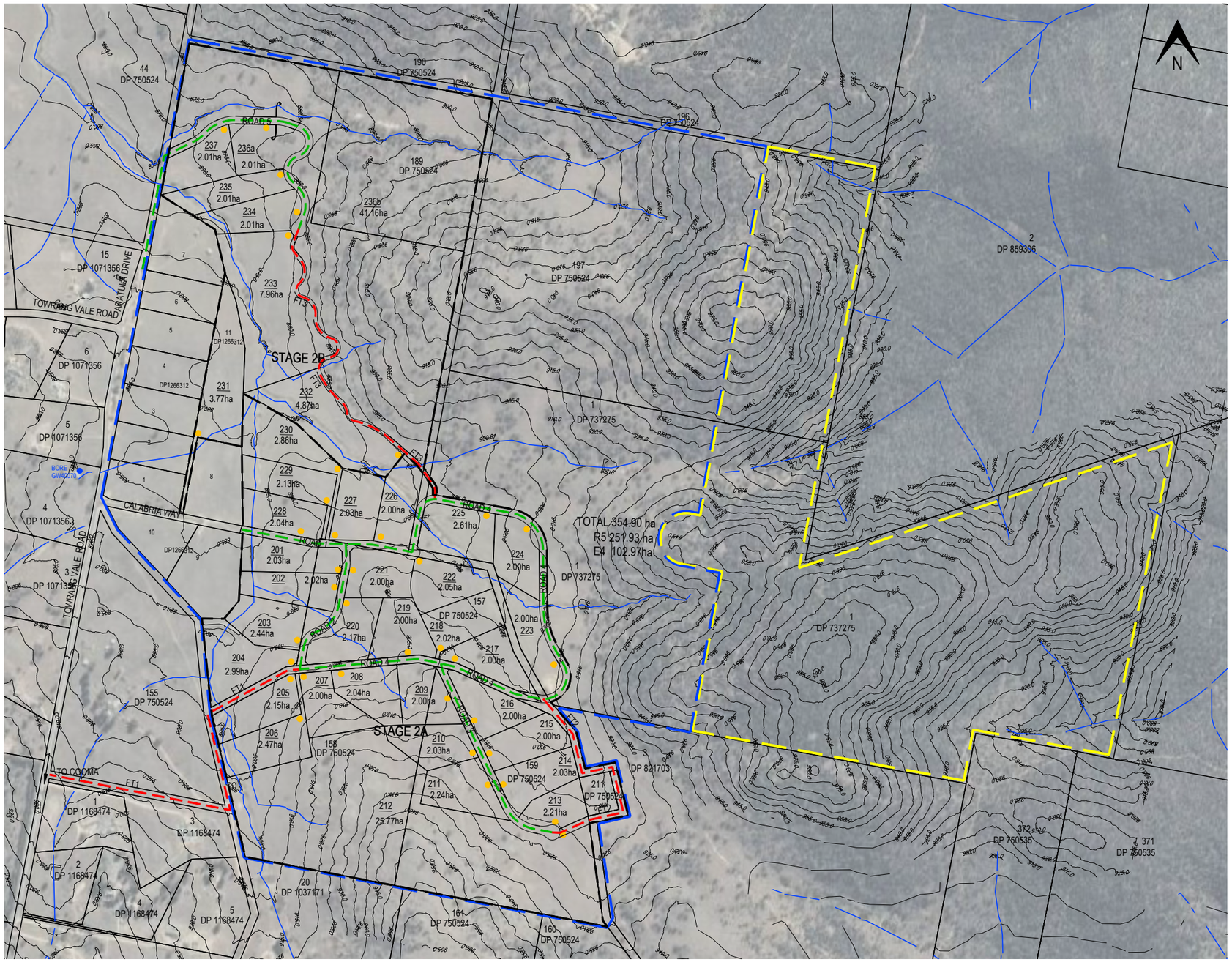
osgood civil resource engineering
OCRE
po box 181
bermagui nsw 2546
p 02 6494 0239
m 0408 361 612

Vision
Town Planning Consultants

DRAWING SCHEDULE

1710-2-P00TTL JOB No. 1710-2

Date: Friday, 10 February 2023 10:53:05 AM User: AG File: H:\2017\1710-2_AratulaST02\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P00TTL.dwg



LEGEND:

- ACCESS POINT
- ZONE R5 LEP 2013
- ZONE E4 LEP 2013
- CARRIAGEWAY
- FIRE TRAIL
- STAGE BOUNDARY

NOTES:

1. SITE IS WITHIN SNOWY MONARO REGIONAL COUNCIL LGA.

Lot	DP	Total Area [ha]	R5 Area [ha]	E4 Area [ha]	Notes
1	737275	130.61	48.91	81.70	
157	750524	14.97	14.97		
158	750524	24.88	24.88		
159	750524	24.81	24.81		
189	750524	16.20	16.20		
197	750524	71.76	50.49	21.27	
211	750524	0.81	0.81		
11	1266312	70.86	70.86		Stage 1 Residue
	TOTAL	***354.90***	***251.93***	***102.97***	
Stage 2A					
Available R5 Area			251.93	ha	
Allowable # of 8ha Lots		*31.5*		No	Say 30 + Residue
Lots Proposed to be Developed		#201-#230	88.29	ha	
Lots Proposed to be developed tally		30		No	
Road & Fire Trail Area			4.40	ha	
Residue Area		1	159.24	ha	
Stage 2B					
Available R5 Area			159.24	ha	
Allowable # of 8ha Lots		*19.9*		No	Say 18 + Residue
Lots Proposed to be Developed		#231-#237	65.80	ha	
Lots Proposed to be developed tally		7		No	
Road & Fire Trail Area			1.30	ha	
Residue Area		1	92.14	ha	

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	LOT LAYOUT AMENDED	VAO	AG	VAO	VAO	20/12/2022
B	LOT LAYOUT AMENDED	VAO	WP	VAO	VAO	27/11/2020
A	80 LOT LAYOUT ADOPTED	VAO	PIB	VAO	VAO	29/10/2020
-	**INITIAL ISSUE**	VAO	PIB	VAO	VAO	23/10/2020

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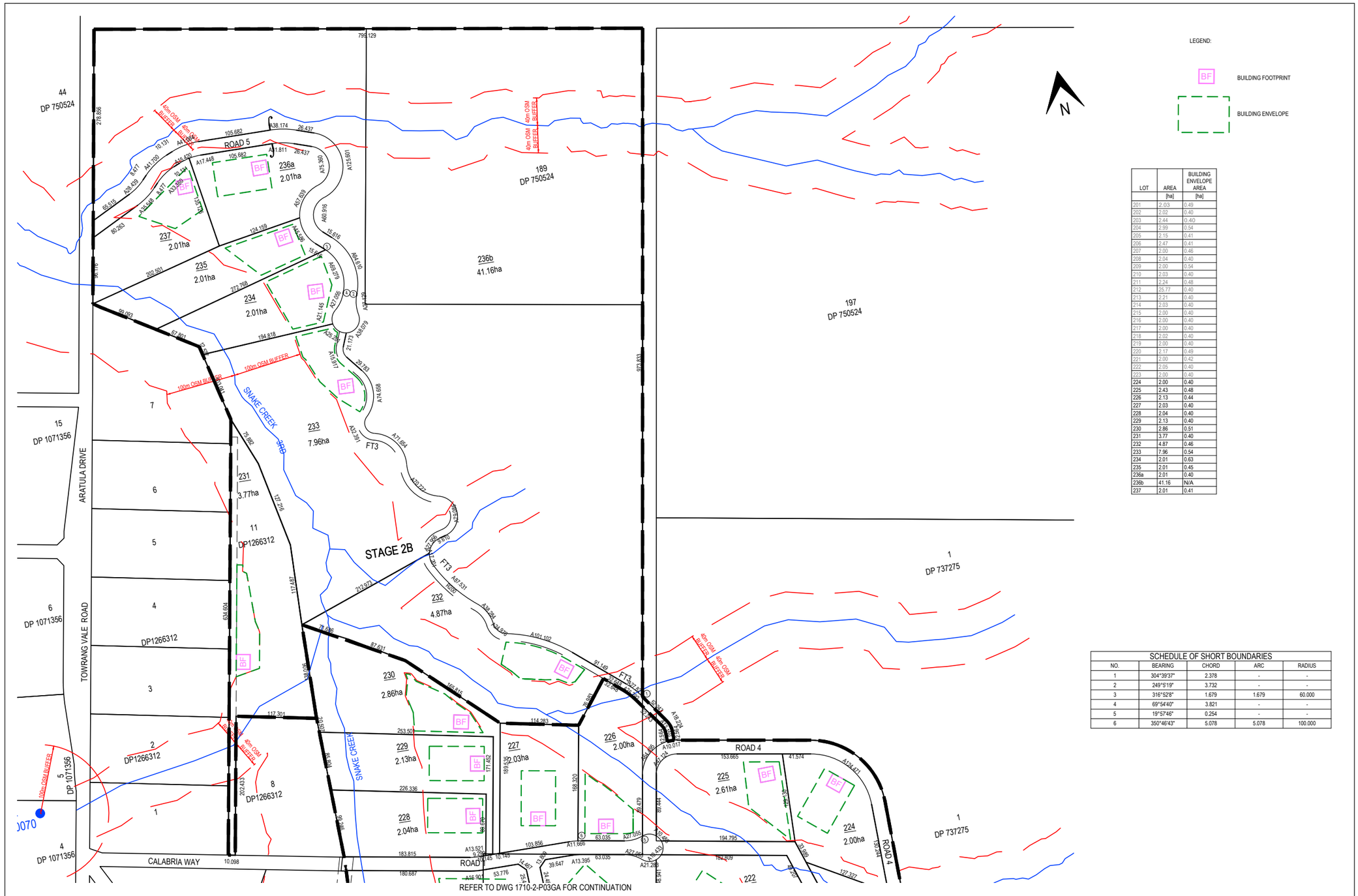
Vision Town Planning Consultants

osgood civil resource engineering
OCRE
po box 181
bermagui nsw 2546
p 02 6494 0239
m 0408 361 612

CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE GENERAL ARRANGEMENT
DRAWING NUMBER 1710-2-P01GA
AMENDMENT: C

Date: Tuesday, 20 December 2022 3:07:00 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P01GA.dwg



LOT	AREA	BUILDING ENVELOPE AREA
	[ha]	[ha]
201	2.03	0.49
202	2.02	0.40
203	2.44	0.40
204	2.99	0.54
205	2.15	0.41
206	2.47	0.41
207	2.00	0.46
208	2.04	0.40
209	2.00	0.54
210	2.03	0.40
211	2.24	0.48
212	25.77	0.40
213	2.21	0.40
214	2.03	0.40
215	2.00	0.40
216	2.00	0.40
217	2.00	0.40
218	2.02	0.40
219	2.00	0.40
220	2.17	0.49
221	2.00	0.42
222	2.05	0.40
223	2.00	0.40
224	2.00	0.40
225	2.43	0.48
226	2.13	0.44
227	2.03	0.40
228	2.04	0.40
229	2.13	0.40
230	2.86	0.51
231	3.77	0.40
232	4.87	0.46
233	7.96	0.54
234	2.01	0.63
235	2.01	0.45
236a	2.01	0.40
236b	41.16	N/A
237	2.01	0.41

SCHEDULE OF SHORT BOUNDARIES

NO.	BEARING	CHORD	ARC	RADIUS
1	304°39'37"	2.378	-	-
2	249°5'19"	3.732	-	-
3	316°52'8"	1.679	1.679	60.000
4	69°54'40"	3.821	-	-
5	19°57'46"	0.254	-	-
6	350°46'43"	5.078	5.078	100.000

D							
C	EMERGENCY ACCESS EASEMENT LOT 231	VAO	AG	VAO	VAO	04/08/2023	
B	CONTOURS REMOVED - SMRC	VAO	AG	VAO	VAO	15/06/2023	
A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022	
-	**INITIAL ISSUE**	VAO	WP	VAO	VAO	27/11/2020	
No.	**REVISION**	**DESIGNED**	**DRAWN**	**CHECKED**	**APPROVED**	**DATE**	

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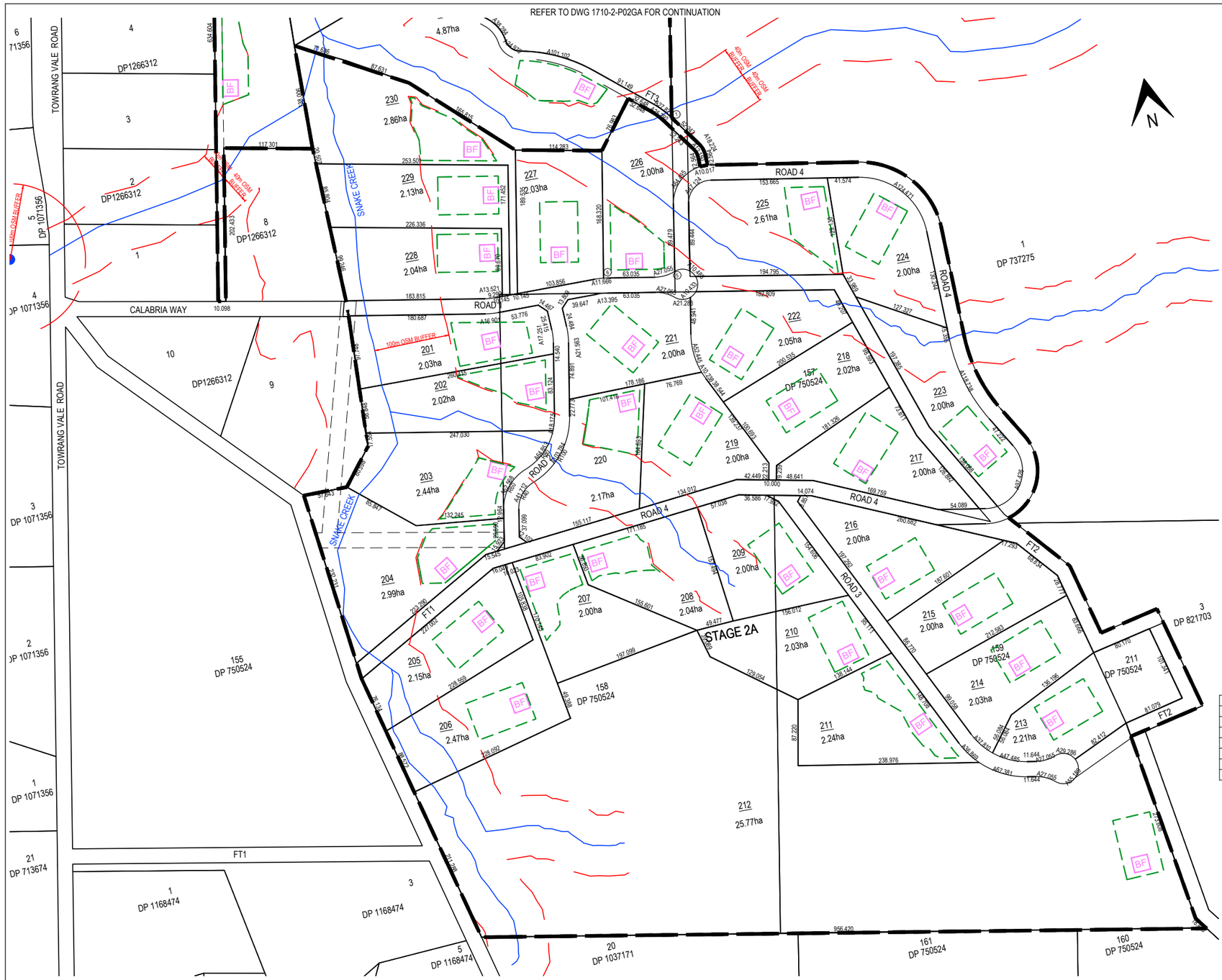
Vision Town Planning Consultants

osgood civil resource engineering
OCRE
po box 181
bermagui nsw 2546
p 02 6494 0239
m 0408 361 612

CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE PROPOSED PLAN OF SUBDIVISION - SHEET 1 - STAGE 2B
DRAWING NUMBER 1710-2-P02GA
AMENDMENT: C

Date: Friday, 4 August 2023 2:24:16 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P02GA.dwg



LOT	AREA [ha]	BUILDING ENVELOPE AREA [ha]
201	2.03	0.49
202	2.02	0.40
203	2.44	0.40
204	2.99	0.54
205	2.15	0.41
206	2.47	0.41
207	2.00	0.46
208	2.04	0.40
209	2.00	0.54
210	2.03	0.40
211	2.24	0.48
212	25.77	0.40
213	2.21	0.40
214	2.03	0.40
215	2.00	0.40
216	2.00	0.40
217	2.00	0.40
218	2.02	0.40
219	2.00	0.40
220	2.17	0.49
221	2.00	0.42
222	2.05	0.40
223	2.00	0.40
224	2.00	0.40
225	2.43	0.48
226	2.13	0.44
227	2.03	0.40
228	2.04	0.40
229	2.13	0.40
230	2.86	0.51
231	3.77	0.40
232	4.87	0.46
233	7.96	0.54
234	2.01	0.63
235	2.01	0.45
236a	2.01	0.40
236b	41.16	N/A
237	2.01	0.41

SCHEDULE OF SHORT BOUNDARIES				
NO.	BEARING	CHORD	ARC	RADIUS
1	304°39'37"	2.378	-	-
2	249°5'19"	3.732	-	-
3	316°52'8"	1.679	1.679	60.000
4	69°54'40"	3.821	-	-
5	19°57'46"	0.254	-	-
6	350°46'43"	5.078	5.078	100.000

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	EMERGENCY ACCESS EASEMENT LOT 231, ELECTRICITY EASEMENTS	VAO	AG	VAO	VAO	04/08/2023
B	CONTOURS REMOVED - SMRC	VAO	AG	VAO	VAO	15/06/2023
A	REVISED LAYOUT	VAO	PIB	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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m 0408 361 612

CLIENT: CAVALLO PROJECTS PTY LTD
PROJECT: ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE: PROPOSED PLAN OF SUBDIVISION - SHEET 2 - STAGE 2A
DRAWING NUMBER: 1710-2-P03GA
AMENDMENT: C

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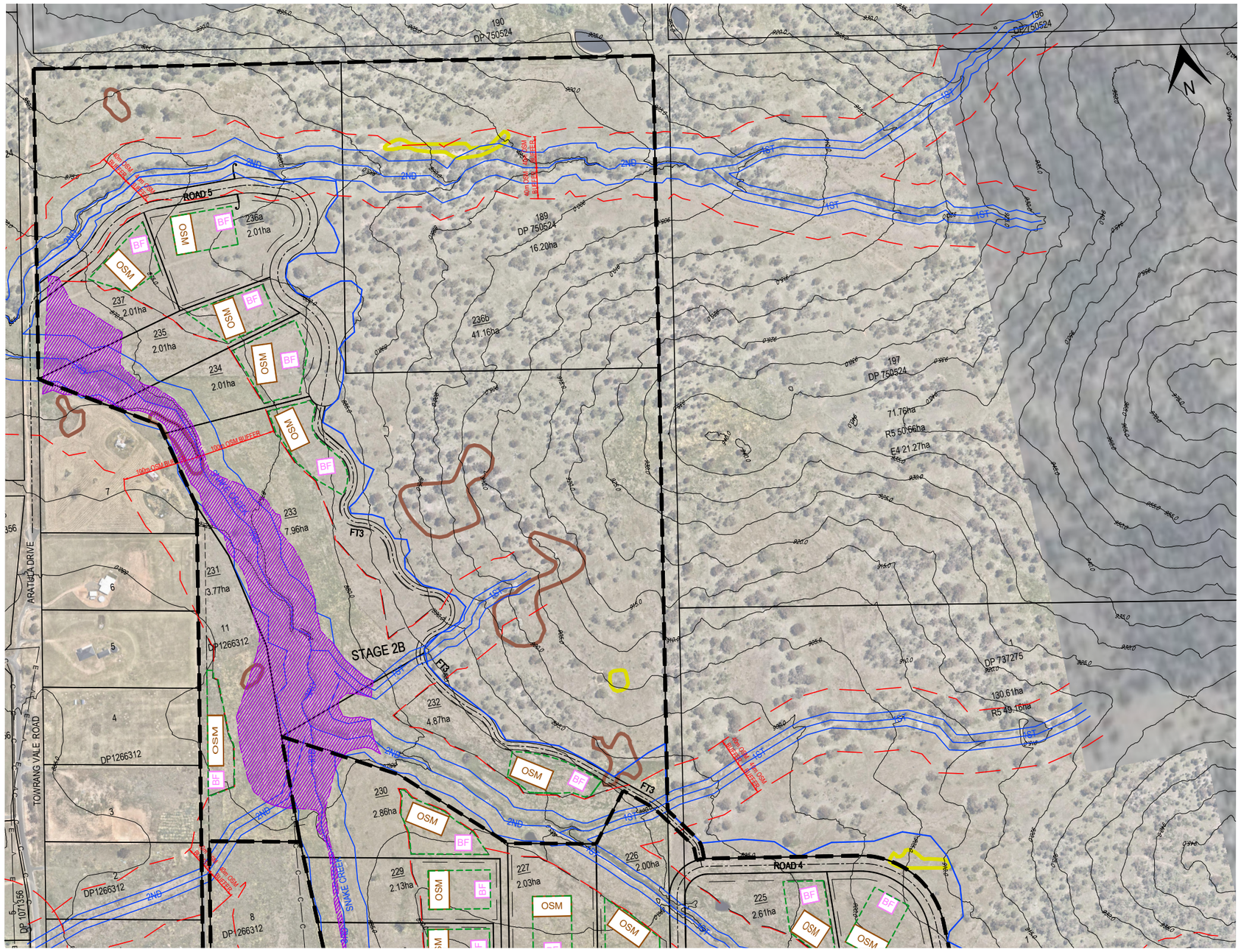

LEGEND:

- ONSITE SEWER MANAGEMENT BUFFER
- EXISTING TREE
- BUILDING ENVELOPE LIMITS
- SETBACK - 10m FRONT 5m SIDE AND REAR
- BF — INDICATIVE BUILDING FOOTPRINT 450 m²
- OSM — INDICATIVE ON-SITE SEWERAGE MANAGEMENT 1300 m²
- INDICATIVE Q100 FLOOD EXTENTS
- SHEET EROSION
- ROCKY OUTCROPS
- EXTENT OF EARTHWORKS

NOTES:

1. OSM DISCHARGE AREA REQUIREMENT FOR EACH LOT - 1300m²
2. OSM DISCHARGE AREA BUILDING SETBACK - 15m
3. Q5 FLOOD EXTENTS ARE CONTAINED WITHIN THE CREEK.
4. REFER TO 1710-P21SWMP2 FOR FLOOD FLOW CHARACTERISTICS.

REFER TO DWG 1710-2-P11CONS FOR CONTINUATION

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	VAO	VAO	AG	VAO	VAO	04/08/2023
B	LIMIT OF ROAD EARTHWORKS ADDED	VAO	AG	VAO	VAO	10/02/2023
A	LOT LAYOUT AMENDED	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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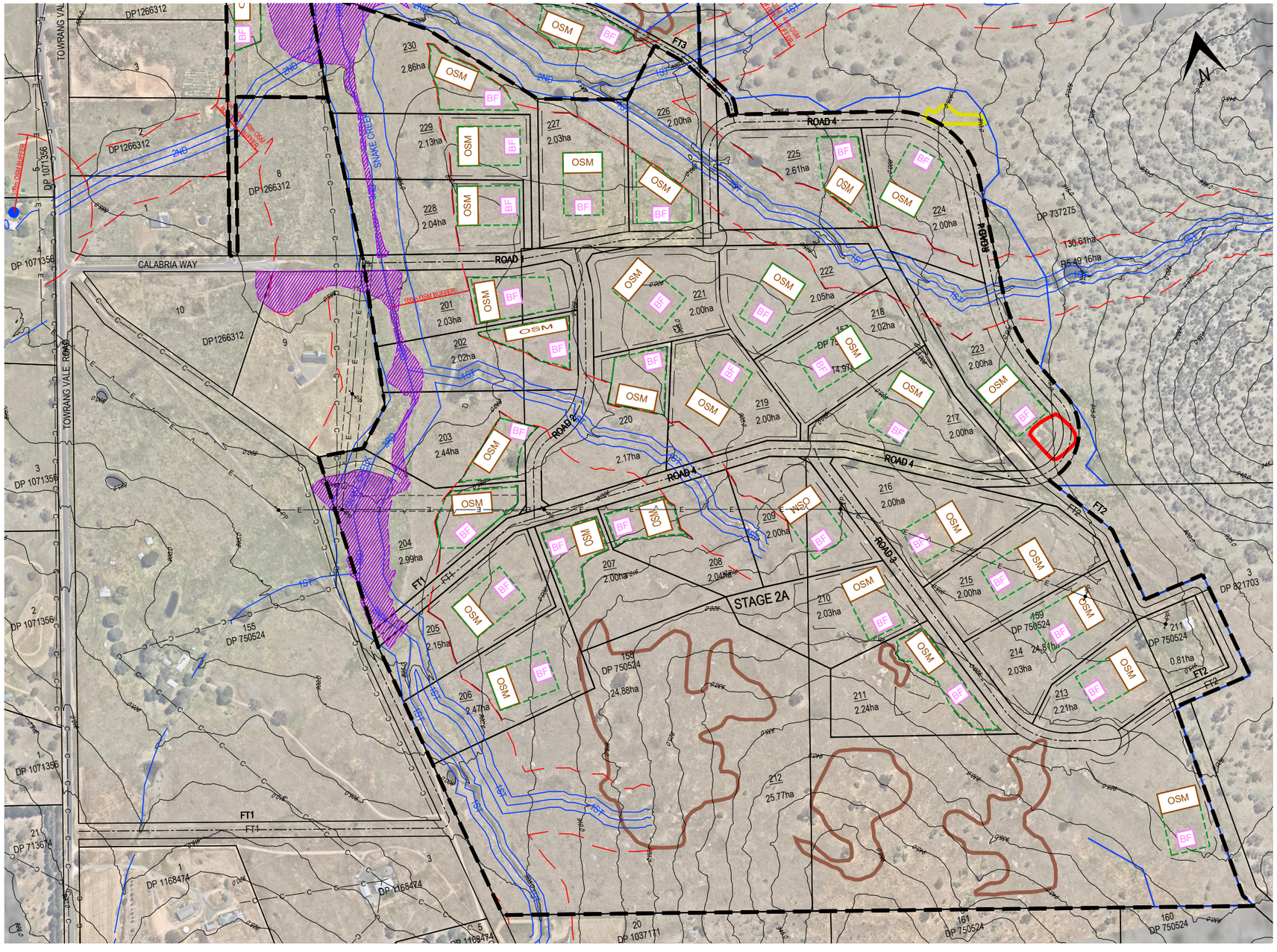
CLIENT: CAVALLO PROJECTS PTY LTD
PROJECT: ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE: DEVELOPMENT CONSTRAINTS - SHEET 1
DRAWING NUMBER: 1710-2-P10CONS
AMENDMENT: C

Date: Friday, 4 August 2023 2:28:06 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P10CONS.dwg

REFER TO DWG 1710-2-P10CONS FOR CONTINUATION



LEGEND:

- ONSITE SEWER MANAGEMENT BUFFER
- EXISTING TREE
- BUILDING ENVELOPE LIMITS
- SETBACK - 10m FRONT 5m SIDE AND REAR
- BF — INDICATIVE BUILDING FOOTPRINT 450 m²
- OSM — INDICATIVE ON-SITE SEWERAGE MANAGEMENT 1300 m²
- INDICATIVE Q100 FLOOD EXTENTS
- SHEET EROSION
- ROCKY OUTCROPS
- STAGE 1 - BORROW PIT - ROAD CONSTRUCTION
- EXTENT OF EARTHWORKS

NOTES:

1. OSM DISCHARGE AREA REQUIREMENT FOR EACH LOT - 1300m²
2. OSM DISCHARGE AREA BUILDING SETBACK - 15m
3. Q5 FLOOD EXTENTS ARE CONTAINED WITHIN THE CREEK.
4. REFER TO 1710-P21SWMP2 FOR FLOOD FLOW CHARACTERISTICS.

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	EASEMENTS ADDED, 204 OSM & BF SHIFTED	VAO	AG	VAO	VAO	04/08/2023
B	LIMIT OF ROAD EARTHWORKS ADDED	VAO	AG	VAO	VAO	10/02/2023
A	LOT LAYOUT AMENDED	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE DEVELOPMENT CONSTRAINTS - SHEET 2
DRAWING NUMBER 1710-2-P11CONS
AMENDMENT: C

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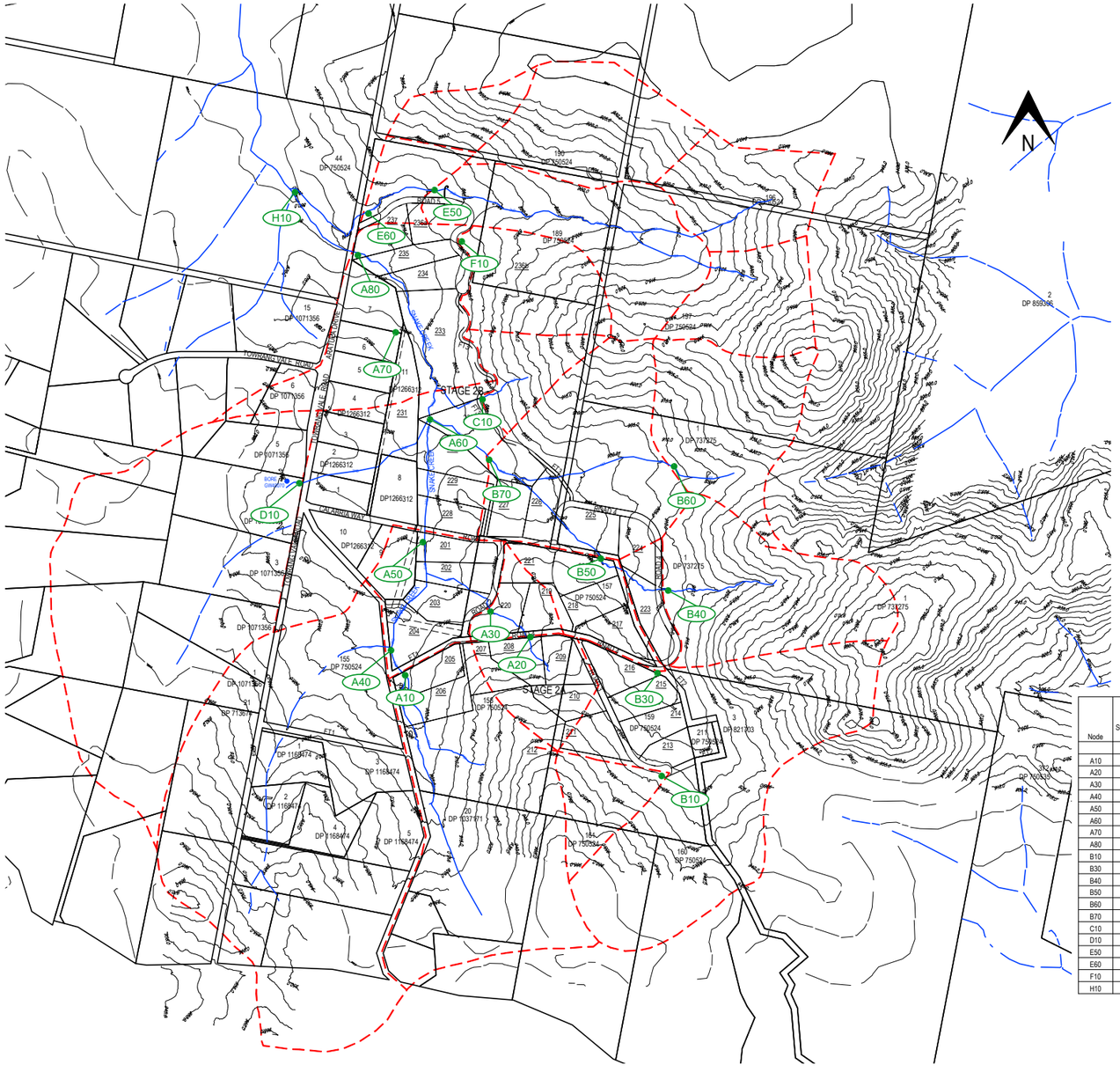

LEGEND

	PROPOSED	EXISTING
STORMWATER		
STORMWATER MAIN - SUMP, MANHOLE, DIAMETER	SW 1800Ø EC	SW 1800Ø EC
STORMWATER SERVICE TIE, ENDCAP		
STORMWATER STRUCTURE, HEADWALL		
GULLY, TABLE DRAIN OVERLAND FLOW PATH, DIRECTION		
CATCHMENT BOUNDARY		
CATCHMENT NODE	A	
Q100 FLOOD EXTENTS		
EMBANKMENT		

NOTES:

1. PEAK STORMWATER RUNOFF RATES WERE CALCULATED USING XP STORM SOFTWARE
2. ROUTING METHOD – LAURENSON
3. STORMS MODELLED (BASED ON ARR 2016 TEMPORAL PATTERN ENSEMBLES FOR MURRAY- DARLING BASIN, RIVER 12 - MURRUMBIDGEE INCLUDE:
   20%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
   10%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
   2%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
   1%AEP –20MIN, 25MIN, 30MIN, 45MIN, 1HR, 1.5HR, 2HR, 3HR, 4.5HR, 6HR, 9HR, 12HR
4. RAINFALL - BOM IFD (ARR 2016) – COOMA, NSW
5. INFILTRATION/LOSS METHOD – UNIFORM LOSS:
   PERVIOUS: INITIAL 34MM, CONTINUING (ABSOLUTE) 6.3MM ARR2016 FOR MURRAY-DARLING
   IMPERVIOUS: INITIAL 5MM, CONTINUING (ABSOLUTE) 2MM – ASSUMED FOR GRAVEL
   DEPRESSION STORAGE: PERVIOUS & IMPERVIOUS 0.0MM.
6. IMPERVIOUS FRACTION – RURAL LAND - ASSUMED 0%.
7. TOTAL SIMULATION TIME – 15 HOURS
8. STORMWATER MODELLING DID NOT INCLUDE VOLUME OF ANY STORAGE FACILITY ON SITE.
9. OPEN CHANNEL FLOW CALCULATIONS – MANNINGS, n=0.011 (RCP), 0.015 (PAVEMENT), 0.035 (GRASS).

Node	Subcatchment Area	Subcatchment Impervious Fraction	20%AEP SUBCATCHMENT Median Runoff	20%AEP SUBCATCHMENT Critical Storm	20%AEP TOTAL Median Runoff	20%AEP TOTAL Critical Storm	10%AEP SUBCATCHMENT Median Runoff	10%AEP SUBCATCHMENT Critical Storm	10%AEP TOTAL Median Runoff	10%AEP TOTAL Critical Storm	2%AEP SUBCATCHMENT Median Runoff	2%AEP SUBCATCHMENT Critical Storm	2%AEP TOTAL Median Runoff	2%AEP TOTAL Critical Storm	1%AEP SUBCATCHMENT Median Runoff	1%AEP SUBCATCHMENT Critical Storm	1%AEP TOTAL Median Runoff	1%AEP TOTAL Critical Storm
	[ha]	[%]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]	[m3/s]	[min,hr]
A10	43.720	0%	0.260	12hr#6	0.260	12hr#6	0.789	9hr#4	0.789	9hr#4	2.211	6hr#3	2.211	6hr#3	2.819	6hr#9	2.819	6hr#9
A20	12.780	0%	0.132	12hr#8	0.132	12hr#8	0.318	9hr#7	0.318	9hr#7	0.861	6hr#9	0.861	6hr#9	1.038	6hr#2	1.038	6hr#2
A30	4.960	0%	0.049	12hr#6	0.176	12hr#6	0.120	9hr#7	0.434	9hr#7	0.327	6hr#9	1.184	6hr#9	0.395	6hr#9	1.429	6hr#9
A40	86.500	0%	0.379	12hr#6	0.621	12hr#6	1.046	9hr#6	1.819	9hr#6	3.390	6hr#2	5.440	6hr#2	4.358	6hr#2	7.049	6hr#9
A50	13.900	0%	0.059	12hr#5	0.815	12hr#6	0.163	9hr#6	2.423	9hr#6	0.532	6hr#9	6.929	6hr#3	0.685	6hr#2	8.919	6hr#9
A60	31.420	0%	0.135	12hr#5	2.035	12hr#6	0.372	9hr#6	6.072	9hr#6	1.214	6hr#2	17.445	6hr#2	1.561	6hr#2	20.397	6hr#2
A70					2.089	12hr#6			6.187	9hr#6			17.706	6hr#2			20.758	6hr#2
A80	25.790	0%	0.127	12hr#6	2.316	12hr#6	0.373	9hr#4	6.723	9hr#6	1.120	6hr#2	19.119	6hr#2	1.450	6hr#9	22.460	6hr#2
B10	7.680	0%	0.089	12hr#5	0.089	12hr#5	0.209	9hr#7	0.209	9hr#7	0.549	6hr#9	0.549	6hr#9	0.660	6hr#2	0.660	6hr#2
B30	57.500	0%	0.321	12hr#6	0.368	12hr#6	0.978	9hr#4	1.081	9hr#4	2.783	6hr#3	3.212	6hr#3	3.582	6hr#9	4.030	6hr#9
B40	24.850	0%	0.227	12hr#6	0.227	12hr#6	0.578	9hr#7	0.578	9hr#7	1.593	6hr#9	1.593	6hr#9	1.924	6hr#9	1.924	6hr#9
B50	5.960	0%	0.054	12hr#6	0.598	12hr#6	0.138	9hr#7	1.713	9hr#4	0.381	6hr#9	4.946	6hr#3	0.460	6hr#9	6.118	6hr#9
B60	22.200	0%	0.215	12hr#6	0.215	12hr#6	0.532	9hr#7	0.532	9hr#7	1.456	6hr#9	1.456	6hr#9	1.756	6hr#9	1.756	6hr#9
B70	34.350	0%	0.166	12hr#6	0.934	12hr#6	0.478	9hr#4	2.682	9hr#4	1.459	6hr#2	6.685	6hr#2	1.886	6hr#9	6.685	6hr#1
C10	7.790	0%	0.096	12hr#6	0.096	12hr#6	0.223	9hr#10	0.223	9hr#10	0.581	6hr#2	0.581	6hr#2	0.691	6hr#2	0.691	6hr#2
D10	70.374	0%	0.342	12hr#6	0.342	12hr#6	0.990	9hr#4	0.990	9hr#4	3.008	6hr#2	3.008	6hr#2	3.890	6hr#9	3.890	6hr#9
E50	14.836	0%	0.096	12hr#6	0.507	12hr#6	0.286	9hr#4	1.376	9hr#4	0.791	6hr#3	3.769	6hr#9	0.994	6hr#9	4.580	6hr#9
E60	5.180	0%	0.042	12hr#6	0.603	12hr#6	0.117	9hr#7	1.638	9hr#4	0.318	6hr#9	4.534	6hr#9	0.384	6hr#9	5.512	6hr#9
F10	15.300	0%	0.156	12hr#8	0.156	12hr#8	0.377	9hr#7	0.377	9hr#7	1.023	6hr#9	1.023	6hr#9	1.235	6hr#9	1.235	6hr#9
H10					2.878	12hr#6			8.152	9hr#4			22.590	6hr#3			26.685	6hr#9

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B	EASEMENTS ADDED	VAO	AG	VAO	VAO	04/08/2023
A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	**INITIAL ISSUE**	VAO	WP	VAO	VAO	27/11/2020

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p 02 6494 0239
m 0408 361 612

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PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE STORMWATER MASTER PLAN
DRAWING NUMBER 1710-2-P20SWMP
AMENDMENT: B

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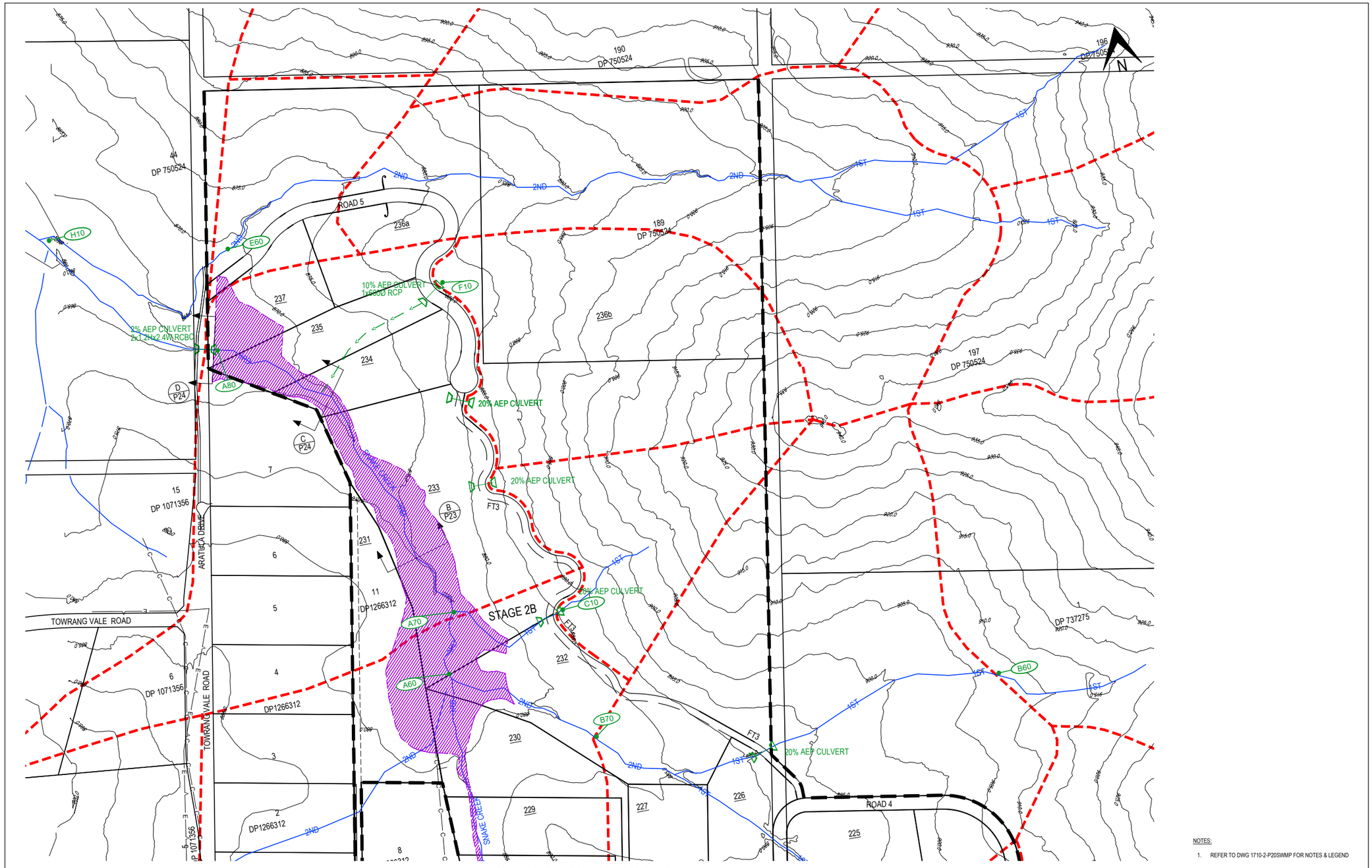

REFER TO DWG 1710-2-P22SWMP FOR CONTINUATION

NOTES:

1. REFER TO DWG 1710-2-P20SWMP FOR NOTES & LEGEND

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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C						
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A	REVISED LAYOUT	VAO	PIB	VAO	VAO	20/12/2022
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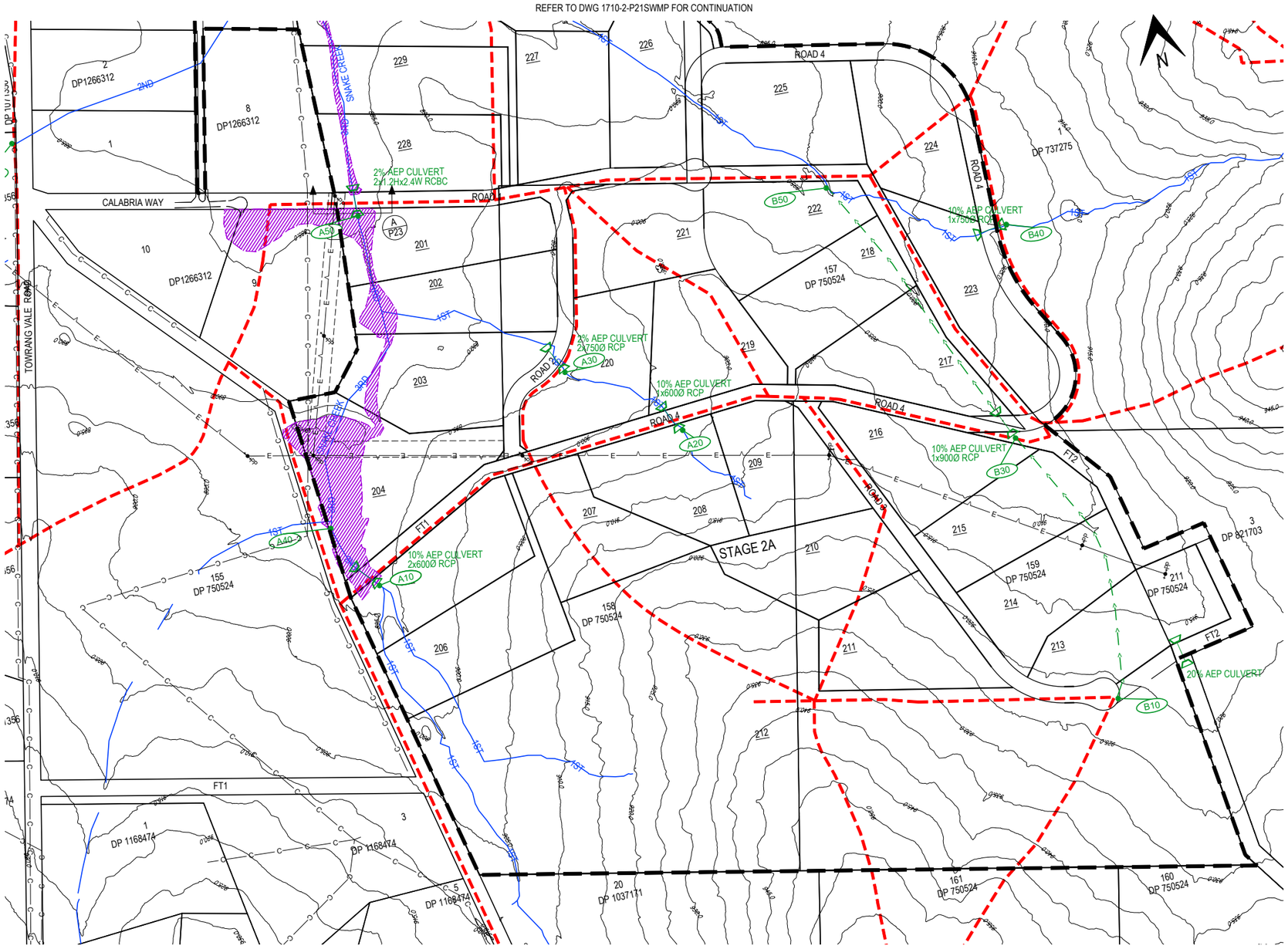

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C						
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A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
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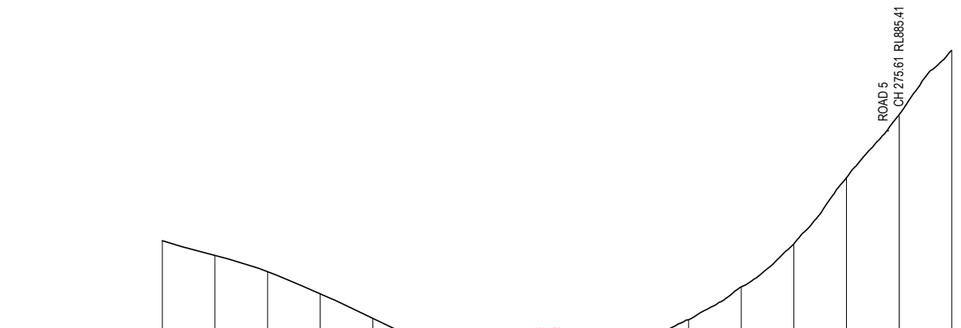

HORIZONTAL GEOMETRY

DATUM RL. 868.0

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CHAINAGES	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000		

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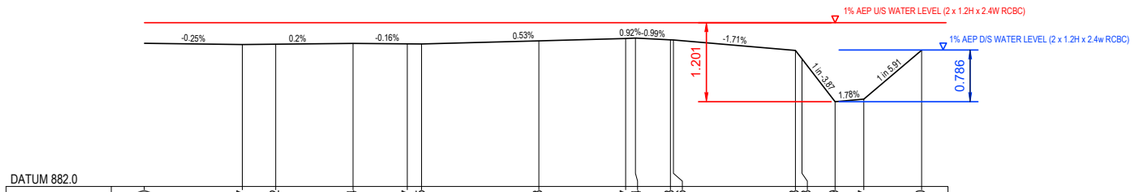
1:100 VERT (A1)

SECTION B-B



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OFFSET	0.000	7.460	10.000	15.872	20.000	21.078	30.000	36.596	37.340	40.000	40.226	49.500	50.000	52.513	54.698	59.086		

SCALE 1:200 HORZ (A1)
1:40 VERT (A1)

SECTION A - A

SURVEYED CREEK SECTION - STAGE 1

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SCALE IN METRES
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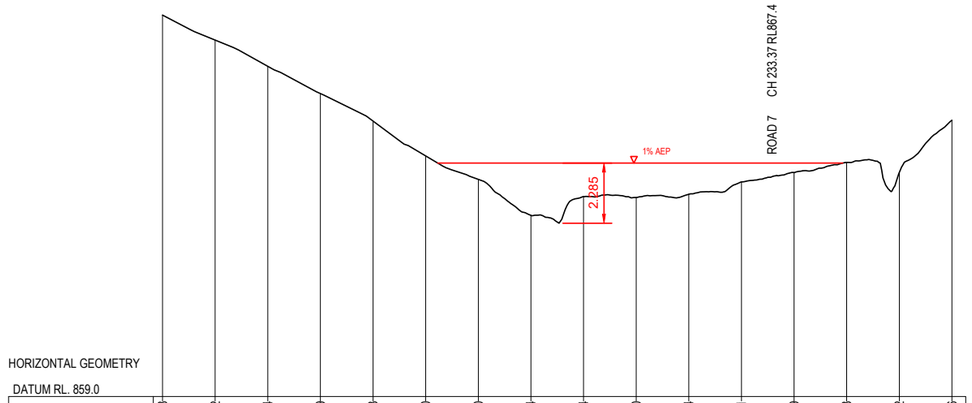
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE STORMWATER SECTIONS - SNAKE CREEK
DRAWING NUMBER 1710-2-P23SWX
AMENDMENT:

Date: Friday, 27 November 2020 12:32:20 PM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P23SWX.dwg



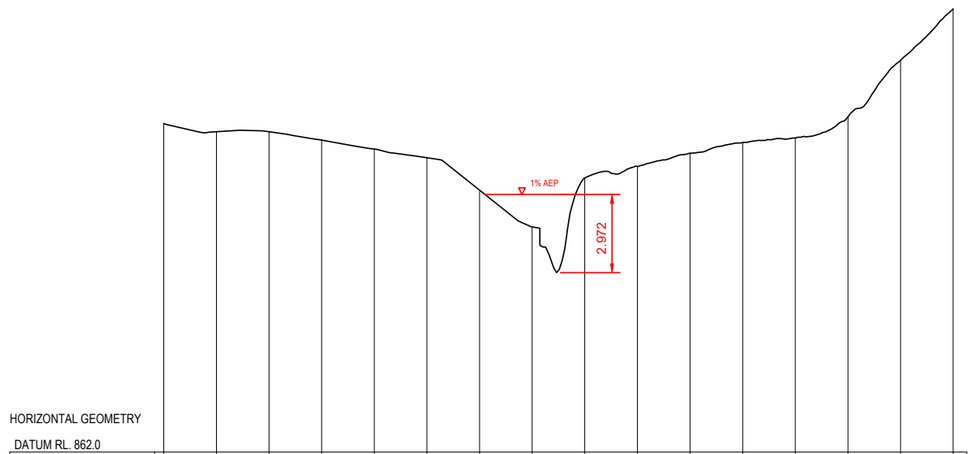
HORIZONTAL GEOMETRY

DATUM RL. 859.0

DESIGN SURFACE	873.488	872.542	871.544	870.509	869.463	868.140	867.250	865.884	866.594	866.560	866.684	867.151	867.509	867.893	867.512	869.496
CHAINAGES	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000

SCALE 1:1000 HORZ (A1)
1:100 VERT (A1)

SECTION D-D



HORIZONTAL GEOMETRY

DATUM RL. 862.0

DESIGN SURFACE	874.481	874.173	874.174	873.856	873.514	873.183	871.953	870.553	872.416	872.854	873.356	873.760	873.935	874.738	876.887	878.842
CHAINAGES	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000

SCALE 1:1000 HORZ (A1)
1:100 VERT (A1)

SECTION C-C

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A						
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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SCALE IN METRES
1:1000 (A1) 0 5 10 20 30 40 60 1:2000 (A3)

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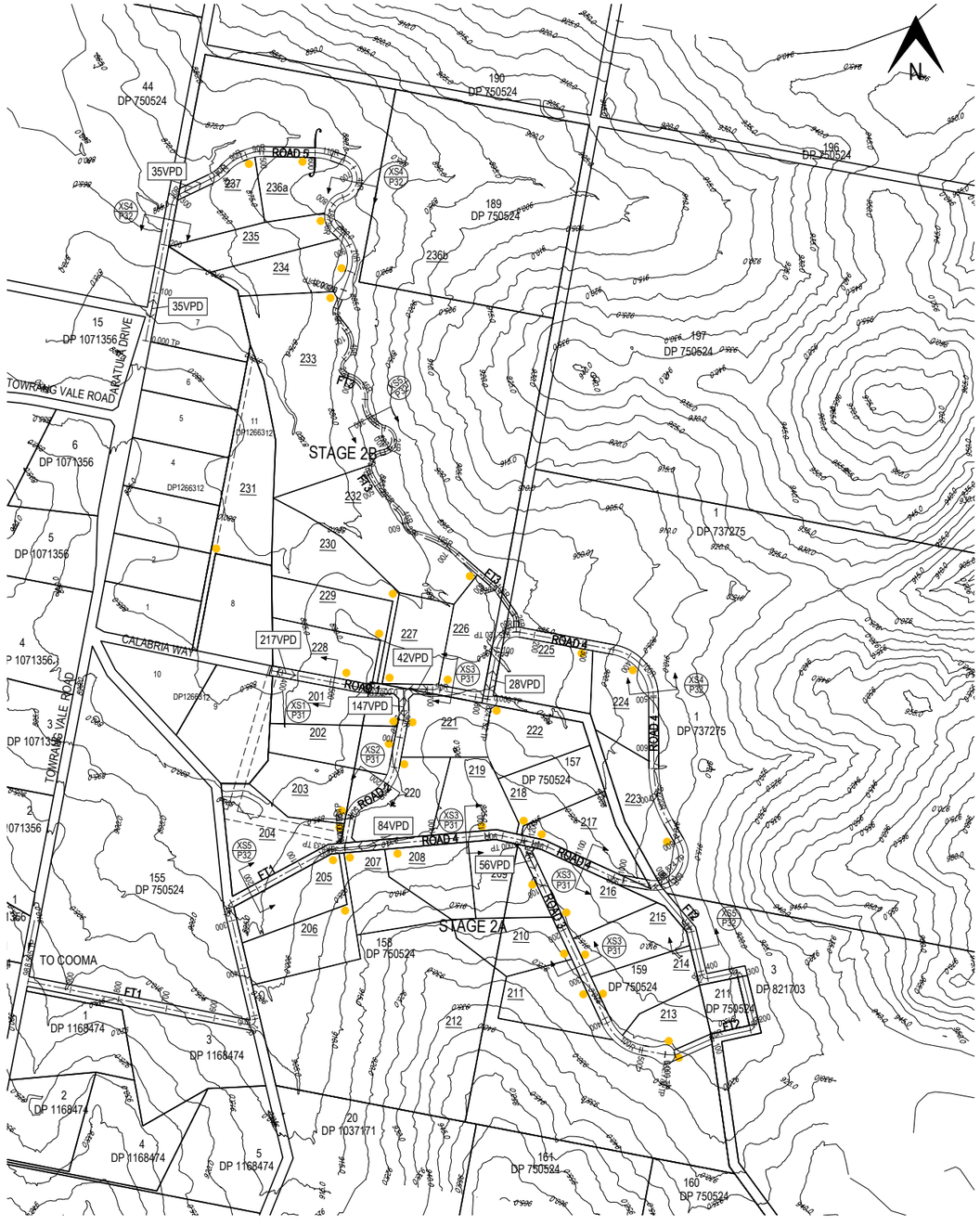
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE STORMWATER SECTIONS - SNAKE CREEK
DRAWING NUMBER 1710-2-P24SWX
AMENDMENT:

Date: Friday, 27 November 2020 12:32:20 PM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P23SWX.dwg



NOTES:

GENERAL NOTES

G1. THESE DRAWINGS ILLUSTRATE THE CONCEPT/PLANNING DESIGN OF THE SUBDIVISION AND PROPOSED TRAFFIC ASSETS TO SERVICE THE PROPOSED DEVELOPMENT. THEY HAVE BEEN PREPARED TO SUPPORT THE DEVELOPMENT APPLICATION TBC.

G2. THESE DRAWINGS HAVE BEEN PREPARED BASED ON THE FOLLOWING DOCUMENTS:
COOMA-MONARO SHIRE COUNCIL DEVELOPMENT CONTROL PLAN 2014 (AMENDMENT 1),
AUSTROADS - GUIDE TO ROAD DESIGN

TRAFFIC

TR2. BASIS OF DESIGN - 7 VpD / Lot. App 5 DCP 2014

LEGEND:

56VPD EXISTING VpD / DEVELOPED VpD

DIRECTION

LOT ACCESS LOCATION

ROAD	DEVELOPED MAX V.P.D.	ROAD TYPE	V.P.D. RANGE	PAVEMENT (SEAL) WIDTH REQUIRED	FORMATION WIDTH REQUIRED	VERGE WIDTH REQUIRED	ROAD RESERVE WIDTH REQUIRED	REMARKS
				[m]	(m)	[m]	[m]	
ROAD 1 CH00-CH382.442	217	5 - COLLECTOR	211 - 500	6.6	9	5.5	20	
ROAD 1 CH382.442-END	42	3 - ACCESS	7 - 105	4	6	7	20	
ROAD 2	147	4 - LOCAL	106 - 210	6.6	9	5.5	20	
ROAD 3	56	3 - ACCESS	7 - 105	4	6	7	20	
ROAD 4	84	PERIMETER (ACCESS)	7 - 105	8	9	5.5	20	
ROAD 5	35	PERIMETER (ACCESS)	7 - 105	8	9	5.5	20	

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C	EASEMENTS ADDED	VAO	AG	VAO	VAO	04/08/2023
B	CHAINAGES ADDED	VAO	AG	VAO	VAO	10/02/2023
A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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SCALE IN METRES
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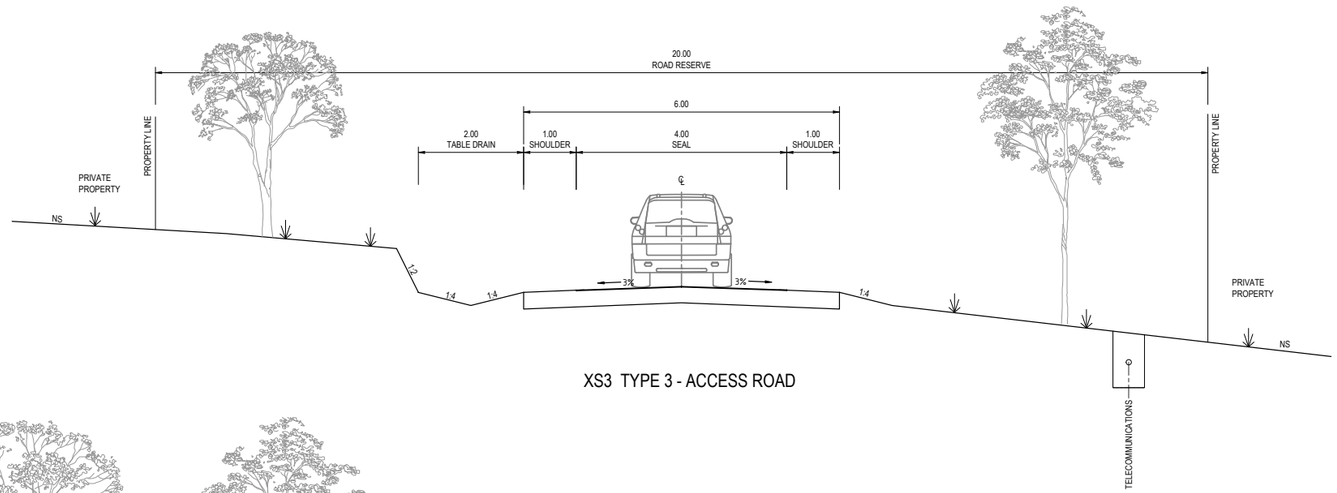
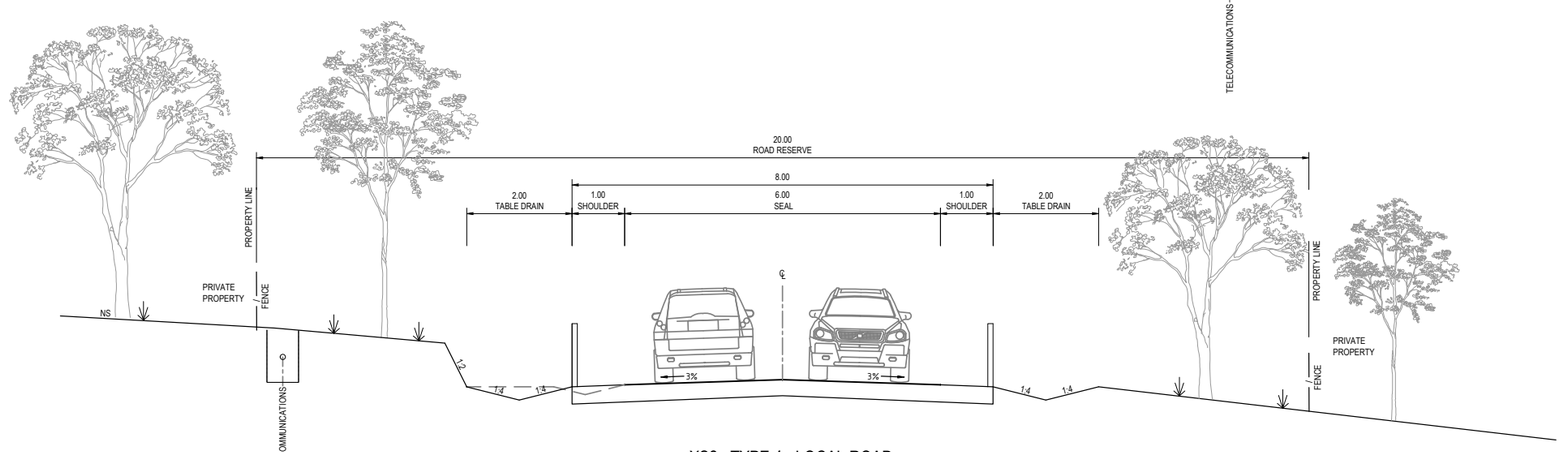
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE ROAD HIERARCHY PLAN
DRAWING NUMBER 1710-2-P30RHP
AMENDMENT: C

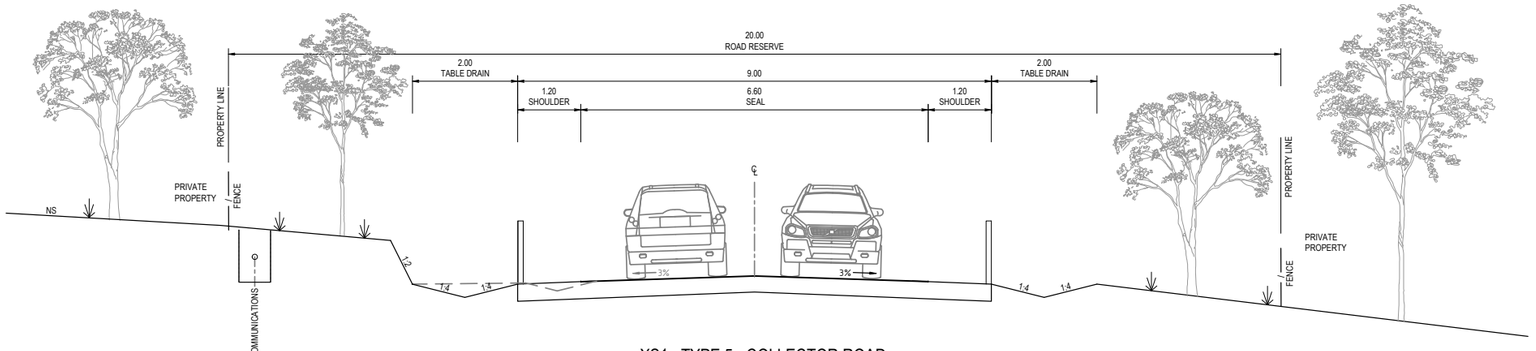
Date: Friday, 4 August 2023 2:31:45 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync061_dwgsSync\1_Dwgs\1710-2-P30RHP.dwg



XS3 TYPE 3 - ACCESS ROAD



XS2 TYPE 4 - LOCAL ROAD



XS1 TYPE 5 - COLLECTOR ROAD

D						
C						
B						
A						
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020
No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE

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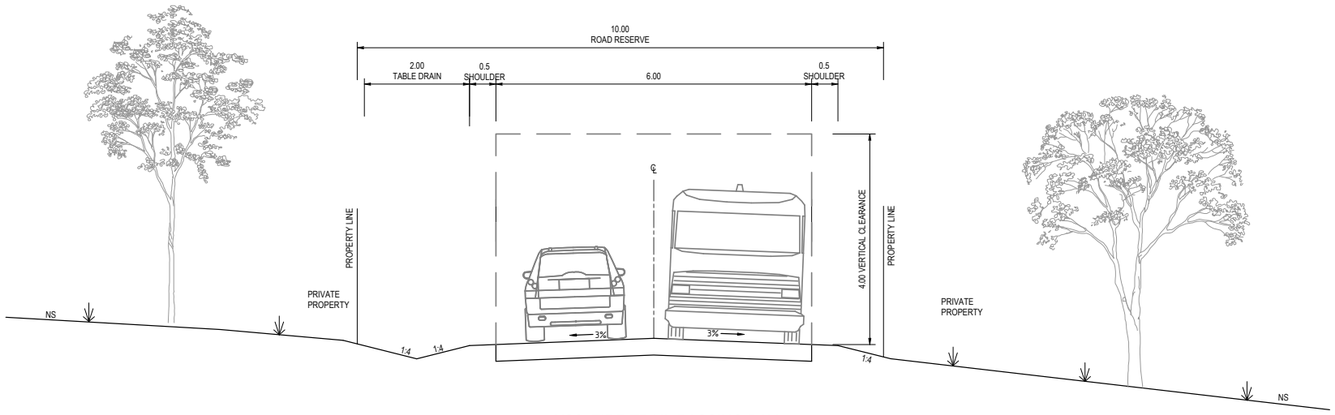
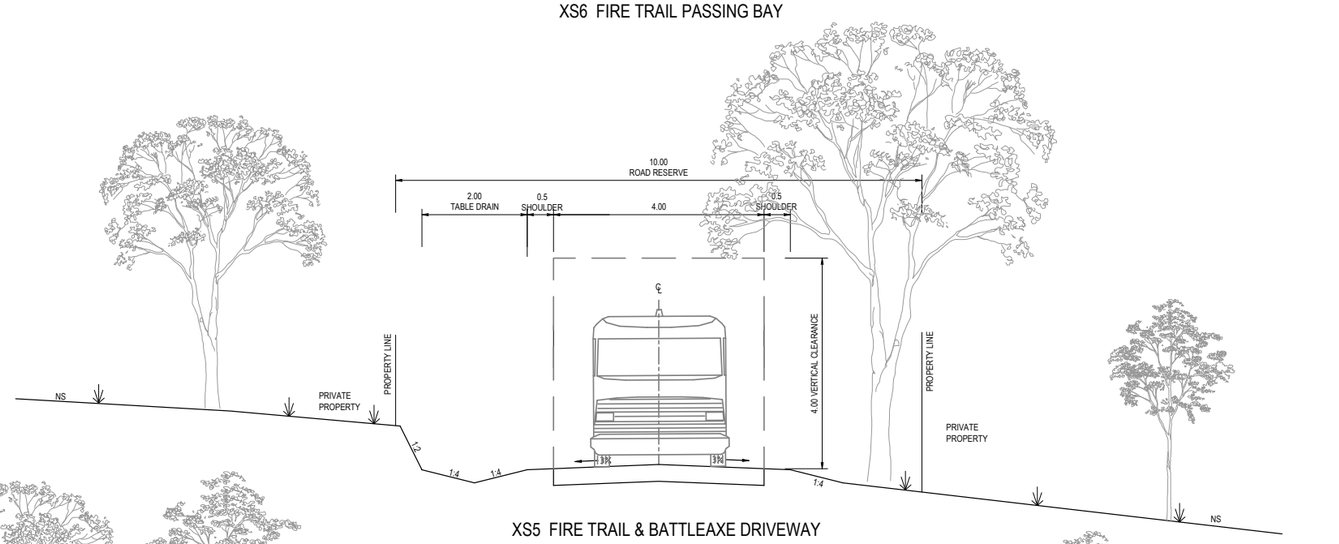
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE TYPICAL SECTIONS
DRAWING NUMBER 1710-2-P31TYPX
AMENDMENT:

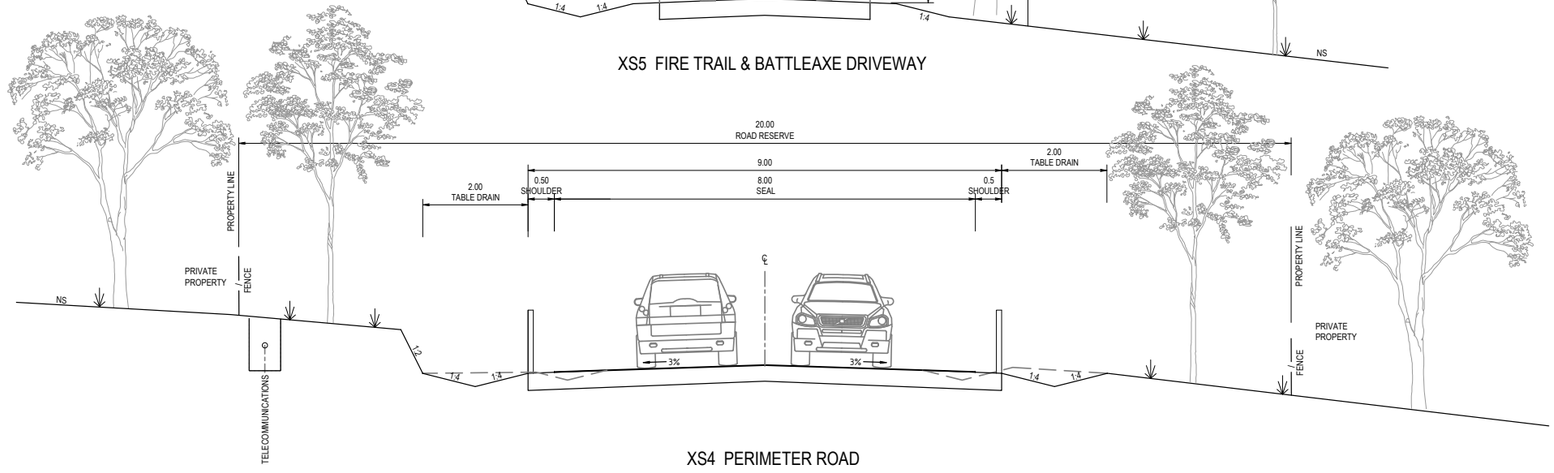
Date: Friday, 27 November 2020 11:05:48 AM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P31TYPX.dwg



XS6 FIRE TRAIL PASSING BAY



XS5 FIRE TRAIL & BATTLEAXE DRIVEWAY



XS4 PERIMETER ROAD

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A						
-	INITIAL ISSUE	VAO	WP	VAO	VAO	27/11/2020

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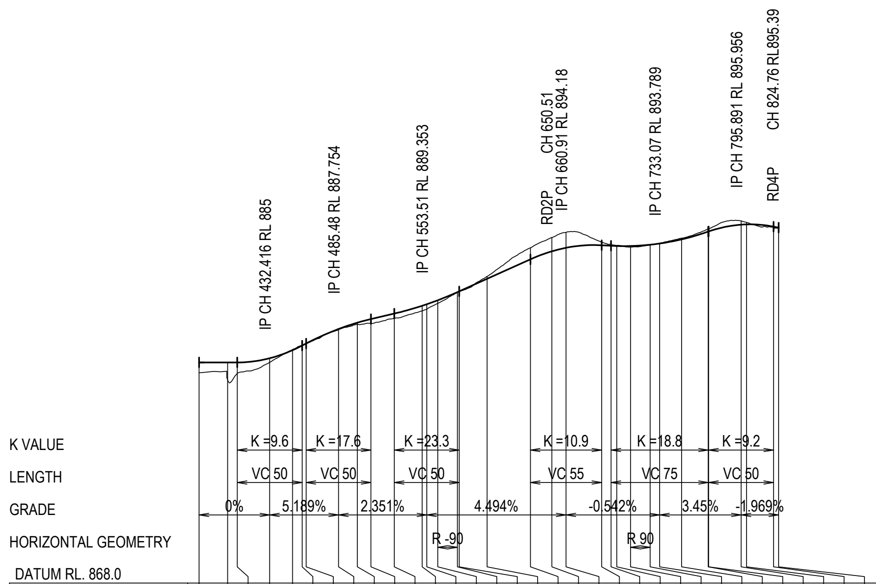
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE TYPICAL SECTIONS
DRAWING NUMBER 1710-2-P32TYPX
AMENDMENT:

Date: Friday, 27 November 2020 11:07:36 AM User: Priddle File: H:\2017\1710-2_AratulaSTG2\099_Sync\061_dwgsSync\1_Dwgs\1710-2-P31TYPX.dwg



DESIGN SURFACE	885.000	885.000	885.000	885.324	885.941	886.297	886.456	887.576	888.064	888.341	888.765
EXISTING SURFACE	884.209	883.649	884.161	885.007	885.994	886.323	886.457	887.524	887.935	888	888.398
DIFFERENCE FROM EXISTING	0.791	1.351	0.839	0.317	-0.053	-0.026	-0.001	0.052	0.129	0.342	0.368
CHAINAGES	377.973	400.000	407.416	432.416	450.000	457.416	460.480	485.480	500.000	510.480	528.510

DESIGN SURFACE	889.369	889.487	889.792	890.417	890.477	891.442	892.944	893.563	893.833	894.031	893.992
EXISTING SURFACE	888.968	889.115	889.539	890.402	890.447	891.627	893.835	894.626	895.025	894.268	894.09
DIFFERENCE FROM EXISTING	0.401	0.372	0.253	0.015	0.029	-0.185	-0.891	-1.063	-1.192	-0.237	-0.098
CHAINAGES	550.000	553.510	561.976	577.187	578.510	600.000	633.410	650.000	660.910	688.410	695.570

DESIGN SURFACE	893.973	893.970	894.070	894.163	894.485	895.082	895.093	895.617	895.638	895.464	895.387
EXISTING SURFACE	894.02	893.892	894.045	894.185	894.575	895.277	895.283	895.905	895.795	895.408	895.406
DIFFERENCE FROM EXISTING	-0.047	0.079	0.025	-0.022	-0.090	-0.195	-0.190	-0.288	-0.156	0.056	-0.019
CHAINAGES	700.000	710.631	725.701	733.070	750.000	770.570	770.891	795.891	800.000	820.891	824.792

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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SCALE IN METRES 1:2500 (A1) 50 0 50 100 1:5000 (A3)
SCALE IN METRES 1:250 (A1) 0 5 10 15 1:500 (A3)

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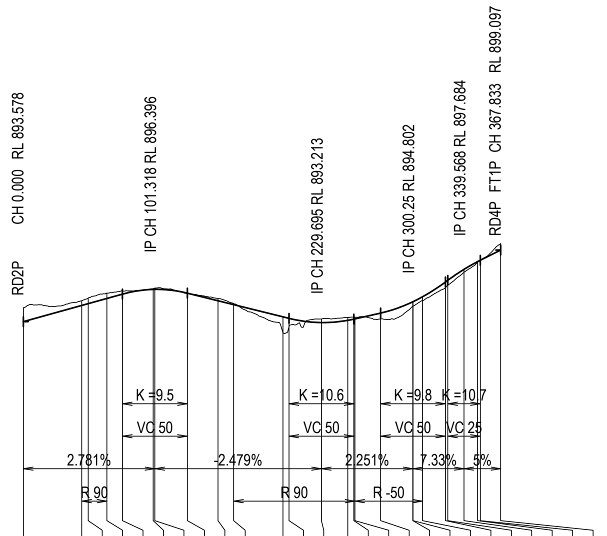
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 1
DRAWING NUMBER 1710-2-P33LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:09:21 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P33LS.dwg



DESIGN SURFACE	893.578	894.829	894.969	895.369	895.701	896.065	896.067	895.776	895.189	894.891	893.949	893.833	893.509	893.681	893.776	893.793	894.239	895.107	895.119	895.497	896.634	896.767	897.611	898.203	898.309	899.097
EXISTING SURFACE	894.644	895.189	895.395	895.773	895.954	896.126	896.159	895.758	895.364	894.979	892.731	893.205	893.785	893.899	893.93	893.923	893.787	894.76	894.774	895.206	896.199	896.385	897.382	898.149	898.304	899.597
DIFFERENCE FROM EXISTING	-1.066	-0.360	-0.426	-0.404	-0.254	-0.062	-0.092	0.018	-0.175	-0.089	1.218	0.628	-0.276	-0.218	-0.154	-0.130	0.451	0.347	0.345	0.291	0.435	0.382	0.229	0.054	0.004	-0.500
CHAINAGES	0.000	44.960	50.000	64.368	76.318	100.000	101.318	126.318	150.000	162.032	200.000	204.695	229.695	250.000	254.695	255.437	275.250	300.000	300.250	307.578	325.250	327.068	339.568	350.000	352.068	367.833

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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SCALE IN METRES
1:250 (A1) 0 5 10 15 1:500 (A3)

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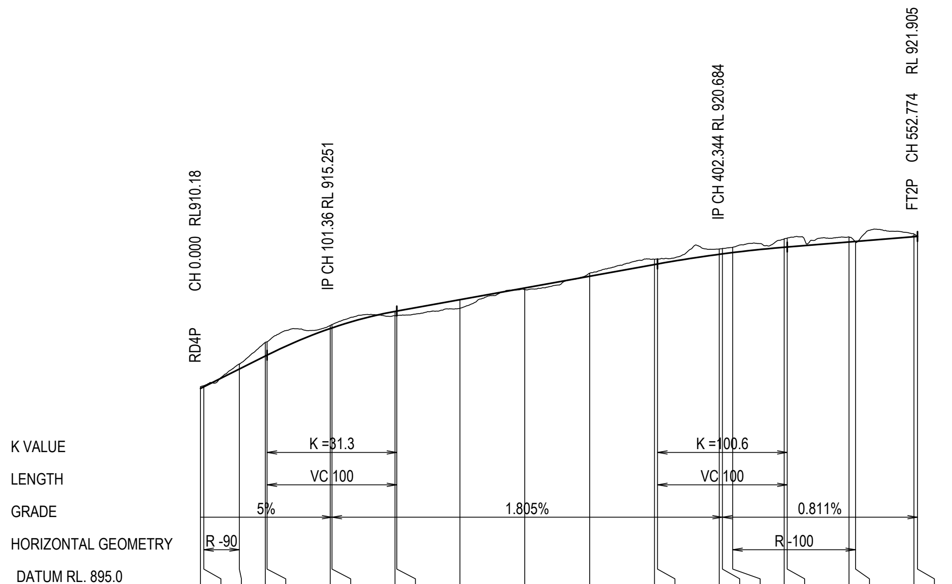
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 2
DRAWING NUMBER 1710-2-P34LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:15:46 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P34LS.dwg



DESIGN SURFACE	910.183	910.310	911.679	912.683	912.751	914.805	914.852	916.129	916.154	917.032	917.934	918.837
EXISTING SURFACE	910.319	910.395	912.071	913.732	913.782	915.042	915.11	915.795	915.796	916.362	917.793	919.074
DIFFERENCE FROM EXISTING	-0.136	-0.085	-0.392	-1.049	-1.031	-0.237	-0.258	0.334	0.358	0.670	0.141	-0.237
CHAINAGES	0.000	2.544	29.916	50.000	51.360	100.000	101.360	150.000	151.360	200.000	250.000	300.000

DESIGN SURFACE	919.740	919.782	920.529	920.560	920.661	921.071	921.090	921.477	921.518	921.883	921.905
EXISTING SURFACE	920.144	920.169	920.942	920.974	921.066	921.716	921.783	921.862	921.489	922.096	921.905
DIFFERENCE FROM EXISTING	-0.405	-0.387	-0.412	-0.413	-0.405	-0.645	-0.693	-0.385	0.030	-0.213	-0.000
CHAINAGES	350.000	352.344	400.000	402.344	410.302	450.000	452.344	500.000	505.074	550.000	552.774

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

DO NOT SCALE

SCALE IN METRES
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SCALE IN METRES
1:250 (A1) 0 5 10 15 1:500 (A3)

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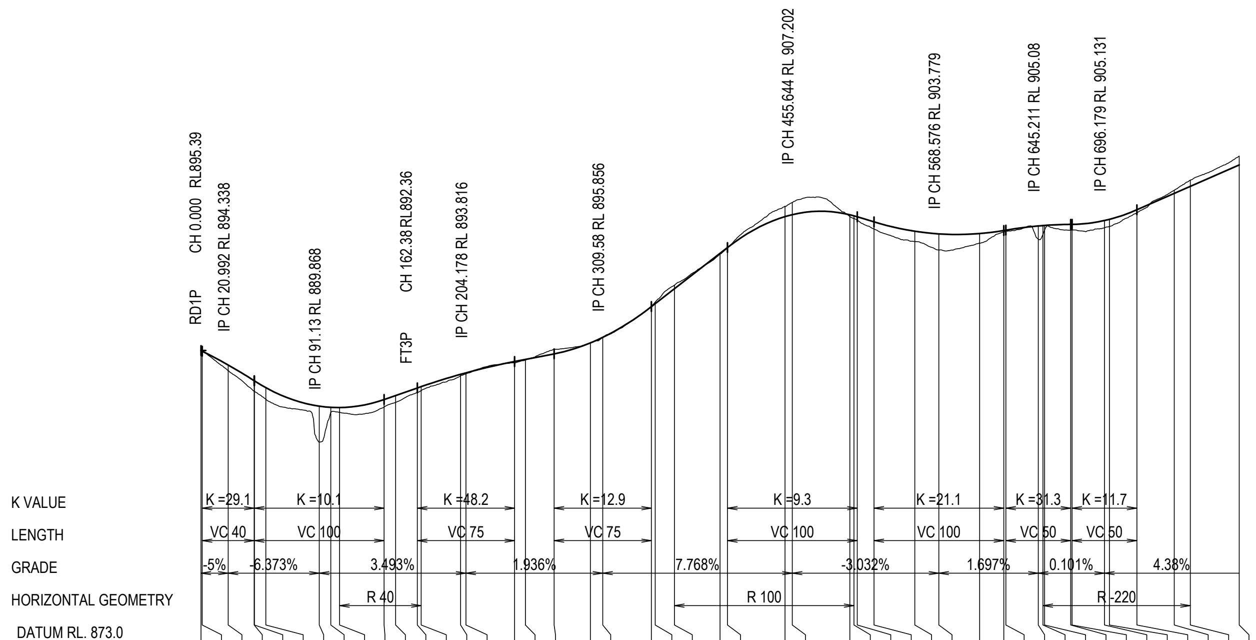
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 3
DRAWING NUMBER 1710-2-P35LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:21:57 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P35LS.dwg



CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	895.387	895.405	-0.018
0.992	895.338	895.313	0.024
20.992	894.269	893.836	0.433
40.992	893.063	892.254	0.809
41.130	893.054	892.246	0.809
50.000	892.528	891.636	0.892
91.130	891.101	888.34	2.761
100.000	891.012	890.63	0.382
106.782	890.997	890.634	0.363
141.130	891.614	891.038	0.576
150.000	891.924	891.394	0.530
166.678	892.506	892.163	0.344
169.614	892.608	892.301	0.307
200.000	893.555	893.439	0.116
204.178	893.670	893.593	0.078
241.678	894.542	894.443	0.099
250.000	894.703	894.662	0.041
272.080	895.131	895.48	-0.350
300.000	895.974	895.947	0.027
309.580	896.403	896.399	0.004
347.080	898.769	898.805	-0.036
350.000	898.996	899.121	-0.125
364.853	900.150	900.425	-0.276
400.000	902.880	902.807	0.073
405.644	903.318	903.284	0.034
450.000	905.702	906.49	-0.788
455.644	905.852	906.79	-0.938
500.000	905.841	905.706	0.135
503.154	905.759	905.555	0.204
505.644	905.687	905.433	0.254
518.576	905.295	904.746	0.548
550.000	904.575	903.786	0.790
568.576	904.370	903.132	1.238
600.000	904.394	903.657	0.736
618.576	904.627	904.512	0.116
620.211	904.655	904.57	0.086
645.211	904.980	903.955	1.025
648.753	905.010	904.334	0.676
650.000	905.019	904.651	0.369
670.211	905.105	904.659	0.446
671.179	905.106	904.655	0.451
696.179	905.399	904.832	0.567
700.000	905.490	904.938	0.552
721.179	906.226	905.991	0.235
750.000	907.488	907.734	-0.245
762.329	908.028	908.513	-0.484
800.000	909.678	910.358	-0.679

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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SCALE IN METRES 1:250 (A1) 0 5 10 15 1:500 (A3)

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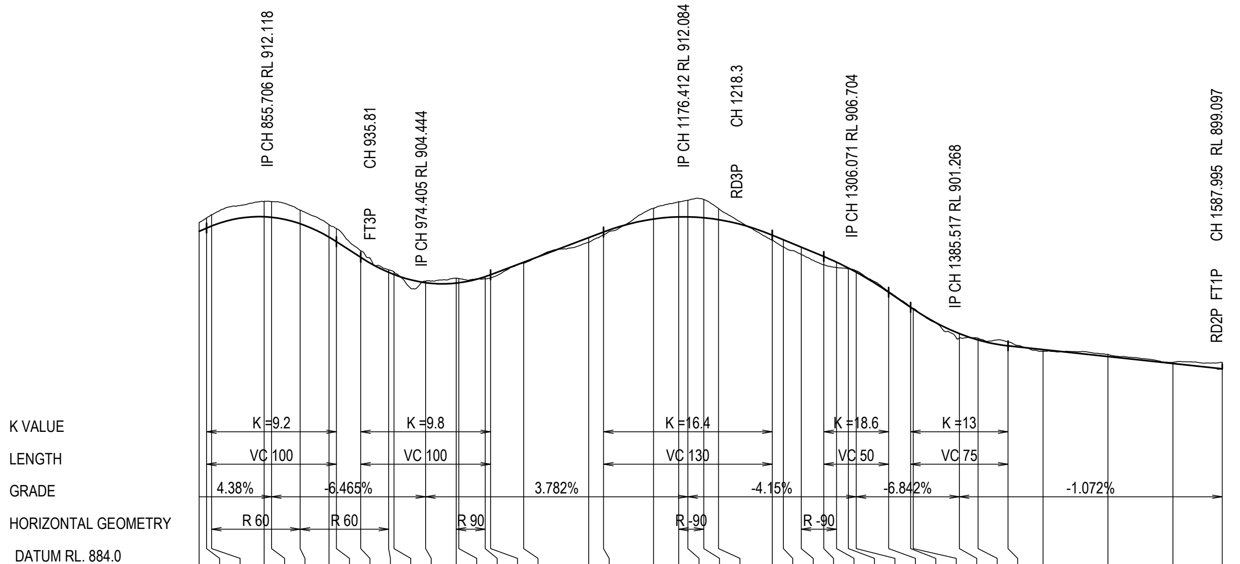
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 4 - SHEET 1
DRAWING NUMBER 1710-2-P36LS AMENDMENT: A

Date: Friday, 10 February 2023 9:30:00 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P36LS.dwg



DATUM RL. 884.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
800.000	909.678	910.358	-0.679
805.706	909.928	910.715	-0.787
809.551	910.089	910.954	-0.865
850.000	910.804	911.99	-1.185
855.706	910.763	911.968	-1.205
877.756	910.269	911.314	-1.045
900.000	909.237	910.193	-0.956
905.706	908.886	909.893	-1.008
924.405	907.677	908.187	-0.510
945.960	906.521	906.726	-0.205
950.000	906.358	906.562	-0.204
974.405	905.725	905.843	-0.118
997.989	905.694	906.083	-0.390
1000.000	905.717	906.055	-0.337
1020.349	906.190	906.031	0.159
1024.405	906.335	906.09	0.245
1050.000	907.303	907.235	0.069
1100.000	909.194	908.826	0.369
1111.412	909.626	909.4	0.225
1150.000	910.631	911.46	-0.829
1169.308	910.793	911.963	-1.170
1176.412	910.795	912.074	-1.279
1188.693	910.727	912.132	-1.406
1200.000	910.582	911.437	-0.855
1241.412	909.387	908.994	0.393
1250.000	909.031	908.479	0.552
1263.710	908.462	907.904	0.558
1281.071	907.741	907.101	0.640
1290.972	907.304	906.898	0.406
1300.000	906.859	906.798	0.061
1306.071	906.536	906.634	-0.098
1331.071	904.993	905.047	-0.053
1348.017	903.834	903.875	-0.042
1350.000	903.700	903.76	-0.061
1385.517	901.809	901.463	0.346
1400.000	901.316	901.451	-0.135
1423.017	900.866	901.169	-0.303
1450.000	900.577	900.43	0.146
1500.000	900.040	900.21	-0.169
1550.000	899.504	899.598	-0.094
1587.995	899.097	899.597	-0.500

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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SCALE IN METRES 1:2500 (A1) 50 0 50 100 1:5000 (A3)

SCALE IN METRES 1:250 (A1) 0 5 10 15 1:500 (A3)

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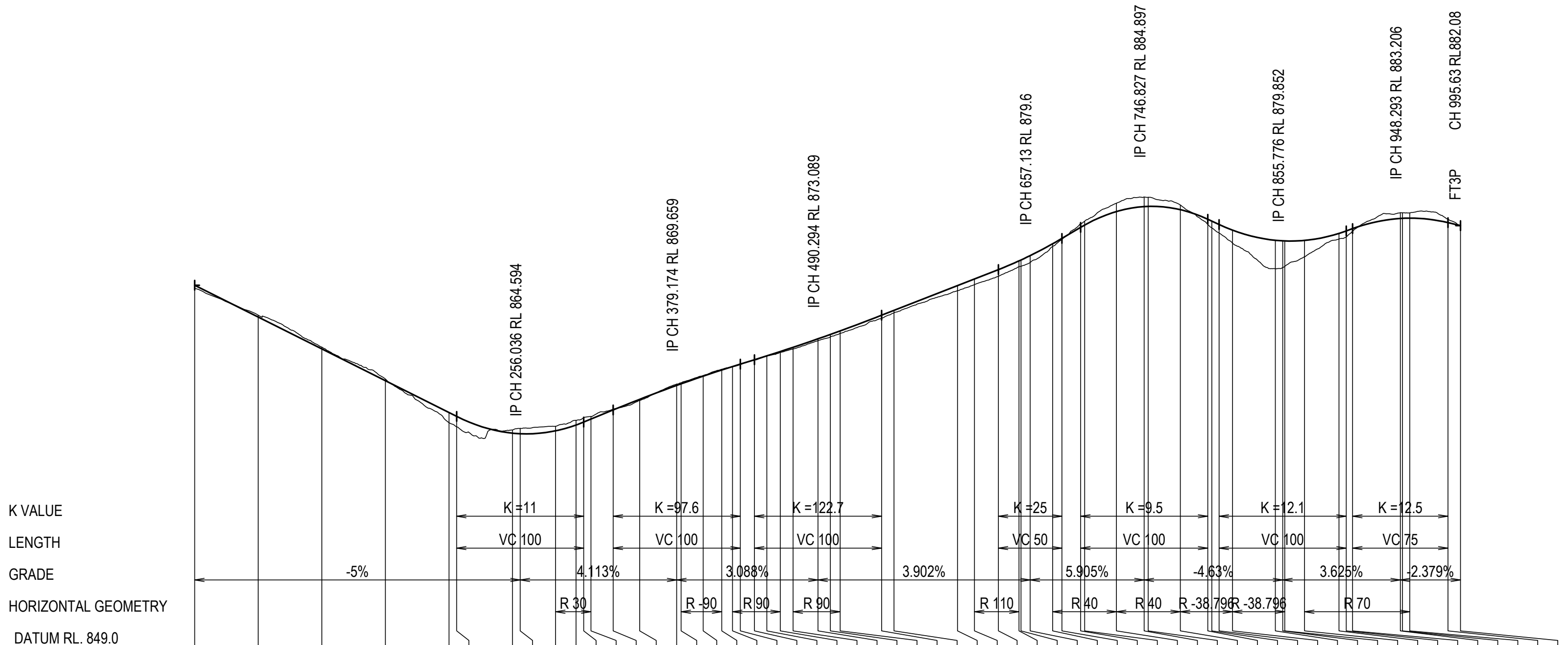
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 4 - SHEET 2
DRAWING NUMBER 1710-2-P37LS AMENDMENT: A

Date: Friday, 10 February 2023 9:31:00 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P36LS.dwg



DATUM RL. 849.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	877.396	877.164	0.232
50.000	874.896	875.045	-0.148
100.000	872.396	872.542	-0.146
150.000	869.896	870.03	-0.134
200.000	867.396	866.601	0.795
206.036	867.094	866.282	0.813
250.000	865.777	866.032	-0.255
256.036	865.733	866.155	-0.422
283.896	865.964	866.319	-0.355
300.000	866.419	866.788	-0.369
306.036	866.651	866.988	-0.337
311.656	866.882	867.087	-0.205
329.174	867.602	867.655	-0.052
350.000	868.437	868.346	0.090
379.174	869.530	869.634	-0.103
382.582	869.653	869.733	-0.080
400.000	870.258	870.308	-0.050
414.575	870.741	870.799	-0.058
423.052	871.011	871.002	0.009
429.174	871.202	871.167	0.036
440.294	871.546	871.524	0.022
450.000	871.849	871.828	0.021
460.582	872.189	872.118	0.071
470.713	872.523	872.389	0.133
490.294	873.191	873.044	0.148
500.000	873.534	873.334	0.201
507.689	873.812	873.616	0.195
540.294	875.041	874.799	0.242
550.000	875.419	875.226	0.194
600.000	877.371	876.971	0.399
613.371	877.892	877.447	0.445
632.130	878.624	878.098	0.526
648.364	879.311	878.848	0.462
650.000	879.386	878.884	0.502
657.130	879.725	879.174	0.552
674.801	880.654	880.443	0.211
682.130	881.076	881.008	0.068
696.827	881.944	882.209	-0.264
700.000	882.126	882.43	-0.304
725.042	883.191	883.844	-0.654
746.827	883.580	884.335	-0.755
750.000	883.595	884.306	-0.711
775.282	883.335	883.701	-0.366
796.827	882.582	882.179	0.403
800.000	882.435	881.903	0.532
805.776	882.167	881.501	0.666
816.317	881.725	880.708	1.017
850.000	880.927	878.698	2.229
855.776	880.884	878.789	2.095
857.353	880.877	878.877	2.000
872.969	880.920	879.632	1.287
900.000	881.469	881.024	0.446
905.776	881.665	881.191	0.473
910.793	881.847	881.647	0.200
948.293	882.643	883.103	-0.460
950.000	882.653	883.087	-0.434
955.752	882.667	883.082	-0.414
985.793	882.314	882.58	-0.266
995.628	882.080	882.08	0.000

SCALE 1:2500 HORZ (A1)
1:250 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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1:2500 (A1) 50 0 50 100 1:5000 (A3)

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1:250 (A1) 0 5 10 15 1:500 (A3)

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CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION ROAD 5
DRAWING NUMBER 1710-2-P38LS AMENDMENT: A

Date: Friday, 10 February 2023 9:45:24 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P38LS.dwg

DATUM RL. 880.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	899.097	899.597	-0.500
20.617	899.671	899.769	-0.098
26.649	899.813	899.816	-0.004
34.817	899.920	899.915	0.005
45.617	899.914	899.908	0.006
50.000	899.864	899.954	-0.091
70.617	899.251	899.431	-0.179
100.000	897.940	897.923	0.017
150.000	895.708	896.497	-0.789
177.042	894.501	895.084	-0.583
200.000	893.713	894.364	-0.652
227.042	893.391	893.034	0.357
250.000	893.633	893.825	-0.192
260.150	893.890	894.197	-0.306
273.213	894.358	894.894	-0.536
277.042	894.524	894.94	-0.415
300.000	895.560	895.508	0.052
302.604	895.677	895.682	-0.005
327.604	896.694	896.805	-0.110
350.000	897.419	897.421	-0.003
352.604	897.491	897.493	-0.002
354.647	897.547	897.562	-0.015
379.647	898.355	898.385	-0.031
400.000	899.190	899.267	-0.077
404.647	899.403	899.409	-0.006
450.000	901.525	901.647	-0.122
490.387	903.414	903.34	0.074
500.000	903.860	903.867	-0.007
506.779	904.169	904.177	-0.009
526.746	905.054	904.98	0.075
540.387	905.639	905.753	-0.114
550.000	906.040	906.075	-0.035
590.387	907.634	907.623	0.011
591.810	907.688	907.566	0.121
600.000	907.959	907.902	0.056

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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1:1000 (A1) 0 5 10 20 30 40 60 1:2000 (A3)
SCALE IN METRES
1:200 (A1) 2 1 0 2 4 6 8 10 1:400 (A3)

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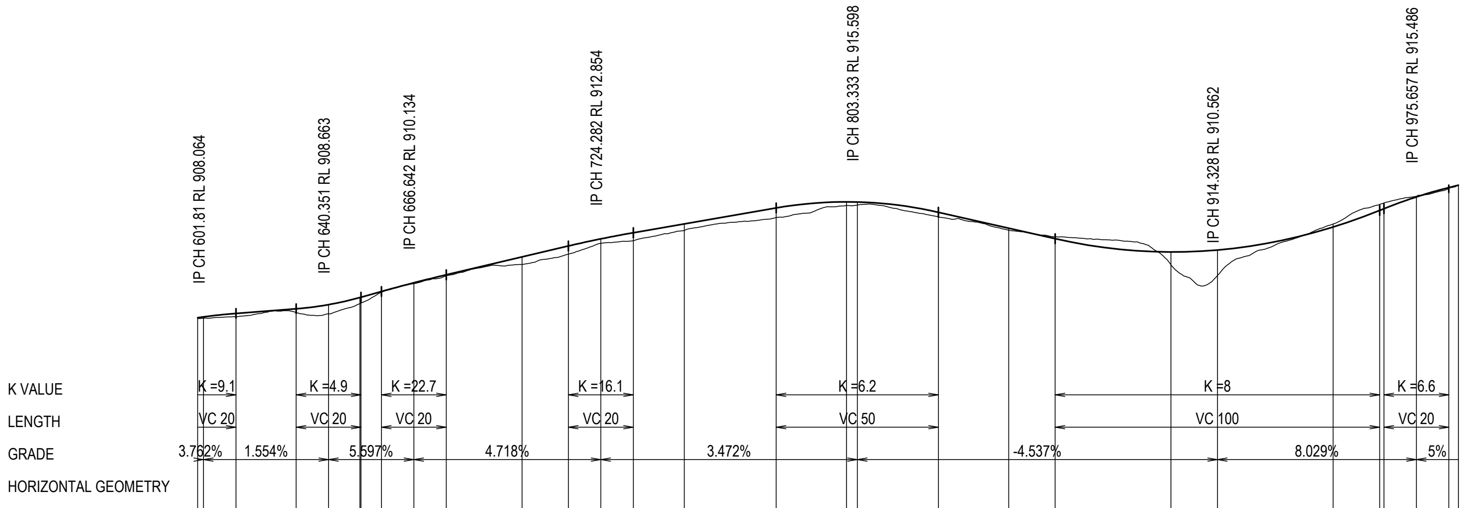
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 1 - SHEET 1
DRAWING NUMBER 1710-2-P39LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:54:44 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P39LS.dwg



DATUM RL. 895.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
600.000	907.959	907.902	0.056
601.810	908.009	907.921	0.088
611.810	908.219	908.022	0.197
630.351	908.507	908.283	0.225
640.351	908.764	908.195	0.569
650.000	909.203	908.83	0.373
650.351	909.223	908.858	0.365
656.642	909.575	909.525	0.050
666.642	910.112	910.057	0.055
676.642	910.606	910.552	0.054
700.000	911.708	911.244	0.464
714.282	912.382	911.884	0.498
724.282	912.822	912.542	0.280
734.282	913.201	912.711	0.490
750.000	913.746	913.342	0.405
778.333	914.730	914.137	0.593
800.000	915.106	914.88	0.226
803.333	915.097	914.911	0.187
828.333	914.464	914.174	0.290
850.000	913.481	913.356	0.124
864.328	912.830	912.952	-0.122
900.000	912.011	911.226	0.785
914.328	912.133	910.562	1.571
950.000	913.555	913.741	-0.186
964.328	914.576	914.944	-0.368
965.657	914.683	915.033	-0.350
975.657	915.410	915.451	-0.040
985.657	915.986	915.93	0.055
988.585	916.132	916.132	0.000

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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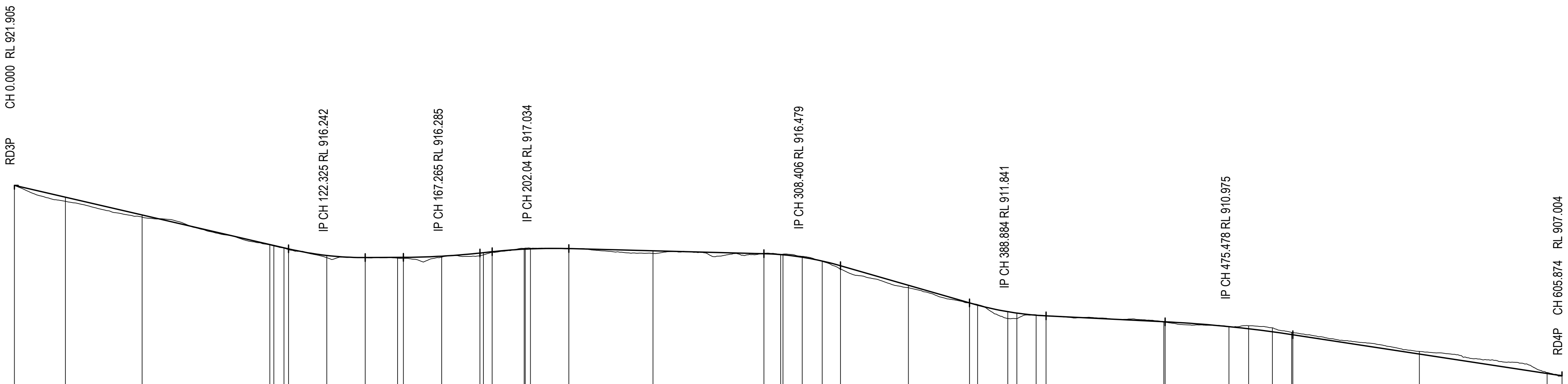
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 1 - SHEET 2
DRAWING NUMBER 1710-2-P40LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:54:44 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P39LS.dwg



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HORIZONTAL GEOMETRY: R 20, R -10, R -10, R 10, R -20
DATUM RL. 895.0

CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	921.905	921.905	0.000
20.000	920.979	920.658	0.321
50.000	919.590	919.419	0.171
100.000	917.275	917.236	0.039
101.563	917.203	917.16	0.042
105.527	917.019	916.99	0.029
107.325	916.936	916.874	0.062
122.325	916.419	916.244	0.174
137.325	916.256	916.246	0.010
150.000	916.268	916.209	0.060
152.265	916.271	916.179	0.092
167.265	916.362	916.285	0.077
182.265	916.608	916.408	0.200
183.622	916.637	916.461	0.176
187.040	916.711	916.661	0.050
199.555	916.910	916.975	-0.064
200.000	916.915	916.987	-0.072
202.040	916.934	916.986	-0.052
217.040	916.956	916.932	0.023
250.000	916.784	916.578	0.206
293.406	916.557	916.581	-0.024
300.000	916.485	916.509	-0.024
300.896	916.469	916.519	-0.050
308.406	916.282	916.354	-0.072
316.243	915.982	915.956	0.026
323.406	915.615	915.35	0.265
350.000	914.082	913.896	0.186
373.884	912.706	912.695	0.011
377.066	912.530	912.576	-0.045
388.884	912.020	911.476	0.544
392.442	911.910	911.476	0.434
400.000	911.742	911.767	-0.024
403.884	911.691	911.704	-0.013
450.000	911.230	911.202	0.028
450.478	911.225	911.19	0.036
475.478	910.848	910.852	-0.004
483.166	910.680	910.917	-0.237
492.484	910.444	910.754	-0.309
500.000	910.229	910.399	-0.170
500.478	910.214	910.389	-0.175
550.000	908.706	908.906	-0.200
600.000	907.183	907.256	-0.073
605.874		907.036	

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D						
C						
B						
A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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SCALE IN METRES 1:200 (A1) 2 1 0 2 4 6 8 10 1:400 (A3)

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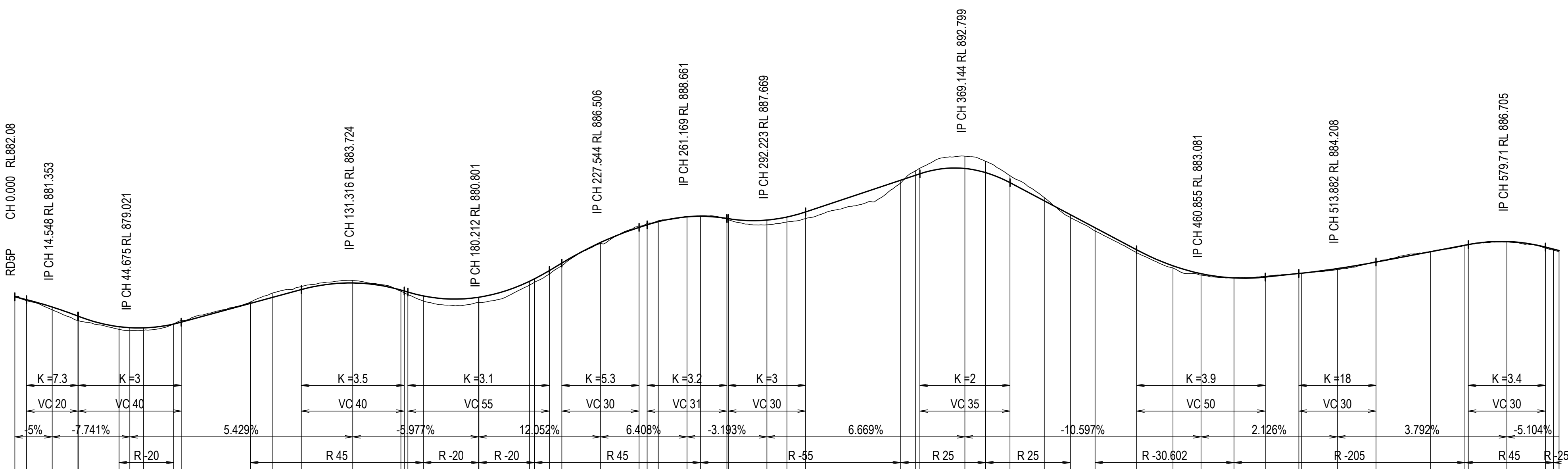
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 2
DRAWING NUMBER 1710-2-P41LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:47:44 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P41LS.dwg



CHAINAGES	DESIGN SURFACE	EXISTING SURFACE	DIFFERENCE FROM EXISTING
0.000	882.080	882.08	0.000
4.548	881.853	881.782	0.071
14.548	881.284	881.073	0.212
24.548	880.579	880.234	0.344
24.675	880.569	880.23	0.339
40.538	879.755	879.545	0.210
44.675	879.679	879.437	0.242
50.000	879.664	879.478	0.187
61.761	879.962	879.984	-0.022
64.675	880.106	880.237	-0.130
91.544	881.565	881.679	-0.114
100.000	882.024	882.361	-0.337
111.316	882.638	882.88	-0.241
131.316	883.154	883.345	-0.191
150.000	882.605	882.514	0.091
151.316	882.529	882.4	0.128
152.712	882.445	882.261	0.184
158.736	882.145	881.751	0.393
180.212	882.041	881.631	0.409
180.330	882.045	881.634	0.411
200.000	883.284	882.987	0.297
201.923	883.473	883.203	0.270
207.712	884.116	883.847	0.269
212.544	884.698	884.5	0.198
227.544	886.294	886.221	0.073
242.544	887.467	887.584	-0.116
245.669	887.667	887.768	-0.100
250.000	887.916	887.987	-0.071
261.169	888.289	888.34	-0.052
266.412	888.330	888.378	-0.048
276.669	888.166	888.109	0.057
277.223	888.148	888.07	0.078
292.223	888.039	887.662	0.377
300.000	888.273	887.89	0.383
307.223	888.669	888.152	0.517
344.212	891.136	890.929	0.207
350.000	891.522	891.875	-0.353
351.644	891.632	892.073	-0.441
369.144	892.044	893.005	-0.961
377.164	891.728	892.606	-0.879
386.644	890.945	891.487	-0.543
400.000	889.529	889.784	-0.255
410.116	888.457	888.24	0.218
419.726	887.439	887.183	0.256
435.855	885.730	885.508	0.222
450.000	884.486	884.311	0.175
460.855	883.876	883.763	0.113
473.701	883.542	883.57	-0.028
485.855	883.612	883.658	-0.046
498.882	883.889	883.903	-0.013
500.000	883.913	883.917	-0.004
513.882	884.271	884.202	0.069
528.882	884.777	884.804	-0.027
550.000	885.578	885.6	-0.022
563.421	886.087	886.074	0.013
564.710	886.136	886.12	0.016
579.710	886.371	886.342	0.029
594.710	885.939	885.863	0.076
597.877	885.777	885.695	0.082
600.000	885.669	885.566	0.103

SCALE 1:1000 HORZ (A1)
1:200 VERT (A1)

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
-	INITIAL ISSUE	PIB	WP	VAO	VAO	25/11/2020

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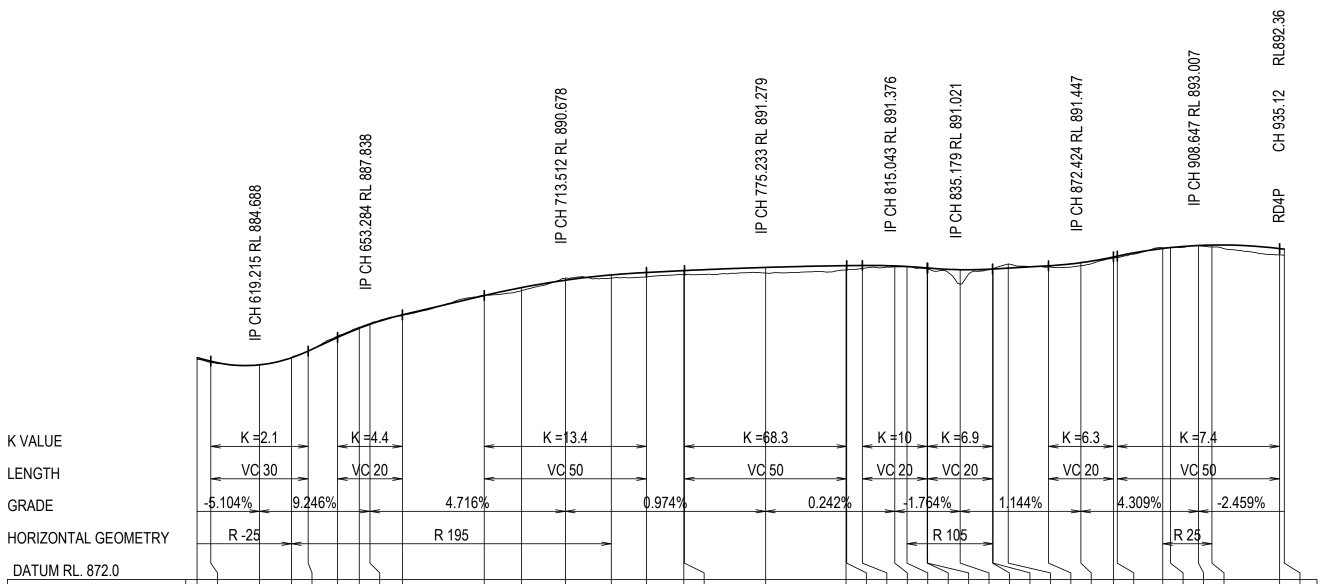
osgood civil resource engineering
OCRE
po box 181
bermagui nsw 2546
p 02 6494 0239
m 0408 361 612

CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 3 - SHEET 1
DRAWING NUMBER 1710-2-P42LS
AMENDMENT: A

Date: Thursday, 9 February 2023 5:05:30 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P42LS.dwg



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604.215	885.454	885.376	0.078
619.215	885.226	885.227	-0.001
629.096	885.664	885.684	-0.020
634.215	886.075	886.092	-0.017
643.284	886.913	887.003	-0.090
650.000	887.483	887.548	-0.064
653.284	887.725	887.788	-0.063
663.284	888.310	888.277	0.033
688.512	889.499	889.516	-0.017
700.000	889.992	889.802	0.189
713.512	890.444	890.577	-0.133
727.671	890.772	890.581	0.191
738.512	890.922	890.644	0.277
750.000	891.034	890.8	0.233
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775.233	891.234	890.886	0.348
800.000	891.340	891.081	0.258
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805.043	891.352	891.17	0.181
815.043	891.326	891.263	0.063
818.820	891.290	891.266	0.024
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862.424	891.332	891.253	0.080
872.424	891.526	891.347	0.179
882.424	891.878	891.811	0.066
883.647	891.930	891.846	0.084
897.619	892.400	892.442	-0.041
900.000	892.454	892.476	-0.022
908.647	892.585	892.57	0.015
912.806	892.611	892.5	0.111
933.647	892.393	892.01	0.383
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A	ADJUSTED ALIGNMENT FOR REVISED LAYOUT	AG	AG	VAO	VAO	10/02/2023
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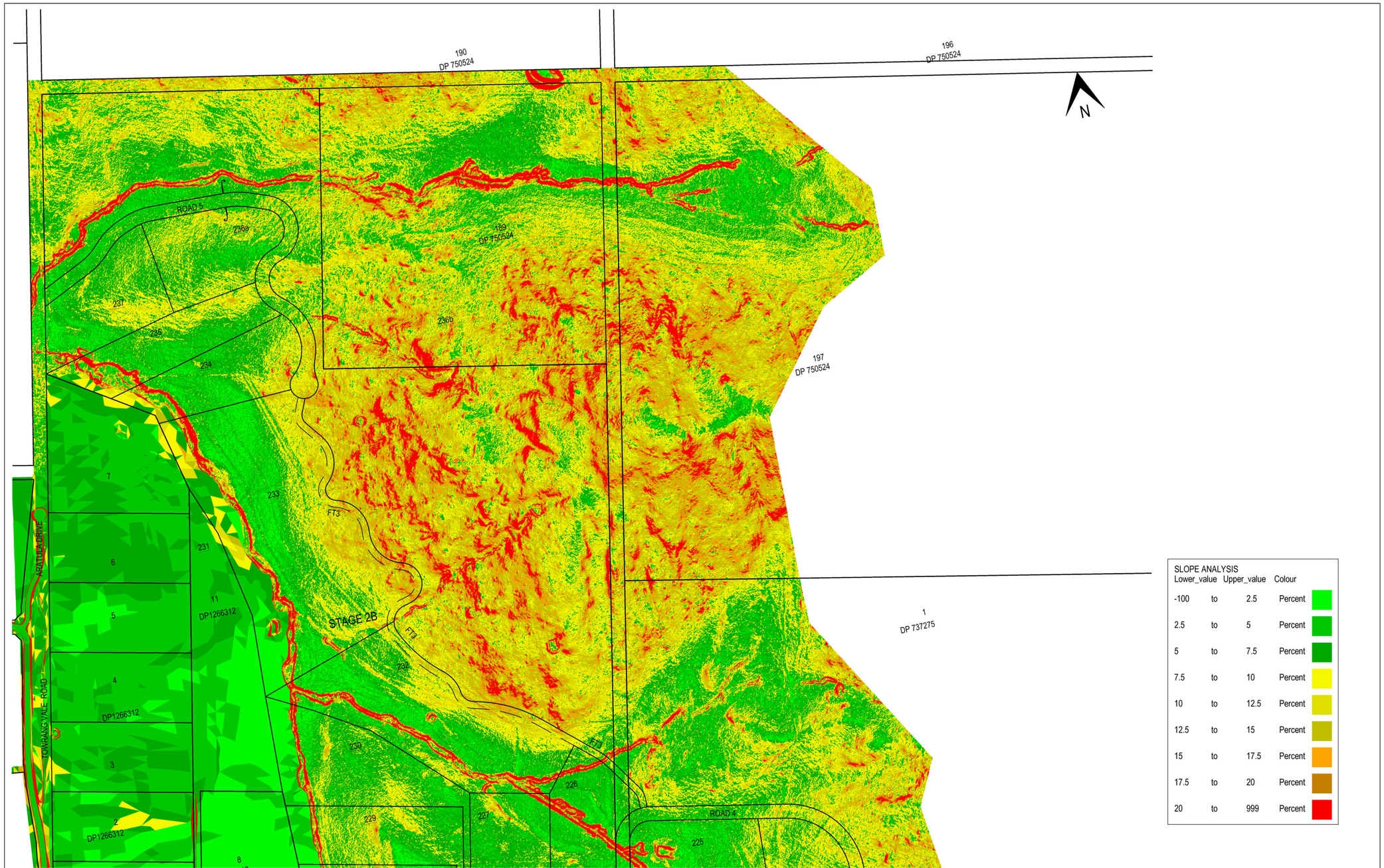
osgood civil resource engineering
OCRE
po box 181
bermagui nsw 2546
p 02 6494 0239
m 0408 361 612

CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE LONGITUDINAL SECTION FIRE TRAIL 2 - SHEET 2
DRAWING NUMBER 1710-2-P43LS
AMENDMENT: A

Date: Friday, 10 February 2023 9:55:45 AM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P42LS.dwg



REFER DWG 1710-2-P51SLP FOR CONTINUATION

No.	REVISION	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
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A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	25/11/2020

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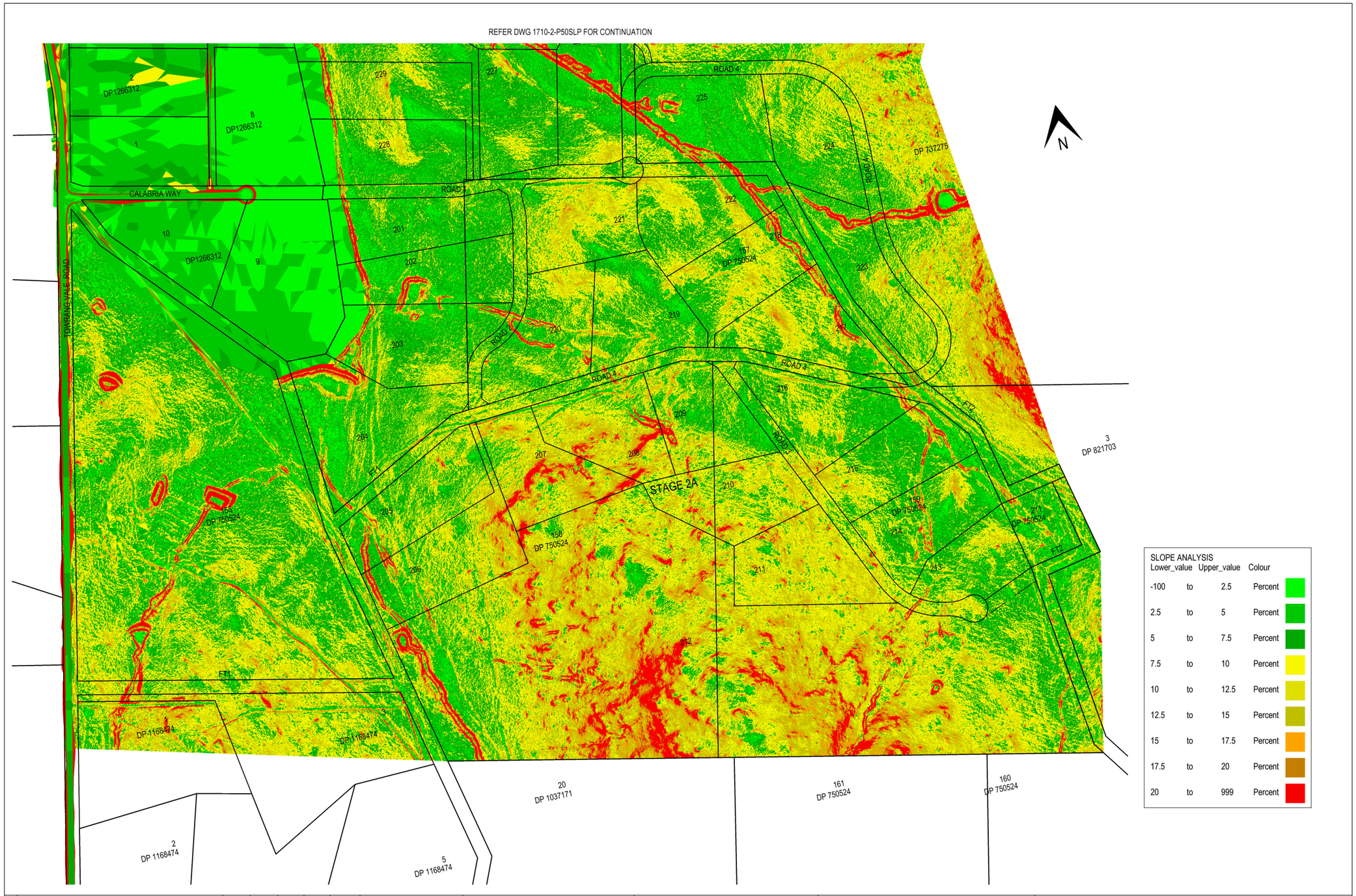
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE SLOPE ANALYSIS - SHEET 1
DRAWING NUMBER 1710-2-P50SLP
AMENDMENT: A

Date: Tuesday, 20 December 2022 10:19:51 AM User: AG File: H:\2017\1710-2_Aratula\STG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P50SLP.dwg



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A	REVISED LAYOUT	VAO	AG	VAO	VAO	20/12/2022
-	INITIAL ISSUE	VAO	WP	VAO	VAO	25/11/2020

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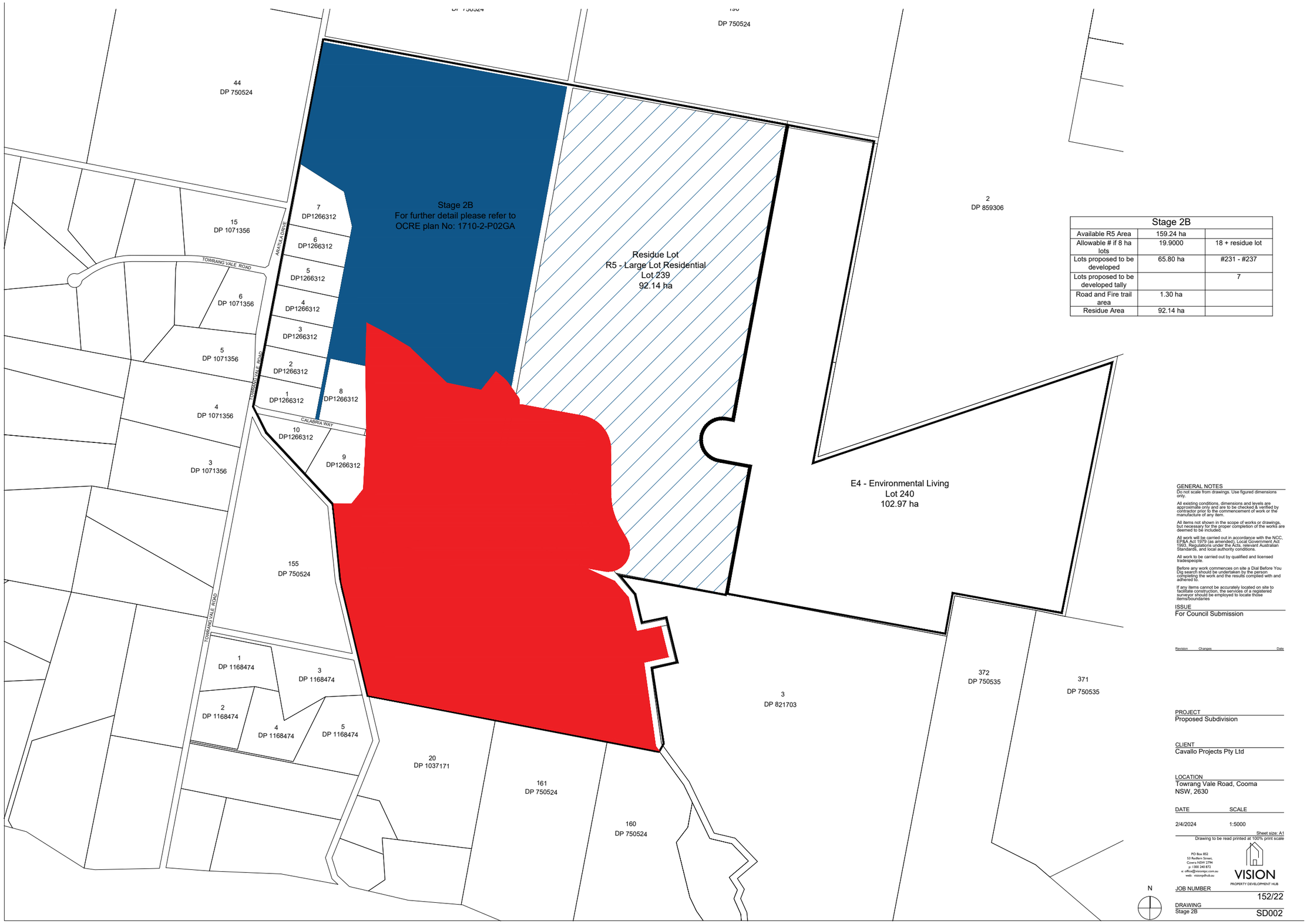
CLIENT CAVALLO PROJECTS PTY LTD
PROJECT ARATULA HILLS STAGE 2 - TOWRANG VALE ROAD, COOMA
TITLE SLOPE ANALYSIS - SHEET 2
DRAWING NUMBER 1710-2-P51SLP
AMENDMENT: A

Date: Tuesday, 20 December 2022 3:18:02 PM User: AG File: H:\2017\1710-2_AratulaSTG2\099_1710Sync\061_dwgsSync\1_Dwgs\1710-2-P51SLP.dwg



Stage 2B		
Available R5 Area	159.24 ha	
Allowable # if 8 ha lots	19.9000	18 + residue lot
Lots proposed to be developed	65.80 ha	#231 - #237
Lots proposed to be developed tally		7
Road and Fire trail area	1.30 ha	
Residue Area	92.14 ha	

GENERAL NOTES

Do not scale from drawings. Use figured dimensions only.

All existing conditions, dimensions and levels are approximate only and are to be checked & verified by contractor prior to the commencement of work or the manufacture of any item.

All items not shown in the scope of works or drawings, but necessary for the proper completion of the works are deemed to be included.

All work will be carried out in accordance with the NCC, EP&A Act 1979 (as amended), Local Government Act 1993, Regulations under the Acts, relevant Australian Standards, and local authority conditions.

All work to be carried out by qualified and licensed tradespeople.

Before any work commences on site a Dial Before You Dig search should be undertaken by the person completing the work and the results complied with and adhered to.

If any items cannot be accurately located on site to facilitate construction, the services of a registered surveyor should be employed to locate those items/boundaries

ISSUE

For Council Submission

Revision	Changes	Date

PROJECT

Proposed Subdivision

CLIENT

Cavallo Projects Pty Ltd

LOCATION

Towrang Vale Road, Cooma
NSW, 2630

DATE: 2/4/2024

SCALE: 1:5000

Sheet size: A1

Drawing to be read printed at 100% print scale

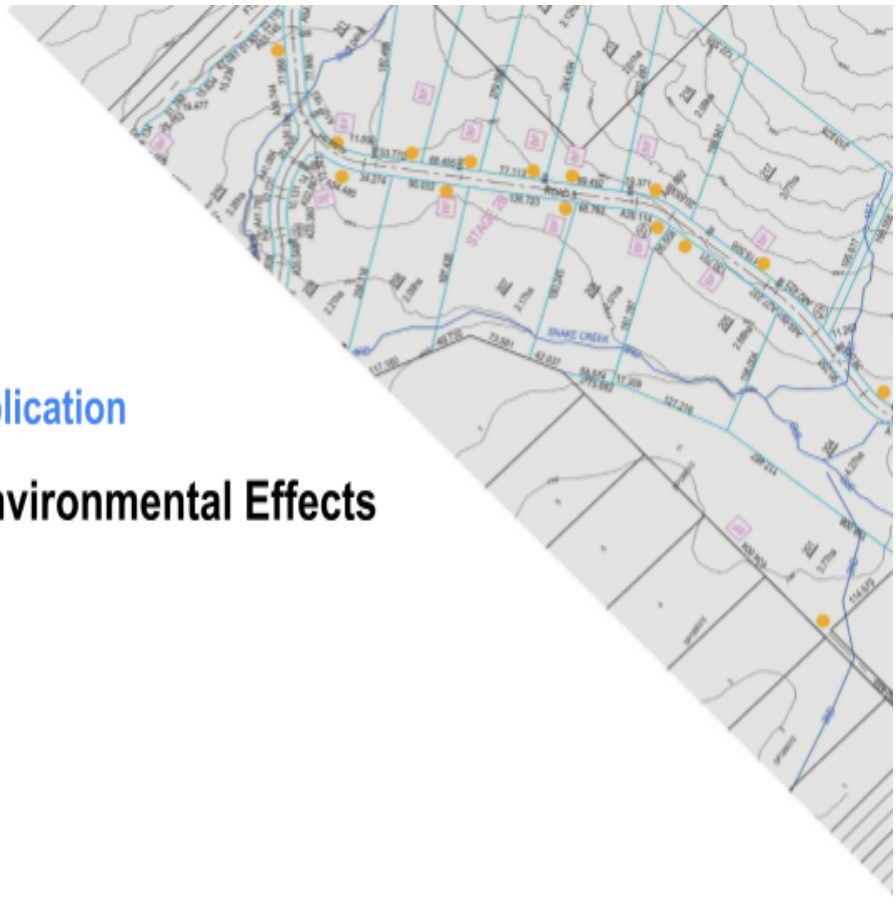
PO Box 852
53 Bunkers Street,
Cooma NSW 2794
p: 1300 240 872
e: office@visionpc.com.au
web: visionpchub.au

VISION
PROPERTY DEVELOPMENT HUB

JOB NUMBER: 152/22

DRAWING: Stage 2B

SD002



Development Application

Statement of Environmental Effects

VISION

PROPERTY DEVELOPMENT HUB

VISION
PROPERTY DEVELOPMENT HUB

53 Redfern Street
COWRA NSW 2794
PO Box 852
1300 240 827
ABN: 95 614 159 698
https://visionpdhub.au

Statement of Environmental Effects

Proposed Development: Proposed Large Lot Residential Subdivision
Subject Land: LOT 1 DP737275, LOTS 157, 189, 197 DP750524, LOT 11 DP1266312 - TOWRANG VALE ROAD, COOMA
Client: Cavallo Projects Pty Ltd

Version 1 Version 2	28/09/21 19/04/23	Superseded Current

This Statement of Environmental Effects (SEE) was prepared based on the following plan and document versions:

Author	Plan	Page	Date	Job
Osgood Civil Resource Engineering	Subdivision Plans & Preliminary Civil Engineering Plans	1-27	10/02/23	1710-2
Apex Archaeology	Aboriginal Due Diligence Assessment	1-34	Jan 2023	-
Franklin Consulting Australia Pty Ltd	Land Capability Assessment	1-47	25/01/23	-
South East Environmental	Biodiversity Assessment Report	1-66	Dec 2022	-
Blackash Bushfire Consulting	Bushfire Hazard Assessment	1-18	31/01/23	J2988

Prepared by:

Patrick Fitzsimmons
Town Planner, Managing Director
VISION Town Planning Consultants Pty Ltd

Statement of Environmental Effects

Abbreviations

The Act – Environmental Planning and Assessment Act 1979
EPI – Environmental Planning Instrument
SEE - Statement of Environmental Effects

Contents

1. Executive Summary

The proposed subdivision has been designed to comply with the NSW Environmental Planning and Assessment Act 1979 (the Act), NSW Biodiversity Conservation Act 2016 (Bio Act), applicable State Environmental Planning Policies (SEPPs), Cooma-Monaro Local Environmental Plan 2013 (LEP) and the Cooma Monaro Shire Development Control Plan 2014 (DCP). The development was designed in conjunction with other consulting companies who have prepared specialist reports submitted with this Development Application (DA). The subdivision is designed to include all utility connections necessary for the construction of future dwellings in the large lot residential setting. The development will not have any significant negative environmental impacts that would warrant alteration to the proposed design.

Accordingly the proposed residential subdivision will have positive outcome without negative impacts and can be approved by Council without design modification.

2. History of Development and Applications

The proposed allotments are located in an area characterised by residential development adjoining the first stage of a large lot residential development previously constructed by the applicants.

The previous Development Application was approved unanimously by Council vote in October 2018 and construction of the 11-lot subdivision (Stage 1) of the development was completed midway through 2020 and the allotments serviced and registered.

The initial stage of the development involved construction of a new roadway, Calabria Way, and extension of Towrang Vale Road in a northerly direction as a new road named Aratula Drive. The developers also opted to complete roadworks to widen and improve an existing section of Towrang Vale Road back toward Dri Plains Road providing greatly improved roadway access to stage 1 of the subdivision and other existing residences.

The first stage of the development, all of which is located on the western side of Snake Creek, has proved to be an aesthetically pleasing and popular development with excellent quality allotments upon which many bespoke homes have been designed and constructed.

The DAs for Stage 2 were initially submitted as a single application broken into 4 distinct development Stages, namely 2A, 2B, 2C and 2D. As a result of a request from Snowy Monaro Regional Council (Council) to further address Clause 4.1(B), the applicant chose to amend the initial Development Application 10.2020.215.1 to divide the total of 77 allotments into 4 separate DAs each including an individual stage 2A, 2B, 2C and 2D.

Through the assessment process of the DA, it was agreed that as the proposed allotments that constitute Stages 2A through to 2D did not overlap, and result in the subdivision of residue land from each previous stage using Clause 4.1(B) and the allowable lot average, the four Development Applications could be submitted and assessed by Council simultaneously.

Section 37 Amendment

Subsequent to the submission of these 4 separate DA's to Council, and through consideration of submissions received from neighbouring property owners, the applicant has chosen to further reduce the number of allotments proposed to 38 allotments include a residue lot with no nominated building envelope, and as such submitted an application under Section 37 of the *NSW Environmental Planning and Assessment Regulation 2021* to amend the development applications already lodged with Council. The result of this process is the project comprises only two development applications.

3. Proposed Development

The land owners are seeking Council approval to construct a 37 lot large-lot residential subdivision, plus one residue allotment.

A summary of the areas included in the lot averaging is included below, but are also shown on staging tables included with the plans submitted and prepared by Osgood Civil Resource Engineering (OCRE).

The two separate Development Applications involve the consolidation and subdivision of the allotments shown on the plans prepared by OCRE and the lot averaging using the 8 hectare minimum lot size and the identification of the lot yield is included in Table 1 below.

Stage	**Area in R5 zone**	**Number of new lots**	**Residue Area**
2A	251.93 hectares	30 plus residue	159.24 hectares
2B	159.24 hectares	7 plus residue	92.14

Table 1: Lot averaging and lot yield for Stage 2A & 2B

The development involves an extension of Calabria Way and Aratula Drive and construction of a number of other roads displayed on the accompanying plans, as well as a fire trail.

The development has been designed in consultation with:

1. South East Environmental who have provided a Biodiversity Assessment Report submitted with this application. The information provided by South East Environmental was used to design the positioning of the roadways throughout the subdivision. This resulted in roadways that meander to avoid tree removal.
2. Blackash Bushfire Consulting to ensure the development meets the provisions of *Planning for Bushfire Protection 2019*, identifying Asset Protection Zone requirements within building envelopes.
3. Franklin Consulting Australia Pty Ltd who have identified any constraints for water and soil to ensure onsite sewage management systems can be installed as well as identified areas including rock and rocky outcrops so that suitable building envelopes can be included and provided, and setbacks from tributaries to Snake Creek and Snake Creek watercourse itself included on the plans.
4. An Aboriginal Heritage Due Diligence Assessment Report prepared by Apex Archaeology who conducted a site survey of the entire development area in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010.* Recommendations included within the report are that the development proceeds as proposed without alteration, and does not identify any negative impacts on items or places of Aboriginal Heritage Significance.
5. OCRE who have prepared the development plans for this application and preliminary engineering design to ensure that all civil engineering including earthworks and roadway construction can be completed within the proposed road reserves and ensuring that no trees or valuable environments need to be disturbed or removed in addition to those shown on plans and addressed by South East Environmental in their Biodiversity Assessment Report.

The proposed development will provide a range of large-lot residential allotments in an area already characterised by large-lot residential developments.

4. Site Description and Surrounding Land Use

The land is located east of Towrang Vale Road, with Snake Creek running through its southwestern portion as displayed on the development plans.

The land affected by the two stages of the DA contains cleared grassland extending from Snake Creek in an easterly direction. The very southern end and northern end of the site contains some scattered trees unaffected by the development.

The surrounding area in a western direction contains a number of dwelling houses in a large-lot residential configuration fronting Towrang Vale Road and fronting Calabria Way. In a southerly direction of the land is a number of residential dwellings in a large-lot residential configuration.

The proposed configuration of allotments maintains the existing large lot residential character of the surrounding area.

5. Integrated Development

Section 4.46 of the Act defines development that is Integrated Development and requires referral to a nominated third-party agency for any separate form of approval. Section 4.46 includes a table of various Sections of additional Acts that nominate and identify those developments that are considered to be Integrated. Section 100B of the *Rural Fires Act 1997* requires the Minister for Rural Fire Service to issue an approval for large-lot residential development involving subdivision on land identified as bushfire prone. The development constitutes Integrated Development.

6. Section 1.7 of the Act - Part 7 of the Biodiversity Conservation Act 2016

The Act gives effect to the consideration of part 7 of the *NSW Biodiversity Conservation Act 2016*. Accordingly, consideration of part 7 of the *NSW Biodiversity Conservation Act 2016* and associated regulation is required and is provided below:

A Biodiversity Assessment Report (BAR) has been prepared to inform this SEE and is submitted with the development application. The report is prepared to assess part 7 of the *NSW Biodiversity Conservation Act 2016*. The report concludes that the development can be completed as proposed without the need to prepare a Biodiversity Development Assessment Report (BDAR). No further reporting is required.

7. Consideration of Environmental Planning Instruments & Environment

Section 4.15 Evaluation

Matters for consideration—general
(a) the provisions of:

(i) any environmental planning instrument, and

7.1 Cooma Monaro Local Environmental Plan 2013 (LEP)

Section 2.3(2) The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.

The land incorporates two zones, being R5 Large Lot Residential and E4 Environmental Living. An extract of both sets of zone objectives are included below:

Zone R5 Large Lot Residential

1 Objectives of zone

- *To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.*
- *To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.*
- *To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To promote an innovative and flexible approach to rural residential development.*

2 Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home occupations

3 Permitted with consent

Animal boarding or training establishments; Biosolids treatment facilities; Boat sheds; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Centre-based child care facilities; Community facilities; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Electricity generating works; Environmental facilities; Exhibition homes; Exhibition villages; Farm buildings; Function centres; Funeral homes; Garden centres; Helipads; Home occupations (sex services); Horticulture; Information and education facilities; Landscaping material supplies; Light industries; Markets; Oyster aquaculture; Places of public worship; Plant nurseries; Pond-based aquaculture; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Respite day care centres; Roads; Roadside stalls; Sewage treatment

plants; Signage; Tank-based aquaculture; Tourist and visitor accommodation; Transport depots; Truck depots; Veterinary hospitals; Viticulture; Water recycling facilities; Water supply systems

4 Prohibited

Hotel or motel accommodation; Serviced apartments; Any other development not specified in item 2 or 3

Comments:
The proposed subdivision involves the creation of allotments that satisfy the provisions of lot averaging as detailed later in this SEE. The development creates a variety of residential allotments in a layout that caters for the topography of the land, consistent with the mixture of large lot residential allotments already in the immediate vicinity to the west and south of the site. The development is consistent with the zone objectives by providing opportunity for residential homes in a large lot residential setting, ensuring residential development does not hinder the development of other areas by extending roadways to the development within the area zoned R5 Large Lot Residential, does not unreasonably increase any demand for public services as a section of Towrang Vale Road leading to the development has been previously upgraded and the proposed roadways will be constructed, will not result in land use conflict as the surrounding area is already characterised by large lot residential development and does not result in damage to any bushland areas as the development has been updated so the design does not enter into the bushland areas to the east, is an example of innovative and flexible design in a rural setting by limiting the design to areas which do not contain bushland and provide a variety of allotments in a variety of layouts.

Zone E4 Environmental Living

1 Objectives of zone

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*
- *To ensure that residential development does not have an adverse effect on those values.*

2 Permitted without consent

Environmental protection works; Extensive agriculture; Home-based child care; Home occupations

3 Permitted with consent

Backpackers' accommodation; Bed and breakfast accommodation; Biosolids treatment facilities; Car parks; Cemeteries; Community facilities; Dual occupancies; Dwelling houses; Eco-tourist facilities; Electricity generating works; Emergency services facilities; Entertainment facilities; Environmental facilities; Farm buildings; Function centres; Home businesses; Home occupations (sex services); Horticulture; Information and education facilities; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Recreation areas; Research stations; Roads; Secondary dwellings; Sewage

treatment plants; Tank-based aquaculture; Viticulture; Waste or resource transfer stations; Water recycling facilities; Water supply systems

4 Prohibited

Dairies (pasture-based); Industries; Service stations; Warehouse or distribution centres; Any other development not specified in item 2 or 3

Comments:
The proposed subdivision is designed so as not to require the subdivision of the area that is within the allotment that is already zoned E4 Environmental Living. The area zoned E4 Environmental Living remains the same size and forms part of the large residue lot that has been specifically left over as part of this application to maintain the appearance of residential development in a rural setting. The subdivision layout is therefore considered to be consistent with the objectives of the zone by providing allotments that will result in a low impact on any ecology, scientific or aesthetically valuable aspects of the site, and identifies the location of the building envelopes for future dwellings including the areas for onsite sewage management and allowing for Asset Protection Zones for future dwellings that will not require the clearing of tree vegetation. It is therefore considered that the development will not adversely affect any special ecological, scientific or aesthetic values that the bushland area of the subject development site may contain.

Clause 4.1 Minimum subdivision lot size

(1) The objectives of this clause are as follows:

(a) to allow for the limited subdivision of agricultural land for residential purposes,

(b) to protect and maintain environmentally sensitive land,

(c) to ensure the efficient use of business, industrial and residential land.

(2) This clause applies to a subdivision of any land shown on the Lot Size Map that requires development consent and that is carried out after the commencement of this Plan.

(3) The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

(4) This clause does not apply in relation to the subdivision of individual lots in a strata plan or community title scheme.

Comments:
The area of the allotment proposed to be subdivided is displayed as 8 hectares on Minimum Lot Size Map_Sheet LSZ_006 and LSZ 013. All of the proposed allotments in each of the development stages incorporate a minimum lot area of 8-hectares as calculated.

Clause 4.1B of the LEP permits subdivision of land zoned R5 Large Lot Residential below the minimum lot size included on the minimum lot size map provided the total lot yield does not exceed the number of lots permitted using the minimum lot size defined by this clause. This yield is achieved in each stage of the proposed subdivision development and the yield does not exceed in any stage that which could be achieved by using the 8-hectare minimum lot size.

Consideration of the development against the provisions of clause 4.1B are included below.

Clause 4.1B Subdivision using average lot sizes

(1) The objectives of this clause are to facilitate alternative subdivision controls that:

(a) facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes possible, and

(b) limit the subdivision of land in certain circumstances where the lots created are proposed to be used for residential accommodation.

(2) This clause applies to land in the following zones (other than land identified as "Area A" on the Lot Size Map):

(a) Zone RU1 Primary Production,

(b) Zone R5 Large Lot Residential,

(c) Zone E4 Environmental Living.

(3) Despite clause 4.1, development consent may be granted for the subdivision of land to which this clause applies if:

(a) the total number of lots created from the subdivision will not exceed the number of lots that could be created under clause 4.1 (3), and

(b) for land in Zone RU1 Primary Production, each lot created by the subdivision will have an area of at least 20 hectares, and

(c) for land in Zone E4 Environmental Living, each lot created by the subdivision will have an area of at least 10 hectares, and

(d) for land in Zone R5 Large Lot Residential, each lot created by the subdivision will have an area of at least 2 hectares.

(4) Development consent must not be granted for the subdivision of a resulting lot unless the consent authority is satisfied that:

(a) the lots to be created will not be used for the purpose of residential accommodation, and

(b) the subdivision will not result in any significant adverse environmental impacts on the land being subdivided.

(5) In this clause, resulting lot means a lot created under this clause being land in Zone RU1 Primary Production or Zone E4 Environmental Living.

Comments:

Sub-Clause (a)

- The development has been divided into two separate development applications so as not to exceed the number of lots that could be created through Clause 4.1(3).

Sub-clause 3(d)

- No part of the areas of proposed lots that are zoned E4 Environmental Management are included in the calculation of the areas for the proposed subdivision of the land in the R5

area. The maximum yield based on 8-hectare allotments in each of the stages defined by the plan submitted with the Development Application and the information in this SEE confirms that the yield is not exceeded and the use of this clause to allow for 2-hectare allotments complies in full with the provisions of this clause.
- The development is consistent with sub-clause 3(d).

Sub-clause (4)

- The development has been designed in accordance with the findings of a Biodiversity Assessment Report prepared by consulting ecologists of *South East Environmental* that concludes it will not result in any significant adverse environmental impacts.
- The development proposes to create allotments to be used for residential purpose.
- The development is consistent with sub-clause 4.

Sub-clause (5)

- The area to be subdivided and included in the calculation is zoned R5 Large Lot Residential only. Accordingly, Subclause 5 does not apply.

Each of the proposed allotments incorporate areas of 2 hectares or greater. All of the proposed allotments have adequate area for the construction of future dwellings. Each proposed allotment will be connected to telecommunications, power and sealed roadway. Reports were prepared for the development application demonstrating the development will not have any adverse environmental impacts and each allotment has adequate area to facilitate construction of a dwelling and associated sewage management system.

The development complies with the standards and objectives of clause 4.1B.

Clause 4.1C Minimum subdivision lot sizes for certain split zones

(1) The objectives of this clause are as follows—

(a) to provide for the subdivision of lots that are within more than one zone but cannot be subdivided under clause 4.1,

*(b) to ensure that the subdivision occurs in a **manner** that promotes suitable land use and development.*

(2) This clause applies to each lot (an original lot) that contains land in more than one zone.

(3) Despite clause 4.1, development consent must not be granted to subdivide an original lot to create other lots (the resulting lots) unless—

(a) one of the resulting lots will contain—

(i) land in Zone RU5 Village or land in a residential zone that has an area that is not less than the minimum size shown on the Lot Size Map in relation to that land, and

(ii) all of the land in all other zones that was in the original lot, and

(b) all other resulting lots will contain land that has an area that is not less than the minimum size shown on the Lot Size Map in relation to that land.

(4) For the purposes of calculating an area of land under subclause (3), any access handle used for the purpose of providing vehicular access from the lot to a road is not to be included.

(5) Despite subclause (3), development consent may be granted to subdivide an original lot if—

(a) the lots to be created from the subdivision will each contain land in one zone, or

(b) the lots to be created from the subdivision will each contain land in more than one zone and any land in Zone RU5 Village or in a residential zone will have an area that is not less than the minimum size shown on the Lot Size Map in relation to that land.

(6) A lot created under subclause (5) (b) must not be subdivided under this clause.

Comments:
The subdivision is calculated using land in the R5 large-lot residential zone only. The use of clause 4.2B above allows for the calculation that has been completed to create allotments of not less than 2 hectares. The design of the subdivision results in each allotment having one land-use zone only and the resulting allotment with land zoned E4 will be an individual allotment consistent with clause 5(a). The land within the allotment that is zoned E4 Environmental Living is not used in the calculation under the lot averaging, and the proposal is consistent with clause 4.1 C without variation.

Clause 6.1 Earthworks

(1) The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.

(2) Development consent is required for earthworks unless—

*(a) the earthworks are **exempt** development under this Plan or another applicable environmental planning instrument, or*

(b) the earthworks are ancillary to development that is permitted without consent under this Plan or to development for which development consent has been given.

(3) Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters—

(a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development,

(b) the effect of the development on the likely future use or redevelopment of the land,

(c) the quality of the fill or the soil to be excavated, or both,

(d) the effect of the development on the existing and likely amenity of adjoining properties,

(e) the source of any fill material and the destination of any excavated material,

(f) the likelihood of disturbing relics,

(g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,

(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

Comments:
Plans prepared by OCRE demonstrate the extent of earthworks required to construct roadways in accordance with Council's engineering standards and *Planning for Bushfire Protection 2019*. The earthworks are to be contained entirely within road reserves and or battle-axe handles for driveways as necessary. The development can be constructed to not result in any negative impacts on drainage patterns, soil stability or soil environment in general. The development is consistent with clause 6.1 Earthworks.

Clause 6.3 Terrestrial biodiversity

(1) The objective of this clause is to maintain terrestrial biodiversity by—

(a) protecting native fauna and flora, and

(b) protecting the ecological processes necessary for their continued existence, and

(c) encouraging the conservation and recovery of native fauna and flora and their habitats.

(2) This clause applies to land identified as "Biodiversity" on the Terrestrial Biodiversity Map.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider—

(a) whether the development is likely to have—

(i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and

(ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and

(iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and

(iv) any adverse impact on the habitat elements providing connectivity on the land, and

(b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comments:
A report has been prepared by South East Environmental addressing the provisions of the *NSW Biodiversity Act 2016* and accompanying regulation. The report, which assesses the three key thresholds under the Biodiversity Act does not require a Biodiversity Development Assessment Report (BDAR) and does not result in any significant negative effect. The development therefore, will not have any significant adverse environmental impacts, does not need to be altered to include any alternatives, and the design does not need to be altered to mitigate any potential environmental impacts. The roadways and allotment areas with identified building envelopes have been positioned to have the minimal amount of environmental impact on the site by curving the road in and out of the existing landscape and positioning building envelopes in existing cleared areas. The development complies with Clause 6.3.

Clause 6.6 Riparian land and watercourses

(1) The objective of this clause is to protect and maintain the following—

(a) water quality within watercourses,

(b) the stability of the bed and banks of watercourses,

(c) aquatic and riparian habitats,

(d) ecological processes within watercourses and riparian areas.

(2) This clause applies to all of the following—

(a) land identified as "Riparian Land" on the Riparian Land Map,

(b) all land that is within 40 metres of the top of the bank of a watercourse.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider—

(a) whether or not the development is likely to have any adverse impact on the following—

(i) the water quality and flows within the watercourse,

(ii) aquatic and riparian species, habitats and ecosystems of the watercourse,

(iii) the stability of the bed and banks of the watercourse,

(iv) the free passage of fish and other aquatic organisms within or along the watercourse,

(v) any future rehabilitation of the watercourse and riparian areas, and

(b) whether or not the development is likely to increase water extraction from the watercourse, and

(c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comments: The plans prepared by OCRE demonstrate the catchment area for a recognised watercourse and identified tributaries within the site. The development is designed such that onsite sewage management systems and building envelopes for future dwellings can be positioned outside the required setbacks from watercourses and tributaries. The development is sited to avoid any significant adverse environmental impacts on watercourses, does not need to be redesigned to avoid any impacts, and no identified impacts need to be minimised or mitigated through alteration of the proposal.

7.2 State Environmental Planning Policies

7.2.1 State Environmental Planning Policy (SEPP) No 55—Remediation of Land

Under SEPP 55 a consent authority must not consent to the carrying out of any development on land unless:

(a) it has considered whether the land is contaminated, and
(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose

The author is not aware of any other prior land-uses on the site that are likely to have resulted in the contamination of the land. Through site inspection it was confirmed that the land appears to have been used for non-intensive livestock grazing. No further investigation is required in accordance with the NSW Managing Land Contamination Planning Guidelines.

7.2.2 State Environmental Planning Policy (Infrastructure) 2007 (SEPP Infrastructure)

Schedule 3 - Traffic Generating development to be referred to Roads and Maritime Services of SEPP Infrastructure lists the development that requires referral in certain circumstances. The development does not include the opening of 200 or more allotments with a new public road, and does not include the construction of 50 or more lots within 90 metres of connection with the alignment of a roadway controlled by NSW Roads and Maritime Services (Transport for NSW). Referral to Transport for NSW under SEPP Infrastructure is therefore not required.

(ii) any proposed instrument that is or has been the subject of public consultation under this Act.

Section 1.4 of the NSw Environmental Planning and Assessment Act 1979

environmental planning instrument *means an environmental planning instrument (including a SEPP or LEP but not including a DCP) made, or taken to have been made, under Part 3 and in force.*

There are no Draft Environmental Planning Instruments on public exhibition at the date of preparation of this SEE.

(**iii) any Development Control Plan (DCP)**

Cooma Monaro Shire Development Control Plan 2014 (DCP)

The DCP is a comprehensive policy that applies controls to all forms of development in the area formerly constituting the Cooma Monaro Shire.

Section 4 of the DCP includes controls specifically applicable to subdivision with references to other sections of the DCP.

1. Section 4.1.1.1 and 4.1.1.2: Vehicle access crossings will be constructed in accordance with the standards of Chapter 2 of the DCP. The location of each proposed vehicle crossing is displayed on the Plan of subdivision submitted with the application. The subdivision proposal is consistent with the objectives and requirements of these sections.

2. Section 4.1.2.1 and 4.1.2.2: The development includes appropriate area for construction of a cul-de-sac at the end of sealed roads. Construction can be undertaken in accordance with the standards referred to in Chapter 2 of the DCP. The subdivision proposal is consistent with the objectives and requirements of these sections.

3. Section 4.1.2.5. Proposed roadways will be sealed consistent with this section.

4. Section 4.1.2.6 Adjoining roadways do not include street lighting, meaning street lighting is not required consistent with this section.

5. Section 4.1.3.2 the development incorporates splay corners. Greater than 9 lots for every ten of the proposed lots have direct road frontage (not battle-axe). Setbacks applicable to the zone have been displayed on the Plan submitted with the application. The subdivision design is consistent with this section. The Development includes some allotments with battle-axe handle driveways greater than 100 metres in length. This is included to reduce the amount of tree vegetation required to be removed by roadways. This is considered an appropriate design and environmental outcome.

6. Section 4.1.4.1 and 4.1.1.2: Proposed roads will comply with Chapter 2 and applicable Appendixes of the DCP in accordance with Council's Specifications for Engineering works.

7. Section 4.1.6: Landscaping retaining existing trees as shown on the development plans are substantially greater than the requirement outline in Table 10 consistent with Section 4.1.6

8. Section 4.1.7: A stormwater management plan will be prepared as part of the subdivision works certificate displaying proposed drainage from new and existing roads and any inter-allotment drainage, permanent erosion control or stormwater velocity dissipation devices detailed. The existing and proposed road ways and slope of the land will cater for drainage to natural waterways without negative impact.

9. Section 4.1.9 – 4.1.10.2: The development is not within 225 metres of reticulated water.

10. Section 4.1.11: Building envelopes with indicative building footprint and associated onsite sewage management (provided to assist assessment) and accompanying reports confirm future dwellings can be constructed within the envelopes without negative impact. The areas displayed as available for building all incorporate the minimum boundary setbacks specified in Chapter 2 of the DCP.

11. Section 4.1.13.1: Reports submitted comply.

12. Section 6.1: A Bushfire Report prepared by BlackAsh Bushfire Consulting demonstrates the subdivision design and future construction of dwellings can be achieved on the land in accordance with NSW Planning for Bushfire Protection 2019.

13. Section 7.4: The water and soil report submitted with the application nominates areas and types of on-site sewage management systems suitable for managing sewage waste on-site from future dwellings.

The proposed subdivision is consistent with the objectives and controls of the DCP.

(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F.
The applicant has not entered into any planning agreement or draft planning agreement.

(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F.
The applicant has not entered into any planning agreement or draft planning agreement.

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

92 Additional matters that consent authority must consider
The Government Coastal Policy does not apply to Snowy Monaro Regional Shire and therefore Clause 92(1)(a) and (b) are not applicable to this development proposal. The proposal does not involve demolition of a building and therefore the requirements of AS 2601 do not need to be considered in accordance with Clause 92(2).

93 Fire safety and other considerations
The proposal does not involve the change of a building use for an existing building, or the use of an existing building as a place of public entertainment and therefore the requirement to consider fire safety and structural adequacy of buildings in accordance with Clause 93 is unnecessary.

94 Consent authority may require buildings to be upgraded
The proposal does not involve the rebuilding, alteration, enlargement or extension of an existing building or place of public entertainment and therefore the requirement to consider the upgrading of buildings into total or partial conformity with the Building Code of Australia.

94A Fire safety and other considerations applying to erection of temporary structures
The proposal does not involve the erection of a temporary structure and therefore the requirements to consider fire safety and structural adequacy is unnecessary.

95 Deferred commencement consent
Not applicable.

96 Imposition of conditions—ancillary aspects of development
Not applicable.

97 Modification or surrender of development consent or existing use right
Not applicable.

97A Fulfilment of BASIX commitments
Not applicable.

(v) any coastal zone management plan (within the meaning of the *Coastal Protection Act 1979*), that apply to the land to which the development application relates

The Coastal Protection Act 1979 does not apply to the land.

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

Context and Setting

The area is characterised by multiple residential dwellings of varying ages and sizes with accompanying outbuildings in a large lot residential setting. There are undulating hills in various areas, many of which contain bushland vegetation. Towrang Vale Road turns west culminating in a cul-de-sac with multiple allotments containing a variety of dwelling designs and sizes. The areas of allotments within this existing cluster of dwellings varies from approximately 2.5 hectares (Lot 7 DP 1071356) and approximately 6.5 hectares (Lot 15 DP 1071356). An image extracted from NSW Six Maps displaying the location to be subdivided as part of Stage 1 and the layout of allotments in the neighbouring residential development is included below in Figure 1. 9 of the 11 allotments east of Towrang Vale Road appearing as vacant in Figure 1 have areas of or very close to 2 hectares. The proposed development is consistent with the character of residential development in the area.

Figure 1 - West of site including stage 1 lots 1-11

Source: https://maps.six.nsw.gov.au/ 11/12/2020 – Patrick Fitzsimmons

Figure 2 - South of site showing land adjoining southern end of development area

Source: https://maps.six.nsw.gov.au/ 11/12/2020 – Patrick Fitzsimmons

Access, Transport and Traffic

Vehicle access to each proposed allotment will be provided directly from sealed public roadways. A number of sealed roadways are proposed to be constructed. These roadways have been designed to wind throughout the development.

The area of the land located in the E4 zone of the subject land remains unchanged and will continue to provide the backdrop scenery of bushland adjacent to the large lot residential development. The roadways and accesses designed in this fashion are consistent with the existing character of residential development in the area.

Public Domain

The proposal will not have a negative impact on public recreational opportunities or public spaces in the locality. The development which provides for a number of residential dwellings, will not overburden or detract from any public recreational opportunities or public spaces.

Utilities

No reticulated water is available for connection to the development. Space is available within each allotment to accommodate on-site rainwater detention tanks for domestic consumption and fire fighting reserve with future dwellings. Each proposed allotment can accommodate individual on-site sewage management systems for future dwellings as concluded in the water and soil report prepared as part of this application.

Heritage

There are no items listed in schedule 5 of the LEP 2012 as present on the land. A Due Diligence Aboriginal Heritage Report is prepared by Apex Archeology and submitted with the application including on-site surveys that did not reveal any items of Aboriginal Heritage or require any further survey or assessment. No negative impact identified.

Water
A soil and water report submitted with the application recommending buffers from identified waterways and tributaries that have been incorporated into the design. Onsite domestic water will be captured in domestic rainwater tanks along with any domestic retention of water for firefighting purposes with future dwellings.

Soils
The development will not have a negative impact on soils. Earthworks to be completed in accordance with detailed engineering construction plans which will be prepared as part of any Subdivision Works Certificate subsequent to this Development Application. Earthworks have been considered and identified using the relevant slopes by OCRE, displayed in the development plans. The earthworks design and the studies undertaken on the site confirm there is no negative impact.

Air and Microclimate
Minimal amounts of dust may be generated during the construction period. Once construction works are complete the development will not impact on air quality. The ongoing use of the development will not negatively impact air quality.

Flora and Fauna
The development has been designed in conjunction with South East Environmental, who provided input as to where roads and building envelopes may be located. The roadways and building envelopes were designed to minimise the amount of tree removal required. A report prepared by South East Environmental considering the development under the *NSW Biodiversity Conservation Act 2016* is completed. The report recommends that the development proceed as proposed with no further assessment or survey being required.

Waste
The lots can accommodate an appropriate on-site sewage management system in accordance with the water and soil report prepared. Any construction waste and ongoing domestic waste will be removed from the site and appropriately recycled or catered for at a licensed waste management facility.

Energy
Each proposed allotment incorporates an area, orientation and gradient capable of containing a future dwelling that has a good northerly aspect allowing for energy efficiency in future buildings.

Noise and Vibration
Some noise will occur during the construction period, but is not expected to adversely impact on any surrounding land uses. Towrang Vale Road was previously upgraded to extend to connect to Dry Plains Road. A large length of Towrang Vale Road extending away from Dry Plains Road to stage 1 of the development site creating 11 allotments and Calabria Way was recently Ongoing traffic from the proposed large lot residential development is commensurate with the existing traffic from existing dwellings in a large lot residential setting. The roadway network is designed to comply with the number of allotments proposed. The anticipated increase in traffic will not have any negative impact on the existing development in the area, which includes residential dwellings on large residential allotments.

Natural Hazards
The land is mapped as being bushfire prone. A bushfire assessment report has been prepared by consulting bushfire experts Blackash Bushfire Consulting. The development design includes a number of proposed roads, including some fire trails, designed and included to comply with *Planning for Bushfire Protection 2019* as stated in the bushfire report. The land is not mapped as being subject to flooding or being flood prone. However OCRE have prepared a flood hazard plan using the catchment for Snake Creek, and including setbacks from tributaries to ensure that development can occur within identified building envelopes outside any potential flood area. The development is not identified as containing any other natural hazards and is appropriate as designed.

Technological Hazards
No impacts as previously discussed in this report under SEPP 55.

Safety, Security and Crime Prevention
This development will not generate any activity likely to promote any safety or security problems to the subject land or surrounding area.

Social and Economic Impacts on the locality
The development will provide well designed residential allotments with sealed road frontage capable of accommodating well designed self-contained dwellings resulting in good social outcomes and providing housing for persons to live in the region which results in good economic outcomes.

Site Design
The allotments of the subdivision are designed so that each allotment has direct frontage onto a sealed public roadway and appropriate area for future construction of dwellings.

Construction
The proposed development can be constructed to comply with the relevant applicable engineering standards.

Cumulative impacts
The design of the subdivision to have direct access to sealed roads, adequate area to cater for dwellings and sewage management systems means the proposed subdivision will not result in any negative cumulative impacts. Traffic movements from the subdivision once constructed will be commensurate with the residential land uses of the surrounding area.

Roadways have been upgraded to ensure compliance with engineering requirements for the proposed number of allotments and existing allotments using the road.

(c) the suitability of the site for the development

As the proposed allotments are designed to meet the minimum lot size, all allotments fronting a public road and contain appropriate dwellings and on-site sewage management systems, it is considered the proposed site is suitable for the development.

(e) the public interest

The proposed development will create a number of large lot residential allotments appropriately serviced by utility connections, providing opportunity for future residential occupation, consistent with the public interest.

8. Conclusion

The proposed subdivision has been designed to comply with the applicable SEPPs, LEP and DCP. The development was designed in conjunction with other consulting companies who prepared reports with this application. The subdivision is designed to include all utilities necessary for the construction of future dwellings and permissible land-uses. The development is designed to ensure no significant negative environmental impacts are incurred that would warrant alteration to the proposed design. Accordingly the proposed residential subdivision will have positive outcome without negative impacts and can be approved by Council without design modification.

Appendix A - Requirements of the Approved Form Guide

a. The environmental impacts of the development

The development is being completed on a large lot residential site and no negative environmental impact will be incurred.

b. How the environmental impacts of the development have been identified

The site was inspected as part of the preparation of the development application and confirmed that no environmental impacts that could be avoided have been identified.

c. The steps to be taken to protect the environment or to lessen the expected harm to the environment

As per a. and b., no specific measures are required other than to construct the development as proposed.

d. Any matters required to be indicated by any guidelines issued by the Planning Secretary

No specific guidelines relevant to the application have been issued by the planning secretary.

e. Drawings of the proposed development in the context of surrounding development, including the streetscape

The proposed development is consistent with the character of the large lot residential area in the surrounding context. The documents submitted are adequate to allow for comprehensive assessment of the proposal.

f. Development compliance with building heights, building height planes, setbacks and building envelope controls (if applicable) marked on plans, sections and elevations

The plans submitted with the application are sufficient to allow for comprehensive assessment of the proposal.

g. Drawings of the proposed landscape area, including species selected and materials to be used, presented in the context of the proposed building or buildings, and the surrounding development and its context

The plans submitted with the application are sufficient to allow for comprehensive assessment of the proposal which is of a design and scale appropriate to the residential area.

h. If the proposed development is within an area in which the built form is changing, statements of the existing and likely future contexts

The area is characterised by residential land use and the proposed development is consistent with the existing character and the proposed surrounding character which is also residential.

i. Photomontages of the proposed development in the context of surrounding development

Photomontages are not necessary in this instance.

j. A sample board of the proposed materials and colours of the facade

Sample boards are not necessary in this instance.

k. Detailed sections of proposed facades

The plans submitted are adequate for comprehensive assessment of the development without submitting section plans for a development application.

l. If appropriate, a model that includes the context.

A model is not necessary in this instance.

VISION
PROPERTY DEVELOPMENT HUB

53 Redfern Street
COWRA NSW 2794
PO Box 852
1300 240 827
ABN: 95 614 159 698
https://visionpdhub.au

16th May 2023

Mr John Gargett
Snowy Monaro Regional Council
PO Box 714
COOMA NSW 2630

Dear John,

DEVELOPMENT: RESIDENTIAL SUBDIVISION - DA 10.2021.325.1 / PAN-150146 and DA 10.2021.321.1 / PAN-150167 - Stages 2A & 2B
Subject land: LOT 1 DP737275, LOTS 157, 158, 159, 189, 197, 211 DP750524, LOT 11 DP1266312 - TOWRANG VALE ROAD, COOMA

The land owners have commissioned Vision Property Development Hub to submit the updated documentation to amend their development application seeking a large lot residential subdivision of their land as listed above.

The applicants wish to amend the development application under Section 37 of the Regulation to reduce the lot yield.

Division 2 Amendment, rejection and withdrawal of development applications—the Act, ss 4.12 and 4.64

Clause 37 Amendment of development application

(6) If the amendment will result in a change to the development, the application must contain details of the change, including the name, number and date of any plans that have changed, to enable the consent authority to compare the development with the development originally proposed.

Comments:
The amendment includes a reduction in the number of allotments from 77 lots originally submitted, to a revised 37 lot large-lot residential subdivision, plus 2 residue allotments, in multiple stages using Council's lot averaging clause included in the Cooma Monaro Local Environmental Plan 2013 (LEP).

The following reports and plans have been updated and submitted with the application:

Author	Plan	Page	Date	Job
Osgood Civil Resource Engineering	RURAL RESIDENTIAL SUBDIVISION - ARATULA HILLS STAGE 2	1-16	20/12/22	1710-2

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Author	Plan	Page	Date	Job
	DEVELOPMENT APPLICATION			
Apex Archaeology	Aboriginal Due Diligence Assessment	1-34	Jan 2023	-
Franklin Consulting Australia pty Ltd	Land Capability Assessment	1-47	25/01/23	-
South East Environmental	Biodiversity Assessment Report	1-66	Dec 2022	-
Blackash Bushfire Consulting	Bushfire Hazard Assessment	1-18	31/01/23	J2988
Vision Property Development Hub	Statement of Environmental Effects V2	1-30	19/04/23	-

Please contact us if you require any further information or assistance.

Yours faithfully,

Patrick Fitzsimmons
Town Planner, Managing Director
VISION Property Development Hub

BLACKASH
BUSHFIRE CONSULTING

Bushfire Hazard Assessment

Large Lot Subdivision
Towrang Vale Road, Cooma

Aratula - Stage 2

Prepared for
Bottomline Group Pty Ltd

BLACKASH BUSHFIRE CONSULTING

Document Tracking:

Project Name:	Towrang Vale Road, Cooma (Aratula - Stage 2)
Prepared by:	Corey Shackleton
Client Details:	Bottomline Group Pty Ltd c/- Vision Town Planning Consultants Pty Ltd. 44 Macquarie Street COWRA NSW 2794 By email: patrick@visiontpc.com.au
Project Address	Towrang Vale Road, Cooma
Project Number	J2988

Blackash Contact Details:

Corey Shackleton	Principal Bushfire and Resilience
0418 412 118	corey.shackleton@blackash.com.au

Document Control:

Version	Primary Author(s)	Description	Date Completed
0.1	Corey Shackleton	Draft	18 January 2023
1.0	Corey Shackleton	Final	31 January 2023

Corey Shackleton | Principal Bushfire & Resilience
BlackAsh Bush fire Consulting
B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)
Fire Protection Association of Australia BPAD Level 3 – 34603

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

Contents

PO BOX 715 WAHROONGA NSW 2076 AUSTRALIA
M 0419 203 853 | E lew.short@blackash.com.au
W blackash.com.au

TINTAGEL INVESTMENTS PTY LTD T/A BLACKASH BUSHFIRE CONSULTING ABN 99 000 704 861

Glossary of Terms

APZ	Asset protection zone
AS2419	*Australian Standard – Fire hydrant installations*
AS3745	*Australian Standard – Planning for emergencies in facilities*
AS3959	*Australian Standard – Construction of buildings in bushfire-prone areas 2009*
BAL	*Bushfire Attack Level*
BCA	*Building Code of Australia*
BFSA	Bush Fire Safety Authority
EPA Act	*Environmental Planning & Assessment Act 1979*
FDI	Fire Danger Index
ha	Hectare
m	Metres
PBP	*Planning for Bush Fire Protection 2019*
RF Act	*Rural Fires Act 1997*

1. Introduction

Blackash Bushfire Consulting has been engaged by Bottomline Group Pty Ltd to prepare a bushfire assessment for a proposed 37 large-lot subdivision at Towrang Vale Road, Cooma (Figure 1), which is legally known as Lots 141, 188, 189, 197, 156, 157, 158, 159 DP 750524, Lot 11 DP1266312 and Lot 1 DP 737275.

The subject land is located east of Towrang Vale Road, with Snake Creek running through its southwestern portion, and a number of tributaries running through the site. The land contains cleared grassland within the centre of the development site, extending from Snake Creek to approximately two-thirds of the way in an easterly direction. The very southern end and very northwestern end of the site contains some scattered trees, and the northeastern quarter of the site contains bushland.

The surrounding area in an easterly direction contains several dwelling houses in a large-lot residential configuration fronting Towrang Vale Road. The allotments recently created through the first stage of this development is located on the eastern boundary of the subject land. In a southerly direction of the subject land is also a number of residential dwellings in a large-lot residential configuration. In the eastern most portion of this allotment, is an area containing bushland, part of which is zoned E4 Environmental Living.

The current proposal meets the provisions of the NSW RFS document *Planning for Bushfire Protection 2019* (PBP 2019).

The subdivision will trigger the integrated development referral requirements of Section 4.46 of the *Environmental Planning and Assessment Act, 1979* (EPA Act) and require assessment by the NSW RFS under Section 100B of the *Rural Fires Act 1997* (RF Act).

This report has been completed by Corey Shackleton who is a BPAD Level 3 certified practitioner (BPAD Level 3 BPAD 34603).

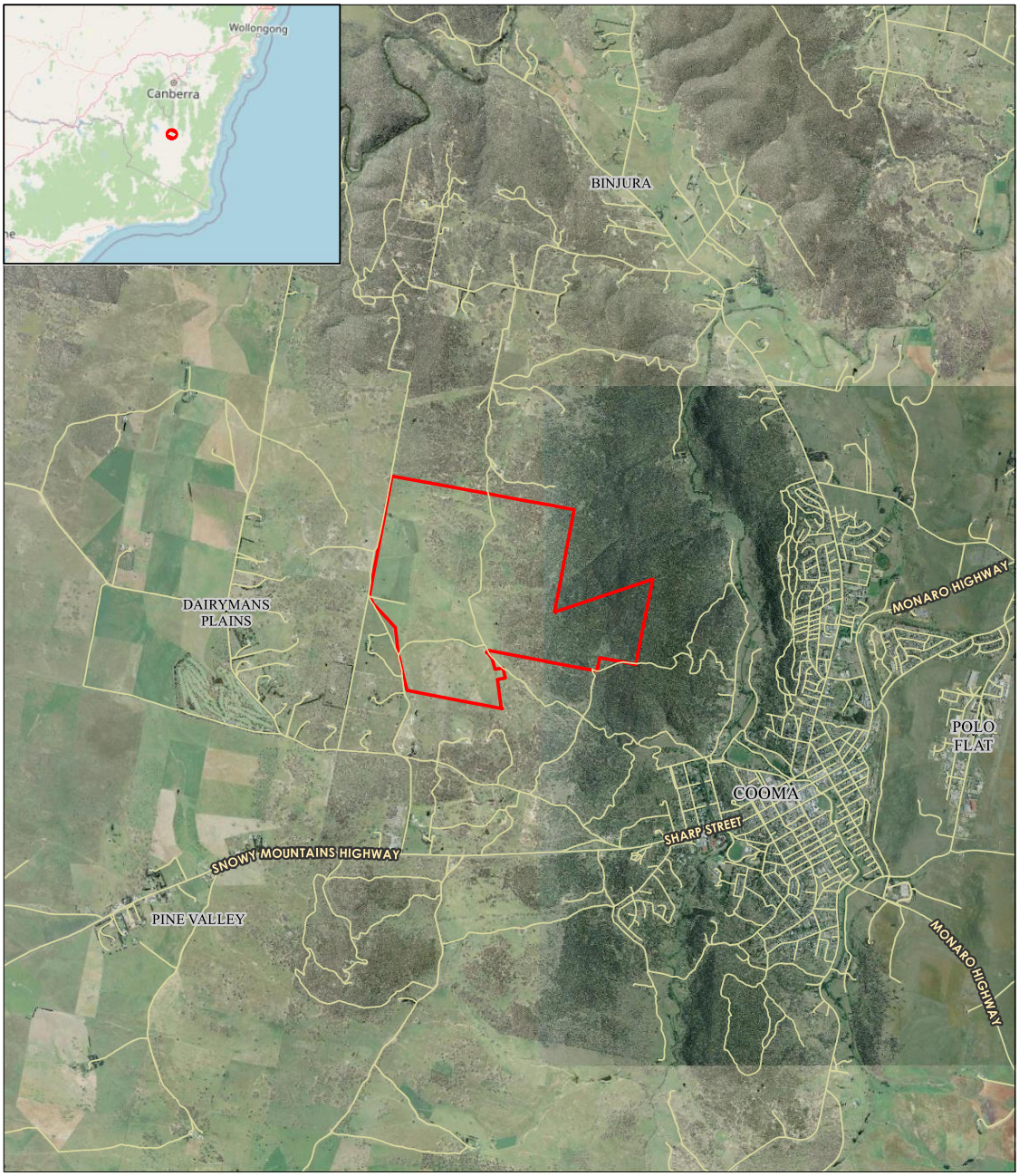

Figure 1: Site Location

2. Legislative Framework

Development on land that is identified as being bushfire prone must comply with the NSW RFS document *Planning for Bushfire Protection* (PBP 2019) under s.4.46 of the *Environmental Planning and Assessment Act, 1997* (**EPA Act**).

A residential subdivision development is categorised as Integrated Development, under s.4.46 of the EPA Act. Integrated development requires development consent from Council and General Terms of Approval from the NSW RFS. Any development applications for such a purpose must obtain a Bush Fire Safety Authority (BFSA) from the Commissioner of the NSW RFS in accordance with Section 100B of the RF Act.

A BFSA authorises development to the extent that it complies with PBP 2019 including standards regarding setbacks, provision of water supply and other measures in combination considered by the Commissioner necessary to protect persons, property or the environment from danger that may arise from a bushfire.

As a new residential/large lot subdivision, the application needs to be able to justify that the proposal can achieve a worst-case Bushfire Attack Level (BAL) of a maximum of BAL-29. This can be achieved.

3. Proposed Development

The site is proposed to be developed into a 37 large-lot residential subdivision, including 1 residue allotment.

The development involves an extension of Calabria Way which was recently constructed as part of Stage 1 of this development. The development also involves the construction of several other roads as well as a number of fire trails. The most northern of these roads includes a connection to Aratula Drive, forming a loop of sealed roadways throughout the development.

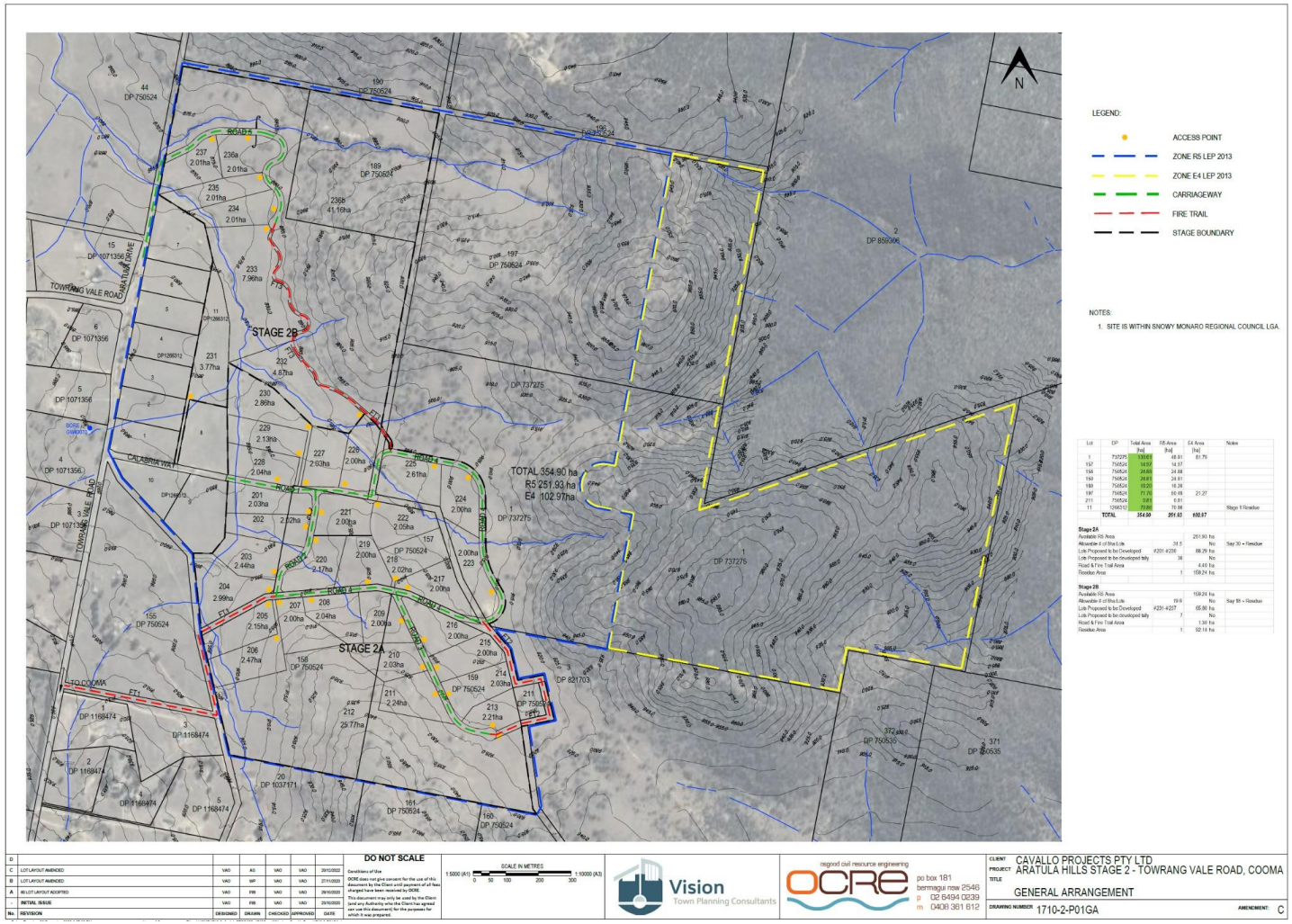

Figure 2: Plan of Subdivision

4. Bushfire Prone Land

The site is designated as a mixture of Category 1 and Category 2 (and associated buffers) bushfire prone land (Figure 3) on the Snowy-Monaro Regional Bush Fire Prone Land Map.

Vegetation Category 1 is depicted as red and represents a high bushfire risk vegetation in accordance with the NSW RFS *Guidelines for Bushfire Prone Land Mapping* and is provided with a 100m buffer. Category 2 is lower in bushfire risk than Category 1. It is represented as dark orange on a Bush Fire Prone Land map and is given a 30 metre buffer.

The steeper forested areas across the eastern portion of the site are mapped as Category 1 Bushfire Prone Land, while the western portion of the site is open woodland or grassland and accordingly mapped as either Category 2 vegetation or not bushfire prone.

Importantly, while the Snowy-Monaro Regional Bush Fire Prone Land Map does not appear to have identified grassland areas as being bushfire prone, they do present a bushfire hazard and require careful consideration and protection in accordance with PBP 2019.

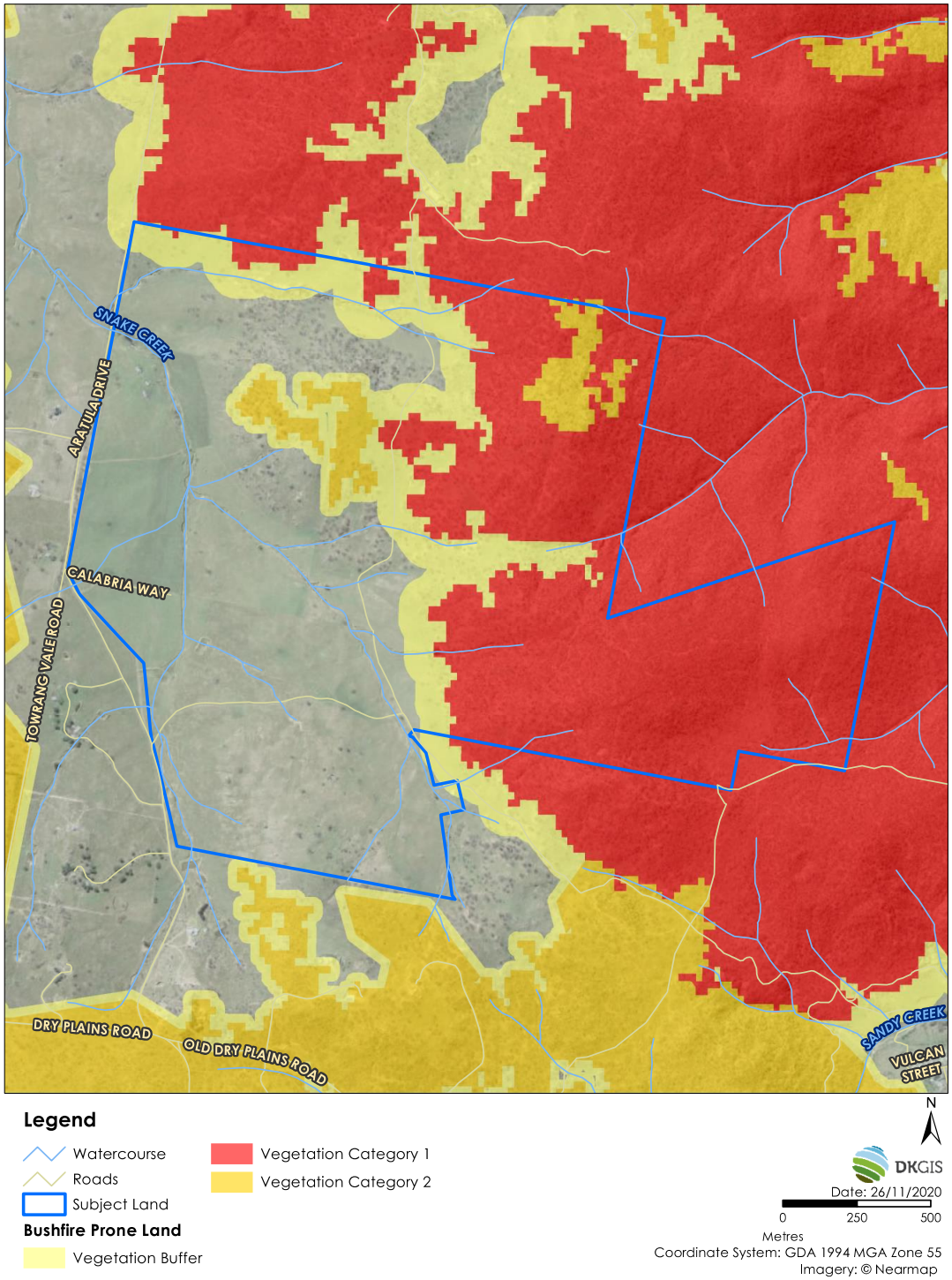

Figure 3: Bush Fire Prone Land

5. Bushfire Threat Assessment

5.1. Methodology

PBP 2019 provides a methodology to determine the bushfire threat and commensurate size of any asset protection zone (APZ) that may be required to offset possible bushfire attack. These elements include the potential hazardous landscape that may affect the site and the effective slope within that hazardous vegetation. For new residential subdivision, APZ requirements are based on keeping radiant heat levels at new buildings below 29kW/m^2.

The following assessment is prepared in accordance with Section 100B of the RF Act, Clause 44 of the RF Reg and PBP 2019. This assessment is based on the following resources:

- Planning for Bush Fire Protection (NSW RFS, 2019);
- Snowy-Monaro Regional Council Bushfire Prone Land Map;
- Aerial mapping; and
- Detailed GIS analysis.

The methodology used in this assessment is in accordance with PBP 2019 and is outlined in the following sections.

5.2. Bushfire Hazard

An assessment of the Bushfire Prone Land is necessary to determine the application of bushfire protection measures such as APZ locations and future building construction levels. The vegetation formations (bushfire fuels) and the topography (effective slope) combine to create the bushfire threat that may affect bushfire behavior at the site, and which determine the planning and building response of PBP 2019.

5.3. Vegetation Assessment

The RF Regulation requires a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in PBP 2019.

Predominant Vegetation is classified by structure or formation using the system adopted by Keith (2004) and by the general description using PBP 2019 and is shown in Figure 4.

Vegetation types give rise to radiant heat and fire behaviour characteristics. The predominant vegetation is determined over a distance of at least 140 metres in all directions from the proposed site boundary or building footprint on the development site. Where a mix of vegetation types exist, the type providing the greater hazard is said to predominate.

Figure 4 shows the site contains forest and grassy woodland in the eastern portions and large areas of land within the western portion of site have been previously used as farming land.

5.4. Slopes Influencing Bushfire Behavior

The RF Reg requires an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property or from the proposed development footprint.

The 'effective slope' influencing fire behaviour approaching the site has been assessed in accordance with the methodology specified within PBP 2019. The effective slope is the slope of the ground under the hazard (vegetation). It is not the slope between the vegetation and the building (slope located between the asset and vegetation is the site slope).

Figure 4 shows the effective slopes affecting the site. The site and surrounds are generally gently sloping (0-5 degrees), while there are areas with steeper slopes, mainly the forested areas in the eastern portion of the site.

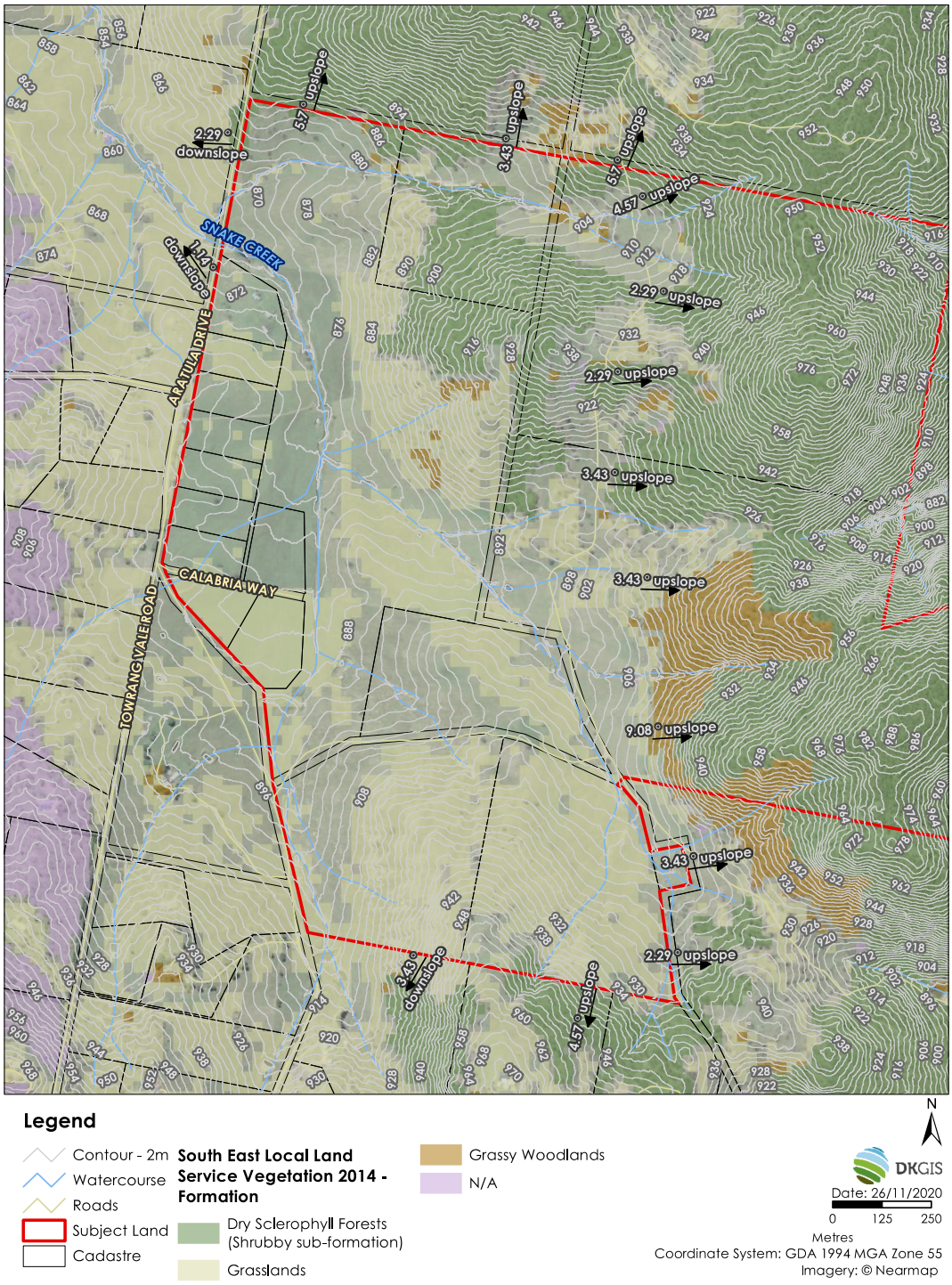

Figure 3: Vegetation & Slope Assessment

6. Asset Protection Zones

For proposed new residential subdivision, PBP 2019 requires that a minimum separation is provided in the form of Asset Protection Zones (APZ). The APZ is a fuel-reduced, physical separation between buildings and bushfire hazards. For residential developments, APZ requirements are based on keeping radiant heat levels at buildings below 29kW/m^2 as the maximum exposure on all sides of the building.

The future APZs within the site will be managed as an Inner Protection Area. All lots are a minimum of 2 hectares and the building envelopes can easily accommodate any required APZ which will range from 10 metres (Grassland) to 48 metres (Forest). The specific APZ requirements for each lot will be determined at the building DA stage once final building locations and other details are known.

7. Building Construction

The Bushfire Attack Levels (BAL) is a means of measuring the ability of a building to withstand attack from bushfire. The form of bushfire attack and the severity will vary according to the conditions (FDI, vegetation, slope and setback) on the site.

The BAL assesses the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per square metre, which is the basis for establishing the requirements for construction to improve protection of a building from potential attack by a bushfire, as defined in Australian Standard AS 3959-2009 *Construction of buildings in bushfire-prone areas* (AS 3959-2018).

The BAL ratings are used as the basis for establishing the requirements for construction to improve protection of a (proposed) building from potential bushfire attack. Each proposed lot is capable of supporting a dwelling and minimum APZ to achieve BAL-29 construction, however the specific construction requirements will be determined at the individual building application stage through s.4.14 of the EP&A Act.

8. Water Supplies

The proposed development will not be serviced by reticulated mains water.

Each lot must be provided with 20,000 litres of static water for firefighting purposes. All above-ground storage tanks and water service pipes must be of concrete or metal. This complies with PBP.

9. Gas and electrical supplies

Electricity supply for the new development must limit the possibility of ignition of surrounding bush land or the fabric of buildings.

All electrical transmission lines will be underground, which complies with PBP.

Any gas services are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2008). This complies with PBP.

10. Access

The design and construction of the access for the development must ensure safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing the area.

The development involves an extension of Calabria Way recently constructed as part of the previous stage (Stage 1) of this development. This provides the primary access to the site via the western part of the site.

The internal network is designed to form a loop of sealed roadways and fire trails throughout the development. The network is connected back to Aratula Drive in the north, Calabria Way in the west and an emergency access link is provided back to Towrang Road in the southwestern corner of the site. The development involves the construction of several internal access roads and fire trails to ensure a through road design and perimeter access around the development.

The internal road network includes an 8 metre wide perimeter road, a series of 6 metre wide non-perimeter roads and 4 metre wide property access roads and fire trails. The network has been designed in a manner that complies with the requirements of PBP 2019, providing safe access and egress for firefighting vehicles while residents are evacuating.

Given the large lot sizes and rural nature of the development, the internal road network, including the proposed fire trails which, in part, function as a perimeter road, is considered appropriate and compliant with the performance requirements of PBP 2019.

Temporary turning heads will be provided to temporary dead end roads. These will incorporate either a minimum 12 metre radius turning circle or turning heads compliant with A3.3 of PBP 2019.

11. Recommendations

The following recommendations are made for the bushfire protection measures for the proposed subdivision:

Recommendation 1: The internal access network including the proposed fire trails are to be constructed in accordance with Figure 2 of this report and constructed in accordance with the requirements of section 5.3.2 of *Planning for Bush Fire Protection 2019*.

Recommendation 2: Temporary turning heads must be provided to temporary dead-end roads incorporating either a minimum 12 metre radius turning circle or turning heads compliant with A3.3. of *Planning for Bush Fire Protection 2019*. Temporary turning areas may be removed upon opening of future proposed through roads.

Recommendation 2: Each future dwelling must be provided with property access in accordance with Table 5.3b of *Planning for Bush Fire Protection 2019*.

Recommendation 3: Each future dwelling must be provided with 20,000 litres of static water for firefighting purposes. Above-ground storage tanks and water service pipes must be of concrete or metal.

Recommendation 4: Electricity supplies through the proposed development must comply with section 5.3.3 of PBP 2019.

Recommendation 5: Any gas services for future dwellings are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2008).

Recommendation 5: All future dwellings are to be provided with an Asset Protection Zone (APZ) in accordance with Table A1.12.3 of *Planning for Bush Fire Protection 2019*.

Recommendation 6: All future dwellings are to be constructed in accordance with Table A1.12.6 of *Planning for Bush Fire Protection 2019*.

12. Conclusion

The proposed large lot subdivision is afforded appropriate access and adequate setbacks that can provide for compliance with *Planning for Bush Fire Protection 2019*. Detailed bushfire protection measures such as building construction and APZ will be assessed and identified in more detail at the individual building application stage through s.4.14 of the EP&A Act.

In the authors professional opinion, the bushfire protection measures demonstrated in this report comply with the aim and objectives of *Planning for Bush Fire Protection 2019* and allow for the issue of a Bush Fire Safety Authority under Section 100B of the *Rural Fires Act 1997*.

Corey Shackleton | Principal Bushfire & Resilience
Blackash Bushfire Consulting
B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)
Fire Protection Association of Australia BPAD Level 3 - 34603

Appendix 1 References

Councils of Standards Australia AS3959 (2009) – *Australian Standard Construction of buildings in bushfire-prone areas.*

Councils of Standards Australia AS2419 (200) – *Fire Hydrant Installations.*

Keith, David (2004) – *Ocean Shores to Desert Dunes – The Native Vegetation of New South Wales and the ACT*. The Department of Environment and Climate Change.

NSW Rural Fire Service (2015) *Guide for Bushfire Prone Land Mapping.*

NSW Rural Fire Service (2006). *Planning for Bushfire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners.* Australian Government Publishing Service, Canberra.

NSW Rural Fire Service (2019). *Planning for Bushfire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners.* Draft for Public Exhibition.

NSW Government (1979) *Environmental Planning and Assessment Act 1979*. NSW Government Printer.

BLACKASH
BUSHFIRE CONSULTING

8 November 2023

Mr. Marty Webster
Development Assessment and Planning Coordinator
NSW Rural Fire Services

Email: martin.webster@rfs.nsw.gov.au

Dear Mr. Webster,

Re: CNR-31138 – NSW Rural Fire Service Additional Information Request:
Stage 2A - 108 Old Dry Plains Road, DAIRYMANS PLAINS

I refer to the correspondence from NSW Rural Fire Service (RFS) dated 25 October 2023 requesting additional information for the above Development Application at 108 Old Dry Plains Road, Dairymans Plains.

The correspondence advised that the response provided to the previous request for further information was not considered to adequately address the matters raised.

I refer to our subsequent meeting held on 31 October 2023 and the discussion and agreement in relation to the matters of concern. In this regard, the following was agreed:

Lots 201 – 211: These lots are not provided with a perimeter road. To provided additional redundancy in the design and assist operational response, by providing more protection and therefore buying more time during an emergency, each Lot (201-211) will be provided with the following:

1. 30 metre APZ;
2. BAL-19 construction; and
3. 20,000 litres of static water supply

Lots 213 – 215: These lots are not provided with a perimeter road. To provided additional redundancy in the design and assist operational response, by providing more protection and therefore buying more time during an emergency, each Lot (212-215) will be provided with the following:

1. 30 metre APZ;
2. BAL-19 construction; and
3. 20,000 litres of static water supply.

Lot 230: The battle axe handle of Lot 230 is 171.452 metres long and there is ample space for a 6 metre wide passing bay in the handle. With the small additional length to the building envelope, this was agreed as appropriate.

PO BOX 715 WAHROONGA NSW 2076 AUSTRALIA
M 0419 203 853 | E lew.short@blackash.com.au
W blackash.com.au

TINTAGEL INVESTMENTS PTY LTD T/A BLACKASH BUSHFIRE CONSULTING ABN 99 000 704 861

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

Lot 232: This lot has a battle axe handle 140 metres in length. Fire Trail 3 extends from the northern end of this battle axe handle to connect to Road 5. This was agreed as appropriate.

Lots 233 – 237: These lots are accessed through Road 5, which has a cul-de-sac, but is connected to Road 4 via Fire Trail 3. In this regard, the road is not a dead end, as access is provided through to Road 4 and meets the performance criteria of ensuring firefighting vehicles are provided with safe, all-weather access to structures. The Fire Trail will be provided within a 'Right of Carriageway' and a Deed of Agreement created to ensure access from residents of lots 232-237 have mutually beneficial rights of way to use the fire trail in the event of a fire. The Fire trail is to be maintained by the owners of Lots 232 and 233.

All these agreed additional measures will be captured as conditions of consent and stipulated on the title of the lots.

Given the information above and the recommendations of the Bushfire Hazard Assessment prepared by Blackash (dated 31 January 2023), the development satisfies the requirements of *Planning for Bush Fire Protection 2019* and the NSW RFS can issue a Bush Fire Safety Authority under 100B of the *Rural Fires Act 1997*.

If there are any questions or concerns, please don't hesitate to give me a call on 0418 412 118.

Yours sincerely

Corey Shackleton | Principal Bushfire & Resilience
Blackash Bushfire Consulting
B.Sc., Grad. Dip. (Design for Bushfire Prone Areas)
Fire Protection Association of Australia BPAD Level 3 – 34603

Biodiversity Assessment Report

Proposed residential subdivision

Aratula Hills Stage 2

Towrang Vale Road Cooma

Prepared for

Vision Property Development Hub

December 2022 V.1

South East Environmental
Mob: 0411 812 775
Email: mmass@southeastenvironmental.com.au
Website: www.southeastenvironmental.com.au
ABN: 13 927 340 723

Biodiversity Assessment Report

Proposed Residential Subdivision

Aratula Hills Stage 2

Towrang Vale Road Cooma

This assessment has been prepared by

Melissa Mass

December 2022 V.1

Date

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Abbreviations

Abbreviation	Description
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BCD	Biodiversity Conservation Department
DPE	Department of Planning and Environment
EEC	Endangered Ecological Community
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
KTP	Key Threatening Processes
LEP	Local Environmental Plan
LLS	Local Land Services
NSW OEH	New South Wales Office of Environment and Heritage
OEES	Office of Environment, Energy and Science
PCT	Plant Community Type
SEED Portal	Sharing and Enabling Environmental Data in NSW Portal
SEPP	State Environmental Planning Policy
SMRC	Snowy Monaro Regional Council
WoNS	Weeds of National Significance

1 INTRODUCTION

1.1 BACKGROUND

This Biodiversity Assessment Report has been prepared to accompany an application to the Snowy Monaro Regional Council (SMRC) for a proposed residential subdivision on Lot 11 DP1266312, Lot 1 CP 737275 and Lots 157, 158, 159 and 211 DP 750524 located along Towrang Vale Road Cooma. This report assesses the impact of the proposal on Threatened Species, Populations and Ecological Communities within the immediate vicinity of the site.

1.1.1 Sources of information

Database records and information reviewed in the preparation of this report include:

- The Biodiversity Assessment Method 2020;
- Aerial photography of the subject property and of the local landscape obtained from the Departments of Lands Spatial Information Exchange;
- NSW Department of Planning, Industry and Environment (DPIE) Biodiversity Value Map;
- NSW Local Land Services (LLS) Native Vegetation Regulatory Map;
- Cooma-Monaro Local Environmental Plan (LEP) 2013 was consulted to determine possible restraints;
- Data on the NSW Office of Environment Energy and Science (OEES) BioNet database of threatened species occurring within 10kms of the subject property;
- The Royal Botanic Gardens and Domain Trust plant database;
- Australia's Virtual Herbarium vegetation and plant database;
- Final determinations, DPIE species profiles, and other available information pertaining to threatened species known to occur in the locality.

1.2 GOVERNMENT LEGISLATION AND POLICY

This study was undertaken with regards to the local, state and commonwealth legislative requirements addressing the ecological issues within the study area.

Cooma-Monaro LEP 2013 addressed issues concerning land usage, bushfire assessment, and biodiversity protection of lands identified as significant for biodiversity in the regional landscape.

The *EP&A Act* provides framework for the planning and assessment of development proposals throughout NSW and ensures environmental issues are addressed and considered during the planning phase. Biodiversity of regional landscapes and threatened species protection are considerations under this Act.

The *BC Act* requires threatened species, populations and communities listed under the Act are considered during the planning stage of development to determine if significant effect is

likely to occur. Guidelines for avoiding, minimising and mitigating to reduce the risk of Serious and Irreversible Impacts are provided.

The *Rural Fires Act 1997* requires new and existing dwellings and/or subdivisions in bush fire prone lands to comply with standards minimising the risk of loss to human life and infrastructure.

The *EPBC Act* applies to any action that is likely to have an impact to matters of national environmental significance during the course of, or outcome of, a development. This legislation refers to threatened species, populations and communities, migratory species and national heritage areas.

The *Biosecurity Act 2015*, in this instance, addresses any pest species which are likely to have an adverse effect upon the environment in the immediate local landscape.

1.3 OBJECTIVES

The objectives of this flora and fauna assessment are to:

- identify native flora and fauna species, populations and ecological communities known to or likely to occur within the study area;
- describe the native vegetation and habitats within the study area;
- determine the legislative and conservation significance of species, populations and ecological communities known or likely to occur within the study area, with reference to the Commonwealth *EPBC Act* and the *NSW BC Act*;
- identify and describe the impacts from the proposed development upon native flora and fauna species, populations and ecological communities;
- assess the significance of potential impacts of the proposed development upon threatened species, populations and ecological communities following the outline of the *EP&A Act* Five Part Tests of Significance;
- recommend appropriate biodiversity and environmental management measures that should be implemented to avoid and mitigate impacts of the proposed development upon native flora and fauna and their habitats.

1.4 DESCRIPTION OF THE STUDY SITE AND ADJACENT LAND

This study area is within SMRC of the Southern Area Catchment. The five lots proposed to be subdivided are zoned R5 Large Lot Residential under the Cooma-Monaro Local Environment Plan 2013 (LEP). The area studied for this report did not include all areas of Lot 11 DP1266312 and Lot 1 CP 737275 as the remnant woodland will be left undisturbed for the purpose of this proposal. Areas assessed for this report included proposed building footprints and associated Asset Protection Zones (APZ) as determined by Blackash Bushfire Consulting, roadways and wastewater treatment zones. The property is currently un-occupied although a farm shed exist on Lot 211 DP 750524.

The land within the study area is comprised of one distinct vegetation zones - previously cultivated agricultural land and exotic grass paddocks. Exotic weed species are numerous with Weeds of National Significance (WoNS) identified throughout the study area.

The disturbance from many years of livestock grazing and cultivation is apparent throughout the subject property where minimal native vegetation occurs and exotic grasses dominate the vegetation class. Less than 5% of native vegetation was identified within the vegetation survey plots throughout the property therefore the study area is considered exempt from Biodiversity Assessment Method (BAM) survey under the *Biodiversity Conservation Act 2016* (*BC Act*).

A permanent creek line, Snake Creek, extends from the south west corner of the study area, along the western boundary and exits the study are on the western boundary of Lot 11 DP 1266312. Other drainage lines meet with Snake Creek within the study area with most being ephemeral, only containing water during rainfall events or prolonged wet weather periods. Several small farms dams occur within the study area for watering stock.

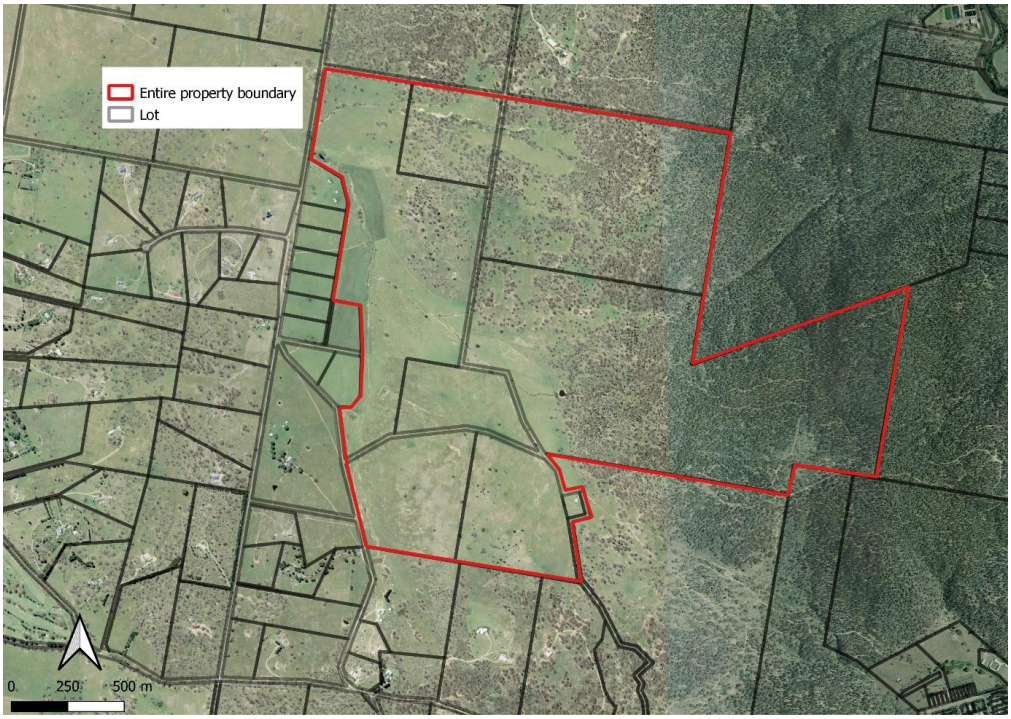


Figure 1. Aerial image of Aratula Hills Stage 2 Towrang Vale Road Cooma (Sixmaps 2018)

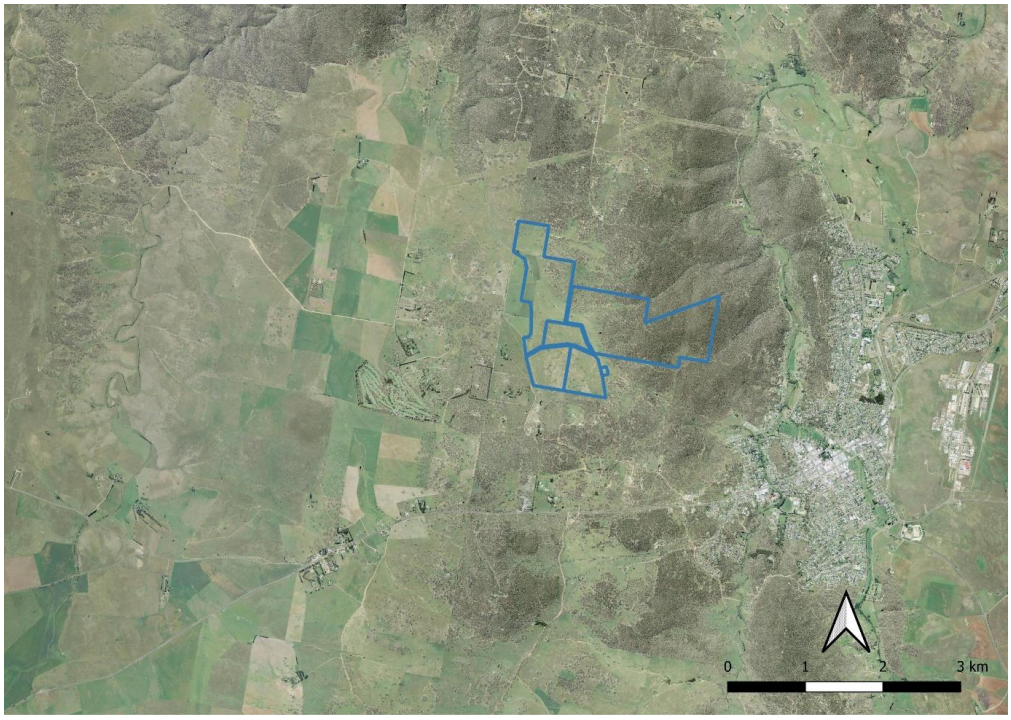


Figure 2. Landscape context of Aratula Hills Stage 2 Towrang Vale Road Cooma (Sixmaps 2018)

1.4.1 Description of proposed development

The proposed development consists of subdividing the 336ha property into forty lots with three lots being retained for the conservation of biodiversity. The footprint of residential lots and roads would total 130ha, leaving 206ha for conservation.

Residential lot size will vary from 2ha to 7.64ha with most being between 2-3ha. The subdivision layout has been positioned within the areas of the least biodiversity value where ongoing agricultural cultivation and livestock grazing has been occurring over an extended period of time. No trees or significant habitat features, such as rock outcrops, are proposed to be disturbed for this proposed subdivision.

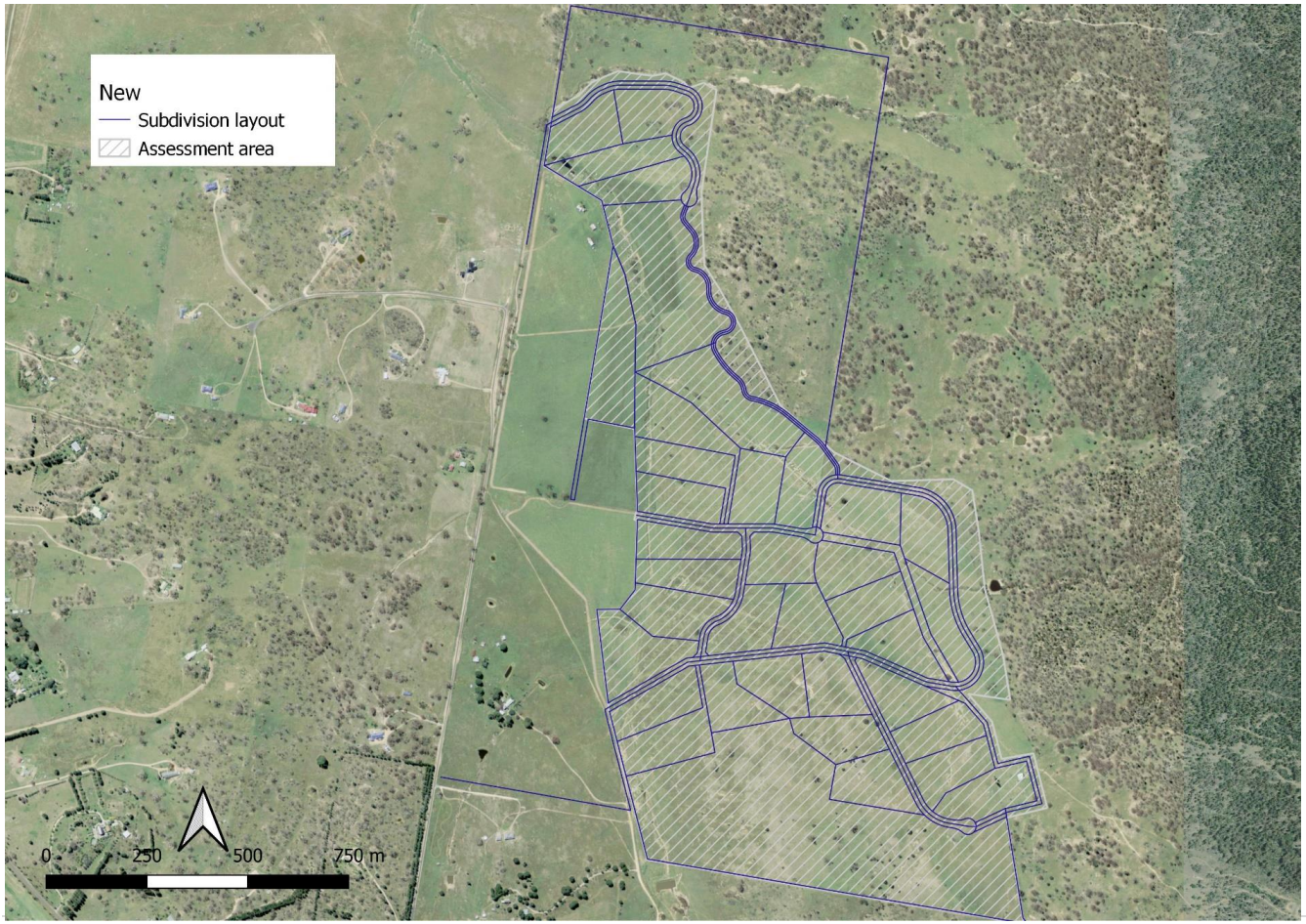
The forty lot subdivision is an extension of the approved Stage 1 Aratula Hills Subdivision which was approved by Cooma Monaro Shire Council in October 2022. Access into the forty lot subdivision would be via Calabria Way and Aratula Drive. A third access via an existing Crown Road easement is also proposed. Three causeways would be required to be constructed over Snake Creek for access to the eastern areas of the subdivision.

1.4.2 Justification for report delivery

The Biodiversity Offset Scheme native vegetation clearing threshold for lot size more than 40ha and less than 1000ha is 1ha or more. This development proposal will not be exceeding the native vegetation clearing threshold. The DPIE Biodiversity Value Map does not have any part of the subject property mapped as being significant biodiversity value. The entire subject property is within the land not yet published on the LLS Draft Native Vegetation Regulatory

map. This Biodiversity Assessment Report will therefore assess the potential for threatened species, threatened ecological communities or threatened populations to occur onsite.

The layout of the proposed rural residential subdivision is shown within Figure 3.


New
Subdivision layout
Assessment area
0
250
500
750 m

2 RESEARCH AND FIELD SURVEYS

2.1 FLORA SURVEY

Botanical surveys of the study area were conducted over two days during November and December 2022 by Melissa Mass. Surveys included 6 x BAM survey plot whilst a random meander was conducted through most other areas of disturbed and modified landscape within the study area, to search for threatened flora species and to record information on habitat condition. Approximately 10 hours were spent conducting botanical surveying.

Vegetation communities were identified and described with reference to the vegetation maps available on the Sharing and Enabling Environmental Data in NSW (SEED) Portal, the descriptions in Tozer et al (2010), PCT descriptions within the BioNet VIS and with reference to vegetation descriptions included by the Scientific Committee final determinations to list threatened communities under the *BC Act* and the *EPBC Act*.

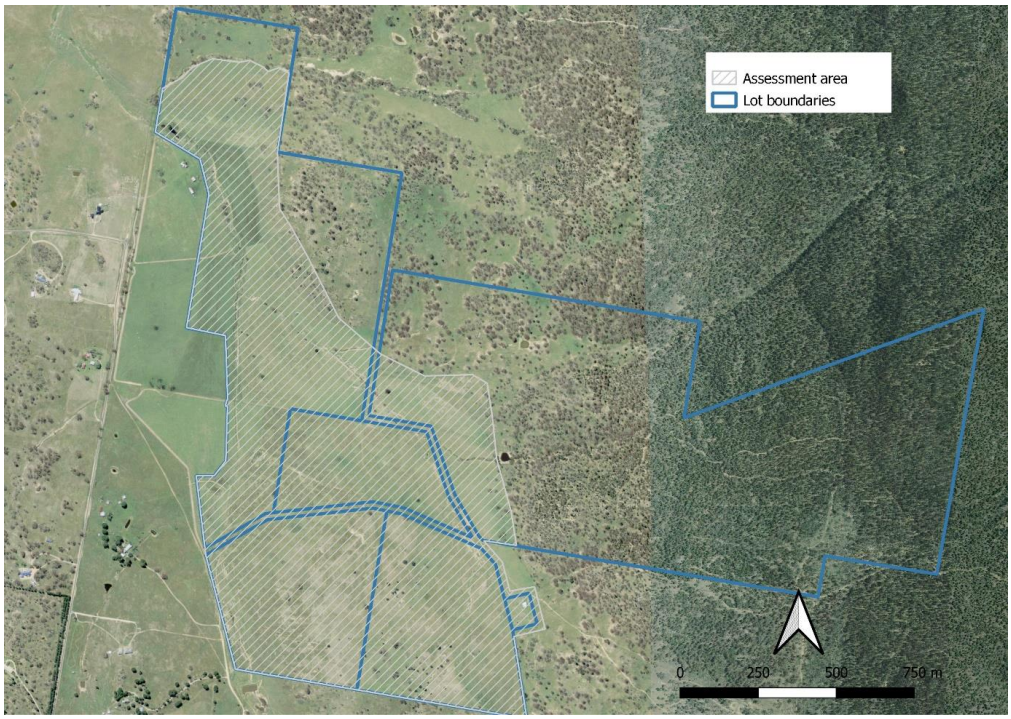


Figure 4. Area subject to assessment

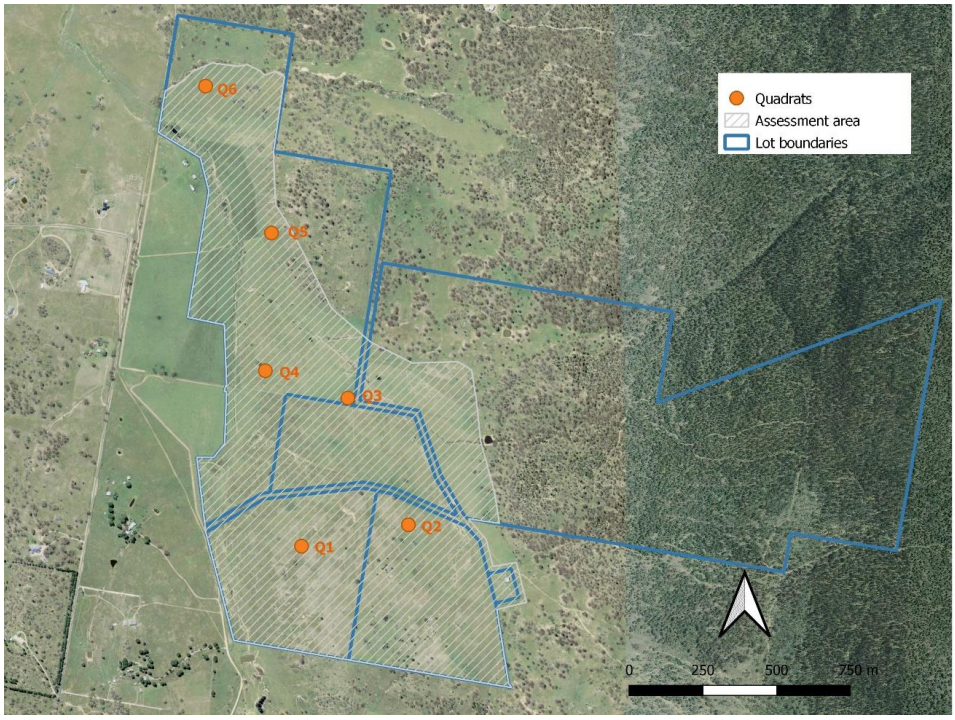


Figure 5. Quadrat locations throughout study area

2.2 Fauna Surveys

Fauna surveys were conducted within the study area by Melissa Mass during November 2022.

The assessment of fauna habitat was conducted to identify suitability for potential threatened fauna species known to occur in the local area.

The habitat assessment included the suitability of landscape features, hollow-bearing trees, stags, fallen timber and logs, rocky outcrops and boulders, flowering Eucalypts, specific feed trees for Glossy Black Cockatoo's, Swift Parrot, Koalas, Grey-headed Flying Fox, site connectivity, vegetation structure and vegetation types.

Searches were also undertaken for indirect evidence of native fauna, including scratches, scats, nests, hollows in use, camps, roosts, den sites etc. Opportunistic sightings of all fauna species were recorded throughout the survey period.

The following fauna survey methods were performed to target threatened species known to occur or likely to occur in the local area:

- general searches with direct observation of any fauna species present within the study area, including diurnal call identifications;

Details of methods, timing and effort are set out in Table 1. A list of fauna species recorded is provided in appendix B.

Table 1. Fauna survey methods

Survey Method	Targeted Species	Weather conditions	Time & Effort
General searches Direct observation Search for scats and indirect evidence Diurnal call identifications Opportunistic sightings	All subject species Mammals Birds Amphibians Reptiles Molluscs	Sunny/scattered cloud Min 0.5°C Max 20.1°C Wind speed 11-13 E – NE Rainfall 0.2mm	Approximately 2 hours

2.3 SURVEY LIMITATIONS

The survey was conducted within a short timeframe during spring. Therefore some plant species may not have been identified due to the survey being performed when not in flower, or when dormant. It is noted that some flora species are seasonal, and may not have been visible at the time of the surveys.

The survey limitations have been addressed through:

- consideration of flora and fauna species known to occur in the locality (including number of records from Bionet);
- consideration of habitat suitability present within the study areas and connectivity to other areas of habitat in the local landscape;
- a conservative approach in assuming the presence of a species that could potentially be present in the study areas.

Where the study area contains potential habitat for threatened fauna species known to occur in the locality, and where survey areas support a likelihood of occurrence, it has been assumed on a conservative approach that such species may occur in the study area.

2.4 PRECAUTIONARY APPROACH

Where the study area contains potential habitat for threatened fauna species known to occur in the locality, and where survey methods and effort employed are not sufficient to demonstrate absence or a low likelihood of occurrence, it has been assumed on a precautionary basis that such species do utilise the study area.

3 ENVIRONMENTAL FACTORS AND INFLUENCES

3.1 GENERAL DESCRIPTION

The subject property is 336ha with the study area being approximately 130ha in total. The aspect is mostly south west facing with a slope generally less than 5° although slope may exceed this in the southern portion of the study area. The study area is comprised of cleared landscape with disturbed remnant native vegetation occurring along the eastern boundary. Snake Creek runs from the south western boundary, along the western edge of the lots and exits the study area on the western boundary of Lot 11 DP 1266312.

The study area has been identified as mostly cleared lands on the Cooma-Monaro LEP Terrestrial Biodiversity Map Sheet BIO_013 while Snake Creek has been recognised as Riparian Lan on the Groundwater Vulnerability Map Riparian Land Map Wetlands Map –Sheet CL1_013. Cleared land occurs throughout the study area whilst a remnant woodland occurs immediately east and north of the study area. Sporadically spread paddock trees occur within the study area which are not proposed to be removed or disturbed as part of this development.

A rocky hill occurs in the southern portion of the study area. It is assumed this area contains significant habitat for the Striped Legless Lizard and has therefore been extracted from the development footprint and proposed for future conservation.

Snake Creek and several ephemeral drainage line occur within the study area. All areas were considered as severely disturbed and contained very little habitat potential for threatened species. Erosion is evident and weeds are plentiful.

No caves, crevices, cliffs of other areas of geological significance were identified within the study area or immediate surrounds. There are no major rivers, estuaries or significant wetlands located within the study area.

The property is located within a landscape of variously sized rural, rural residential and lifestyle lots with remnant native vegetation abundant in the surrounding landscape.

3.2 VEGETATION AND HABITAT

The study area consists of one vegetation zone, exotic grassland. The proposed subdivision will utilise the most disturbed areas of the subject property, specifically the cultivated agricultural and livestock grazing land. This area is virtually devoid of native vegetation and contains a number of species considered as agricultural weeds, including WoNS.

The study area does contain several scattered paddock trees which will not require removal for APZ compliance and will be avoided during construction of the subdivision.

Consideration was given to the potential presence of the Commonwealth Protected Natural Temperate Grasslands of the South Eastern Highlands based on location, species present, elevation, annual rainfall and site descriptions. The Natural Temperate Grasslands of the

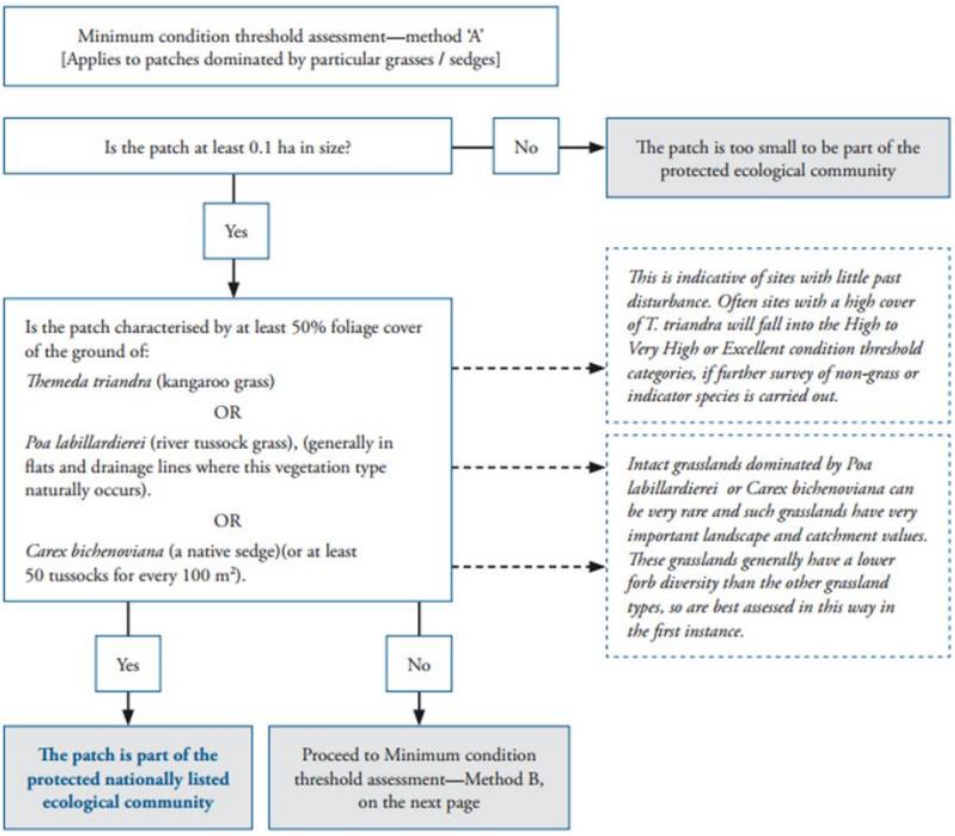
South Eastern Highlands can only be offered protection under the *EPBC Act* if it is in relatively good condition and meets a minimum condition threshold. The flowcharts below have been used to determine if the minimum condition threshold has been meet. Any patch of good or poor quality native vegetation (as a minimum) is far less than 0.1 ha in size and therefore is too small to be considered part of the protected ecological community.

The Native Vegetation of the Cooma-Monaro Shire VIS_ID 4064 viewed on the SEED Portal considers the vegetation community on the property to be a Tablelands Clay Grassy Woodand. This mapping was not supported following the botanical survey of the site due to the lack of native species present and high percentage of HTW and other exotic species present throughout the study area. No specific native plant community was able to be determined based on the results of the botanical surveys. Therefore the study area is considered to be grasslands dominated by exotic species with scattered paddock trees.

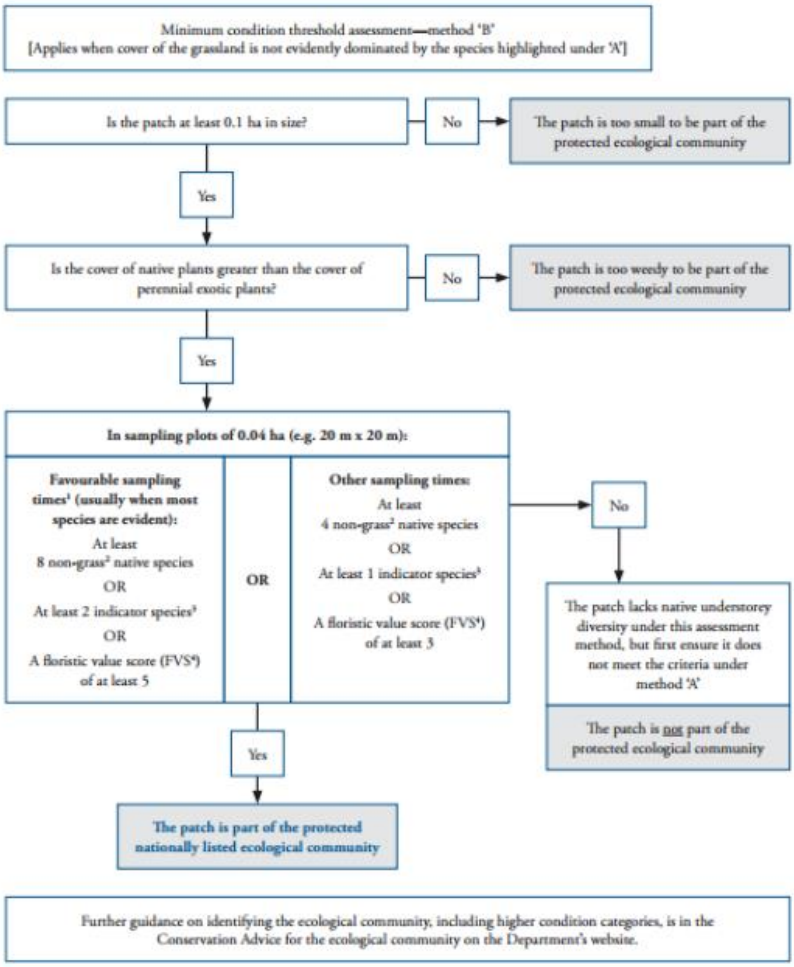
A *Swainsona* species was identified flowering within the study area during the November flora survey. A repeat visit during December to view seed pods to determine if the species was *Swainsona sericea* failed to provide clarity as the plants which had finished flowering had been grazed. Samples of the leaves and flowers were collected and compared with samples of leaves and flowers collected from a known *Swainsona sericea* at a job site the Author has at Michelago. The *Swainsona sericea* at Michelago had seed pods present which were observed to be covered in fine hair. The leaf and flower samples were compared under a microscope which gave assurance that the hair structure is indeed different on both samples. It was therefore confirmed that the *Swainsona* at Aratula Hills is that of the species *Swainsona monticola* and not that of the species *Swainsona sericea*. Comparison photos have been provided in figure 6, 7 and 8.

A full list of flora species identified within the study area during the survey period can be found in appendix A.

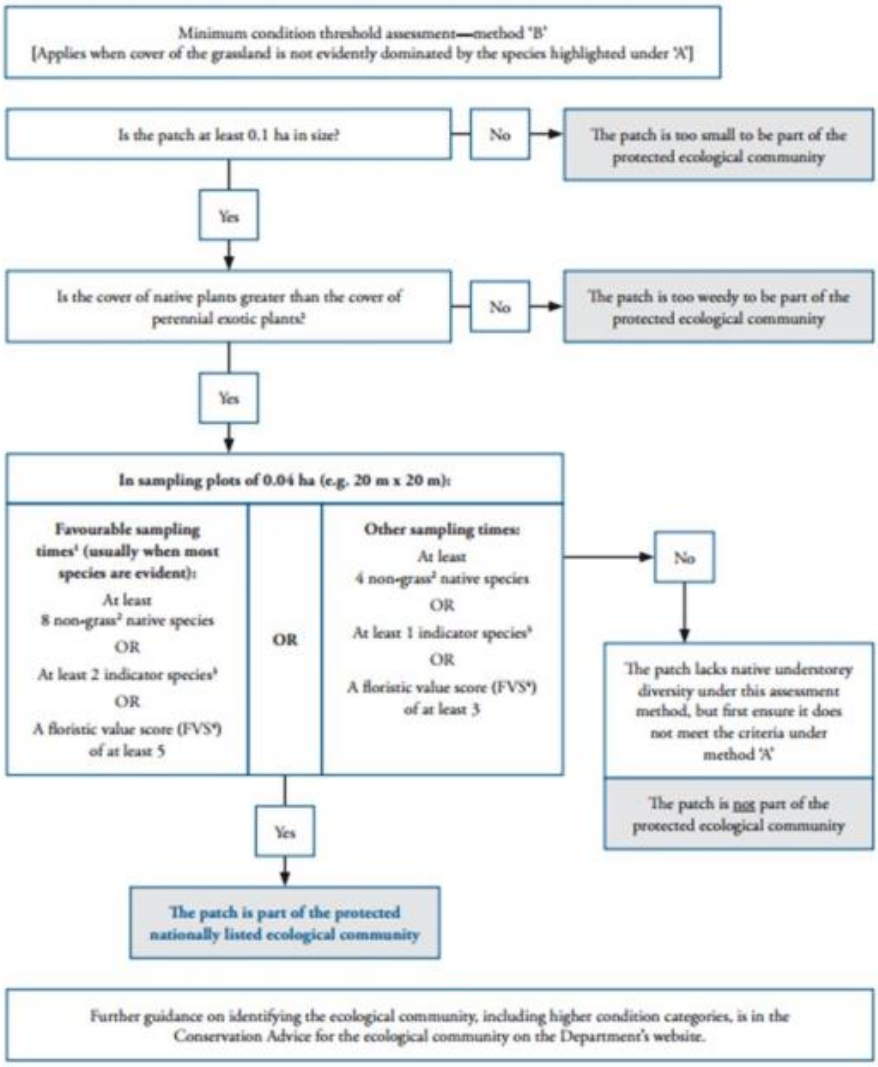
Flowchart 1. Natural Temperate Grassland of the South Eastern Highlands minimum condition threshold for national protection – Method A



Flowchart 2. Natural Temperate Grassland of the South Eastern Highlands minimum condition threshold for national protection - Method B



1. To be assessed in spring to early summer, and/or other time when native plant species are most evident (e.g. significant recent rainfall that has stimulated flowering of native plants). Or if these conditions not present, counts may be estimated from multiple surveys of the same site in different seasons or years.
2. Non-grass species include forbs/herbs (wildflowers), lilies, orchids, rushes and low shrubs. It does not include trees and, for the purposes of these thresholds, sedges.
3. Indicator species are native plant species that are useful surrogates for conservation value of a patch, and are typically disturbance sensitive species. The list is found on the ecological community profile on the Species Profiles and Threats Database (SPRAT), on the Department's website.
4. Floristic Value Score is a method of measuring the quality of a grassland site, based on Rehwinkel (2015) (see the Conservation Advice for the full reference).



1. To be assessed in spring to early summer, and/or other time when native plant species are most evident (e.g. significant recent rainfall that has stimulated flowering of native plants). Or if these conditions not present, counts may be estimated from multiple surveys of the same site in different seasons or years.
2. Non-grass species include forbs/herbs (wildflowers), lilies, orchids, rushes and low shrubs. It does not include trees and, for the purposes of these thresholds, sedges.
3. Indicator species are native plant species that are useful surrogates for conservation value of a patch, and are typically disturbance sensitive species. The list is found on the ecological community profile on the Species Profiles and Threats Database (SPRAT), on the Department's website.
4. Floristic Value Score is a method of measuring the quality of a grassland site, based on Rehwinkel (2015) (see the Conservation Advice for the full reference).

Figure 6. *Swainsona sericea* from Michelago on the left, *Swainsona monticola* from Aratula Hills on the right.

Figure 7. *Swainsona sericea* leaf under microscope showing hair structure

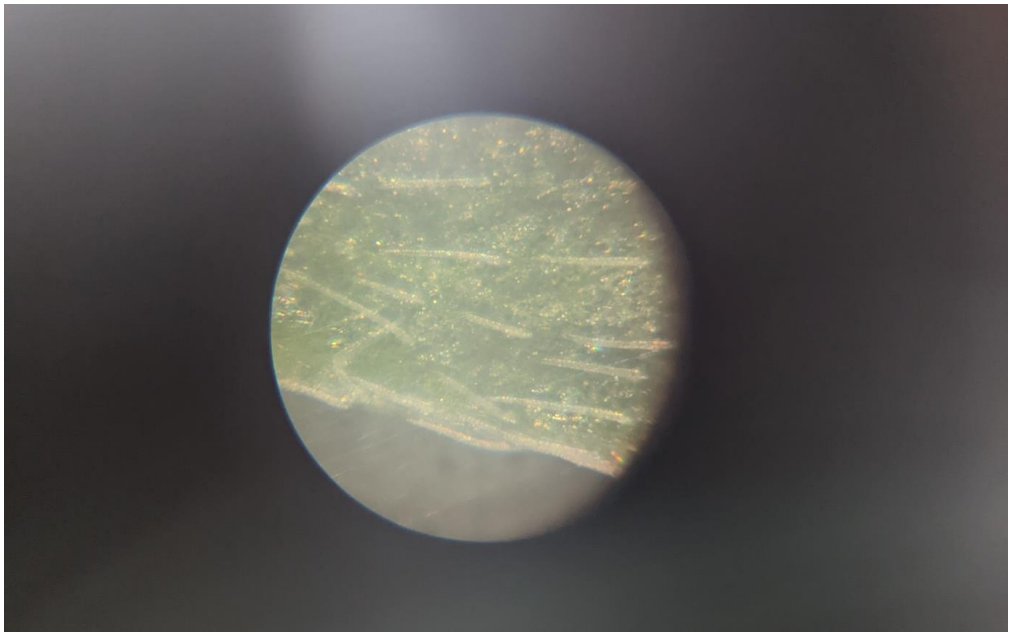


Figure 8. *Swainsona monticola* leaf under microscope showing hair structure

3.3 Existing Disturbance

The study area has undergone past disturbance from agricultural use, stock grazing and historic timber removal. Very few native species were identified within the study area during the botanical surveys with each of the six plots not able to record 5% of native species cover. Exotic grasses and herbs dominate the study area with areas of bare soil not uncommon, particularly along Snake Creek. There are many agricultural weeds present including HTW and WoNS.

Although the southern portion of the study area is also dominated by exotic flora species, rock outcrops and scattered rock fragments are common. It is therefore considered that this area, whilst not supportive of native flora, is crucial habitat for the Striped Legless Lizard and has therefore been taken out of the development footprint to avoid entry into the Biodiversity Offset Scheme and to offer future conservation of habitat for this threatened species.

As previously mentioned, Snake Creek has areas of erosion and weed infestation. Livestock currently have direct access to the creek which contributes to these ongoing management issues.

3.4 Assessment of Threatened flora species

There was no threatened flora species listed under the *BC Act* or *EPBC Act* recorded within the study area. In a 10km radius search using the BioNet database nine flora species were

identified as being threatened. An assessment of likelihood of these species occurring within the study area is summarised in Table 3. As previously discussed, *Swainsona monticola* was identified within the study area. This species was determined to not be that of the threatened *Swainsona sericea* via microscopic investigation of leaf hair structure.

Table 2. Assessment of likelihood of threatened flora species historically recorded within 10kms of the study area to occur onsite at Aratula Hills Stage 2 Towrang Vale Road Cooma (NSW Bionet 2020)

Botanical Name	Common Name	Habitat constraints	Likely to occur onsite	Dedicated species survey undertaken	Identified on site	Included or excluded from 5 part test
Calotis glandulosa	Mauve Burr-daisy	Found in montane and subalpine grasslands in the Australian Alps. Found in subalpine grassland (dominated by Poa spp.), and montane or natural temperate grassland dominated by Kangaroo Grass (Themeda australis) and Snow Gum (Eucalyptus pauciflora) Woodlands on the Monaro and Shoalhaven area. Appears to be a coloniser of bare patches, which explains why it often occurs on roadsides. Apparently common on roadsides in parts of the Monaro, though it does not persist for long in such sites. Does not persist in heavily-grazed pastures of the Monaro or the Shoalhaven area. Dispersed by animals which carry the sticky burrs to new sites.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded –** The Study area does not contain montane, natural temperate or subalpine grasslands. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle
Dodonaea procumbens	Creeping Hop Bush	Grows in Natural Temperate Grassland or fringing eucalypt woodland of Snow Gum (Eucalyptus pauciflora). Grows in open bare patches where there is little competition from other species. Found on sandy-clay soils, usually on or near vertically-tilted shale outcrops. Produces roots along the stems that enable the plants to recover from minor disturbances.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance. This species can be surveyed all year round.	No	**Excluded** – The study are does not contain natural temperate grasslands or eucalypt woodland of Snow Gum. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle

		Often occurs on roadside batters. Does not persist in heavily grazed pastures of the Monaro. Dispersed by the papery fruits.				
Eucalyptus aggregata	Black Gum	Grows in the lowest parts of the landscape. Grows on alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Often grows with other cold-adapted eucalypts, such as Snow Gum or White Sallee (Eucalyptus pauciflora), Manna or Ribbon Gum (E. viminalis), Candlebark (E. rubida), Black Sallee (E. stellulata) and Swamp Gum (E. ovata). Black Gum usually occurs in an open woodland formation with a grassy groundlayer dominated either by River Tussock (Poa labillardierei) or Kangaroo Grass (Themeda australis), but with few shrubs. Also occurs as isolated paddock trees in modified native or exotic pastures. Many populations occur on travelling stock reserves, though stands and isolated individuals also occur on private land. There are very few stands in conservation reserves.	Potential to occur based on location and suitable habitat conditions	BAM floristic survey and line transect surveys across remaining area of proposed disturbance. Species can be surveyed throughout the year.	No	**Excluded** – – No individuals identified within the study area
Lepidium hyssopifolium	Aromatic Peppercress	In NSW the species was known to have occurred in both woodland with a grassy understorey and in grassland. The species may be a disturbance opportunist, as it was discovered at the most recently discovered site	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded** – The study are does not contain woodlands or native grasslands. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle

		(near Bungendore) following soil disturbance. The cryptic and non-descript nature (appearing like several weed species) of the species makes it hard to detect.				
Leucochrysum albicans var. tricolor	Hoary Sunray	Occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils. Can occur in modified habitats such as semi-urban areas and roadsides. Highly dependent on the presence of bare ground for germination. In some areas, disturbance is required for successful establishment.	Potential to occur based on location and suitable habitat conditions	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded** – No individuals identified within the study area. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle
Rutidosis leiolepis	Monaro Golden Daisy	Found in Natural Temperate Grassland on the Monaro. Occurs in sub-alpine grasslands in Kosciuszko National Park. Grows on basalt, granite and sedimentary substrates. Apparently highly susceptible to grazing, being retained in only a small number of populations on roadsides, un-grazed reserves and very lightly grazed pastures on private lands.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November and December	No	**Excluded** – The study are does not contain natural temperate grasslands. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle
Swainsona sericea	Silky Swainson-pea	ound in Natural Temperate Grassland and Snow Gum Eucalyptus pauciflora Woodland on the Monaro. Found in Box-Gum Woodland in the Southern Tablelands and South West Slopes. Sometimes found in association with cypress-pines Callitris spp. Habitat on plains unknown.	No as the study area is heavily grazed pastures and cultivated agricultural land	BAM floristic survey and line transect surveys across remaining area of proposed disturbance undertaken during the recommended survey period in November	No	**Excluded** – The study are does not contain natural temperate grasslands or eucalypt woodland of Snow Gum. The study area is dominated by exotic flora species and is heavily grazed by sheep and cattle

		Regenerates from seed after fire.				
Wilsonia backhousei	Narrow Lead Wilsonia	Beaches and rock platforms adjacent to beaches, or anywhere saline. Margins of salt marshes and lakes on the coast	No as this species grows in saline conditions which do not occur on the subject property	BAM floristic survey and line transect surveys across remaining area of proposed disturbance.	No	**Excluded** – No suitable habitat located on the subject property
Zieria Formosa	Shapely Zieria	Acid volcanic rocky outcrops. Only a single population of Shapely Zieria is known. It occupies an area of about 1 hectare on private land located about 5 km west of Pambula on the NSW far south coast. The population of Shapely Zieria occurs on the north-east aspect of an upper, moderately steep slope of a 'break-away' area above a small valley. The soil is skeletal, grey sandy loam and there is much exposed surface rock. Associated vegetation includes Black Wattle (Acacia mearnsii), Blackfellows' Hemp (Commersonia fraseri), Large-leaf Hop-bush (Dodonea triquetra), Snowy Mint-bush (Prostanthera nivea), Sweet Pittosporum (Pittosporum undulatum), White Kunzea (Kunzea ambigua), and Yellow Tea-tree (Leptospermum flavescens). The species is almost certainly insect pollinated and native bees, hover flies and blow flies have been observed visiting the flowers.	No as suitable habitat not located on the subject property	BAM floristic survey and line transect surveys across remaining area of proposed disturbance. Species can be surveyed throughout the year.	No	**Excluded –** No suitable habitat located on the subject property

No Endangered Ecological Community was positively or confidently identified within the study area. However the Natural Temperate Grasslands of the South Eastern Highlands was considered during the assessment and found not to occur.

3.5 Assessment of Fauna habitat

The site was assessed for suitability as habitat for native fauna, especially those listed on the *BC Act*.

The study area contains a permanent creek line and ephemeral drainage lines with intermittent water flow during rainfall or extended wet weather periods. Habitat in these areas were assessed for the possibility of threatened aquatic dependent species such as frogs.

There was no evidence that any trees within the study site have been used by hollow dependant nesting species such as the Gang Gang Cockatoo or Glossy Black-cockatoo. There was no suitable trees present for Glossy Black-cockatoo foraging within the study area. No dreys or suitable nesting sites for Eastern Pygmy Possum were identified. It is very likely that the vegetation within the study area is used for foraging by nocturnal mammals and birds. Several trees and stags were noted to have hollows which may be used as habitat for birds, reptiles and microchiropteran bats although none of these trees or stags will be impacted by the development as they can be retained as the 30% allowable canopy within the APZ of building platforms.

There was no significant fallen timber visible which could provide habitat for mammals, reptiles and invertebrates. There are no caves or culverts that could be used for roosting by bats.

The granite rock outcrops in the southern portion of the study area were inspected for reptiles and evidence of small mammals.

Overall the fauna habitat within the study area is of poor value for fauna species in its current state.

3.6 Aquatic fauna & invertebrate

Frog calls were identified on the 4th of November 2022 within Snake Creek and the water storage dams. No significant invertebrate were identified within the study area.

3.7 Mammals

Specific survey techniques employed for mammals included dedicated searches for indirect evidence (including scats, prints, scratches, sap-feeding notches, dreys, burrows and diggings) and dedicated searches for tree-hollows suitable for arboreal mammals (eg Yellow-bellied Glider).

3.8 Reptiles

Surveys for reptiles and amphibians were conducted throughout the survey site and involved careful observation, active searches of appropriate refuge sites, including disturbing leaf litter, lifting rocks, searching around woody debris and understory vegetation. Live trapping was not conducted to reduce unnecessary stress on fauna. A Striped Legless Lizard was observed sunning itself on rocks in the southern portion of the subject property during the survey period. The subdivision layout has since been revised to exclude this habitat area.

3.9 Birds

The bird survey involved the identification of suitable tree-hollows on the survey site, searches for other evidence on the ground, visual identification and aural identification.

3.10 Assessment of Threatened Fauna species

A range of native fauna species could be expected to occur within the study area. Most mobile species would be resident in surrounding intact bushland areas, and would utilise vegetation within the study area for foraging.

No threatened fauna species were located within the study area. A 10km radius online search using the BioNet database was conducted to identify any threatened fauna species that may have historically occurred on the study site or within the immediate local area. Fourteen threatened fauna species were located within the 10km radius. An assessment of habitat suitability for those species occurring within the study area is summarised in Table 4.

Almost all the threatened species from the 10km radius have potential to present in the subject property due to native vegetation with good connectivity dominating the surrounding landscape however less habitat suitability is found within the study area. For the purpose of this assessment, only species which are considered as a dual species or a species credit species by the Biodiversity Conservation Department (BCD) will be investigated further should it be determined that suitable habitat occurs onsite.

Suitable habitat for the Striped Legless Lizard occurs in the southern portion of the subject property where granite outcrops and scattered surface rock is present. During the survey period a single Striped Legless Lizard was observed sunning itself on a rock. It disappeared into long grass between rocks before the Author could get a photograph. The southern portion of the subject property has been removed from the development footprint so as to protect the habitat for this threatened reptile. Due to the removal of this area from the development footprint, no impact to the species will occur. Therefore a Test of Significance is not required.

Table 3. Assessment of likelihood of threatened fauna species historically recorded within 10kms of the study area to occur onsite at Aratula Hills Stage 2 Towrang Vale Road Cooma

Common name	Scientific name	Species recorded onsite via past surveys or incidentally observed	Dual credit or species credit species	Constraints 1. Geographic limitations 2. Habitat constraints 3. Is the species vagrant to the IBRA subregion	Species likely to have suitable habitat onsite?	Included or excluded from 5 part test
BIRDS						
Diamond firetail	*Stagonopleura guttata*	**No**	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: None Information updated within the TBDC 1/12/2017	No suitable habitat of grassy eucalypt woodlands located within the proposed development site.	**Excluded -** Not a dual credit or species credit species.
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Data for this species is complicated by resident and migratory components of populations, with the greater tendency to migration in south of state. The species uses paddock trees for nesting. Information updated within the TBDC 1/12/2017	Some suitable habitat located within the proposed development site	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely to contain the species if it is locally

						present. The disturbance is unlikely to cause the species to become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
Gang-gang Cockatoo	*Callocephalon fimbriatum*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Eucalyptus tree species with hollows more than 9cm in diameter (Species credit constraint) **Species vagrant:** No **General notes**: This is a dual credit species. The identification of breeding habitat will require survey or an expert report. For clearing or development assessments, presence can be assumed. Information updated within the TBDC 9/03/2022	No suitable habitat of eucalypt woodlands or forests located within the proposed development site. Paddock trees are present however no nesting activity was observed during the survey period during November.	**Excluded** for assessment as a species credit species as no nesting activity observed within the development footprint during the survey period.
Hooded Robin	*Melanodryas cucullata cucullata*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Paddock trees can be important for this species as they can link remnant foraging habitat. Information updated within the TBDC 18/10/2022	No suitable habitat of eucalypt woodlands or located within the proposed development site. Paddock trees are present however no nesting activity was observed during the survey period during November.	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area

						proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely to contain the species if it is locally present. The disturbance is unlikely to cause the species to become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
Scarlet Robin	*Petroica boodang*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Paddock trees are used for roosting and foraging. Information updated within the TBDC 1/12/2017	No suitable habitat of eucalypt woodlands or forests located within the proposed development site. Paddock trees are present however no foraging or nesting activity was observed during the survey period during November.	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely

						to contain the species if it is locally present. The disturbance is unlikely to cause the species to become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
Speckled Warbler	*Chthonicola sagittata*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes**: Paddock trees can be important for this species as they can link remnant foraging habitat Information updated within the TBDC 18/10/2022	No suitable habitat of eucalypt woodlands or forests located within the proposed development site. Paddock trees are present however no foraging or nesting activity was observed during the survey period during November..	**Excluded -** Not a dual credit or species credit species. Although not identified during the survey period, it is possible that this species may have suitable habitat within the study area. The area proposed to be disturbed as a result of this development is adjacent to superior habitat which is more likely to contain the species if it is locally present. The disturbance is unlikely to cause the species to

						become locally displaced or extinct, its habitat to become fragmented nor should it cause an adverse effect on the lifecycle of the species.
White-breasted Sea-Eagle	*Haliaeetus leucogaster*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines **Species vagrant:** No **General notes**: The species is highly selective in nesting locations. Information updated within the TBDC 19/09/2019	Habitats are characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. Occurs at sites near the sea or sea-shore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest).	**Excluded** for assessment as the site is not within 1km to any river, lake, large dam or creek, wetlands and coastlines suitable as permanent habitat for the species.
MAMMALS						
Grey-headed Flying-fox	*Pteropus poliocephalus*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Breeding camps (Species credit constraints) **Species vagrant:** No	Suitable foraging habitat for the Grey-headed Flying-fox is located onsite via paddock trees. There are no breeding camps	**Excluded** as there is no breeding camp located within the study area. No trees are proposed to be

				General notes: This species is retained as dual credit because foraging habitat is broad ranging but breeding camps are localised and, if impacted, must be offset by protecting and enhancing another breeding camp (breeding camps will need to be identified by survey, as per OEH Guidelines). The initial search for camps should encompass any recorded camps and roosting habitat likely to occur on the subject land. If a camp is located the survey only needs to take place in the camp (that is the area occupied by the target species) to identify breeding females. Camps used for breeding must be mapped. Use GPS to map outer perimeter of the camp to create the species polygon. Additionally, selected >1 for average number of offspring because females do not give birth every (often miscarry etc). Information updated within the TBDC 9/10/2020	on site presently, or previously recorded.	removed for this development.
Koala	*Phascolarctos cinereus*	No	Dual credit	**Geographic limitations:** No **Habitat constraints in TBDC:** Areas identified via survey as important habitat (see comments) (Species credit constraints) **Species vagrant:** No **General notes:** Important' habitat (however this is not a mapped important habitat area) is defined by the density of koalas and quality of habitat determined by on-site survey - contact OEH for more information. Information updated within the TBDC 15/06/2022	Although suitable eucalypt woodland occurs within the subject property, no Koala has been recorded or is likely to be recorded within the study area due to historic and ongoing disturbances.	**Excluded** from assessment as the study area does not contain suitable habitat for this species.
AMPHIBIANS						
Alpine Tree Frog	*Litoria verreauxii alpina*	No	Species Credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No	Occurs in woodland, heath, grassland and herb fields with still or slow moving wetlands. Creek line habitat within the study area is	**Excluded** from assessment as suitable habitat does not occur within the study area.

				General notes: Note this subspecies appears to grade into the nominate Litoria verreauxii verreauxii and intermediate forms occur between 1000 and 1300m, an urgent genetic study is required to determine whether this form should be maintained. Information updated within the TBDC 1/12/2017	severely degraded resulting in unsuitable habitat for the species found within the study area.	
Green and Golden Bell Frog	*Litoria aurea*	No	Species credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes:** While chytrid is a potential threat to some populations of the species, other populations are subject to manageable threats. Information updated within the TBDC 14/10/2022	Occurs in marsh, dams and stream-sides particularly with bulrushes or spikerushes present. Creek line habitat within the study area is severely degraded resulting in unsuitable habitat for the species found within the study area.	**Excluded** from assessment as suitable habitat does not occur within the study area.
Reptiles						
Monaro Grassland Earless Dragon	*Tympanocryptis osbornei*	No	Species credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes:** None Information updated within the TBDC 7/06/2022	No suitable habitat of temperate grasslands located within the proposed development site.	**Excluded** from assessment as suitable habitat is unlikely to occur within the study area.
Pink-tailed Legless Lizard	*Aprasia parapulchella*	No	Species credit species	**Geographic limitations:** No **Habitat constraints in TBDC:** Rocky areas **Species vagrant:** No **General notes:** None Information updated within the TBDC 14/04/2022	No suitable habitat of native grasslands dominated by *Themeda australis* located within the proposed development site.	**Excluded** from assessment as suitable habitat is unlikely to occur within the study area.

Rosenberg's Goanna	*Varanus rosenbergi*	No	No	**Geographic limitations:** No **Habitat constraints in TBDC:** No **Species vagrant:** No **General notes:** Broad-ranging species that is difficult to survey - very transient. It is potentially two species - Western & Highlands open woodland (without sandstone); and Sydney basin bioregion. Clutch size is about 10-14 eggs, but only breed every second year or so. Predation by foxes will likely reduce the number of eggs hatching. Information updated within the TBDC 13/01/2022	No suitable habitat of heath, open forest or woodland located within the proposed development site.	**Excluded** from assessment as suitable habitat is unlikely to occur within the study area.

4 THE PROPOSED DEVELOPMENT AND POTENTIAL IMPACTS

4.1 OVERVIEW

The proposed development would involve the permanent modification of approximately 130ha of exotic grassland vegetation. This would not impact significantly upon the native flora and fauna located within the disturbance footprint or the immediate surrounding area due to area already being highly modified for agricultural usage.

However, further modification to this area may still influence the suitability of habitat for cryptic flora species such as those from the *Orchidaceae* family and fungus kingdom. Direct impacts on fauna species resulting from modification of this habitat could include the removal and alteration of suitable habitat for nesting, foraging and roosting of some species.

Indirect impacts on native fauna such as noise and light from human occupation and usage would remain constant as a result of the proposed development. Further indirect impacts during construction such as sediment and pollutants may be increased as a result of the proposed development along with nutrients associated with waste generated from human occupation. Hydrological changes may result, particularly from the location of the dwelling and hardstand area runoff. Possible weed infestation could occur from the spread of exotic species used for landscaping around the new dwellings.

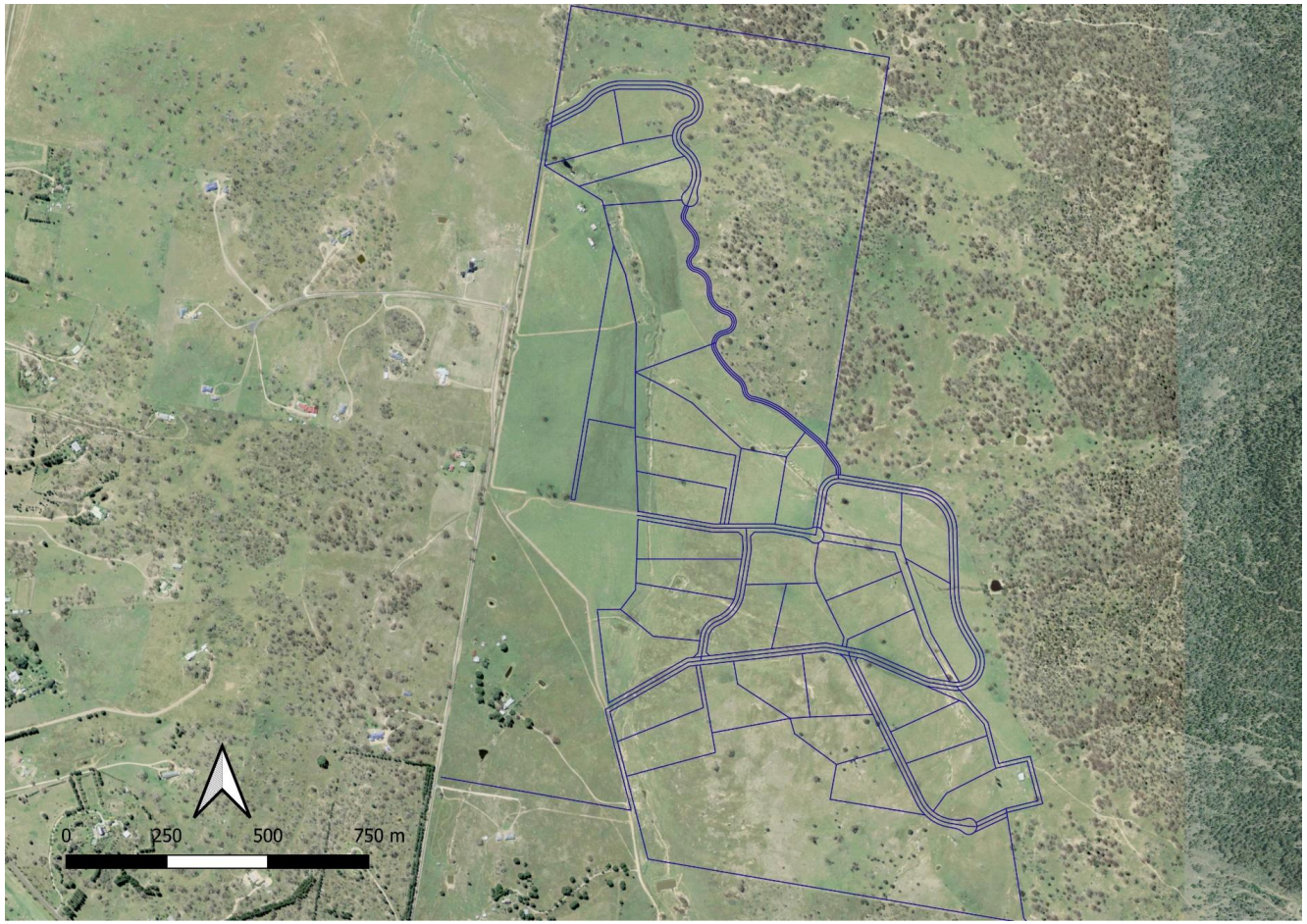


Figure 9. Proposed forty lot rural residential subdivision at Aratula Hills Stage 2 Towrang Vale Road Cooma

4.2 MITIGATION

No removal or further disturbance to the native vegetation outside of the proposed construction footprint and associated APZ to building envelopes.

Sediment and erosion control measures need to be considered before, during and after any earthworks in the study area, in accordance with current standards.

Removal of mature paddock trees within the subdivision footprint shall be avoided.

No disturbance to the southern portion of the subject property where suitable habitat for the Striped Legless Lizard occurs.

No invasive weeds are to be planted for landscaping purposes.

4.3 IMPACTS ON THREATENED FLORA

There were no threatened flora species identified within the study area.

There were no EEC's identified within the study area.

4.4 IMPACTS ON THREATED FAUNA

There will be no significant impacts to any threatened fauna species as a result of this development proposal. Several threatened species potential occur, bird species, which have far superior habitat found within the adjacent remnant woodland areas. These areas of native vegetation have been intentionally avoided during the planning stages of this development application due to the consideration of threatened species habitat being present. Although no significant native vegetation occurs in the southern portion of the subject property, suitable habitat for the Striped Legless Lizard is present and therefore this area is also intentionally being avoided to preserve this habitat for the species.

5 THREATENED SPECIES IMPACT STATEMENT

5.1 CONSERVATION SIGNIFICANCE

The initial assessment of the impact of this proposal has determined that no Tests of Significance is required for threatened species as per s.5A of the *EP&A Act* as there is likely to be no significant impact to any threatened species by the approval of the development proposal.

5.2 ASSESSMENT OF SIGNIFICANCE

No Test of Significance is required for this development proposal.

There is a potential that several threatened bird species may use the study area as an extension of a home range within the adjacent woodland. The habitat within the woodland is far superior to the available resources found within the study area therefore it has been determined that there is no impact likely to any of the potential threatened bird species which may occur locally. No threatened bird species were identified within the study area, or the adjacent woodland, during the survey period.

5.3 CONCLUSION

The applicant has considered the best location for the forty lot rural residential subdivision by considering the vegetation disturbance past and required, bushfire safety, slope and being aesthetically pleasing within the landscape. The applicant has demonstrated complete avoidance of native vegetation disturbance with this proposal and has selected to completely avoid habitat suitable for the threatened Striped Legless Lizard.

It is the opinion of South East Environmental that the long term ecological integrity as suitable habitat for threatened species is of poor quality within the proposed development footprint of the site in its current situation. The proposed permanent modification of 130ha of exotic grassland vegetation will not significantly impact upon any threatened species which could potentially occur in the local area.

Should the development be approved, approximately 130ha of poor quality habitat will be subject to permanent modification or ongoing management for APZ requirements. No suitable habitat for any threatened fauna species or populations will be directly affected should the development be approved providing recommendations within this report are adopted.

5.4 RECOMMENDATIONS

The following environmental management measures are regarded as part of the proposed:

- installation of sediment and erosion control devices prior to clearing or earthmoving works;
- retention of hollow bearing trees, particularly paddock trees;

- removal of any exotic weed species listed as a Weed of National Significance as determined by the NSW Department of Primary Industries;
- investigation of a Biodiversity Stewardship Site to enhance the biodiversity quality of remaining bushland areas within the subject property;
- installation of protective fencing around habitat trees to be retained. Fencing should be erected prior to the start of earthworks and should be removed after the earthworks and construction is complete;
- development of a stormwater management plan for use during all stages of the construction to reduce the impacts of changed water quality and quantity.

6 LIMITATIONS AND ASSUMPTIONS

This study was limited by the timing and frequency of the survey. There may be flora and/or fauna species present at the site that were not recorded due to their seasonal, territorial or cryptic nature.

It can never be proven that threatened species have not, do not or will not use the site as habitat. The conclusions drawn in this report are a result of testing, observation and experience.

This report describes the habitat and vegetation of the site at the time of the field survey. Vegetation and habitat will change over time and therefore the findings of this report are only relevant for the current proposal and for the duration of the application.

This report does not take into account the cumulative impact of other developments on this property or on adjacent land.

The impact assessment and conclusions are current with relevant legislation at the time of writing.

7 QUALIFICATIONS AND EXPERIENCE OF THE AUTHOR AND FIELD ECOLOGIST

The Author and Field Ecologist, Melissa Mass, has formal qualifications including a Bachelor of Applied Science (B. App. Sc.), majoring in Ecology, and a Certificate 3 in Horticulture. Her current Scientific Licence number issued from the NSW OEH is SL101441 with expiry date 31st Oct 2023. Furthermore an Animal Research Authority issued by the NSW Animal Care and Ethics Committee is current to undertake general survey work in all NSW local government areas with expiry 23rd Mar 2024. Melissa is an accredited Biodiversity Assessor conforming to the requirements as imposed by OEH with Accreditation number being BAAS18053.

Melissa has been working as an Ecologist for 14 years. Her work has included targeted threatened species assessment and management, reviews of environmental factors, restoration ecology, environmental impact assessments, and environmental survey and monitoring.

Melissa has a strong focus on threatened species ecology and has actively contributed to the Long-nosed Potoroo National Recovery Plan.

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9 APPENDICES

Appendix A - Flora species identified within the study area

Status	Botanical Name	Common Name	Quad 1	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6
HTE	*Acetosella vulgaris*	Sorrel	1	1	1	5	5	1
	Ajuga australis	Austral Bugle			1	0.1		
	Aristida ramosa	Purple Wire Grass				1	0.5	0.1
	Asperula conferta	Common Woodruff					0.1	
	Acaena echinata	Sheeps Burr	0.1	0.1	0.1	0.1	0.1	0.1
E	*Bromus catharticus*	Prairie Grass	1	1	1	0.1		
E	*Brmus hordeaceus*	Soft Brome	1					
E	*Centaurium erythraea*	Common Centaury	0.1	0.1	0.2	0.1	0.1	0.1
	Cheilanthes austrotenuifolia	Rock Fern	0.1					
	Chrysocephalum apiculatum	Common Everlasting		0.1	0.1	0.1	0.1	
E	*Cirsium vulgare*	Spear Thistle	1	0.1	0.1	0.1	0.1	
E	*Conyza bonariensis*	Fleabane		1		1	0.1	0.1
	Cymbonotus lawsonianus	Bears Ear	0.1		0.2	0.1	0.1	
E	*Cynodon dactylon*	Couch Grass			2			
	Dichelachhne crinita						0.1	
	Drosera peltata	Sundew			0.2	0.1		
HTE	*Echium plantagineum*	Patterson's Curse	0.1			0.1		
	Eleocharis acuta	Common Spike Rush			0.1			
HTE	*Eragrostis curvula*	African Lovegrass	95	90	5	95	95	95
	Erodium crinitum	Blue storkbill	0.1					
	Geranium antrorsum	Rosetted Cranesbill			0.1			
E	*Gnaphalium coarctatum*	Cudweed		0.2			0.1	
E	*Hirschfeldia incana*	Shortpod Mustard	0.1	0.1				0.1
E	*Holcus lanatus*	Yorkshire Fog			0.1			

E	*Hordeum murinum*	Barley Grass			70			
HTE	*Hypericum gramineum*	Small St Johns Wort		0.1	0.1	0.1	0.1	
HTE	*Hypericum perforatum*	St Johns Wort		0.2		0.1	0.1	1
E	*Hypochaeris radicata*	Flatweed	0.1	0.1	0.1	0.1	0.1	0.1
E	*Myosotis discolour*	Forget Me Not	0.1	0.1	0.1	0.1		
E	*Onopordum acanthium*	Scotch Thistle			5			
E	*Oxalis perennans*	Native Oxalis	0.1			0.1		
HTE	*Paspalum dilatatum*	Paspalum		1				
E	*Petrorhagia nanteuilii*	Proliferous Pink	0.1	0.1	0.1	0.1	0.1	
E	*Plantago lanceolata*	Plantain	1	0.2	0.1	1	0.1	
E	*Poa annua*	Summer Grass			2			
E	*Rumex obtusifolius*	Dock	0.1	0.1	1	1	0.1	0.1
	Schoenus apogon	Bog Rush			0.1		0.1	
	Solenogyne dominie	Smooth Solenogyne		0.1				
E	*Sorghum halepense*	Johnson Grass			1			
	Swainsona monticola	Notched Swainson Pea					0.1	
E	*Taraxacum officinale*	Dandelion		0.1		0.1		
	Themeda triandra	Kangaroo Grass					1	
E	*Trifolium arvense*	Haresfoot Clover	1		1	1	0.1	0.1
E	*Trifolium dubium*	Yellow Suckling Clover	1	1	0.1			0.1
E	*Trifolium repens*	White Clover			2	1		1
E	*Verbascum thaspus*	Giant Mullein	1			0.1	0.1	1
E	*Vulpia myuros*	Rats Tail Fescue	1	8	2	0.1	1	5

E – Exotic species, **HTW –** High Threat Weed, **WoNS** – Weed of National Significance

Appendix B – Fauna species identified within the study area

	Scientific Name	**Common name**	**Method of observation**
BIRDS			
	Cracticus tibicen	Australian Magpie	On site observation
	Dacelo novaeguineae	Laughing Kookaburra	On site observation
	Malurus cyaneus	Superb Fairy Wren	On site observation
	Platycercus elegans	Crimson Rosella	On site observation
	Rhipidura leucophrys	Willie Wagtail	On site observation
	Strepera graculina	Pied Currawong	On site observation
MAMMALS			
	Bos taurus	Cattle	On site observation
	Macropus giganteus	Eastern Grey Kangaroo	On site observation
	Ovis aries	Domestic Sheep	On site observation
	Trichosurus vulpecula	Brush-tailed Possum	Scat
REPTILES			
	Chelodina longicollis	Eastern Long-necked Turtle	On site observation
	Delma impar	Striped Legless Lizard	On site observation
	Lampropholis guichenoti	Grass Skink	On site observation
	Pseudechis porphyriacus	Red-bellied Black Snake	On site observation
AMPHIBIANS			
	Crinia signifera	Common Eastern Froglet	Heard onsite

Appendix C – Threatened species historically identified within 10km of the study area (BioNet)

FLORA

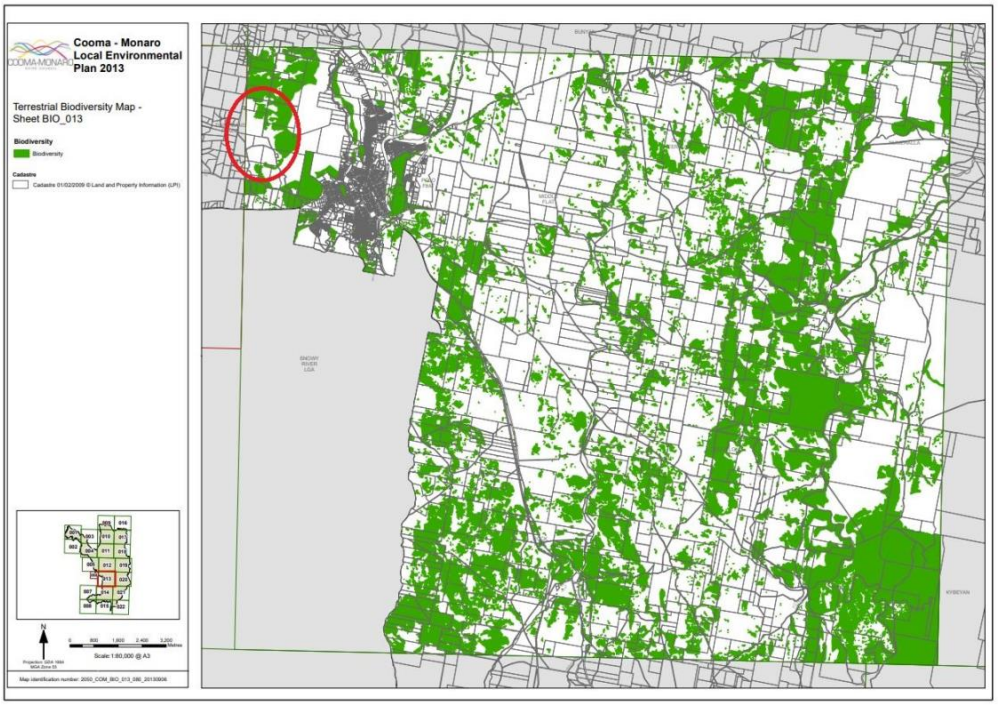
Botanical Name	Common Name	Conservation Status
Calotis glandulosa	Mauve Burr-daisy	BC – Vulnerable EPBC – Vulnerable
Dodonaea procumbens	Creeping Hop Bush	BC – Vulnerable EPBC – Vulnerable
Eucalyptus aggregata	Black Gum	BC – Vulnerable EPBC – Vulnerable
Lepidium hyssopifolium	Aromatic Peppercress	BC – Endangered EPBC - Endangered
Leucochrysum albicans var. tricolor	Hoary Sunray	EPBC - Endangered
Rutidosis leiolepis	Monaro Golden Daisy	BC – Vulnerable EPBC – Vulnerable
Swainsona sericea	Silky Swainson-pea	BC – Vulnerable
Wilsonia backhousei	Narrow Lead WIlsonia	BC – Vulnerable
Zieria formosa	Shapely Zieria	BC – Critically Endangered EPBC - Endangered

FAUNA

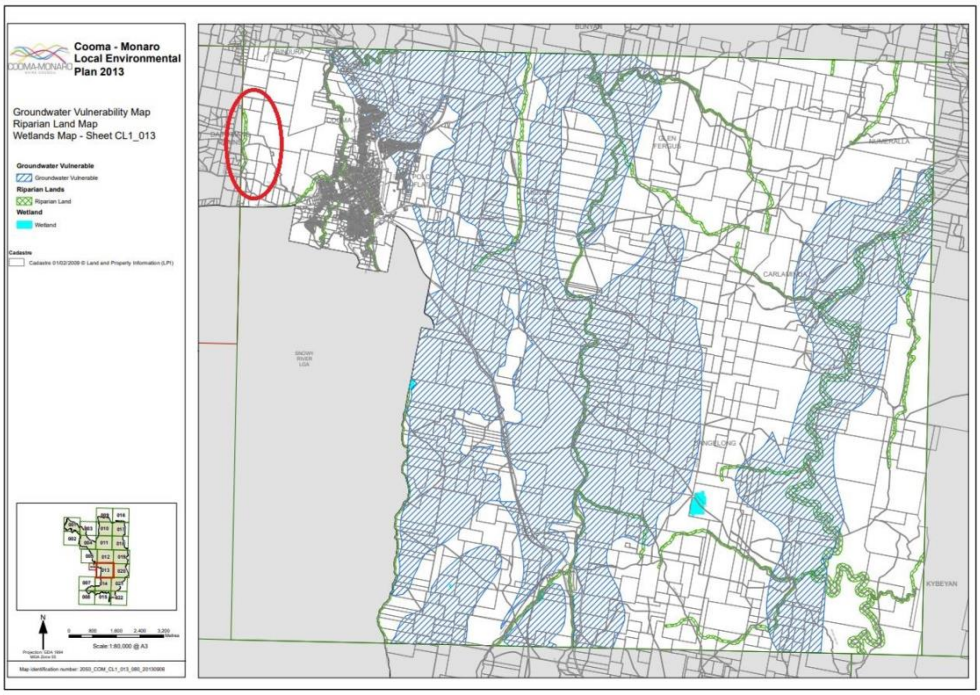
Common name	Scientific name	Conservation status
BIRDS		
Diamond Firetail	*Stagonopleura guttata*	BC - Vulnerable
Dusky woodswallow	*Artamus cyanopterus*	BC - Vulnerable
Gang-gang Cockatoo	*Callocephalon fimbriatum*	BC – Vulnerable
Hooded Robin	*Melanodryas cucullata cucullata*	BC – Vulnerable
Scarlet Robin	*Petroica boodang*	BC – Vulnerable
Speckled Warbler	*Chthonicola sagittata*	BC - Vulnerable
White-bellied Sea-Eagle	*Haliaeetus leucogaster*	BC - Vulnerable
MAMMALS		
Grey-headed Flying-fox	*Pteropus poliocephalus*	BC – Vulnerable EPBC - Vulnerable
Koala	*Phascolarctos cinereus*	EPBC – Vulnerable BC – Vulnerable
AMPHIBIANS		
Alpine Tree Frog	*Litoria verreauxii alpina*	BC – Endangered EPBC - Vulnerable
Green and Golden Bell Frog	*Litoria aurea*	BC – Endangered EPBC - Vulnerable
REPTILES		
Monaro Grassland Earless Dragon	*Tympanocryptis osbornei*	BC – Endangered
Pink-tailed Legless Lizard	*Aprasia parapulchella*	BC – Vulnerable EPBC – Vulnerable
Rosenberg's Goanna	*Varanus rosenbergi*	BC – Vulnerable

Appendix D – Cooma-Monaro LEP Map Sheets

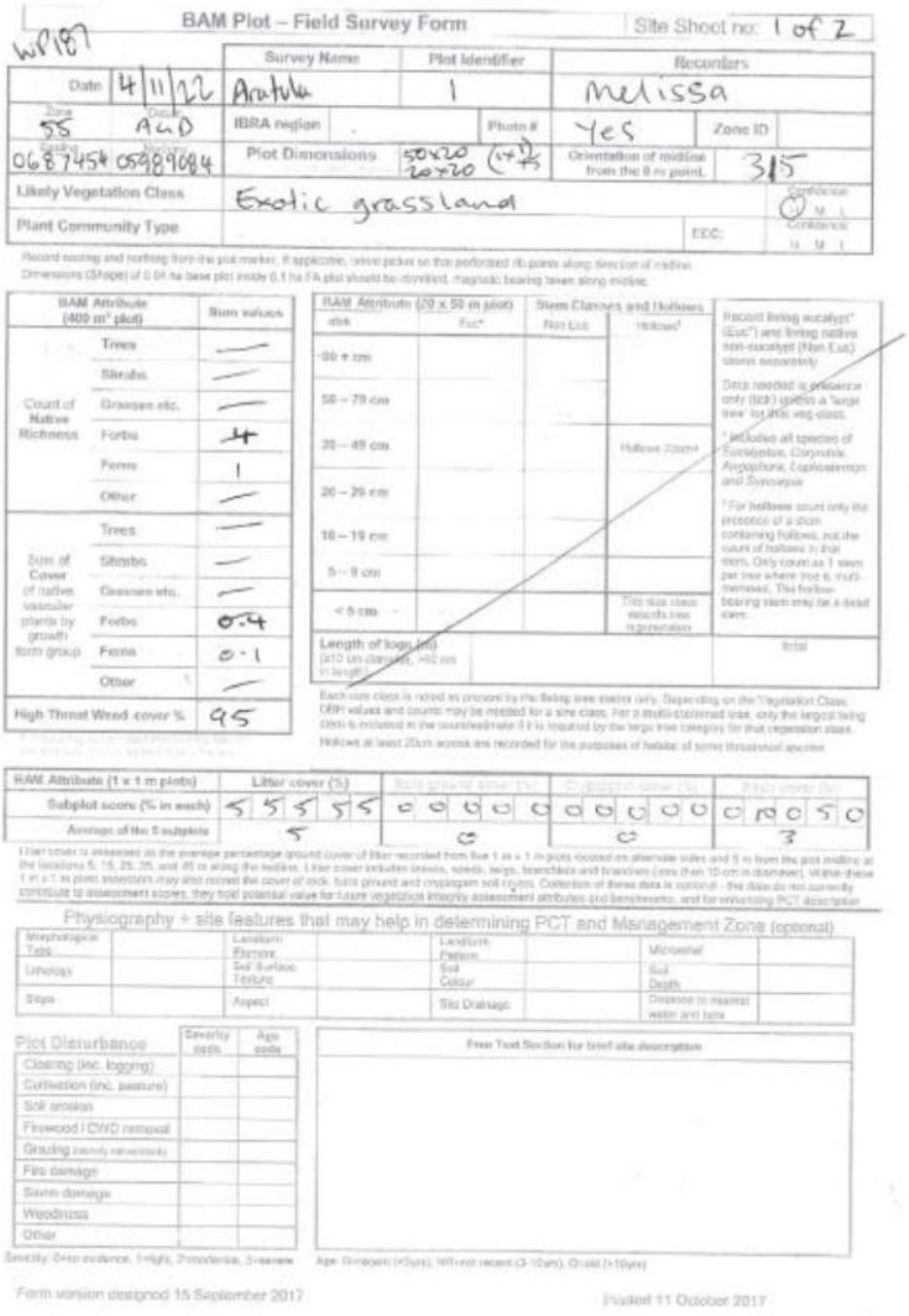
.Terrestrial Biodiversity



Riparian



Appendix E – Field data sheets



BAM Plot – Field Survey Form

Site Sheet no: 1 of 2

WP187

Survey Name	Plot Identifier	Recorders
Arahura	1	Melissa

Date: 4/11/22	IBRA region:	Photo #: Yes	Zone ID:
Zone: 55 Datum: AGD	Plot Dimensions: 50x20 20x20 (x2)	Orientation of midline from the 0 m point: 315	
Easting: 0687454 Northing: 5989084			
Likely Vegetation Class: Exotic grassland			Confidence: H M L
Plant Community Type:		EEC:	Confidence: H M L

Record existing and nothing from the plot marker. If applicable, select pickes on their perforated rib points along direction of midline.
Dimensions (Shape) of 0.04 ha base plot inside 0.1 ha FA plot should be monitored. Magnetic bearing taken along midline.

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	—
	Forbs	4
	Ferns	1
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	—
	Forbs	0.4
	Ferns	0.1
	Other	—
High Threat Weed cover %		95

BAM Attribute (20 x 50 m plot) dbh	Fauna*	Stem Classes and Hollows: Non Euc	Hollows†
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollow 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm	-	-	Tick this class records tree regeneration
Length of logs (m) (≥10 cm diameter, ≥50 cm in length)			Total

Record living eucalypt* (Euc*) and living native non-eucalypt (Non Euc) stems separately.
Data needed is presence only (tick) unless a 'large tree' for this veg class.
* Includes all species of Eucalyptus, Corymbia, Angophora, Lophostemon and Syncarpia.
† For hollows score only the presence of a stem containing hollows, not the count of hollows in that stem. Only count as 1 stem per tree where tree is multi-stemmed. The hollow-bearing stem may be a dead stem.
Each size class is noted as present by the Belong tree metric only. Depending on the Vegetation Class, DBH values and counts may be needed for a site class. For a multi-stemmed tree, only the largest living stem is included in the count/estimate if it is required by the large tree category for that vegetation class.
Hollows at least 20cm across are recorded for the purposes of habitat of some threatened species.

BAM Attribute (1 x 1 m plots)	Litter cover (%)	Rock ground cover (%)	Coarse woody debris (cm)	Fine woody debris (cm)
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	0 0 0 5 0
Average of the 5 subplots	5	0	0	3

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots located on alternate sides and 5 m from the plot midline at the locations 5, 15, 25, 35, and 45 m along the midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Within these 1 m x 1 m plots assessors may also record the cover of rock, bare ground and cryptogam soil crusts. Collection of these data is optional - the data do not currently contribute to assessment scores, they hold potential value for future vegetation integrity assessment attributes and benchmarks, and for reviewing PCT descriptions.

Physiography + site features that may help in determining PCT and Management Zone (optional)

Morphological Type		Landform Element		Landform Pattern		Microrelief	
Lithology		Soil Surface Texture		Soil Colour		Soil Depth	
Slope		Aspect		Site Drainage		Distance to nearest water and type	

Plot Disturbance	Severity code	Age code
Clearing (inc. logging)		
Cultivation (inc. pasture)		
Soil erosion		
Firewood / CWD removal		
Grazing (identify intensity)		
Fire damage		
Storm damage		
Weediness		
Other		

Severity: 0=no evidence, 1=slight, 2=moderate, 3=severe

Free Text Section for brief site description

Age: R=recent (<5yrs), HR=not recent (5-10yrs), O=old (>10yrs)

Form version designed 15 September 2017 Posted 11 October 2017

400 m² plot: Sheet 2 of 2 | Survey Name: | Plot Identifier: | Recorders:
Date: 4/11/22 | Arafula | 1 | Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers	N, E or HTE	Cover	Abund	Stem ø	Vert ø
	Eragrostis curvula - African Love Grass	HTE	95	500+		
	Acetosella vulgaris - Sheep sorrel		1			
	Trifolium arvense - Hare foot Clover		1			
	Plantago lanceolata - Plantain		1			
	Petrorhagia nanteuilii - Pink Proliferous		0.1			
	Hypochaeris radicata - False Dandelion		0.1			
	Rumex obtusifolius - Dock		0.1			
	Hirschfeldia incana - Mustard weed		0.1			
	Echium plantagineum - Patersons Curse		0.1			
	Verbascum thapsus - Giant Mullein		1			
	Cirsium vulgare - Spear thistle		1			
	Trifolium dubium - Yellow suckling Clover		1			
	Cymbonotus lawsonianus - Bears Ears	N	0.1			
	Cheilanthes sieberi - Rock Fern	N	0.1			
	Centaurium erythraea - Century		0.1			
	Vulpia myuros - Rats tail fescue		1			
	Bromus hordeaceus - Soft Brome		1			
	Acaena echinata - Sheeps Burr	N	0.1			
	Bromus carthaticus - Prairie Grass		1			
	Erodium crinitum - Blue Storksbill	N	0.1			
	Myosotis discolor - Forget Me Not		0.1			
	Oxalis perennans - Native Oxalis	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. N: native, E: exotic, HTE: high threat exotic.
Cover: 0.1, 0.2, 0.3, ... 1, 2, 3, ... 10, 15, 20, 25, ...100% (foliage cover). Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 10% = 10 x 10 m
Abundance: 1, 2, 3, ... 10, 20, 30, ... 100, 200, ... 1000, ...

Print more copies of this sheet to allow for higher species counts in a plot. All species at a plot need to be recorded.
Form version designed 19 September 2017 Printed 11 October 2017

BAM Plot – Field Survey Form Site Sheet no: 1 of 2

WP188

Date	4/11/22	Survey Name: Aratula	Plot Identifier: 2	Recorders: Melissa	
Zone: 55	Datum: AGD	IBRA region	Photo #: Yes	Zone ID	
Easting: 0687818	Northing: 05999148	Plot Dimensions ~~50x20~~ 20x20 (1x1)x5		Orientation of midline from the 0 m point.	70
Likely Vegetation Class	Exotic grasslands				Confidence: (H) M L
Plant Community Type				EEC:	Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	–
	Shrubs	–
	Grasses etc.	–
	Forbs	2
	Ferns	–
	Other	–
Sum of Cover of native vascular plants by growth form group	Trees	–
	Shrubs	–
	Grasses etc.	–
	Forbs	0.2
	Ferns	–
	Other	–
High Threat Weed cover %		

BAM Attribute (20 x 50 m plot) dbh	Euc*	Non Euc	Hollows[†]
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of logs (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)			
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	10 0 0 0 0
Average of the 5 subplots	5	0	0	2

Free Text Section for brief site description

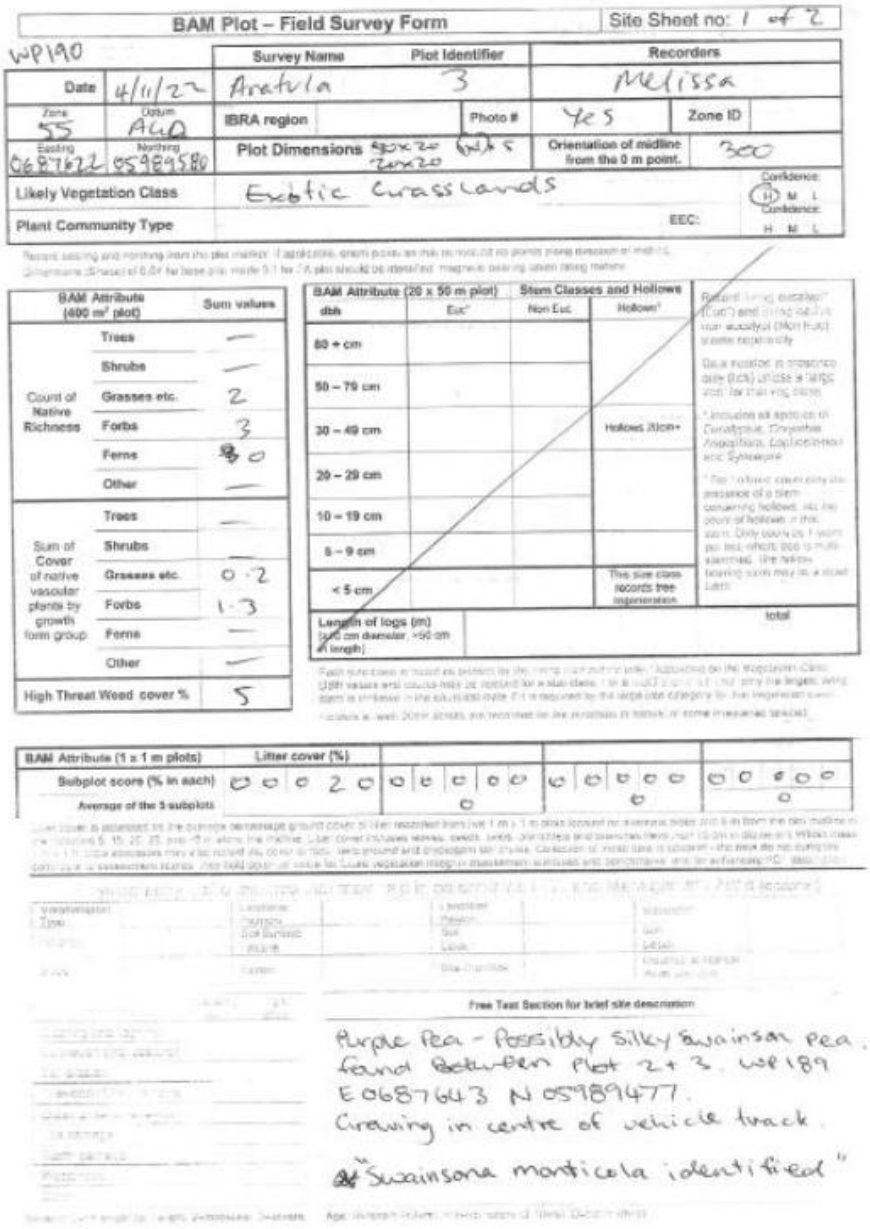
400 m² plot: Sheet 2 of 2

Date	Survey Name	Plot Identifier	Recorders
4/11/22	Brentwood	2	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata ex	vouch er
	Eragrostis curvula - African Love Grass		90			
	Vulpia myuros - Rats tail Fescue		8			
	Paspalum dilatatum - Paspalum		1			
	Trifolium dubium - Yellow suckling clover		1			
	Hirschfeldia incana - mustard weed		0.1			
	Plantago lanceolata - ~~Fleabane~~ Plantain		0.2			
	Conyza bonariensis - Fleabane		1			
	Acetosella vulgaris - Sheeps sorrel		1			
	Gamphalium coarctatum - cudweed		0.2			
	Hypericum perforatum - st johns wart		0.2			
	Cirsium vulgare - Spear thistle		0.1			
	Taraxacum officinale - Dandelion		0.1			
	Centaurium erythraea - Century		0.1			
	Rumex obtusifolius - Dock		0.1			
	Petrorhagia nanteuilii - Poliferous Pink		0.1			
	Acaena echinata - Sheeps Burr	N	0.1			
	Chrysocephalum apiculatum - Common Everlast		0.1			
	Hypericum gramineum - Small St Johns Wort		0.1			
	Bromus cartharticus - Prairie Grass		1			
	Hypochaeris radicata - Flatweed		0.1			
	Myosotis discolor - Forget me Not		0.1			
	Solenogyne dominii - Smooth solenogyne	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. **N:** native, **E:** exotic, **HTE:** high threat exotic.
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); *Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m*
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000.

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.



BAM Plot – Field Survey Form — Site Sheet no: 1 of 2

WP190

Survey Name	Plot Identifier	Recorders
Aratula	3	Melissa

Date	Zone	Datum	IBRA region	Photo #	Zone ID
4/11/22	55	AGD		Yes	

Easting	Northing	Plot Dimensions	Orientation of midline from the 0 m point.
0687622	6989580	20x20 10x10 5x5	300

Likely Vegetation Class: Exotic Grasslands — Confidence: H M L

Plant Community Type: — EEC: — Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	2
	Forbs	3
	Ferns	0
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	0.2
	Forbs	1.3
	Ferns	—
	Other	—
High Threat Weed cover %		5

BAM Attribute (20 x 50 m plot) dbh	Stem Classes and Hollows: Esc*	Non Esc	Hollows†
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 30cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of logs (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)																			
Subplot score (% in each)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average of the 5 subplots					0								0						0	

Free Text Section for brief site description

Purple Pea - Possibly Silky Swainsan Pea. found Between Plot 2 + 3. WP189
E0687643 N0598947 7.
Growing in centre of vehicle track.
"Swainsona monticola identified"

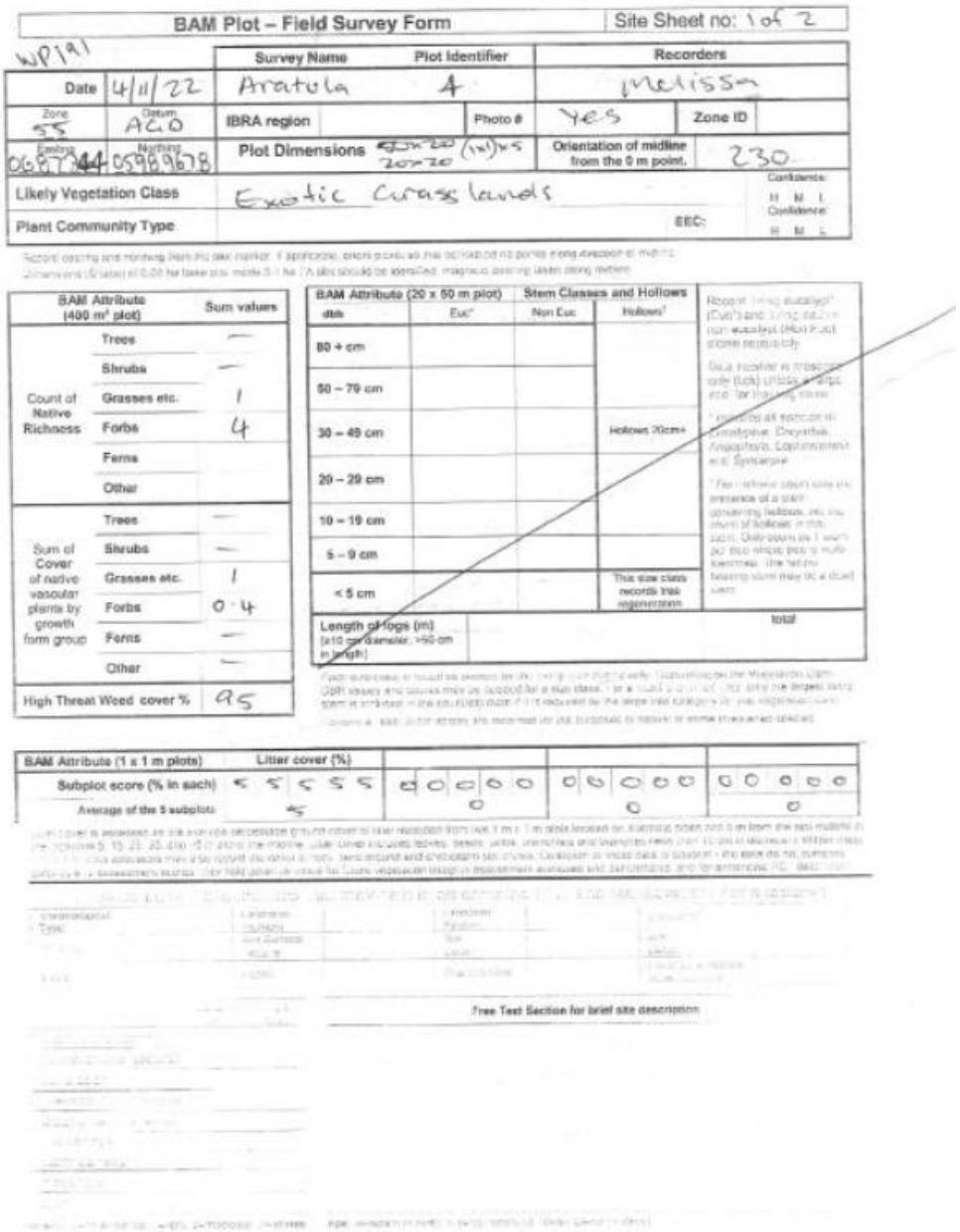
400 m² plot: Sheet 2 of 2

Date	Survey Name	Plot Identifier	Recorders
4/11/22	Areotula	3	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata m	reach #
	Hordeum murinum - Barley Grass		70			
	Trifolium repens - White Clover		20			
	Rumex obtusifolia - Dock		1			
	Ajuga australis - Austral Bugle	N	1			
	Vulpia myuros - Rats tail fescue		2			
	Poa annua - Summer Grass		2			
	Onopordum acanthium - Scotch Thistle		5			
	Acetosella vulgaris - Sheep sorrel		1			
	Petrorhagia nanteuilii - Poliforbes Pink		0.1			
	Acaena echinata - Sheeps Burr	N	0.1			
	Centaurium erythraea - Centuraury		0.2			
	Cymbonotus lawsonianus - Bears ear		0.2			
	Schoenus apogon - Bog rush	N	0.1			
	Chrysocephalum apiculatum - Common everlast		0.1			
	Cynodon dactylon - Couch		2			
	Trifolium arbense - Hares foot Clover		1			
	Plantago lanceolata - Plaintain		0.1			
	Cirsium vulgare - Speer thistle		0.1			
	Hypericum gramineum - Small St Johns wort		0.1			
	Hypochaeris radicata - Flatweed		0.1			
	Bromus carbatricus - Prairie Grass		1			
	Geranium antrorsum - Rosetted Cranesbill		0.1			
	Myosotis discolor - Forget Me Not		0.1			
	Sorghum halepense - Johnson Grass		1			
	Trifolium dubium - Yellow Suckling Clover		0.1			
	Holcus lanatus - Yorkshire Fog		0.1			
	Eleocharis acuta - Common Spike rush	N	0.1			
	Drosera peltata - Sundew	N	0.2			
HTE	Eragrostis curvula - African love Grass		5			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. N: native, E: exotic, HTE: high threat exotic.
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover). *Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m*
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000.

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.



BAM Plot – Field Survey Form — Site Sheet no: 1 of 2

WP191

Survey Name	Plot Identifier	Recorders
Aratula	4	Melissa

Date	4/11/22	IBRA region		Photo #	Yes	Zone ID	
Zone	Datum				
55	AGD				
Eastings	Northings	Plot Dimensions	20×20 (1x1)×5	Orientation of midline from the 0 m point.	230
0687344	6598678		20×20		

Likely Vegetation Class: Exotic Grass lands — Confidence: H M L

Plant Community Type: — EEC: — Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	1
	Forbs	4
	Ferns	
	Other	
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	1
	Forbs	0·4
	Ferns	—
	Other	—
High Threat Weed cover %		95

BAM Attribute (20 x 50 m plot) dbh	Stem Classes and Hollows Euc*	Non Euc	Hollows†
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			Tick size class records tree regeneration
Length of logs (m) [≥10 cm diameter, >50 cm in length]			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)			
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Average of the 5 subplots	5	0	0	0

Tree Test Section for brief site description

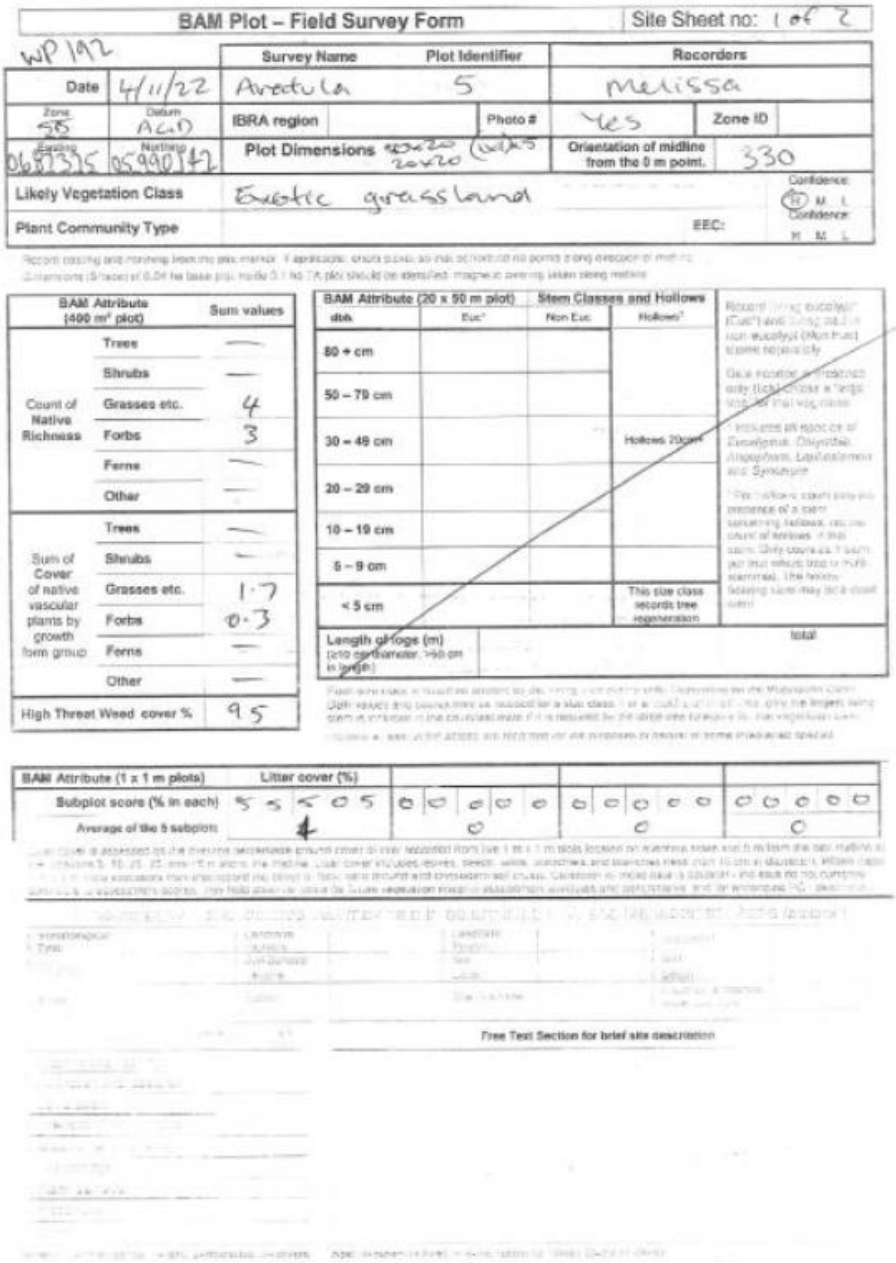
400 m² plot: Sheet 2 of 2

Date	Survey Name	Plot Identifier	Recorders
4/11/2022	Aratula	4	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.		N, E or HTE	Cover	Abund	strata as	notch as
	Eragrostis curvula	African Lovegrass	HTE	95			
	Acetosella vulgaris	sheep sorrel		5			
	Conyza bonariensis	Flea bane		1			
	Plantago lanceolata	Plaintain		1			
	Rumex obtusifolia	Dock		1			
	Trifolium arvense	Hare foot clover		1			
	Cynbonotus lawsonianus	Bears ear	N	0.1			
	Ajuga australis	Austral Bugle	N	0.1			
	Centaurium erythraea	Centaury		0.1			
	Petrorhagia nanteuilii	Poliferous Pink		0.1			
	Trifolium repens	White Clover		1			
	Acaena echinata	Sheeps Burr	N	0.1			
	Verbascum thapsus	Giant Mullein		0.1			
	Hypochaeris radicata	Flatweed?		0.1			
	Hypericum gramineum	Small St Johns Wort		0.1			
	Taraxacum officinale	Dandelion		0.1			
	Chrysocephalum apiculatum	Common everlast		0.1			
	Cirsium vulgare	Spear thistle		0.1			
	Hypericum perforatum	St Johns Wort		0.1			
	Vulpia myuros	Ratstail fescue		10			
	Bromus catharticus	Prairie Grass		0.1			
	Echium plantagineum	Pattersons Curse		0.1			
	Myosotis discolor	Forget Me Not		0.1			
	Drosera peltata	Sundew		0.1			
	Oxalis perennans	Native oxalis	N	0.1			
	Aristida ramosa	Purple wiregrass	N	1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. N: native, E: exotic, HTE: high threat exotic
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.



BAM Plot – Field Survey Form Site Sheet no: 1 of 2

WP 192

Survey Name	Plot Identifier	Recorders
Arcadia	5	Melissa

Date	Zone	Datum	IBRA region	Photo #	Zone ID
4/11/22	55	AGD		Yes	

Easting 0687335 Northing 6599017

Plot Dimensions 20x20 (10x5) 20x20

Orientation of midline from the 0 m point: 330

Likely Vegetation Class: Exotic grassland — Confidence: H M L

Plant Community Type: EEC: — Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	4
	Forbs	3
	Ferns	—
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	1·7
	Forbs	0·3
	Ferns	—
	Other	—
High Threat Weed cover %		95

BAM Attribute (20 x 50 m plot) dbh	Stem Classes and Hollows: Euc*	Non Euc	Hollows*
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of loge (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)				
Subplot score (% in each)	5 5 5 0 5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	
Average of the 5 subplots	4	0	0	0	

Free Text Section for brief site description

400 m² plot: Sheet 2 of 2

Date	Survey Name	Plot Identifier	Recorders
4/11/2022	Aretula	5	Melissa

GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	strata ex	vouch er
	Eragrostis curvula – African love Grass		95			
	Acetosella vulgaris – Sheep sorrel		5			
	Vulpia myuros – Rats tail fescue		1			
	Hypericum perforatum – St Johns Wort		0.1			
	Centaurium erythraea – Centuary		0.1			
	Rumex obtusifolius – Dock		0.1			
	Conyza bonariensis – Fleabane		0.1			
	Hypochaeris radicata – Flatweed		0.1			
	Acaena echinata – Sheeps Burr	N	0.1			
	Trifolium arvense – Hares foot clover		0.1			
	Petrorhagia nanteuilii – Proliferous Pink		0.1			
	Cymbonotus lawsonianus – Bears ear	N	0.1			
	Cirsium vulgare – Spear thistle		0.1			
	Hypericum gramineum – Smallest Johns wort		0.1			
	Gnaphalium coarctatum – Cudweed		0.1			
	Chrysocephalum apiculatum – common everlast		0.1			
	Thenneda australis – Kangaroo Grass	N	1			
	Swainsona monticola – Purple Pea		0.1			
	Plantago lanceolata – Plantain		0.1			
	Verbascum thapsus – Giant mullein		0.1			
	Aristida ramosa – Purple wire Grass	N	0.5			
	Schoenus apogon – Dog rush	N	0.1			
	Dichelachne crinita – Long hair Plume Grass	N	0.1			
	Asperula conferta – Common woodruff	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. N: native. E: exotic. HTE: high threat exotic.
Cover: 0.1, 0.2, 0.3 ..., 1, 2, 3, ... 10, 15, 20, 25, ... 100% (foliage cover). Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across. 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000.

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.

BAM Plot – Field Survey Form

Site Sheet no: 1 of 2

WP 193

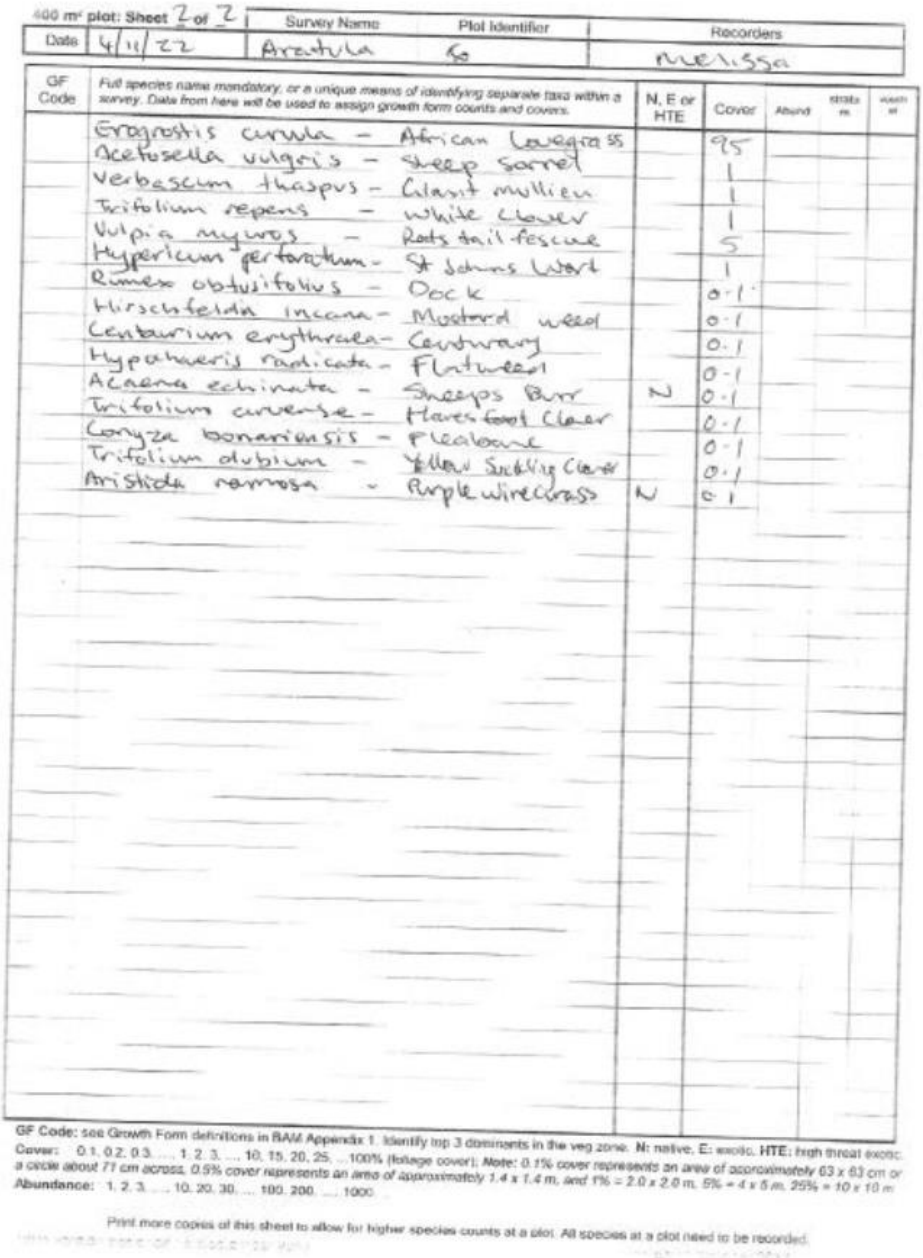
		Survey Name	Plot Identifier	Recorders	
Date	4/11/22	Aradula	6	Melissa	
Zone 55	Datum AGD	IBRA region	Photo #	Yes.	Zone ID
Easting 0687162	Northing 05990642	Plot Dimensions 50×20 (w) & 20×20		Orientation of midline from the 0 m point.	220
Likely Vegetation Class		Exotic Grasslands.			Confidence: H M L
Plant Community Type				EEC:	Confidence: H M L

BAM Attribute (400 m² plot)		Sum values
Count of Native Richness	Trees	—
	Shrubs	—
	Grasses etc.	1
	Forbs	1
	Ferns	—
	Other	—
Sum of Cover of native vascular plants by growth form group	Trees	—
	Shrubs	—
	Grasses etc.	0.1
	Forbs	0.1
	Ferns	—
	Other	—
High Threat Weed cover %		95

BAM Attribute (20 x 50 m plot) Stem Classes and Hollows dbh	Euc*	Non Euc	Hollows*
80 + cm			
50 – 79 cm			
30 – 49 cm			Hollows 20cm+
20 – 29 cm			
10 – 19 cm			
5 – 9 cm			
< 5 cm			This size class records tree regeneration
Length of logs (m) (≥10 cm diameter, >50 cm in length)			total

BAM Attribute (1 x 1 m plots)	Litter cover (%)			
Subplot score (% in each)	5 5 5 5 5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Average of the 5 subplots	5	0	0	0

Free Text Section for brief site description



400 m² plot: Sheet 2 of 2

Survey Name	Plot Identifier	Recorders
Arcutula	50	NVE1.55a

Date: 4/11/22

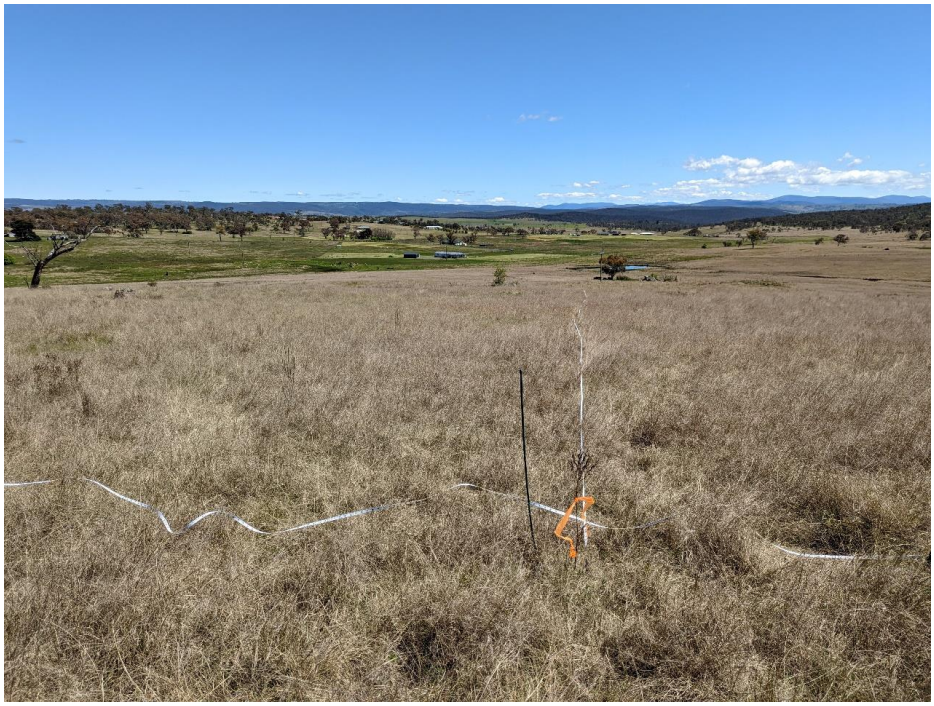
GF Code	Full species name mandatory, or a unique means of identifying separate taxa within a survey. Data from here will be used to assign growth form counts and covers.	N, E or HTE	Cover	Abund	state m	width m
	Eragrostis curvula – African Lovegrass		95			
	Acetosella vulgaris – Sheep sorrel		1			
	Verbascum thapsus – Clasit mullien		1			
	Trifolium repens – White Clover		1			
	Vulpia myuros – Rats tail fescue		5			
	Hypericum perforatum – St Johns Wort		1			
	Rumex obtusifolius – Dock		0.1			
	Hirschfeldia incana – Mustard weed		0.1			
	Centaurium erythraea – Centuary		0.1			
	Hypaharris radicata – Flatweed		0.1			
	Acaena echinata – Sheeps Burr	N	0.1			
	Trifolium cuvense – Haresfoot Clover		0.1			
	Conyza bonariensis – Fleabane		0.1			
	Trifolium dubium – Yellow Suckling Clover		0.1			
	Aristida ramosa – Purple wirecross	N	0.1			

GF Code: see Growth Form definitions in BAM Appendix 1. Identify top 3 dominants in the veg zone. **N:** native, **E:** exotic, **HTE:** high threat exotic
Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); *Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m*
Abundance: 1, 2, 3, ..., 10, 20, 30, ..., 100, 200, ..., 1000

Print more copies of this sheet to allow for higher species counts at a plot. All species at a plot need to be recorded.

Appendix F – Site photos

Start of Quad 1



Start of Quad 2

Start of Quad 3

Start of Quad 4

Start of Quad 5

Start of Quad 6

END
OF
REPORT

PROPOSED MULTIPLE STAGE LARGE LOT RESIDENTIAL SUBDIVISION,
TOWRANG VALE ROAD, DAIRYMANS PLAINS, NSW

ABORIGINAL DUE DILIGENCE ASSESSMENT

Report to Vision Town Planning Consultants Pty Ltd
on behalf of Cavallo Projects Pty Ltd

January 2023

APEX ARCHAEOLOGY

PO Box 236, Nowra, NSW 2541 | heritage@apexarchaeology.com.au | www.apexarchaeology.com.au
ABN 56 625 618 993

EXECUTIVE SUMMARY

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of Cavello Projects Pty Ltd in the assessment of a number of lots, located in Dairymans Plains, approximately 3km north west of Cooma, NSW. This assessment has been prepared in advance of the proposed Development Application (DA) for the project.

In order to assess the Aboriginal archaeological values of the study area, Apex Archaeology has been engaged to undertake a Due Diligence assessment of the archaeological values of the study area. This report has been produced in accordance with the DECCW 2010 *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (the Due Diligence Code of Practice).

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). It comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lots as Stage 2 of the development.

A site visit was conducted on Sunday 27 September 2020. No newly identified archaeological material was identified during the survey. Ground surface visibility (GSV) was moderate throughout the study area. GSV was rated at 30% overall.

Ground disturbance was low to moderate throughout the study area. Evidence of historical clearing of vegetation for agricultural use was evident along the flat and lower slopes to the east of Snake Creek with remnant bushland on the upper slopes. No areas of potential Aboriginal archaeological deposit were identified.

It is recommended that:

- No further Aboriginal archaeological assessment is required prior to the commencement of upgrade works as described in this report.
- This due diligence assessment must be kept by Cavello Projects Pty Ltd so that it can be presented, if needed, as a defence from prosecution under Section 86(2) of the *National Parks and Wildlife Act* 1974.
- The results of this assessment fulfil the requirement for Due Diligence in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Code of Practice). Works may proceed with caution.
- The proposed works must be contained to the area assessed during this due diligence assessment, as shown on Figure 1. If the proposed location is amended, further archaeological assessment may be necessary to determine if the proposed works will impact any Aboriginal objects or archaeological deposits.
- Should unanticipated archaeological material be encountered during site works, all work must cease and an archaeologist contacted to make an assessment of the find. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.

Apex Archaeology would like to acknowledge the Aboriginal people who are the traditional custodians of the land in which this project is located. Apex Archaeology would also like to pay respect to Elders both past and present.

DOCUMENT CONTROL

The following register documents the development and issue of the document entitled 'Proposed Multiple Stage Large Lot Residential Subdivision, Towrang Vale Road, Dairymans Plains, NSW – Aboriginal Due Diligence Assessment', prepared by Apex Archaeology in accordance with its quality management system.

Revision	Prepared by	Reviewed by	Comment	Issue Date
1 – Draft	Leigh Bate	Jenni Bate	Issue for client review	1 October 2020
2 - Final	Leigh Bate	Patrick Fitzsimmons	Final	13 October 2020
3 - Final	Leigh Bate	Patrick Fitzsimmons	Final – with minor updates	20 January 2023

GLOSSARY OF TERMS

Aboriginal Object	An object relating to the Aboriginal habitation of NSW (as defined in the NPW Act), which may comprise a deposit, object or material evidence, including Aboriginal human remains.
AHIMS	Aboriginal Heritage Information Management System maintained by Heritage NSW, detailing known and registered Aboriginal archaeological sites within NSW
AHIP	Aboriginal Heritage Impact Permit
ATER	Aboriginal Test Excavation Report
BP	Before Present, defined as before 1 January 1950.
Code of Practice	The DECCW September 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*
Consultation	Aboriginal community consultation in accordance with the DECCW April 2010 *Aboriginal cultural heritage consultation requirements for proponents 2010.* Consultation is not a required step in a due diligence assessment; however, it is strongly encouraged to consult with the relevant Local Aboriginal Land Council and to determine if there are any Aboriginal owners, registered native title claimants or holders, or any registered Indigenous Land Use Agreements in place for the subject land
DA	Development Application
DECCW	The Department of Environment, Climate Change and Water – now Heritage NSW
Disturbed Land	If land has been subject to previous human activity which has changed the land's surface and are clear and observable, then that land is considered to be disturbed
Due Diligence	Taking reasonable and practical steps to determine the potential for an activity to harm Aboriginal objects under the *National Parks and Wildlife Act 1974* and whether an application for an AHIP is required prior to commencement of any site works, and determining the steps to be taken to avoid harm
Due Diligence Code of Practice	The DECCW Sept 2010 *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*
DPIE	Department of Planning, Industry and Environment (formerly OEH)
GIS	Geographical Information Systems
GSV	Ground Surface Visibility
Harm	To destroy, deface or damage an Aboriginal object; to move an object from land on which it is situated, or to cause or permit an object to be harmed
Heritage NSW	Heritage NSW in the Department of Premier and Cabinet, incorporating the former DPIE/OEH and Heritage Branch
LALC	Local Aboriginal Land Council
LGA	Local Government Agency
NPW Act	NSW *National Parks and Wildlife Act* 1974
OEH	The Office of Environment and Heritage of the NSW Department of Premier and Cabinet – now Heritage NSW
RAPs	Registered Aboriginal Parties
SMRC	Snowy Monaro Regional Council

CONTENTS

FIGURES

PLATES

1.0 Introduction

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of Cavello Projects Pty Ltd in the assessment of a number of lots located in Dairymans Plains, approximately 3km north west of Cooma, NSW (Figure 1). This assessment has been prepared in advance of the proposed works to identify any potential Aboriginal heritage constraints.

In order to assess the Aboriginal archaeological values of the study area, Apex Archaeology has been engaged to undertake a Due Diligence assessment of the archaeological values of the study area. This report has been produced in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (the Due Diligence Code of Practice).

1.1 Study Area

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). The study area comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lot residential allotments as part of the subdivision works as Stage 2 of the development.

1.2 Investigators and Contributors

This report has been prepared by Leigh Bate, Director and Archaeologist with Apex Archaeology, and reviewed by Jenni Bate, Director and Archaeologist with Apex Archaeology. Both have over 16 years of consulting experience within NSW.

Name	Role	Qualifications
Leigh Bate	Project Manager, Primary Report Author, GIS, Field inspection	B.Archaeology; Grad. Dip. Arch; Dip. GIS
Jenni Bate	Review	B.Archaeology; Grad. Dip. CHM

1.3 Statutory Context

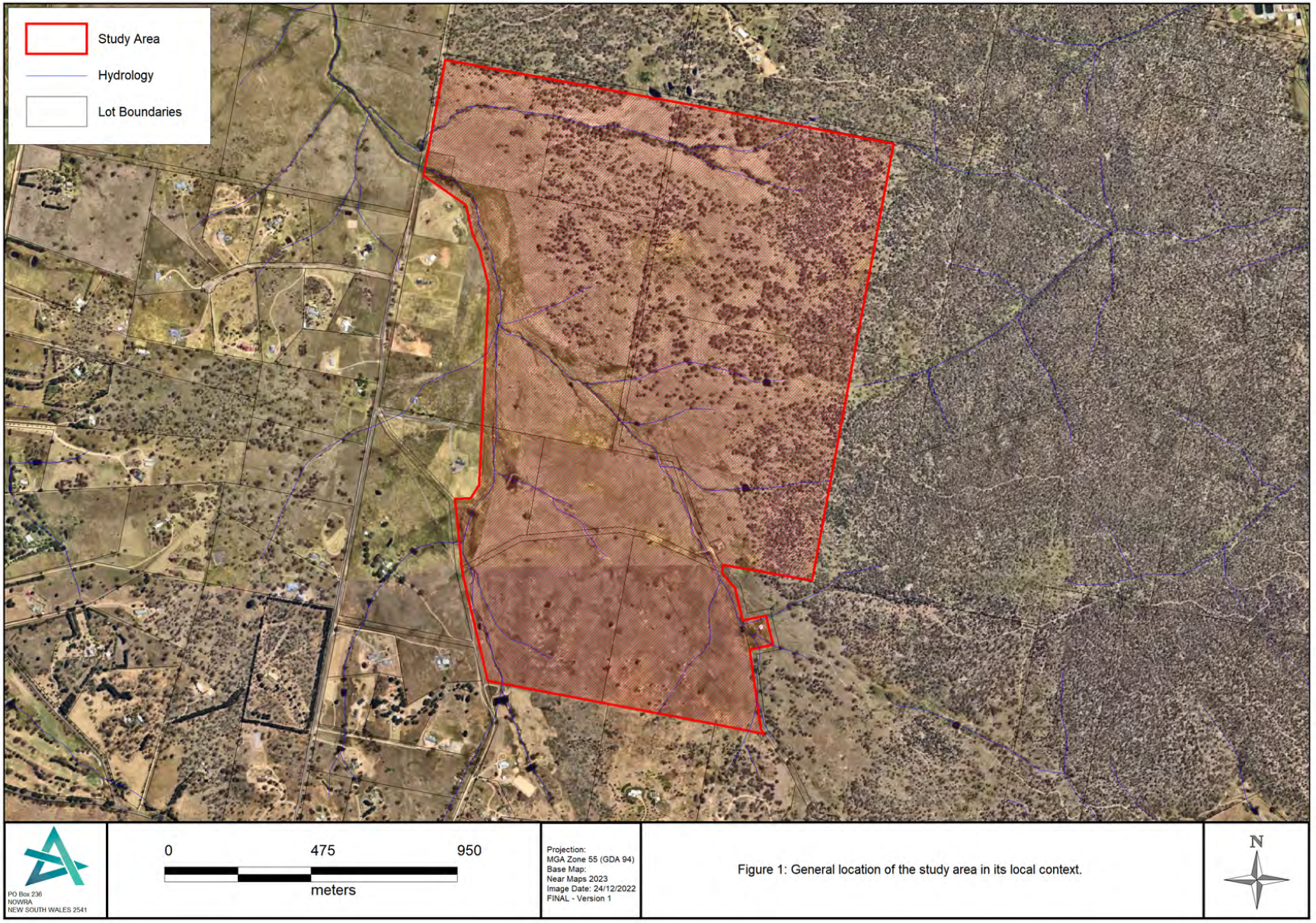
Heritage in Australia, including both Aboriginal and non-Aboriginal heritage, is protected and managed under several different Acts. The following section presents a summary of relevant Acts which provide protection to cultural heritage within NSW.

1.3.1 Commonwealth Native Title Act 1993

The *Native Title Act 1993*, as amended, provides protection and recognition for native title. Native title recognises the traditional rights of Aboriginal and Torres Strait Islanders to land and waters.

The National Native Title Tribunal (NNTT) was established to mediate native title claims made under this Act. Three registers are maintained by the NNTT, as follows:

- National Native Title Register
- Register of Native Title Claims
- Register of Indigenous Land Use Agreements.


Study Area
Hydrology
Lot Boundaries
0
475
950
meters
PO Box 236
NOWRA
NEW SOUTH WALES 2541
Projection:
MGA Zone 55 (GDA 94)
Base Map:
Near Maps 2023
Image Date: 24/12/2022
FINAL - Version 1
Figure 1: General location of the study area in its local context.
N

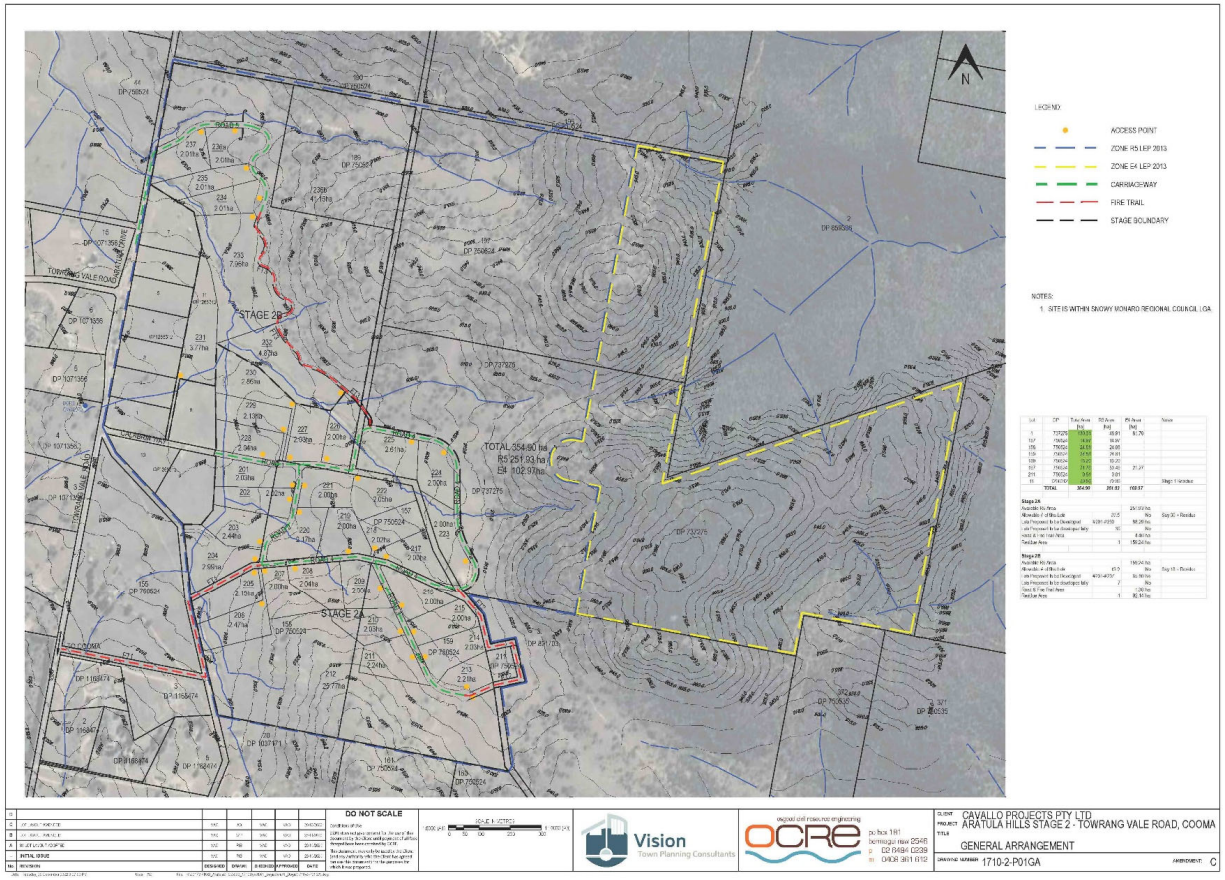


Figure 2: Development layout within the study area (Source: Vision Town Planning 2022).

A search of the above registers did not identify any applicable Native title claims, registrations, or applications, for the study area or surrounds.

1.3.2 NSW National Parks and Wildlife Act 1974

Protection for Aboriginal heritage in NSW is provided primarily under the *National Parks and Wildlife Act* 1974 (NPW Act). Although cultural heritage is protected by other Acts, the NPW Act is the relevant Act for undertaking due diligence assessments. Protection for Aboriginal sites, places and objects is overseen by the Heritage NSW.

Changes to the NPW Act with the adoption of the *NPW Amendment (Aboriginal Objects and Places) Regulation* 2010 led to the introduction of new offences regarding causing harm to Aboriginal objects or declared Aboriginal places. These new offences include destruction, defacement or movement of an Aboriginal object or place. Other changes to the NPW Act include:

- Increased penalties for offences relating to Aboriginal heritage for individuals and companies who do not comply with the legislation;
- Introduction of the strict liability offences, meaning companies or individuals cannot claim 'no knowledge' if harm is caused to Aboriginal objects or places; and
- Changes to the permitting process for AHIPs – preliminary archaeological excavations can be undertaken without the need for an AHIP, providing the excavations follow the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

A strict liability offence was introduced, meaning a person who destroys, defaces or moves an Aboriginal object without an Aboriginal Heritage Impact Permit (AHIP) is guilty of an offence, whether they knew it was an Aboriginal object or not. Exercising due diligence (as described in Section 1.4) provides a defence against the strict liability offence.

1.3.3 NSW National Parks and Wildlife Regulation 2019

Part 5, Division 2 of the National Parks and Wildlife Regulation 2019 addresses Aboriginal objects and places in relation to the NPW Act 1974, and outlines how compliance with relevant codes of practice can be met, including with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. Clause 57 states:

> *For the purposes of section 87(3) of the Act, compliance with any of the following codes of practice and documents (when undertaking an activity to which the code of document applies) is taken for the purposes of section (87(2) of the Act to constitute due diligence in determining whether the act or omission constituting the alleged offence would harm an Aboriginal object.*

Clause 58(1) outlines the defence of low impact acts or omissions to the offence of harming Aboriginal objects, which includes maintenance works on existing roads and

fire trails, farming and land management work, grazing of animals, activities on land that has been disturbed that is exempt or complying development, mining exploration work, removal of vegetation (aside from Aboriginal culturally modified trees), seismic surveying or groundwater monitoring bores on disturbed ground, environmental rehabilitation work (aside from erosion control or soil conservation works such as contour banks) or geological mapping, surface geophysical surveys, or sub-surface geophysical surveys.

Clause 58(4) outlines the definition of 'disturbed land', as land that "has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable".

'Disturbance' is further defined in a note to the above clause as follows:

Examples of activities that may have disturbed land include the following—

(a) soil ploughing,
(b) construction of rural infrastructure (such as dams and fences),
(c) construction of roads, trails and tracks (including fire trails and tracks and walking tracks),
(d) clearing of vegetation,
(e) construction of buildings and the erection of other structures,
(f) construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure),
(g) substantial grazing involving the construction of rural infrastructure,
(h) construction of earthworks associated with anything referred to in paragraphs (a)–(g).

1.4 NSW Due Diligence Code of Practice

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Code of Practice) was introduced in September 2010. It outlines a method to undertake 'reasonable and practical' steps to determine whether a proposed activity has the potential to harm Aboriginal objects within the subject area, and thereby determine whether an application for an Aboriginal Heritage Impact Permit (AHIP) is required. When due diligence has been correctly exercised, it provides a defence against prosecution under the NPW Act under the strict liability clause if Aboriginal objects are unknowingly harmed without an AHIP.

The Code of Practice provides the 'reasonable and practicable' steps to be followed when determining the potential impact of a proposed activity on Aboriginal objects. Due diligence has been defined by Heritage NSW as "taking reasonable and practical steps to determine whether a person's actions will harm an Aboriginal object and, if so, what measures can be taken to avoid that harm" (DECCW 2010:18).

These steps include:

- Identification of whether Aboriginal objects are, or are likely to be, present within the subject area, through completing a search of the Aboriginal Heritage Information Management System (AHIMS);
- Determine whether the proposed activity is likely to cause harm to any Aboriginal objects; and
- Determine the requirement for an AHIP.

Should the conclusion of a due diligence assessment be that an AHIP is required, further assessment must be undertaken, with reference to the following guidelines:

- DECCW, April 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010. Part 6 National Parks and Wildlife Act 1974*;
- DECCW, Sept 2010, *Code of Practice for Archaeological Investigation of Aboriginal Objects In New South Wales*;
- OEH, April 2011, *Guide to Investigation, assessing and reporting on Aboriginal cultural heritage in NSW*; and
- OEH, May 2011, *Applying for an Aboriginal Heritage Impact Permit: Guide for Applicants*.

2.0 The Due Diligence Code of Practice Process

The Due Diligence Code of Practice provides a specific framework to guide the assessment of Aboriginal cultural heritage. The following section presents the results of this process.

2.1 Step 1: Will the activity disturb the ground surface?

The proposed works will disturb the ground surface. The study area is proposed to be subdivided to create multiple large lots, along with the construction of access roads (Figure 2).

Excavation relating to the residential development will include infrastructure and levelling of the ground surface. Connection to services will require trenching. Earthworks would also include clearing, grubbing, stripping and stockpiling topsoil, excavation of soil and backfilling. On completion of the development the area would be landscaped. All proposed works would have an impact to some extent on the ground surface.

2.2 Step 2a: AHIMS and Available Literature Search

Heritage NSW is required to maintain a register of Aboriginal sites recorded during archaeological assessments and other activities within NSW. This is known as the Aboriginal Heritage Information Management System (AHIMS). This register provides information about site types, their geographical location, and their current status. It is the requirement for the recorder of a newly identified site to register this site with Heritage NSW to be placed onto the AHIMS register. It is a requirement of the Code of Practice to undertake a search of this register as part of undertaking a due diligence assessment.

Heritage NSW also maintains a register of archaeological reports relating to archaeological investigations throughout NSW. These reports are a valuable source of information regarding investigations previously completed and their findings, and can inform the assessment process regarding the potential for Aboriginal cultural material and archaeological potential within a study area.

2.2.1 AHIMS Results

A search of the study area with a 1km buffer did not identify any registered sites.

2.2.2 Literature review

A review of previous archaeological work within the surrounding region of the study area was undertaken. There were relatively few assessments that have been undertaken within the area surrounding Cooma so a wider area was reviewed. A number of reports were identified from background research and the AHIMS database and are detailed below.

Table 1: Previous assessments undertaken by archaeological consultants in the wider region

Consultant	Date	Sites Identified	Region
Flood, J	1973	2 artefact sites identified	South of Cooma
Djekic	1982	12 artefact sites identified	Cooma and Jindabyne
Lance and Hughes	1983	No sites identified	Cooma
Paton	1985	21 sites identified	North of Cooma
Comber	1988	4 quarry sites identified	Bredbo
Navin	1991	No sites identified	South of Cooma
Wellington	1992	2 sites identified	Chakola
Oakley	1994	No sites identified	Cooma
Navin	1994	3 sites identified	Cooma
Kuskie	1995	2 sites identified	Cooma
Carter	2003	1 site identified	North Cooma
Dibden	2003	No sites identified	West Cooma
Saunders	2005a	1 site identified	Kiah Avenue, Cooma
Saunders	2005b	5 sites identified	Kiah Avenue, Cooma
NOHC	2005	5 sites identified	Mittagang Road, Cooma
Saunders	2006	No sites identified	Binjura
Dibden	2009a	5 sites identified	North Cooma
Dibden	2009b	56 sites identified	Boco Rock Wind Farm
Dibden	2017	12 sites identified	Myalla
Dibden	2018	No sites identified	Towrang Vale Rd, Cooma

Dibden 2018 was prepared for Stage 1 of this project. The assessment concluded that there were no known sites within the Stage 1 development area, and the property was assessed to be “of very low archaeological potential”. No AHIP application was recommended.

2.2.1 SYNTHESIS

Archaeological works within the wider area have generally been related to development related proposals. It appears that artefact evidence generally comprises low density background scatter or discard distributed widely across the locality, with higher densities occurring occasionally in areas of more focused occupation such as camp sites or repeat occupation sites. This generally occurs in favourable environmental contexts such as elevated, well drained spur and ridge crests, flats, terraces and simple slopes in close proximity to watercourses, with a greater focus on higher order water courses. Artefacts tend to comprise raw materials such as quartz, tuff, silcrete and chert. In general, non-specific flaking activities are represented, although microlith and microblade production is also noted.

Rock shelter sites in the area are identified as varying in size and habitable area, their topographical location and also contents; with rock art occurring relatively infrequently in the locality and generally comprising red ochre hand stencils. Grinding groove sites are not only identified along watercourses on sedimentary bedrock such as sandstone, but also on open sandstone surfaces in other contexts such as in rock shelters. Scarred or culturally modified trees have been identified within the area and wider region, generally in areas of uncleared old growth

vegetation. Low numbers of other sites such as stone arrangements, a possible burial, and ochre or lithic quarries have also been identified.

2.3 Step 2b: Landscape Features

An assessment of landscape features is required to determine whether Aboriginal objects are likely to be present within the proposed activity area. Certain landscape features are more likely to have been utilised by Aboriginal people in the past and therefore are more likely to have retained archaeological evidence of this use. Focal areas of activity for Aboriginal people include rock shelters, sand dunes, water courses, waterholes and wetlands, as well as ridge lines for travel routes.

The presence of specific raw materials for artefact manufacture, as well as soil fertility levels to support vegetation resources, are also factors to be considered in the assessment of the environmental context of a study area. Geomorphological factors, such as erosion and accretion of soils, affect the preservation of potential archaeological deposits and therefore need to be considered when making an assessment of the potential for archaeological material to be present within a study

2.3.1 Existing Environment

Soils, Geology and Vegetation

The study area falls across the Dry Farm and Dairymans Plain soil landscapes. The Dry Farm soil landscape is located on rolling low hills to gently undulating rises on Cooma Metamorphic Complex schists. Soils are generally shallow (<50 cm), well-drained Earthy Sands. The Cooma Metamorphic Complex is made up of mica schist, biotite schist, andalusite-sillimanite bearing schist, orthoclase cordierite knotted schist. Close to Cooma the complex includes granodiorites, gneisses, migmatites and minor amphibolites. The area has been extensively cleared with heavily thinned low woodland to low open-forest (dry sclerophyll forest). On well-drained rocky crests and upper slopes black cypress pine (*Callitris endlicheri*) can be found and candlebark (*Eucalyptus rubida ssp. rubida*) and snow gum (*Eucalyptus pauciflora ssp. pauciflora*) are also common.

The Dairymans Plains soil landscape is characterised by level to gently undulating plains on alluvium and Cooma Metamorphic Complex schists. Local relief <9 m with elevations around 840–910 m. The underlying geology consists of quaternary alluvium, fine sand, silt and clay on Cooma Metamorphic Complex mica biotite schists. Vegetation has been extensively cleared however may have consisted of grassland of rough spear grass (*Stipa scabra*) to low open-woodland of candlebark (*Eucalyptus rubida ssp. rubida*). Spear grasses have largely been replaced through agricultural practices.

HYDROLOGY

The nearest major permanent water source is the Murrumbidgee River which is approximately 3.5 north of the study area. Snake Creek is a 2nd order watercourse which runs through the study area and is a tributary of the Murrumbidgee River however, it sees little to no flows of water. The Murrumbidgee River is a major tributary of the Murray River within the Murray–Darling basin and the second longest river in Australia. The Murrumbidgee River is defined as a fourth order water course according to the Strahler system as used by DPI Water (Figure 3). Watercourse classification ranges from first order through to fourth order (and above) with first order being the lowest, ie a minor creek or ephemeral watercourse.

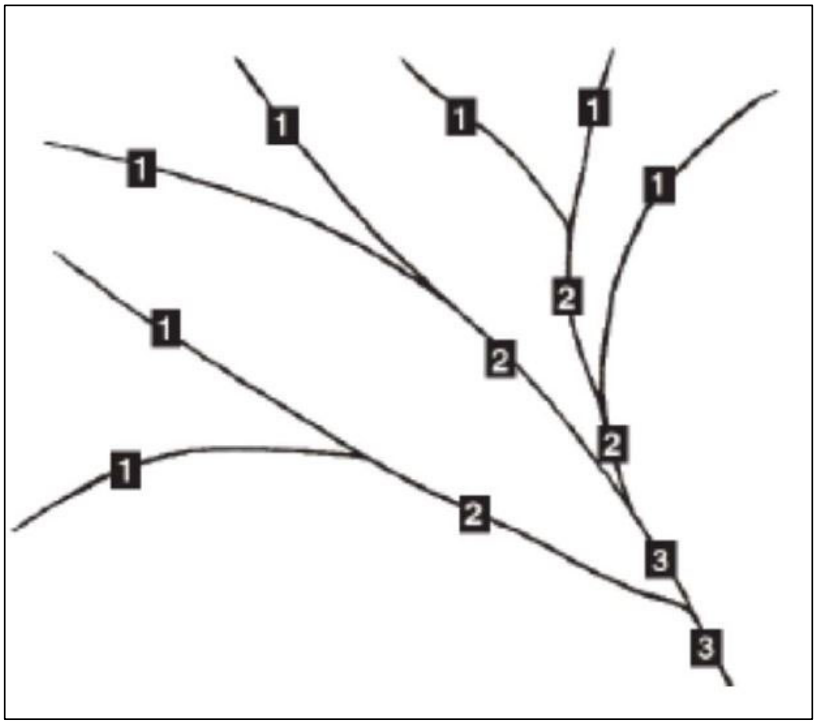


Figure 3: The Strahler system (Source: Department of Planning and Environment 2016).

The study area is located within 200m of a natural watercourse. The study area is considered to have moderate levels of disturbance relating to historic land clearance. However, as it is located along a watercourse, there is still a requirement to proceed to Step 3 of the due diligence assessment process as this landscape feature is associated with Aboriginal archaeological potential.

2.3.2 ETHNOHISTORY

According to Tindale (1974), the study area is located within the Ngarigo tribal and linguistic territory. This territory is described by Tindale (1974) as being from the:

> *Monaro tableland north to Queanbeyan; Bombala River from near Delegate to Nimmitabel; west to divide of the Australian Alps. The Wiradjuri considered the Ngarigo and Walgalu as one people using the name Guramal which has the basic meaning of ['gurai] or 'hostile people.' Canberra, the capital city of the federal capital territory is very close to the boundary line between this and the Ngunawal tribe. In winter these tableland people sometimes came down to the surrounding territories for shelter, hence their reputation for aggressiveness.*

Aboriginal society was constructed of a hierarchy of social levels and groups, with fluid boundaries (Peterson 1976), with the smallest group comprising a family of a man and his wife/wives, children and some grandparents. The next level consists of bands, which were small groups of several families who worked together for hunting and gathering purposes. The third level comprised regional networks with a number of bands, and these bands generally shared a common language dialect and/or had a belief in a common ancestor. Networks would come together for specific ceremonial purposes. The highest level is the tribe, which is usually described as a linguistic unit with flexible territorial boundaries (Peterson 1976).

Aboriginal people utilised a wide range of subsistence resources in the past, with ethnohistorical sources recording the diet of Aboriginal people including kangaroo, possum, kangaroo rat, lizards, birds, platypus, wallaby and a range of plants and insects as well as fish and shell fish (Pearson 1981). A wide range of native animals, including birds and reptiles, have been identified within the wider environment around Cooma, and are likely to have been utilised as food resources by Aboriginal people in the past.

2.3.3 RAW MATERIALS

A wide range of raw materials were selected by Aboriginal people for flaking to create stone implements. Material types ranged from high quality to poor quality for flaking purposes, depending on the geology of the area and readily available material types. The following is a description of a range of raw material types known to have been utilised by Aboriginal people for the creation of stone artefacts.

BRECCIA

Breccias are coarse, angular volcanic fragments cemented together by a finer grained tuffaceous matrix.

CHALCEDONY

Chalcedony is a microcrystalline, siliceous rock which is very smooth and can be glossy. Introduction of impurities can produce different coloured versions of chalcedony, including yellow/brown (referred to as carnelian), brown (sard), jasper (red/burgundy) and multicoloured agate. It flakes with a sharp edge and was a

prized material type for the creation of stone artefacts in parts of Australia (Kuskie & Kamminga 2000: 186).

CHERT

Chert is a highly siliceous sedimentary rock, formed in marine sediments and also found within nodules of limestone. Accumulation of substances such as iron oxide during the formation process often results in banded materials with strong colours. Chert is found in the Illawarra Coal Measures and also as pebbles and colluvial gravels. It flakes with durable, sharp edges and can range in colour from cream to red to brown and grey.

PETRIFIED WOOD

Petrified wood is formed following burial of dead wood by sediment and the original wood being replaced by silica. Petrified wood is a type of chert and is a brown and grey banded rock and fractures irregularly along the original grain.

QUARTZ

Pure quartz is formed of silicon dioxide, and has a glossy texture and is translucent. Introduction of traces of minerals can lead to colouration of the quartz, such as pink, grey or yellow. The crystalline nature of quartz allows for minute vacuoles to fill with gas or liquid, giving the material a milky appearance.

Often quartz exhibits internal flaws which can affect the flaking quality of the material, meaning that in general it is a low-quality flaking material (Kuskie & Kamminga 2000: 186). However, quartz is an abundant and widely available material type and therefore is one of the most common raw materials used for artefact manufacture in Australia. Flaking of quartz can produce small, very sharp flakes which can be used for activities such as cutting plant materials, butchering and skinning.

QUARTZITE

Formed from sandstone, quartzite is a metamorphic stone high in silica that has been heated or had silica infiltrate the voids found between the sand grains. Quartzite ranges in colour from grey to yellow and brown.

SILCRETE

Silcrete is a siliceous material formed by the cementing of quartz clasts with a matrix. These clasts may be very fine grained to quite large. It ranges in colour from grey to white, brown, red or yellow. Alluvial and terrace gravels of the Hunter River were a major primary source of silcrete within the Hunter Valley. Silcrete flakes with sharp edges and is quite durable, making silcrete suitable for use in heavy duty woodworking activities and also for spear barbs (Kuskie & Kamminga 2000:184).

TUFF/INDURATED MUDSTONE

There is some disagreement relating to the identification of lithic materials as tuff or indurated mudstone. The material is a finely textured, very hard yellow/orange/reddish-brown or grey rock from the upper Hunter Valley. Kuskie and Kamminga (2000: 6, 180) describe that identification of lithic materials within the Hunter Valley followed the classification developed by Hughes (1984), with indurated mudstone described as a common stone material in the area. However, Kuskie and Kamminga's analysis, which included x-ray diffraction, identified that lithics identified as 'indurated mudstone' was actually rhyolitic tuff, with significant differences in mineral composition and fracture mechanics between the stone types. They define mudstone as rocks formed from more than 50% clay and silt with very fine grain sizes and then hardened.

The lithification of these mudstones results in shale (Kuskie & Kamminga 2000: 181) and thus 'indurated mudstone', in the opinion of Kuskie and Kamminga, do not produce stones with the properties required for lithic manufacture.

In 2011, Hughes, Hiscock and Watchman undertook an assessment of the different types of stones within the Hunter Valley to determine whether tuff or indurated mudstone is the most appropriate terminology for describing this lithic material. The authors undertook thin section studies of a number of rocks from the Hunter Valley and determined that the term 'indurated mudstone' is appropriate, with an acknowledgment that some of this material may have been volcanic in origin. They also acknowledge that precise interpretation of the differences between material types is difficult without detailed petrological examination, and suggest that artefacts produced on this material are labelled as 'IMT' or 'indurated mudstone/tuff'.

2.3.4 PROCUREMENT

Assemblage characteristics are related to and dependent on the distance of the knapping site from raw materials for artefact manufacture, and different material types were better suited for certain tasks than other material types. Considerations such as social or territorial limitations or restrictions on access to raw material sources, movement of groups across the landscape and knowledge of source locations can influence the procurement behaviour of Aboriginal people. Raw materials may also have been used for trade or special exchange between different tribes.

2.3.5 MANUFACTURE

A range of methodologies were used in the manufacture of stone artefacts and tools, through the reduction of a stone source. Stone may have been sourced from river gravels, rock outcrops, or opportunistic cobble selection. Hiscock (1988:36-40) suggests artefact manufacture comprises six stages, as follows:

1. The initial reduction of a selected stone material may have occurred at the initial source location, or once the stone had been transported to the site.
2. The initial reduction phase produced large flakes which were relatively thick and contained high percentages of cortex. Generally the blows were struck by direct percussion and would often take advantage of prominent natural ridges in the source material.
3. Some of these initial flakes would be selected for further reduction. Generally only larger flakes with a weight greater than 13-15 grams would be selected for further flaking activities.
4. Beginning of 'tranchet reduction', whereby the ventral surface of a larger flake was struck to remove smaller flakes from the dorsal surface, with this retouch applied to the lateral margins to create potential platforms, and to the distal and proximal ends to create ridges and remove any unwanted mass. These steps were alternated during further reduction of the flake.
5. Flakes were selected for further working in the form of backing.
6. Suitable flakes such as microblades were retouched along a thick margin opposite the chord to create a backed blade.

Hiscock (1986) proposed that working of stone materials followed a production line style of working, with initial reduction of cores to produce large flakes, followed by heat treatment of suitable flakes before the commencement of tranchet reduction. These steps did not necessarily have to occur at the same physical location, but instead may have been undertaken as the opportunity presented.

2.3.6 PREDICTIVE MODEL

A general model for the Aboriginal occupation of the wider region can be applied. In general, it can be stated that:

- Aboriginal occupation focussed predominantly on resource rich zones, particularly along higher order watercourses (such as the Bombala River). Abundant resources for sustenance and water would supply longer stays for family and community base camps, as well as occasional gatherings of larger groups. These areas were considered to be primary resource zones;
- Secondary resource zones were focussed on watercourses, wetlands and/or swamps in close proximity to higher order watercourses and the associated flats and terraces. These areas were seasonally occupied during the course of hunting and gathering activities by small hunting parties and family groups. Generally level ground was selected for camping, near water sources, and was sporadic rather than continuous occupation;

- Outside of the primary and secondary resource zones, activities included resource gathering and movement across the landscape by small parties, in order to access areas with greater resources;
- Opportunistic reduction of raw materials to create stone artefacts would be quite widespread across the landscape, in order to produce stone tools on an 'as needed' basis;
- Locally available quartz was favoured for knapping activities, along with tuff and chert, depending on their availability;
- Exposed sandstone would be utilised for creating and maintaining ground edge hatchets, creating grinding grooves. This action may have been opportunistic rather than specific, with evidence of long term, repeated use not expected to occur; and
- Aboriginal occupation of the general area is believed to have occurred within the past 5,000 years, although it is possible it may extend as far as 30,000-40,000 years ago.

From these general predictions of how the area was utilised for occupation by Aboriginal people in the past, a predictive model for the location of archaeological sites can be summarised below:

- Low spurs within 100m of higher order streams are likely to contain sites with relatively higher numbers of artefacts;
- Very low density artefact scatters may occur throughout valley floor contexts;
- Elevated, level ground adjacent to major, permanent streams has the potential for open sites with higher concentrations of artefacts;
- Stone artefact scatters are likely to increase in number and density relative to the site's proximity to water and raw material sources;
- Suitable rockshelters with relatively level floors, adequate shelter and located in basal slope contexts in association with a drainage line may contain occupation deposit and/or pigment rock art;
- Grinding grooves are likely to occur only where suitable sandstone exposures occur in association with a source of water;
- Burials are rare but may occur in deep, fine grained alluvial or Aeolian sediments, or in the form of stone cairns;
- Scarred trees have the potential to survive in areas of suitable old growth trees;
- Archaeological deposits with high scientific significance are most likely to be found in rockshelters with suitable deposit depth, or on elevated areas with aggrading sediments in close proximity to permanent or reliable water sources, or within rockshelter contexts;
- Outside of these identified areas, stratified deposits or in situ archaeological material is unlikely to survive due to bioturbation and/or natural processes such as water action, erosion etc; and

- Isolated surface and subsurface archaeological material may exist as background scatter in very low densities, but the location of this potential material is impossible to predict.

The hydrology, topography, soils and geology of an area are all important considerations when developing a predictive model for an area.

2.4 Step 3: Avoid harm

Given the proximity to a watercourse (Snake Creek) it was necessary to undertake a visual inspection of the study area to identify any surface objects or landforms with potential archaeological deposits (PAD). This inspection would allow conclusions to be made regarding the probability of archaeological objects occurring within the proposed area of upgrade. This would assist in determining if there was any archaeological potential within the study areas which could potentially be harmed by the proposed works, and in turn, assist in determining if harm to the archaeological resource could be avoided.

The proposed development will impact a portion of the study area, through the proposed residential subdivision works and associated infrastructure (e.g. roads and services).

2.5 Step 4: Visual Inspection

A visual pedestrian inspection of the study area was undertaken on Sunday 27 September 2020 by Leigh Bate, Archaeologist with Apex Archaeology.

2.5.1 Survey Coverage

The area was inspected by pedestrian survey to identify any surface artefacts or any areas with potential for subsurface deposits to be present.

2.5.2 Results

No previously recorded archaeological sites were located within the study area. No newly identified archaeological material was identified during the survey. Ground surface visibility (GSV) was moderate throughout the study area. GSV was rated at 30% overall.

The area was considered to be moderately disturbed by previous historical clearance and land use practices. No areas of potential archaeological deposit (PAD) were identified within the study area.

Plate 1: General view looking at the southern portion of the study area.

Plate 2: Looking north east from the southern boundary of the study area.

Plate 3: Looking north east towards the eastern boundary of the study area

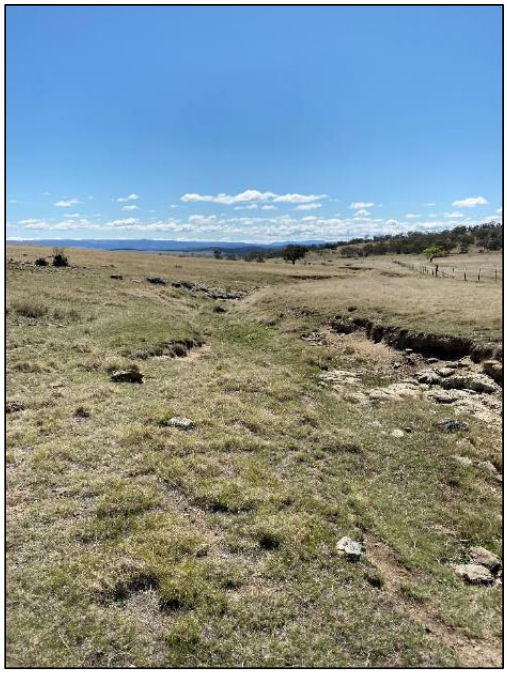


Plate 4: Looking along Snake Creek within the central portion of the study area.

Plate 5: Looking south along the central portion of the study area.

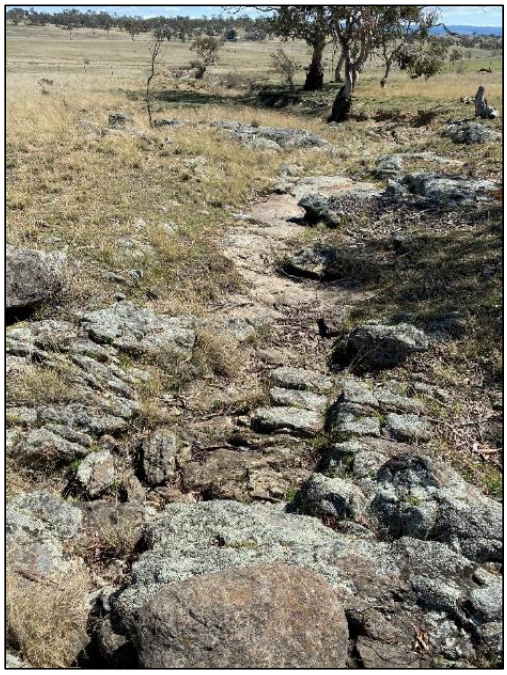


Plate 6: Looking west downslope along a drainage line within the central portion of the study area.

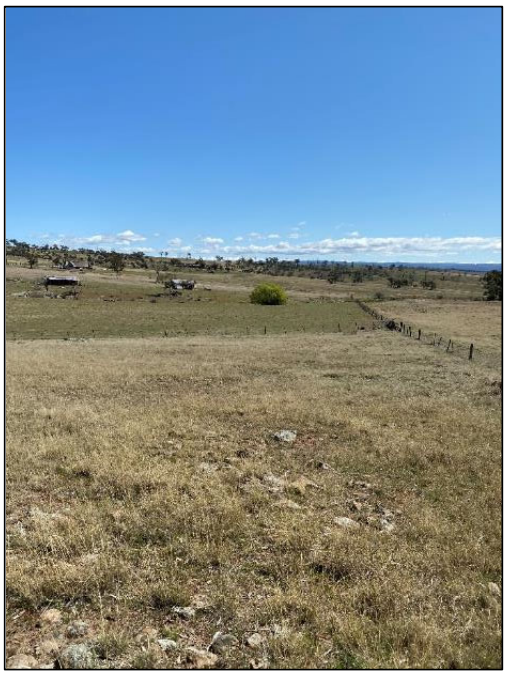


Plate 7: Looking towards the western boundary of the study area.

Plate 8: Looking towards the northern boundary of the study area

2.5.3 DISCUSSION

In accordance with the Due Diligence Code of Practice, land is considered disturbed if human activities within the area have left clear and observable changes on the landscape. The area assessed for this project meets the definition of disturbed land in general.

Areas of rocky outcrops were observed frequently throughout the study area. The outcrops were predominantly schist with some veins of poor-quality quartz eroding away and forming quartz float in some areas. Almost all outcrops were friable and in no way usable for engraving or grinding of implements. Although there was an abundance of quartz throughout the area, no activity areas were identified; likely due to the poor quality and coarse-grained nature of the raw material present.

Ground disturbance was moderate within the study area. Evidence of historic vegetation clearing and agricultural practices were evident throughout the study area.

The level of disturbance within the study area and skeletal nature of most soils means that there is a low chance of intact sub-surface deposits being present within the area.

3.0 Conclusions and Recommendations

3.1 Conclusions

- No previously recorded Aboriginal sites are located within the study area.
- No archaeological material was identified on the ground surface within the study area.
- The study area is assessed as having no potential for subsurface archaeological deposits and this is confirmed by the site inspection.
- This assessment was based on identification of landform elements, previous archaeological work undertaken within the wider Cooma region, and a visual inspection of the study area.

3.2 Recommendations

- No further Aboriginal archaeological assessment is required prior to the commencement of upgrade works as described in this report.
- This due diligence assessment must be kept by Cavello Projects Pty Ltd so that it can be presented, if needed, as a defence from prosecution under Section 86(2) of the *National Parks and Wildlife Act* 1974.
- The results of this assessment fulfil the requirement for Due Diligence in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Code of Practice). Works may proceed with caution.
- The proposed works must be contained to the area assessed during this due diligence assessment, as shown on Figure 1. If the proposed location is amended, further archaeological assessment may be necessary to determine if the proposed works will impact any Aboriginal objects or archaeological deposits.
- Should unanticipated archaeological material be encountered during site works, all work must cease and an archaeologist contacted to make an assessment of the find. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.

4.0 REFERENCES

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APPENDIX A: AHIMS BASIC SEARCH RESULTS

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 2068
Client Service ID : 746936

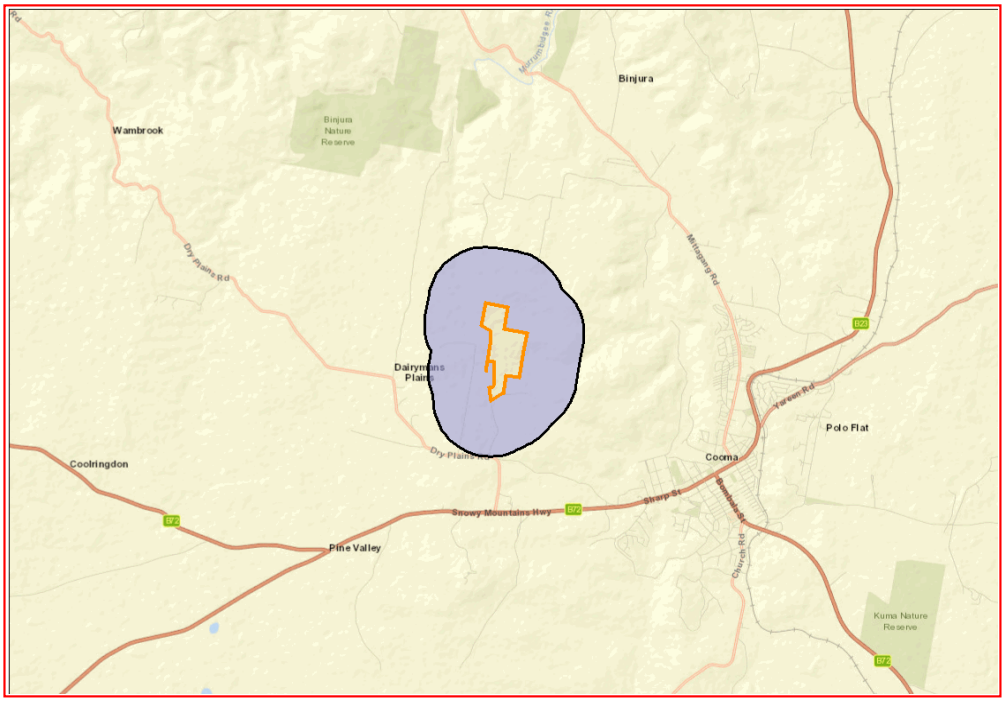
Apex Archaeology
PO BOX 236
Nowra New South Wales 2541
Attention: Leigh Bate
Email: leigh@apexarchaeology.com.au

Date: 20 January 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 11, DP:DP1266312, Section : - with a Buffer of 1000 meters, conducted by Leigh Bate on 20 January 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

ARATULA HILLS STAGE 2
TOWRANG VALE ROAD, DAIRYMANS PLAINS, NSW

STATEMENT OF HERITAGE IMPACT

Report to Vision Town Planning Consultants Pty Ltd
on behalf of Bottomline Group

August 2023

APEX ARCHAEOLOGY

PO Box 236, Nowra, NSW 2541 | heritage@apexarchaeology.com.au | www.apexarchaeology.com.au
ABN 56 625 618 993

EXECUTIVE SUMMARY

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of the Bottomline Group to undertake a Statement of Heritage Impact (SoHI) for a number of lots, located in Dairymans Plains, approximately 3km north west of Cooma, NSW. This assessment has been prepared in advance of the proposed Development Application (DA) for the project.

Snowy Monaro Regional Council (SMRC) have requested preparation of a SoHI to inform the DA due to the presence of a heritage item within the study area. This report has been prepared to address this request.

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). It comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lots as Stage 2 of the development.

The study area contains one heritage conservation area identified on the Cooma-Monaro Local Environmental Plan 2013 (LEP) heritage maps, known as item C9, 'Snake Creek (Geological Item). There are a number of other general heritage items in the wider vicinity of the study area, but these are not located immediately adjacent to the study area boundaries on in close proximity.

The project has the potential to impact on the geological heritage values of the Snake Creek Geological Feature – item C9.

The assessment found that:

- The study area contains a heritage conservation area, known as the Snake Creek (geological site) Conservation Area.
- This item is listed for its geological values.
- No other heritage items are listed within or in the immediate vicinity of the study area.
- No newly identified heritage items or areas of historical archaeological potential were identified within the study area.
- The proposed subdivision of the site is considered unlikely to impact on the heritage values of the conservation area.

It is recommended that:

RECOMMENDATION 1: NO FURTHER WORKS REQUIRED

On completion of this Statement of Heritage Impact, no further archaeological or heritage assessment is required prior to the commencement of development works.

RECOMMENDATION 2: STOP WORKS PROVISION

Should any unexpected relics be identified during works, works should cease in the area of the find and an archaeologist contacted to make an assessment of the find. Consultation with Heritage NSW may be necessary and approvals may be required before works are able to recommence in the area.

RECOMMENDATION 3: SITE WORKS

Works should be constrained to the area assessed as part of this assessment. Any amendment to the study area boundaries to include additional areas not assessed may require further assessment prior to the commencement of works.

Amendment of the proposed building envelopes within the subdivision may require further heritage assessment to determine if the heritage values of the conservation area would be impacted by the proposed works.

Apex Archaeology would like to acknowledge the Aboriginal people who are the traditional custodians of the land in which this project is located. Apex Archaeology would also like to pay respect to Elders both past and present.

DOCUMENT CONTROL

The following register documents the development and issue of the document entitled 'Aratula Hills Stage 2, Towrang Vale Road, Dairymans Plains, NSW – Statement of Heritage Impact', prepared by Apex Archaeology in accordance with its quality management system.

Revision	Prepared by	Reviewed by	Comment	Issue Date
1 – Draft	Leigh Bate	Jenni Bate	Issue for client review	20 August 2023
2 – Final	Jenni Bate	Vision PDH	Issue of final	28 August 2023

GLOSSARY OF TERMS

Burra Charter	*The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*
CBD	Central Business District
EP&A Act	The *Environmental Planning and Assessment Act 1979*
Heritage Act	The NSW *Heritage Act 1977*
Heritage Division	The Heritage Division of the Office of Environment and Heritage of the NSW Department of Premier and Cabinet – now Heritage NSW
Heritage NSW	Heritage NSW of the NSW Department of Premier and Cabinet. Responsible for overseeing heritage matters in NSW
HHA	Historical Heritage Assessment
IHO	Interim Heritage Order
LEP	Local Environmental Plan
LGA	Local Government Area
NPW Act	NSW *National Parks and Wildlife Act* 1974
OEH	The Office of Environment and Heritage of the NSW Department of Premier and Cabinet – now Heritage NSW
SEPP	State Environmental Planning Policies
SHR	State Heritage Register
SoHI	Statement of Heritage Impact

CONTENTS

FIGURES

PLATES

1.0 INTRODUCTION

Apex Archaeology has been engaged to assist Vision Town Planning on behalf of the Bottomline Group to undertake a Statement of Heritage Impact (SoHI) for a number of lots, located in Dairymans Plains, approximately 3km north west of Cooma, NSW. This assessment has been prepared in advance of the proposed Development Application (DA) for the project.

Snowy Monaro Regional Council (SMRC) have requested preparation of a SoHI to inform the DA due to the presence of a heritage item within the study area. This report has been prepared to address this request.

1.1 METHODOLOGY

This Statement of Heritage Impact (SoHI) has been prepared with reference to the Cooma-Monaro Local Environmental Plan (LEP) 2013. It has been prepared in accordance with the requirements of *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013* (Burra Charter) and the best practice standards as provided by NSW Heritage of the Department of Premier and Cabinet, including *Assessing Heritage Significance* (Department of Planning and Environment 2023a) and *Statements of Heritage Impact* (Department of Planning and Environment 2023b).

A review of statutory registers was completed to identify listings for the study area. A literature search was completed to identify relevant previous assessments and research completed for the area. A site inspection was also completed. The results of these investigations guided the preparation of this report.

1.2 STUDY AREA

The study area is located within Dairymans Plains, within the Snowy Monaro Regional Council (SMRC) Local Government Area (LGA). The study area comprises Lots 141, 188, 189, 197, Residue Lot 11, 156, 157, 158, and 159 in DP 750524 and Lot 1 DP 737275. It is proposed to construct multiple large lot residential allotments as part of the subdivision works as Stage 2 of the development.

1.3 AUTHORS

This report has been prepared by Jenni Bate, Director and Archaeologist with Apex Archaeology, and reviewed by Leigh Bate, Director and Archaeologist with Apex Archaeology.

1.4 LIMITATIONS

A visual inspection of the site was undertaken by Apex Archaeology on 27 September 2020. Photographs were taken for context only.

The historical overview is provided to assist in an understanding of the study area, to assist in the assessment of the significance of the site, and to inform the recommendations made. It does not form an exhaustive history of the study area.

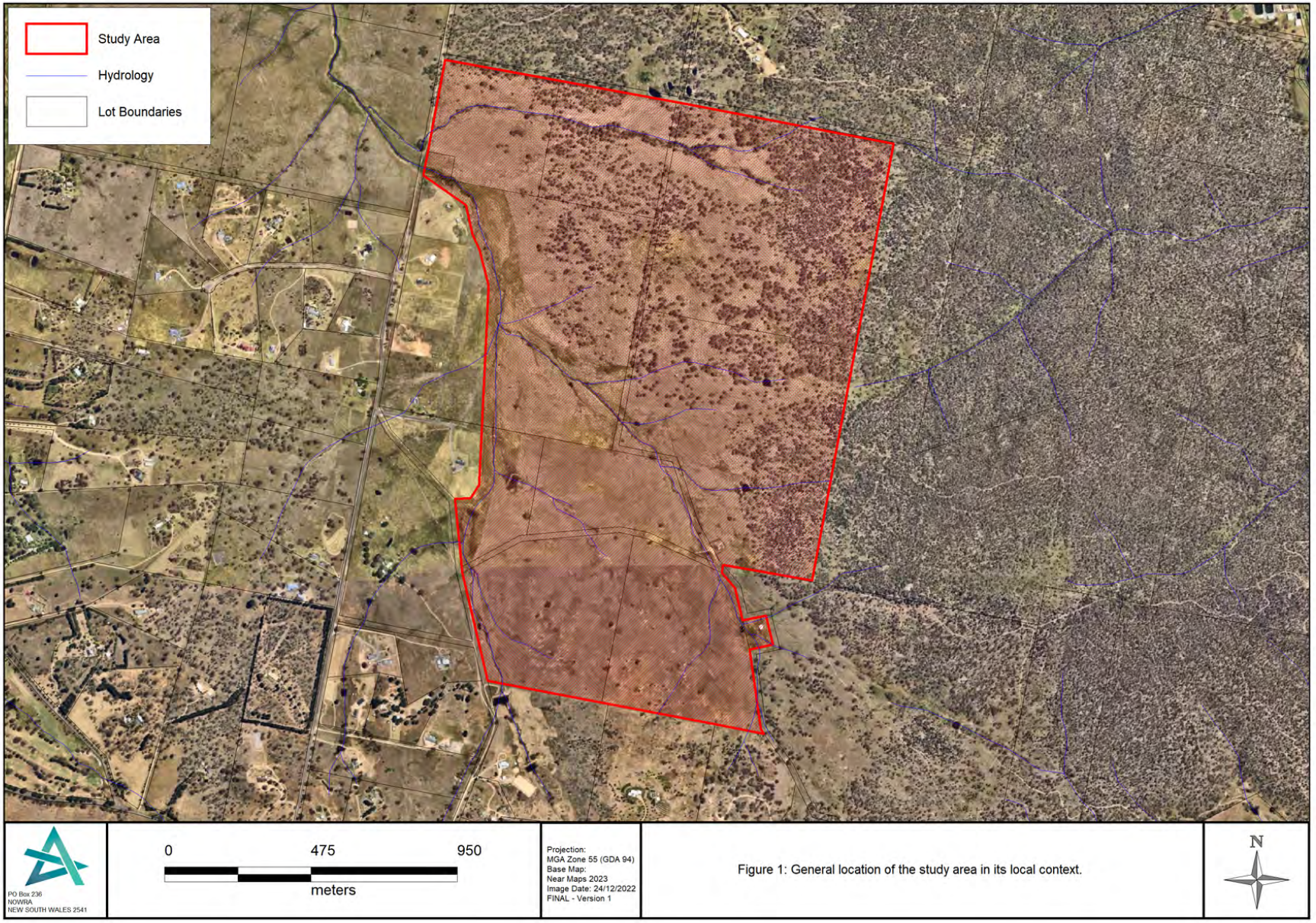


Figure 1: General location of the study area in its local context.

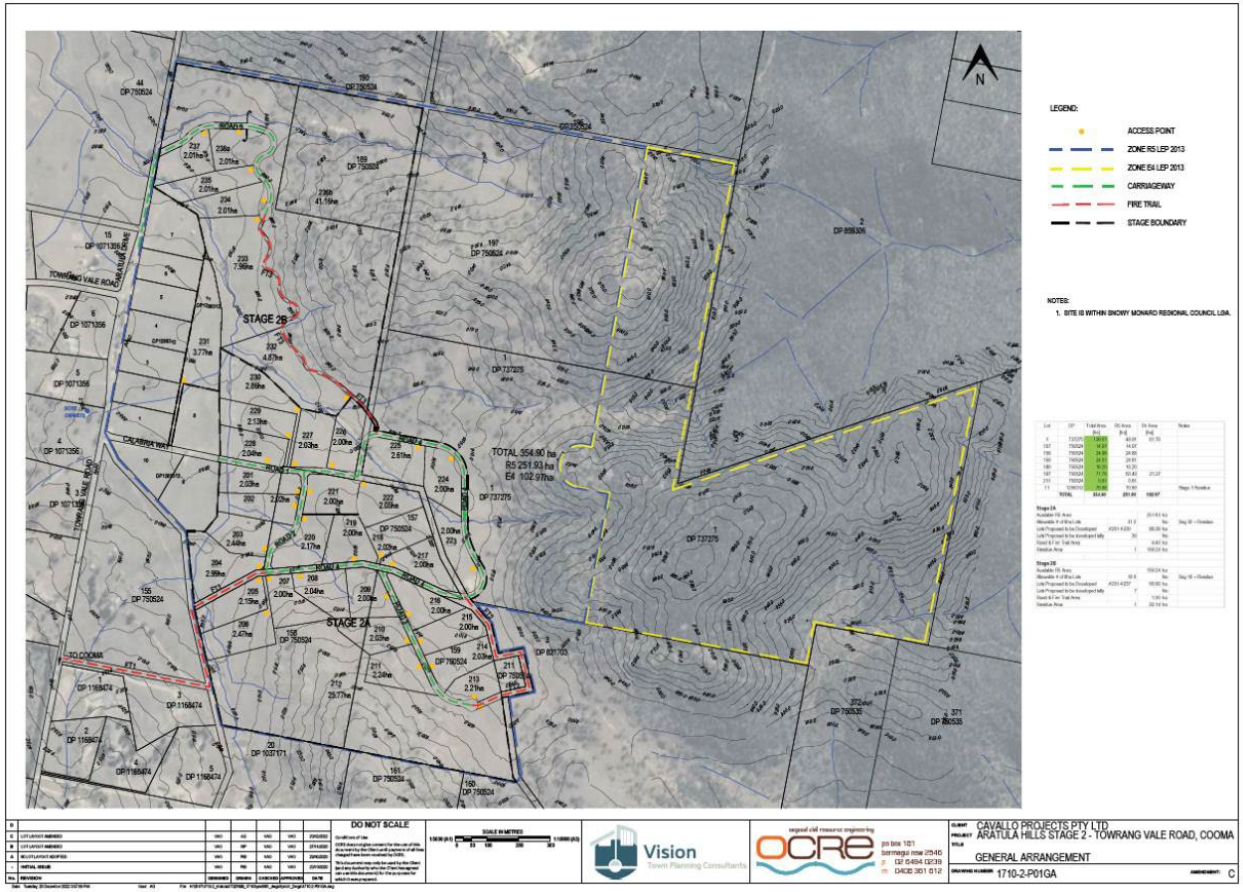


Figure 2: Development layout within the study area (Source: Vision Town Planning 2022).

2.0 NSW Heritage Legislation

2.1.1 Heritage Act 1977

The *Heritage Act 1977* (as amended) (the Heritage Act) provides protection for historical archaeological deposits, relics, structures, buildings, and features within NSW. These may be identified on the State Heritage Register (SHR) or an active Interim Heritage Order (IHO).

Under the Heritage Act, the Minister appoints the Heritage Council, which is responsible for heritage in NSW. The Council includes community, conservation and government experts. The Heritage Division provides operational support to the Council and helps communities to identify important heritage places and relics, as well as guidance on how to provide care for those items. It also provides funding and support for community heritage projects and maintains the NSW Heritage Database, which is a list of all heritage items included on statutory heritage lists within NSW.

Guidance for undertaking heritage assessments is provided by the NSW Heritage Division 1996 NSW Heritage Manual, and includes criteria to assist in assessing the significance of items.

Relics Provision

The 'relics' provision of the Heritage Act provide automatic statutory protection for historical archaeological remains. A relic is defined under the Act as any deposit, object or material evidence:

(a) That relates to the settlement of the area that comprised New South Wales, not being Aboriginal settlement; and
(b) That is of State or local heritage significance.

Section 139[1] of the Heritage Act states that:

> *A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.*

Approvals/permits for the excavation or disturbance of heritage sites are granted under Section 63 (for sites of State significance) or Section 141 (for sites of local significance) of the Heritage Act. These approvals are granted by either Heritage NSW (under delegation) or the Heritage Council of NSW. If works are minor and are likely to have minimal impact on heritage or archaeological items, exemptions under Section 57(2) may be granted for items of State significance, and exceptions for locally significant may be granted under Section 139(4).

If archaeological items of local or State significance are identified within the site, the relics provision would apply.

2.1.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides the environmental planning and assessment framework for NSW. Impacts on cultural heritage must be considered through the environmental impact assessment stage of any project. Generally, provision for the assessment of cultural heritage is made through statutory planning documents such as Local Environmental Plans (LEPs) or State Environmental Planning Policies (SEPPs).

This project falls under Part 4 of the EP&A Act, and Snowy Monaro Regional Council is the consent authority.

Cooma-Monaro Local Environmental Plan 2013

The Cooma-Monaro LEP 2013 guides heritage conservation and assessment within the Snowy Monaro LGA, with a number of heritage restrictions included. Clauses 5.10(4) and (5) state that the effect of any proposed development on a heritage item or heritage conservation area must be considered prior to approving any development works, through the preparation of a heritage management document.

2.2 Listings

Table 1 below outlines the heritage listings applicable to the study area itself.

Table 1: Heritage listings applicable to study area

Register/Listing	Item Listed (Y/N)	Item Name	Item Number
National Heritage List	N		
Commonwealth Heritage List	N		
State Heritage Register (SHR)	N		
S170 NSW State agency heritage register	N		
Cooma-Monaro *Local Environmental Plan* 2013	Y	Snake Creek (geological site) Conservation Area	C9

The study area includes a conservation area, known as the Snake Creek geological site (Figure 2). No other heritage items are within the study area, although there are other listed items in the wider vicinity. These items are well outside the impact area of the proposed development and are not considered further in this assessment.

2.2.1 Snake Creek Geological Site

Snake Creek (Geological Site) Conservation Area is located adjacent to Lots 16, 44, 47, 83 & 213 DP 750524 and Lot 21 DP 826170, as per the heritage listing. None of these lots are located within the study area, but the conservation area is shown as being located within the subject lot. Snake Creek is considered to be of significance due to its geological features, and is described as follows: “Snake Creek rises immediately west of Cooma and flows into the Murrumbidgee River. The site provides a geological section through the Cooma Complex” (SHI Heritage Item ID 1410423). The item is considered significant for its geological values.

2.2.2 HOMESTEAD – TUMBLEDOWN

Tumbledown Homestead is located in the wider vicinity of the study area but is not within or immediately adjacent to the study area. The item is listed as being "built c1875 for Fred Blaxland, solicitor. Brick house with servants' quarters, stables and small one-room cottage. Old garden. Historic and architectural significance" (SHI Heritage Item ID 1410072).

This item is located more than 1.5km to the west of the study area and would not be impacted by the proposed development. As such, it is not considered further as part of this assessment.

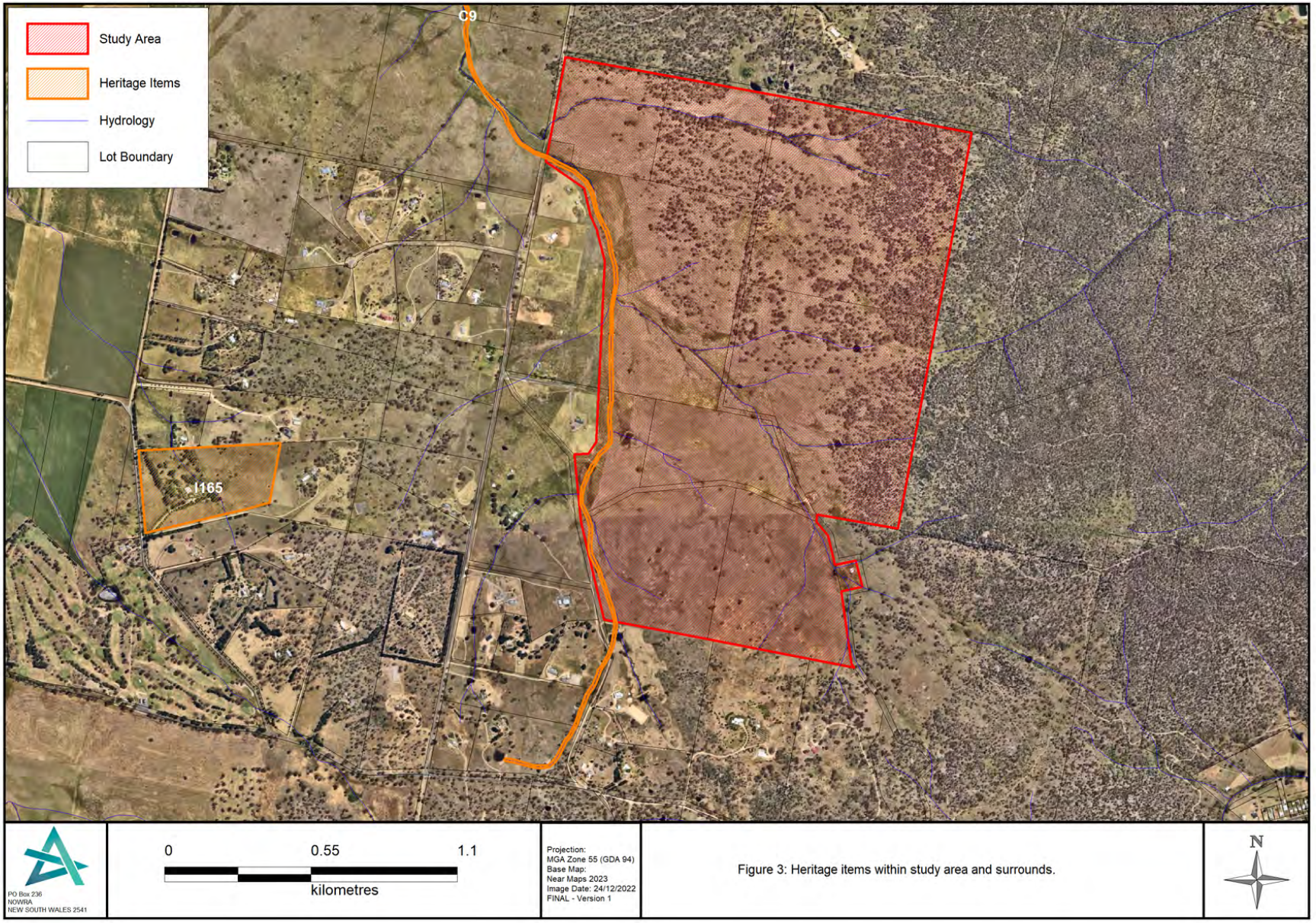


Figure 3: Heritage items within study area and surrounds.

3.0 Historical Context

3.1 Local Historical Context

Pre-Colonial Context

Ethnohistorical evidence is based on the reports of colonisers and do not tend to include the Aboriginal perspective, leading to a Eurocentric view of Aboriginality. Additionally, historical records can be contradictory and incomplete regarding the exact tribal boundaries and locations of ceremonial or domiciliary activities of Aboriginal people pre-contact. Phil Boot (2002:58) notes:

> *The problem associated with ethnohistoric documents include their tendency to record unusual, rather than everyday events, and their focus on religious behaviour to the exclusion of woman and children (Attenbrow 1976:34; Sullivan 1983:12.4).*

According to Tindale (1974) the current study area falls within the Ngarigo tribal area and linguistic territory. His observations are an attempt to depict Aboriginal occupation at the time of European contact. This territory is described by Tindale (1974) as being within the:

> *....Monaro tableland north to Queanbeyan; Bombala river from near Delegate to Nimmitabel; west to divide of the Australian Alps.*

Howitt and Matthews also place the study area with the Ngarigo territory, with Howitt (1904) describing the territory as follows:

> *The Ngarigo had the Wolgal on the north, the Ya-itmathang on the northwest, the Kurnai on the west and south-west, and the Yuin or Coast Murring to the southeast. The Ngarigo in fact occupied the Monaro tableland. The name of this tribe was that of its language, and the tribespeople called themselves "Murring", that is, "men", indicating that it belonged to another nation who used that term in common.*

Howitt further described those living in the high mountains as the Bemeringal, which included the people inhabiting the Monaro tablelands. The people on the coast were described as the Katungal, and the coastal hinterland people were described as the Paiendra. Boundaries between tribes were likely fluid and altered in response to the movement of family or clan groups.

Ngarigo people would meet with other tribes along the Tumut River and then travel towards the Bogong Mountains in order to celebrate the feasting of the Bogong Moth (Flood 1973; 1980). Messages were passed between the tribes, as described by Howitt (1904):

> *About the year 1840 my friend, the late Mr A.M. McKeachie, met two young men of the Ngarigo tribe at the Snowy River, near to Barnes's Crossing [near Dalgety]; one of them carried two peeled sticks each about two feet long [60cm] and with notches cut in them, which they told him reminded them of their message... their*

> *message was that they were to collect their tribe to meet those of the Tumut River [Walgalu] and Queanbeyan {Ngunawal] at a place in the Bogong Mountains, to eat the Bogong moths.*

It was considered likely that coastal tribes travelled inland to participate in the feast of the Bogong moths (Flood 1973; 1980) and there were generally cordial relations between the tribes when meeting for this purpose.

Aboriginal society in general was constructed of a hierarchy of social levels and groups, with fluid boundaries (Peterson 1976), with the smallest group comprising a family of a man and his wife/wives, children and some grandparents. The next level consists of bands, which were small groups of several families who worked together for hunting and gathering purposes. The third level comprised regional networks with a number of bands, and these bands generally shared a common language dialect and/or had a belief in a common ancestor. Networks would come together for specific ceremonial purposes. The highest level is the tribe, which is usually described as a linguistic unit with flexible territorial boundaries (Peterson 1976); although Attenbrow (2010) argues that "these groups were not tribes in the current anthropological sense of the word".

Aboriginal people utilised a wide range of subsistence resources in the past, with ethnohistorical sources recording the diet of Aboriginal people including kangaroo, possum, kangaroo rat, lizards, birds, platypus, wallaby and a range of plants and insects as well as fish and shell fish (Pearson 1981). A wide range of native animals, including birds and reptiles, have been identified within the wider environment around Jindabyne, and are likely to have been utilised as food resources by Aboriginal people in the past.

The traditional lifestyles of Aboriginal groups depended largely on the environment in which they lived. A range of resources were available within the sub-alpine region, including possum, snakes, wallabies and kangaroos, wombats, emus, brolgas and other birds, lizards, turtles, fish, yabbies, and Bogong moths were considered an important protein source during the summer months. Plant sources such as yams, berries and seeds of grasses were also eaten, along with the native carrot, orchid tubers, native flax seeds, and fern roots. There was anecdotal evidence that the moths were cooked and pounded into cakes, which resembled lumps of fat and then smoked to preserve them for as long as possible (Flood 1973).

Post Contact Occupation

Following the establishment of the first European settlement at Sydney Cove, the need for additional agricultural land was identified, as Sydney Cove was considered unsuitable for farming. By November 1788, food supplies were running low for the settlement, and an expedition led by Governor Philip set off up the Parramatta River in search of arable land. An area known as Rose Hill (now Parramatta) was settled by a small group of 11 soldiers and 10 convicts. The grain crops at Sydney Cove failed, and the settlement at Rose Hill was ordered to be used for agriculture. These

crops were luckily successful, and a further settlement comprising a convict farm was established at Toongabbie.

Exploration of the wider region continued, and in 1791, expeditions travelled the Hawkesbury and Nepean areas, identifying them as likely spots for agriculture. The first land grants in the Blacktown District were made in 1791, with 13 people granted land at Prospect Hill. By 1800, the population of the Blacktown area was 16.

However, more land for grazing was always necessary for the rapidly expanding colony, and an expedition in 1820 by Joseph Wild, an ex-convict employee of Charles Throsby, headed further south and reached the lake now known as Lake George. A sighting of snow covered peaks further south may have been the Snowy Mountains, although it was considered more likely to be the alpine area around Canberra (Neal 1976:4). This area was further explored by Charles Throsby and a number of other experienced explorers, who followed the Murrumbidgee to the south until they met with an Aboriginal tribe near Billilingra who advised the area they were in was called the Monaroo.

A number of European settlements were established within the Monaro from the late 1820s, outside the area known as the Limits of Location, which contained the land within which people could legally settle. Despite the lack of unofficial sanction, at least 20 new settlers were in the area by 1828 (Dibden 2019:61).

Development of Cooma and Surrounds

Further expansion occurred in the 1830s, with many new towns and villages established. The Monaro highland region was occupied by squatting runs by the late 1830s, with both sheep and cattle grazing the area. Stock were moved from the valleys, which they occupied in autumn and winter, to the higher alpine pastures in summer (HO DUAP 1996:119). This practice, known as transhumance, ceased in 1957 following acknowledgement of the damage being done to fragile ecosystems in the alpine regions.

By the mid 1840s, a list of lessees and runs in the Monaro Pastoral District showed a total of 172 runs in the area, although only 130 of these were within the specific Monaro area itself (HO DUAP 1996:119).

Kuma (Cooma) station was established by 1834 and was owned by Cooper & Levy, and later by James Kirwan. A residence and office were constructed in 1837 at the southern end of the future Lambie Street in Cooma, for the Crown Lands Commissioner for Maneroo, Mr John Lambie.

A Plan for the Village of Cooma was produced by Surveyor Thomas Townsend in 1849, which showed two main groups of buildings within the village. Land sales occurred in the area in 1850 and an inn opened in 1854.

The discovery of gold in the region in 1859 near Kiandra, and this led to miners and prospectors flocking to Cooma to try their luck on the goldfields. The goldrush was relatively short lived in the region and ended in the 1880s.

The arrival of the railway in 1889 provided access to the nearby snowfields, allowing Cooma to develop as a winter tourist town. Races were first held in the late 1860s or early 1870s (HO DUAP 1996: 123), and the formation of the Kiandra Snow-Shoe Club in 1870 showed the appeal of snow sports in the area. Hotel Kosciusko opened in 1909 and mountain tourism increased from then on. Skiing resorts were also established in the area, with Perisher Blue established in 1939 and Thredbo from 1957. Both of these led to further growth in the area to support the tourism industry.

Cooma was also the headquarters of the Snowy Mountains scheme, which saw an influx of migrants from around the world come to work on the enormous scheme.

Snake Creek Geological Area

The geology of Cooma was under investigation as early as the 1850s, when the potential for gold to be present was noted and detailed geological surveys were undertaken, such as that by Reverend W. B Clarke in 1851 and reported in numerous newspapers of the time. The geology around Cooma was noted as being significant as:

> *...it exposes in an almost continuous exposure, all rocks in the above sequence, as well as the deformation which these metasedimentary rocks have undergone. In succession, moving from the road (to the south) along Slacks Creek* [located approx. 4km west of Snake Creek], *exposures of the following are revealed: spotted granulites (i.e. granoblastic rocks, not of the granulite metamorphic facies) with biotite-rich patches, andalusite schist, cordierite schist and potassium feldspar porphyroblast bearing schist, referred to as the permeation zone. An extensive zone of retrogression to micaceous schists is exposed just to the east of the creek (Schon 1984).*

Although the above description applies specifically to Slacks Creek, located to the west of Snake Creek, the geological formation exposed along both watercourses is continuous. Additionally, Spring Creek, located approximately 1.9km west of Snake Creek, and between both Snake and Slacks Creeks, is also listed as a geological site with similar values and exposures.

Schon (1984) further notes:

> *Slacks Creek contains probably the best continuous exposure of structure and lithology within the biotite, andalusite and sillimanite (corduroy gneiss) zones of the complex. The section has been used by university groups for years without obvious damage to the outcrop, and the section, because of the almost continuous rock exposure, provides a very useful educational site. Threat to the area is low, although some of the smaller structures, especially folds, concretions and calc-silicate boudins, could be destroyed by indiscriminate hammering (Schon 1984).*

3.2 Documentary Evidence

The earliest parish map available over the study area dates to 1892 (Plate 1) and shows the northern portion of the study area as not yet alienated. The northern-most portion of the study area at the time had been reserved for police purposes by 1900, with the land most likely used for agistment of horses for police use. Further land to the north of the police land was purchased by JH Slattery by 1918 (Plate 2).

The remainder of the area had been granted to or purchased by James Fitzgerald, who then added to his holdings by 1918 when he purchased additional land to the south of his original holdings. By 1924, additional land had been purchased to the east of the original lots, with land purchased by JE Venables, GO Venables and Jas R Venables (Plate 3).

Aerial imagery from 1977 (Plate 4) shows the area as mostly cleared of vegetation with limited development within the site. Some access tracks are visible throughout the subject area and a small cluster of buildings is visible in the northern portion of the study area, just south of Snake Creek. A number of dams are also present within the site. Little had changed within the study area by 1985 (Plate 5). By 1996 (Plate 6) an additional small cluster of buildings was present on the eastern boundary of the site, although little else had occurred. The area appeared to have been utilised for agricultural purposes.

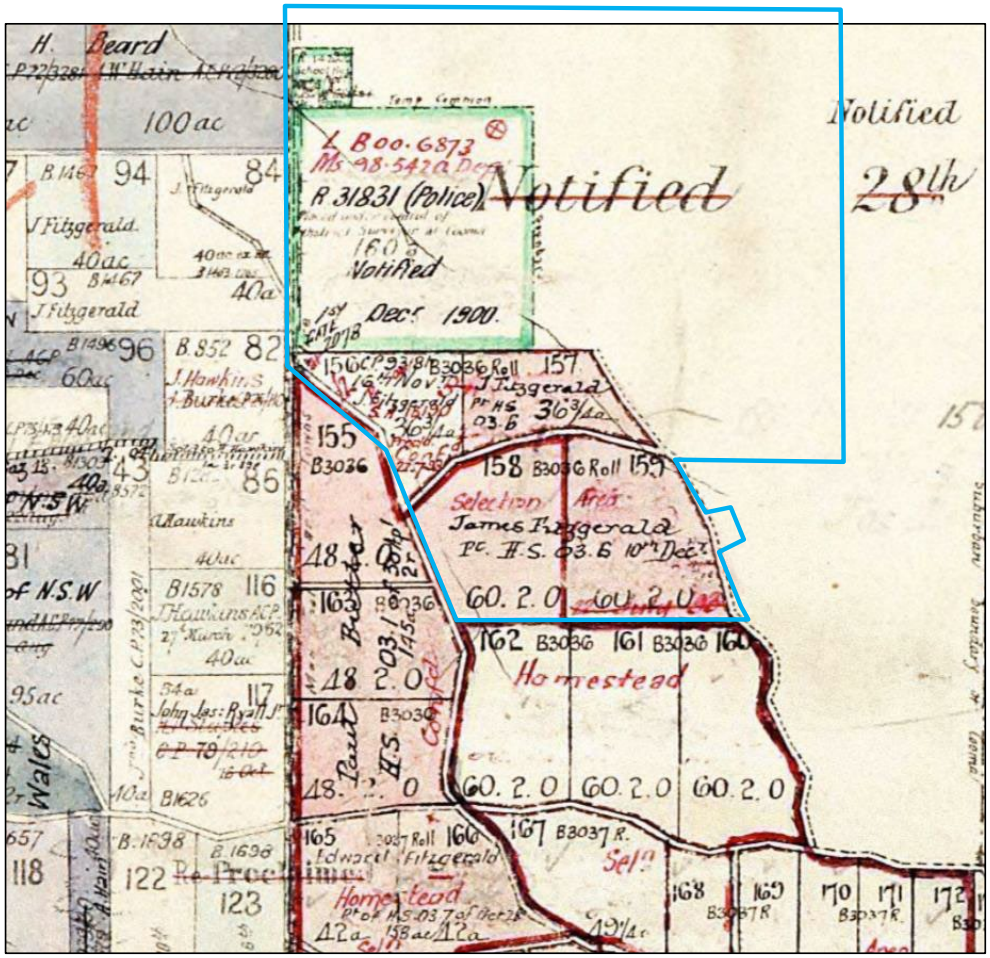


Plate 1: 1892 Parish of Binjura County of Beresford map, approx study area outlined in blue.

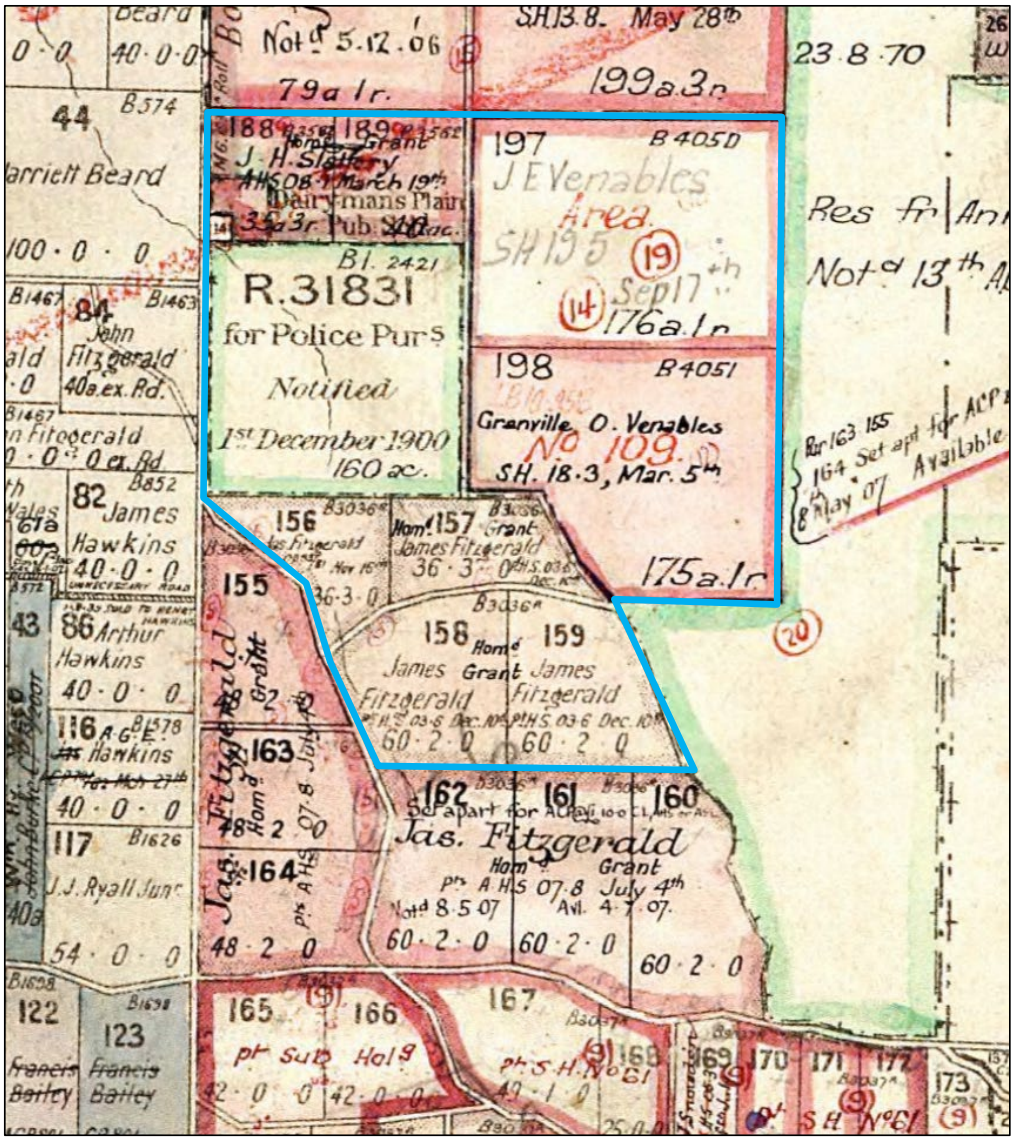


Plate 2: 1918 Parish of Binjura County of Beresford map, approx study area outlined in blue.

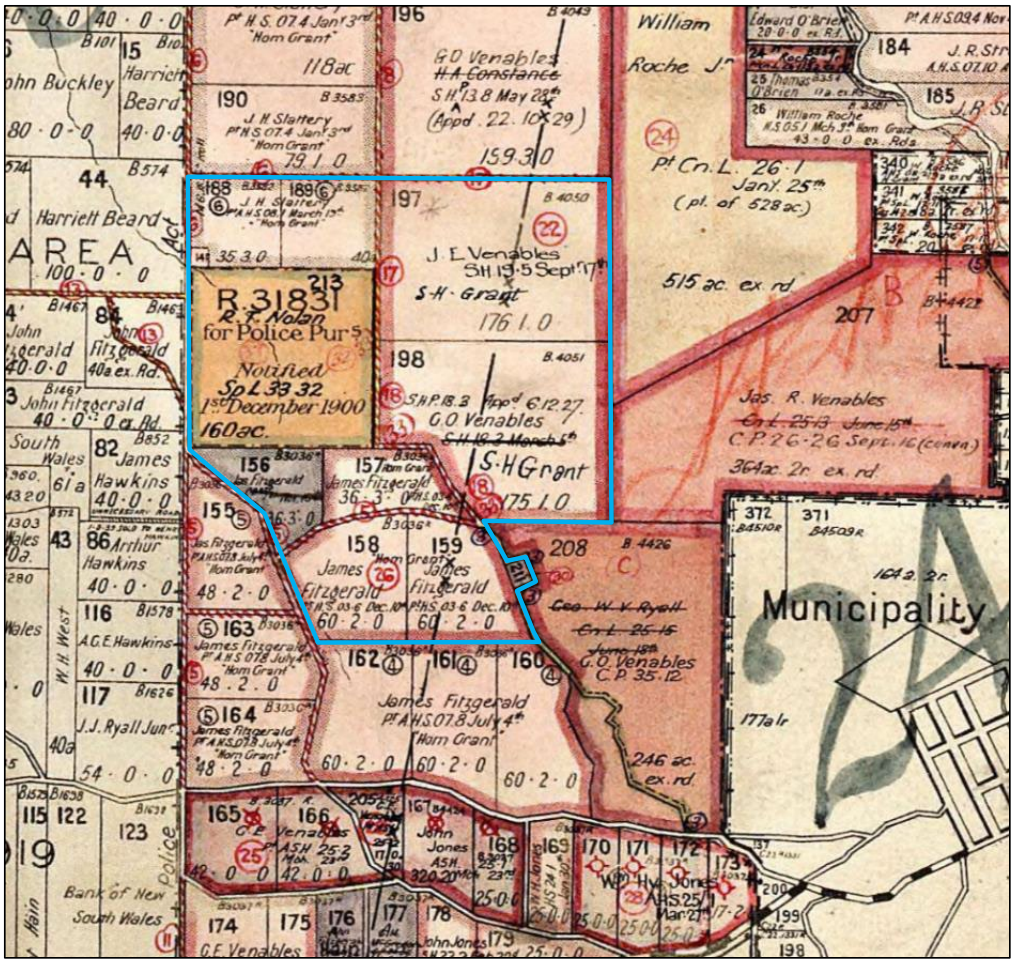


Plate 3: 1924 Parish of Binjura County of Beresford map, approx study area outlined in blue.

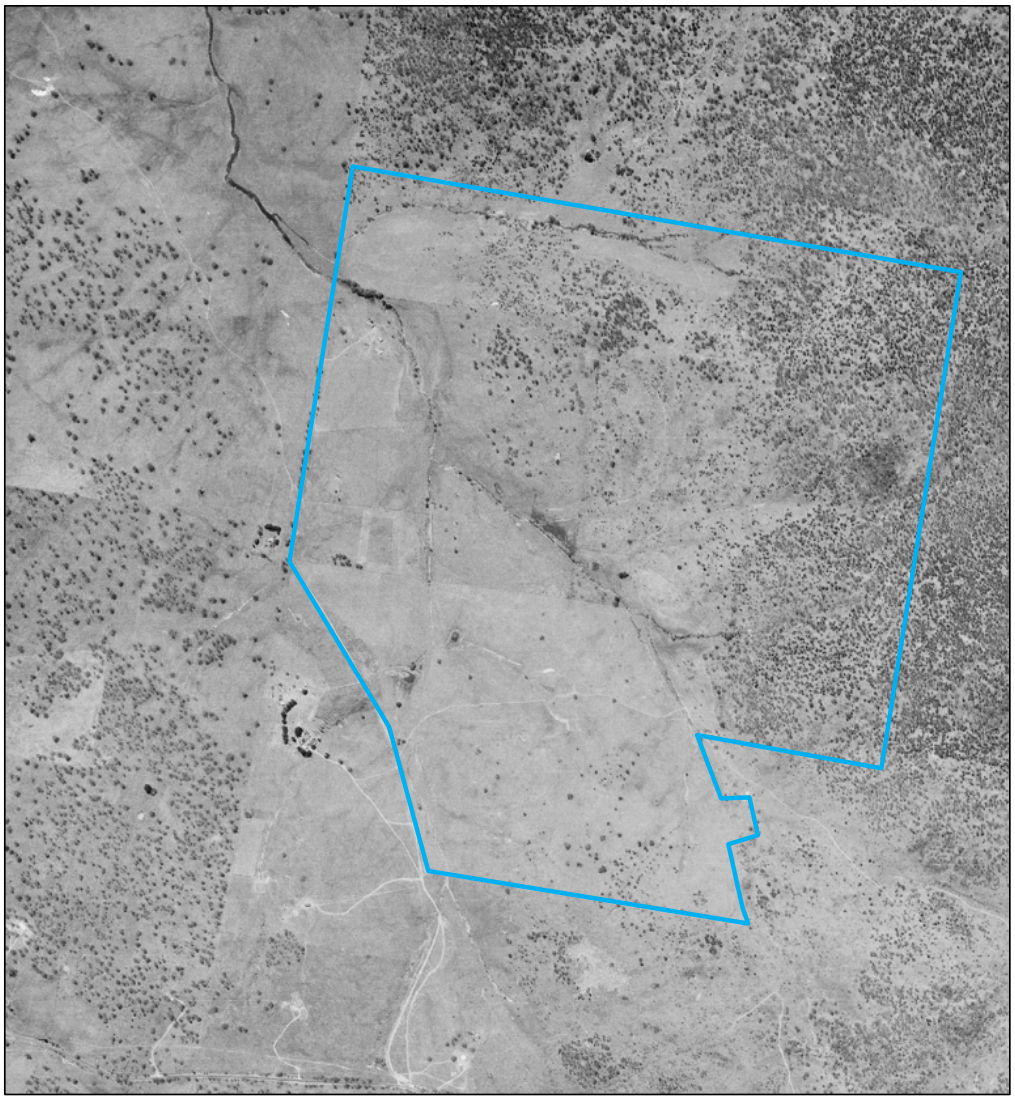


Plate 4: 1977 aerial imagery. Approx study area in blue.

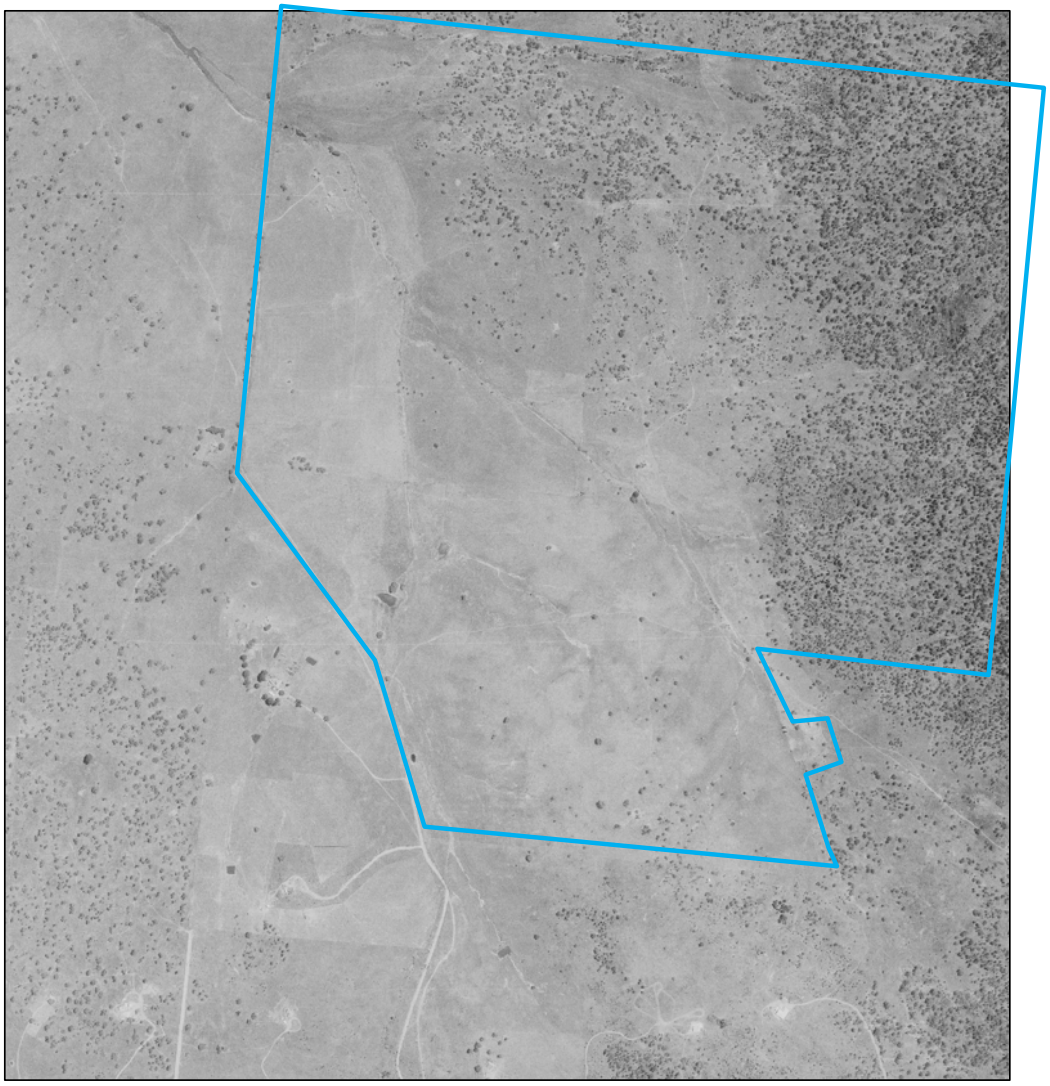


Plate 5: 1985 aerial imagery. Approx study area in blue.

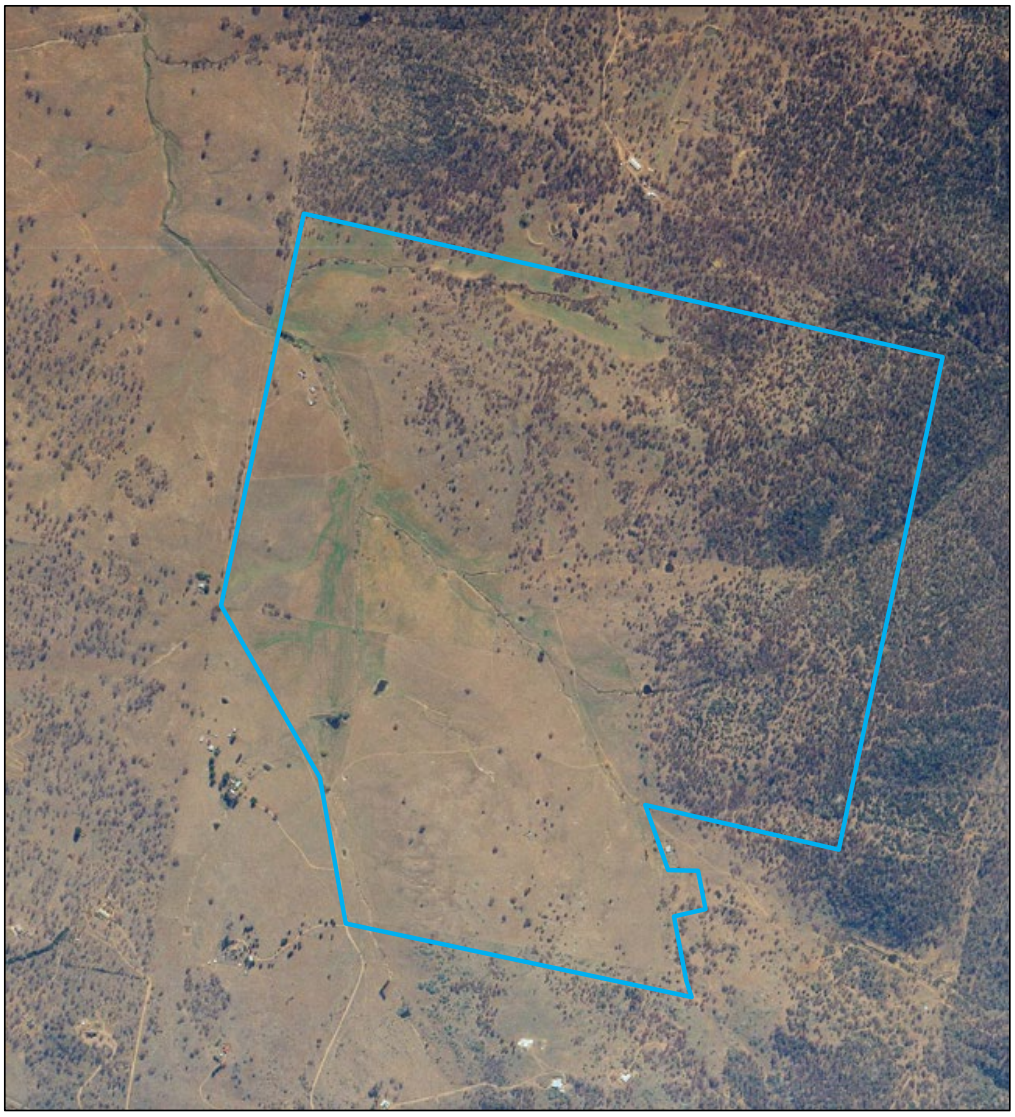


Plate 6: 1996 aerial imagery. Approx study area in blue

4.0 Step 4: Visual Inspection

A visual pedestrian inspection of the study area was undertaken on 27 September 2020 by Leigh Bate, Archaeologist with Apex Archaeology. The current condition of the site was investigated and photographs for context were taken. The potential for the proposal to impact historic relics was assessed.

4.1 Site Description

The study area comprises a relatively open, gently undulating rural landscape. The area has been cleared of historical vegetation and now contains pasture grasses. Paddocks are fenced with rural type fencing. Outcropping basalt is present throughout the site and particularly along Snake Creek.

Plate 7: General view looking at the southern portion of the study area.

Plate 8: Looking north east from the southern boundary of the study area.

Plate 9: Looking north east towards the eastern boundary of the study area

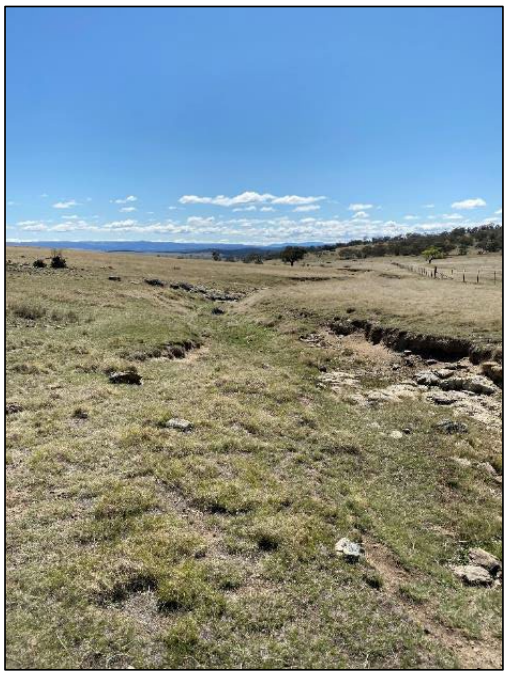


Plate 10: Looking along Snake Creek within the central portion of the study area.

Plate 11: Looking south along the central portion of the study area.

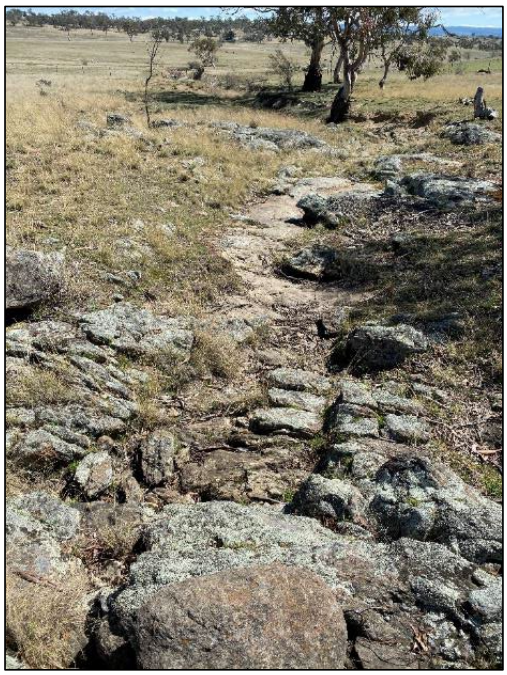


Plate 12: Looking west downslope along a drainage line within the central portion of the study area.

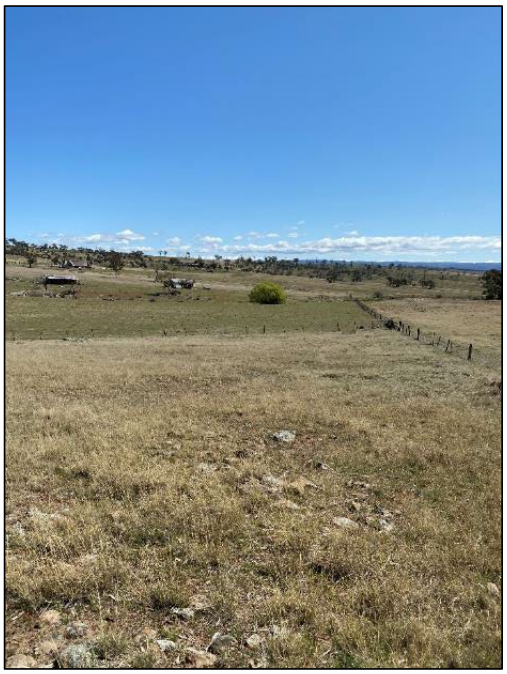


Plate 13: Looking towards the western boundary of the study area.

Plate 14: Looking towards the northern boundary of the study area

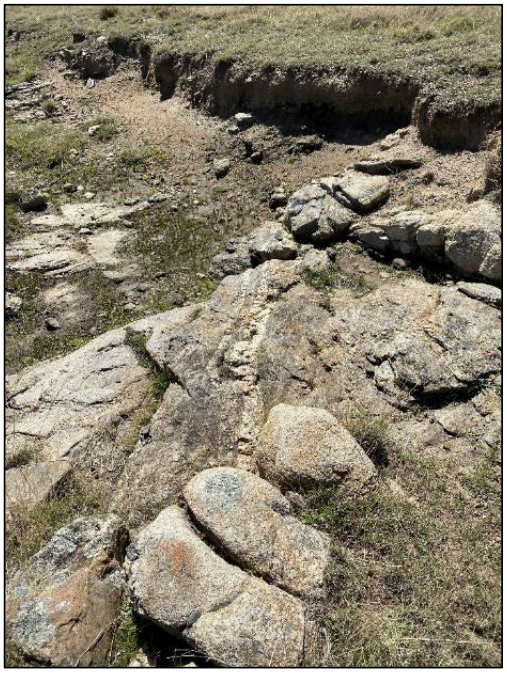


Plate 15: Outcrops associated with the Cooma Complex along Snake Creek.

4.2 DISCUSSION

Limited development has occurrent within the study area, beyond clearing of original vegetation in the historical period. No newly identified heritage items were identified within the study area. There is no evidence of historical construction or use of the area which would have resulted in intact historical relics or archaeological deposits being present within the study area.

The Snake Creek area was inspected and noted to be generally undisturbed and in a natural, original condition, aside from vegetation clearing in the vicinity.

5.0 Assessment of Significance

5.1 Understanding Heritage Significance

All places have unique combinations of values, and as such it is important to understand these values prior to making decisions about the future of a heritage item. This way heritage values can be retained when making decisions relating to the future management of a place.

A statement of heritage significance is prepared to summarise an item's heritage values.

5.2 Heritage Significance

The study area contains a conservation area considered to be of local heritage significance. The statement of significance for Snake Creek (geological site) Conservation Area as per the SHI database states "Geological features adjacent to multiple lots. Site not inspected in 2007".

5.3 Assessment of Criteria

The Heritage Council of NSW prepared a set of seven criteria for use in assessing heritage significance. Items are considered significant on two levels, these being State and local significance.

The following assessment of significance has been prepared in accordance with the *Assessing Heritage Significance* 2023 guidelines issued by the NSW Department of Planning and Environment. The following assessment considers the current study area specifically.

a) **An item is important in the course, or pattern, of the local area's cultural or natural history**

The study area contains part of the Snake Creek geological site conservation area, which is considered important in demonstrating the geological history of the area.

b) **An item has strong or special associations with the life or works of a person, or a group of persons, of importance in the local area's cultural or natural history**

The study area is not associated with any specific person or groups of people, and as such does not hold significance under this criterion.

c) **An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area**

The study area does not hold significance under this criterion.

d) **An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons**

The study area is not associated with any specific community or cultural group in the local area, and as such does not hold significance under this criterion.

e) **An item has potential to yield information that will contribute to an understanding of the local area's cultural or natural history**

Snake Creek geological site is considered to hold educational potential with regard to the natural (geological) history of the area. However, the wider study area is not considered to have any research potential with regard to cultural or natural history.

f) **An item possesses uncommon, rare or endangered aspects of the local area's cultural or natural history**

Snake Creek geological site is an uncommon site type in the local area, although both Slacks Creek (approx 4km to the west of the study area) and Springs Creek (approx 1.9km to the west of the study area) are both considered to demonstrate similar geological features as those seen at Snake Creek.

g) **An item is important in demonstrating the principal characteristics of a class of the local area's**
   - **Cultural or natural places; or**
   - **Cultural or natural environments**

The study area in general is not considered important in demonstrating the principal characteristics of the local area's cultural or natural places or environments, although Snake Creek itself is considered to demonstrate the principal characteristics of the local area's natural places and environment.

5.4 Statement of Significance

Snake Creek is considered to have significance in demonstrating the geological history od the region, along with the principal characteristics of the local area's natural places and environment. It is also considered to have educational potential and is a relatively uncommon site type in the area.

The wider development area outside of the S is not considered to have significance under any of the criteria.

6.0 Assessment of Heritage Impact

The proposed development works have the potential to impact on the heritage significance of the Snake Creek (Geological Site) Conservation Area, as well as any potential heritage sites which may fall within the study area. A Statement of Heritage Impact assists in the decision-making process when assessing the impact a development proposal may have on the heritage significance of heritage items.

6.1 Potential Impact

The proposed development has the potential to impact on the heritage significance of the heritage item through altering the setting and aesthetic of the area. Construction works such as levelling, construction of services, and other associated earthworks could impact any historical relics or items which may be present within the study area.

6.2 Impact Assessment

The study area itself has not been identified as having archaeological potential for historical relics to be present, as there is no evidence of previous construction within the site. As such, the proposed development is considered unlikely to impact on any historical relics or archaeological deposits within the study area.

The proposed development has the potential to impact on the heritage values of Snake Creek itself, through disturbance associated with the proposed development works. The development includes subdivision of the site to create residential lots with defined building envelopes within each lot. Construction works would be limited to within these envelopes. All proposed building envelopes are outside of the conservation area associated with Snake Creek and thus is unlikely to impact on the heritage significance of this item.

One small section of the creek may be impacted by construction of an internal access road (Road 4) as shown on Figure 5, outlined in orange.

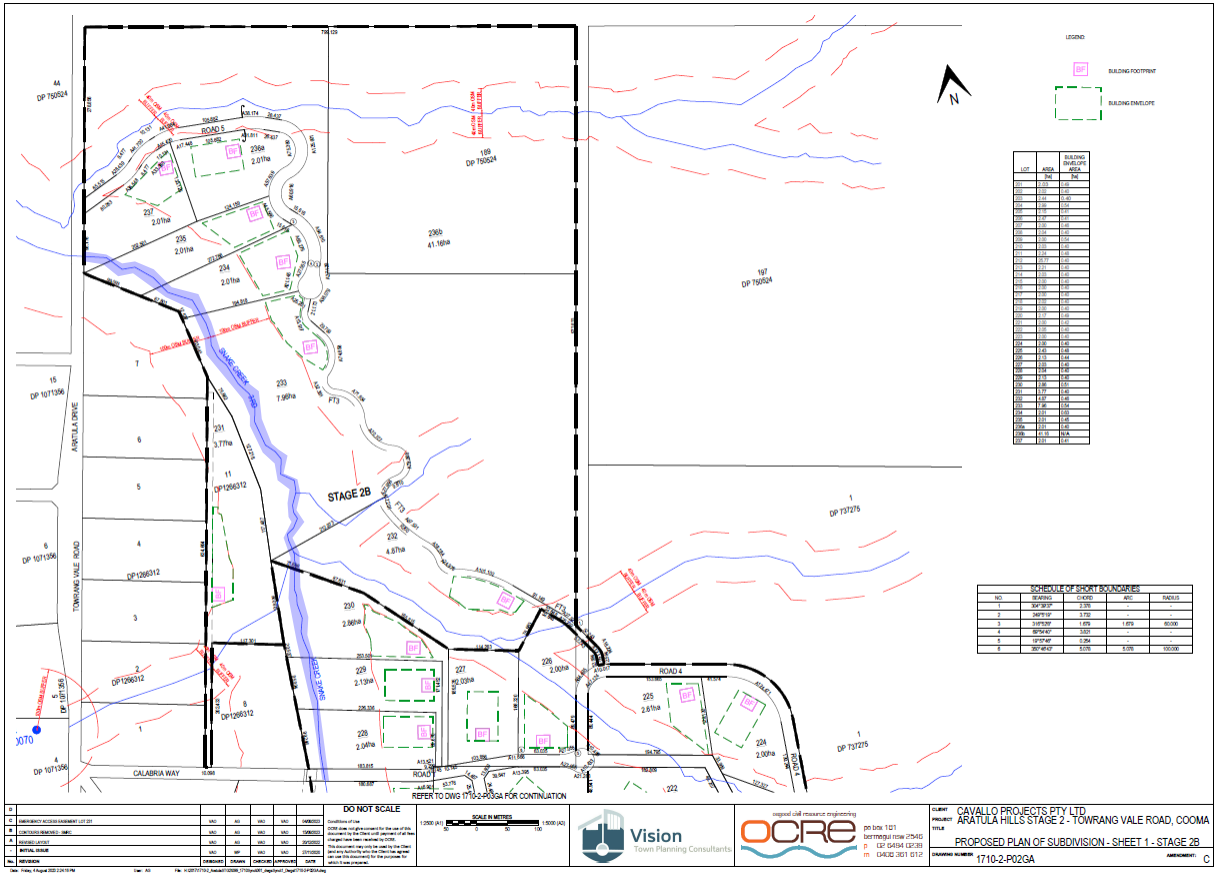


Figure 4: Building footprint (BF) and building envelopes (outlined in green) within each proposed lot. Snake Creek Conservation Area shaded blue.

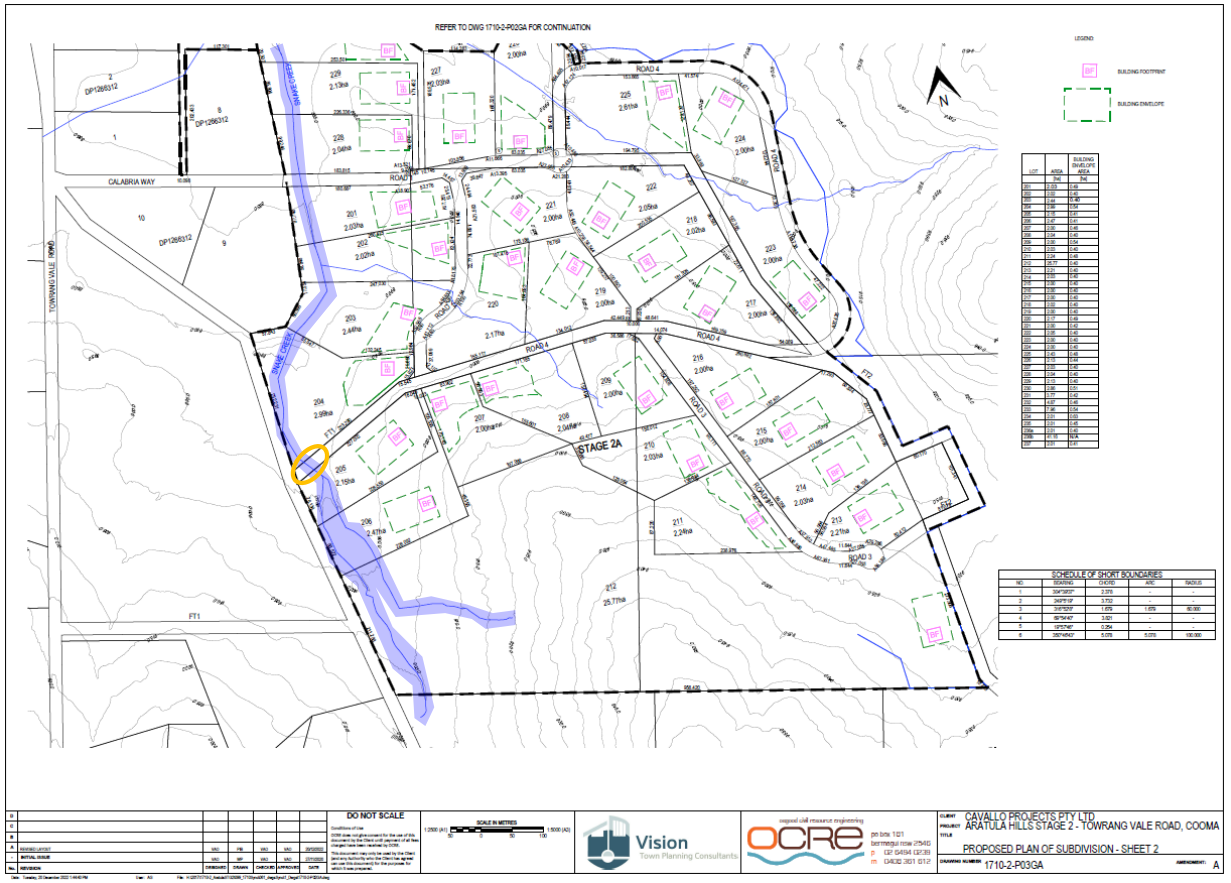


Figure 5: Building footprint (BF) and building envelopes (outlined in green) within each proposed lot. Snake Creek Conservation Area shaded blue.

6.3 Statement of Heritage Impact

The following table outlines the statement of heritage impact for the site, with the proposed change to the heritage item relating to subdivision of land containing a heritage item, as well as to works adjacent to a heritage item or heritage conservation area.

Table 2: Questions from DPE 2023b *Guidelines for preparing a statement of heritage impact*

Questions to be answered	Answer
Will the proposed subdivision retain an adequate setting or context for the heritage item?	The proposed subdivision comprises large lots of at least 2 hectares each, with individual building envelopes within each lot. These envelopes will ensure all development within the lots will be located at a distance from Snake Creek and hence the conservation area associated with the creek, and are considered to retain an adequate setting and context for the item.
Could the proposed subdivision compromise the heritage significance of the heritage item?	The proposed subdivision is considered unlikely to compromise the heritage significance of the Snake Creek geological site.
Do the proposed works comply with the *Subdivision and NSW State Heritage Register items policy* (Heritage NSW 2019)?	There are no items listed on the SHR within or adjacent to the study area and therefore compliance is not required in this instance.
Will the proposed works affect the heritage significance of the adjacent heritage item or the heritage conservation area?	There are no adjacent heritage items that would be impacted by the proposed works. Appropriate building envelopes have been proposed within each new lot that will assist in retaining the significance of the conservation area within the study area, and thus the proposed works would not affect the heritage significance of the heritage conservation area.
Will the proposed works affect views to, and from, the heritage item? If yes, how will the impact be mitigated?	The subdivision includes large rural lots with defined building envelopes which are sited at a distance from the heritage items. The low density of the proposed future residential development would not affect views from or to the heritage item.
Will the proposed works impact on the integrity or the streetscape of the heritage conservation area?	The proposed development works would have a minor impact on the integrity of the heritage conservation area through construction of an internal access road (Road 4). The remainder of the heritage conservation area would not be impacted by the proposed works.

7.0 Conclusions and Recommendations

7.1 Conclusions

- The study area contains a heritage conservation area, known as the Snake Creek (geological site) Conservation Area.
- This item is listed for its geological values.
- No other heritage items are listed within or in the immediate vicinity of the study area.
- No newly identified heritage items or areas of historical archaeological potential were identified within the study area.
- The proposed subdivision of the site is considered unlikely to impact on the heritage values of the conservation area.

7.2 Recommendations

Recommendation 1: No Further Works Required

On completion of this Statement of Heritage Impact, no further archaeological or heritage assessment is required prior to the commencement of development works.

Recommendation 2: Stop Works Provision

Should any unexpected relics be identified during works, works should cease in the area of the find and an archaeologist contacted to make an assessment of the find. Consultation with Heritage NSW may be necessary and approvals may be required before works are able to recommence in the area.

Recommendation 3: Site Works

Works should be constrained to the area assessed as part of this assessment. Any amendment to the study area boundaries to include additional areas not assessed may require further assessment prior to the commencement of works.

Amendment of the proposed building envelopes within the subdivision may require further heritage assessment to determine if the heritage values of the conservation area would be impacted by the proposed works.

8.0 BIBLIOGRAPHY

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Tindale, N.B. 1974, *Aboriginal Tribes of Australia – Their Terrain, Environmental Controls, Distribution, Limits and Proper Names.* Online resource, accessed from http://archives.samuseum.sa.gov.au/tribalmap/index.html

APPENDIX A: HERITAGE LISTING

Item Details

Name

Snake Creek (geological site) Conservation Area

SHR/LEP/S170

LEP #C9

Address

DAIRYMANS PLAINS NSW 2630

Local Govt Area

Snowy Monaro Regional

Local Aboriginal Land Council

Unknown

Item Type	Group/Collection	Category
Conservation Area	Exploration, Survey and Events	Other - Exploration, Survey & Events

All Addresses

Addresses

Records Retrieved: 1

Street No	Street Name	Suburb/Town/Postcode	Local Govt. Area	LALC	Parish	County	Electorate	Address Type
		DAIRYMANS PLAINS/NSW/2630	Snowy Monaro Regional	Unknown			Unknown	Primary Address

Boundary Description

Adjacent to Lots 16, 44, 47, 83 & 213 DP 750524 and Lot 21 DP 826170

Significance

Statement Of Significance

Geological features adjacent to multiple lots.

Site not inspected in 2007.

Owners

Records Retrieved: 0

Organisation	Stakeholder Category	Date Ownership Updated
No Results Found		

Description

Designer **Builder/Maker**

Physical Description **Updated**

Geological features adjacent to multiple lots. Snake Creek rises immediately west of Cooma and flows into the Murrumbidgee River. The site provides a geological section through the Cooma Complex (NSW Department of Primary Industries, 2007, correspondence to Council).

Physical Condition **Updated**

Modifications And Dates

Further Comments

Current Use

Former Use

Listings

Listings

			Records Retrieved: 1		
Heritage Listing	**Listing Title**	**Listing Number**	**Gazette Date**	**Gazzette Number**	**Gazzette Page**
Local Environmental Plan	Cooma-Monaro Local Environmental Plan 2013	C9	10/25/2013 12:00:00 AM		90

Procedures/Exemptions

Records Retrieved: 0

Section of Act	Description	Title	Comments	Action Date	Outcome
No Results Found					

History

Historical Notes or Provenance **Updated**

Historic Themes

Records Retrieved: 0

National Theme	State Theme	Local Theme
No Results Found		

Recommended Management

Management Summary

Management

Records Retrieved: 2

Management Category	Management Name	Date Updated
		7/11/2023 1:32:01 PM
Statutory Instrument	List on a Local Environmental Plan (LEP)	

Report/Study

Heritage Studies

Records Retrieved: 0

Report/Study Name	Report/Study Code	Report/Study Type	Report/Study Year	Organisation	Author
No Results Found					

Reference & Internet Links

References

Records Retrieved: 0

Type	Author	Year	Title	Link
No Results Found				

Data Source

The information for this entry comes from the following source:

Data Source	Record Owner	Heritage Item ID
Local Government	Snowy Monaro Regional Council	1410423

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to **council@snowymonaro.nsw.gov.au**

SOILANDWATER

ARATULA HILLS STAGE 2 - LAND CAPABILITY ASSESSMENT

Version 1
25 January 2023

Franklin Consulting Australia Pty Limited

ACN: 611 394 953
ABN: 59 611 394 953

GPO Box 837
Canberra ACT 2601
Phone: (02) 6179 3491
Mobile: 0490 393 234
E-mail: soil.land.water@gmail.com

Servicing the agriculture, conservation and development sectors with soil and water management advice, land capability and soil assessment, erosion control and soil conservation planning, catchment and property planning, and natural resource management policy advice.

Contents

ASSESSOR DETAILS

John Franklin M App Sc, BSc, EIANZ, CEnvP

Franklin Consulting Australia Pty Ltd
(trading as) Soil and Water

GPO Box 837
Canberra ACT 2601

soil.land.water@gmail.com

P (02) 6179 3491

M 0490 393 234

John Franklin has over 26 years' experience in natural resource management in the ACT and Upper Murrumbidgee region. This experience includes providing extensive soil and water management advice to State and Local Government and the urban / rural residential development sector across the region. John has detailed knowledge of water resource policy and developed the NSW Farm Dams Policy in 1999 for the Department of Land and Water Conservation and provided strategic support and direction to the NSW water reform process.

Franklin Consulting Australia Pty Ltd holds Workers Compensation, Professional Indemnity and Public Liability cover.

LAND CAPABILITY ASSESSMENT

PROJECT DESCRIPTION	
Summary	Soil and Water was engaged by Cavallo Projects Pty Ltd, to assess the proposed development of a 38 lot subdivision [Stage 2] at Towrang Vale Road, Cooma. Stage 2 is located across Lot 1 DP 737275; Lots 157,158,159, 189, 197 & 211 DP 750524 and; Lot 11 DP 1266312 . Building lots range in size from 2 – 25.77 hectares in size. Each lot includes a Building Envelope of 4000-6300m^2. There is a large residual lot (Lot 236b) of 41.16 hectares which does not include a Building Envelope. An effluent disposal area of 1300m^2 has also been identified within the Building Envelope of each lot. The subdivision will be developed in two stages. Stage 2A comprises of 30 dwelling lots with Stage 2B having 7 dwelling lots and a residual lot with no Building Envelope. Refer to the Lot Summary below for additional detail. The development borders a previously developed 10 lot subdivision on Lots 156 & 213 DP 750524 to the northwest. The purpose of this assessment is to determine the suitability of the land for the planned 37 rural residential dwelling lots based on an analysis of constraints to the disposal of effluent and the construction of dwellings on each lot. Constraints to on-site effluent management and dwelling construction have been assessed in accordance with: • assessment of on-site effluent capability, based on Appendix C of ANZ Standard 1547:2012, *Site and Soil Evaluation for Planning, Rezoning and Subdivision of Land* and also the NSW guideline*, The Silver Book*; • assessment of land capability for dwellings is based on excluding land which has a slope grade in excess of 15 %, is seasonally waterlogged or eroding and, as a result, is constrained for the construction of dwellings. Potable water supply to service the dwelling lots will be through the independent capture and storage of roof water in potable water tanks. All lots will dispose of domestic effluent on-site via independent treatment and dispersal systems. It is recommended that all lots install secondary treatment systems (including disinfection), with the dispersal of treated effluent through surface spray or drip irrigation. The use of a primary treatment system (septic tank) and absorption bed is not recommended due to limited soil depth in many parts of the landscape, combined with lower permeability subsoils and the sensitive receiving environment in Snake Creek, which drains the area. It is considered that there are adequate areas of suitable site and soil conditions on all lots to enable the on-site disposal of effluent associated with proposed dwelling

lots. A suitable area of 1300m^2 has been identified within each Building Envelope for on-site effluent disposal activities.

There are adequate areas of unconstrained land within the identified Building Envelope for the construction of dwellings on each of the proposed lots.

Lot Summary

STAGE 2A

STAGE 2B

LOT	AREA	BUILDING ENVELOPE (HA.)	EFFLUENT DISPOSAL AREA m^2
201	2.03	0.49	1300
202	2.02	0.40	1300
203	2.44	0.40	1300
204	2.99	0.54	1300
205	2.15	0.41	1300
206	2.47	0.41	1300
207	2.00	0.46	1300
208	2.04	0.40	1300
209	2.00	0.54	1300
210	2.03	0.40	1300
211	2.24	0.48	1300
212	25.77	0.40	1300
213	2.21	0.40	1300
214	2.03	0.40	1300
215	2.00	0.40	1300
216	2.00	0.40	1300
217	2.00	0.40	1300
218	2.02	0.40	1300
219	2.00	0.40	1300
220	2.17	0.49	1300
221	2.00	0.42	1300
222	2.05	0.40	1300
223	2.00	0.40	1300
224	2.00	0.40	1300
225	2.43	0.48	1300
226	2.13	0.44	1300
227	2.03	0.40	1300
228	2.04	0.40	1300
229	2.13	0.40	1300
230	2.86	0.51	1300
231	3.77	0.42	1300
232	4.87	0.46	1300
233	7.96	0.54	1300
234	2.01	0.63	1300
235	2.01	0.45	1300
236a	2.01	0.40	1300
236b	41.16	N/A	N/A
237	2.01	0.41	1300

Key References

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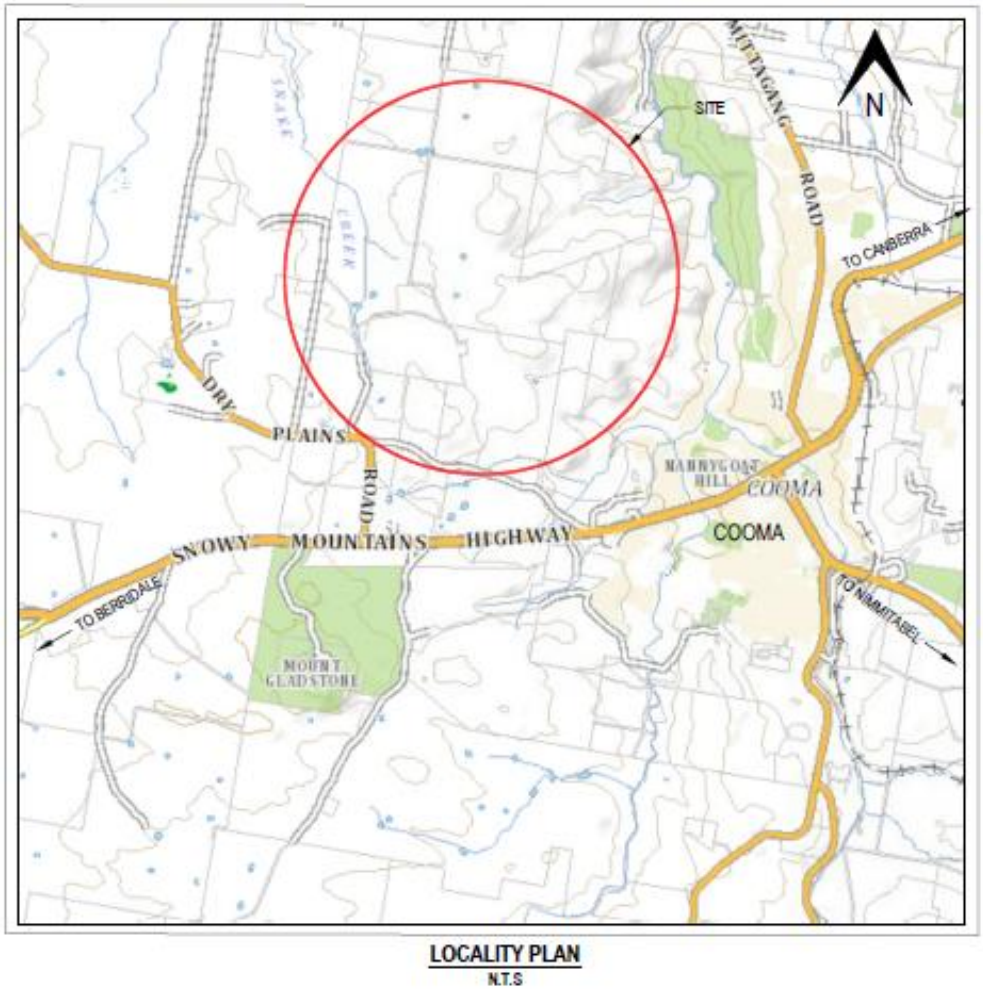
ANZ Standard 1547:2012 On-site Domestic Wastewater Management

Soil Landscapes of the Cooma 1:100,000 Sheet. Tulau,M.J. (1994) Department of Conservation and Land Management

Cooma – Monaro Local Environmental Plan (2013)

Methodology	A detailed on-site assessment of the proposed 38 lots was undertaken. The assessment included measurements of slope, aspect, exposure, visual appraisal of landform and soil conditions. The location of constraints identified during site inspection are included in the mapping provided in **Figures 5 & 6** in this report. The buffer distances required from drainage lines and dams have been mapped and are provided later in this report. Areas of rocky outcrop and erosion which are unsuited to effluent dispersal have also been mapped. The report includes a preliminary assessment of the suitability of soils for on-site effluent management. A landscape analysis of the property was undertaken and soil profiles sites were selected which were representative of all the landscape units which occur across the subdivision area. Soil profiles were augured in each of the representative landscape units on Lot 222 (sideslopes), Lot 212 (crest) and Lot 201 (lower slope/drainage depression). The soil profiles analysed are pictured and described in **Appendix 2a**. Samples were taken from the soil profile sites and laboratory soil testing was undertaken to analyse the suitability of soils for onsite effluent disposal. The results of laboratory soil testing are included in **Appendix 2b.** It should be noted that this report does not constitute a detailed Effluent Management Design Report as required by Council to approve the installation of systems associated with any new dwellings. It is expected that such reports will be required for each of the lots prior to the construction of dwellings.

SITE & DEVELOPMENT INFORMATION	
Local Government Area	Snowy Monaro Regional Council.
Address	Lot 1 DP 737275; Lots 157,158,159, 189, 197 & 211 DP 750524 and; Lot 11 DP 1266312. Towrang Vale Road, Dairyman's Plains, NSW 2630
Developer(s)	Cavallo Projects Pty Ltd



Site Location

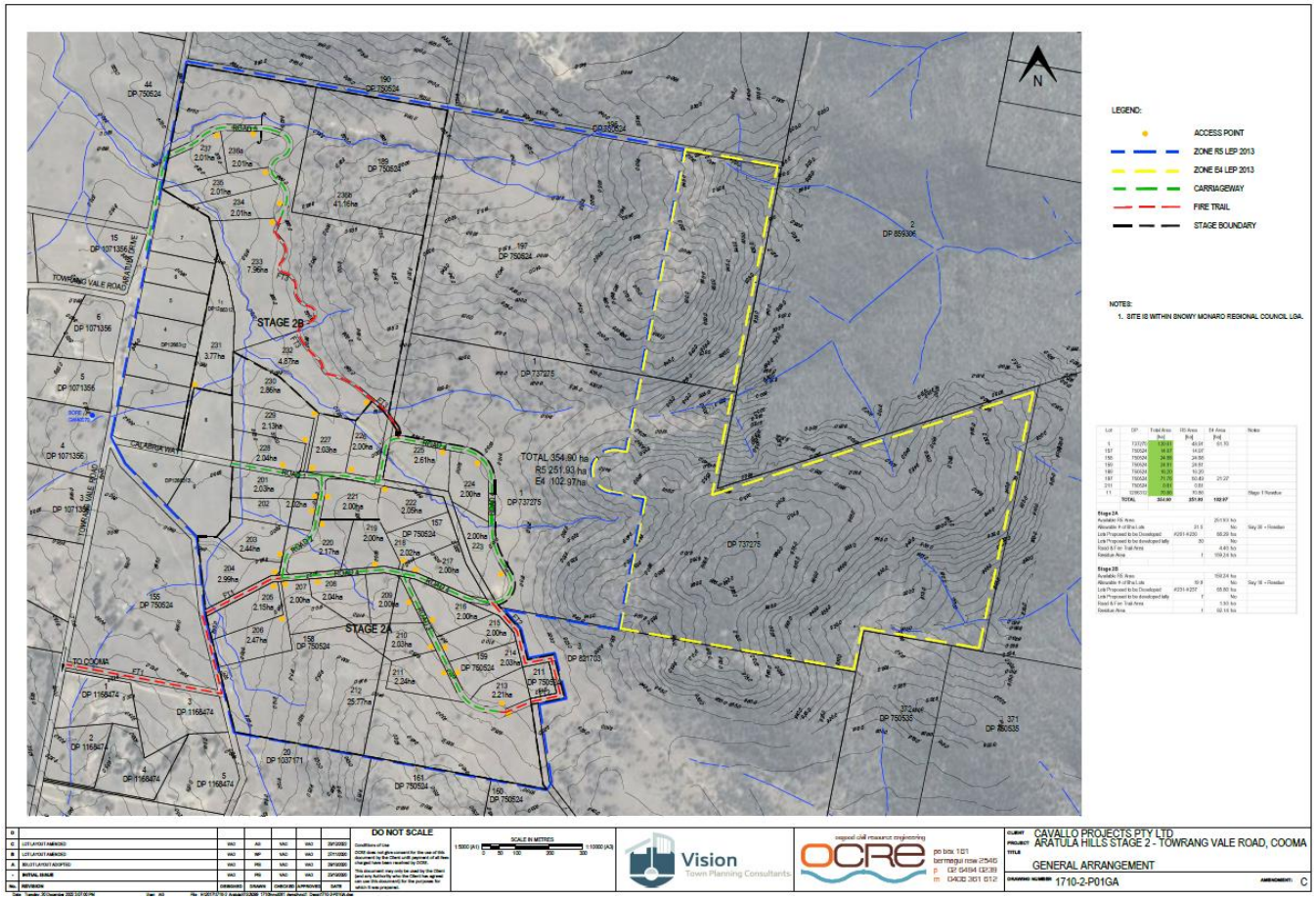


Figure 1: Block Layout

Intended water supply	Potable water provided through independent roof catchment and tank storage on each lot.
Effluent Management	Effluent for the new building envelopes created on Lots 201-237 will be managed on-site via a combination of secondary treatment systems (including disinfection) and effluent dispersal options including surface spray or drip irrigation. The use of a primary treatment system (septic tank) and absorption trench/bed is not recommended due to limited soil depth in many parts of the landscape, combined with lower permeability subsoils and the sensitive surface water receiving environment of Snake Creek.
Local experience	The major constraints related to on-site effluent dispersal are the buffer distances required from minor 1st, 2nd and 3rd Order drainage depressions including a section of Snake Creek. There are also localised areas of steep slopes, shallow soils and stony outcrop and minor erosion all of which are unsuited to effluent disposal. The lot layout and yield have been adapted to accommodate the multiple constraints identified across the property and all lots have an adequate unconstrained area available for onsite effluent disposal and dwelling construction.

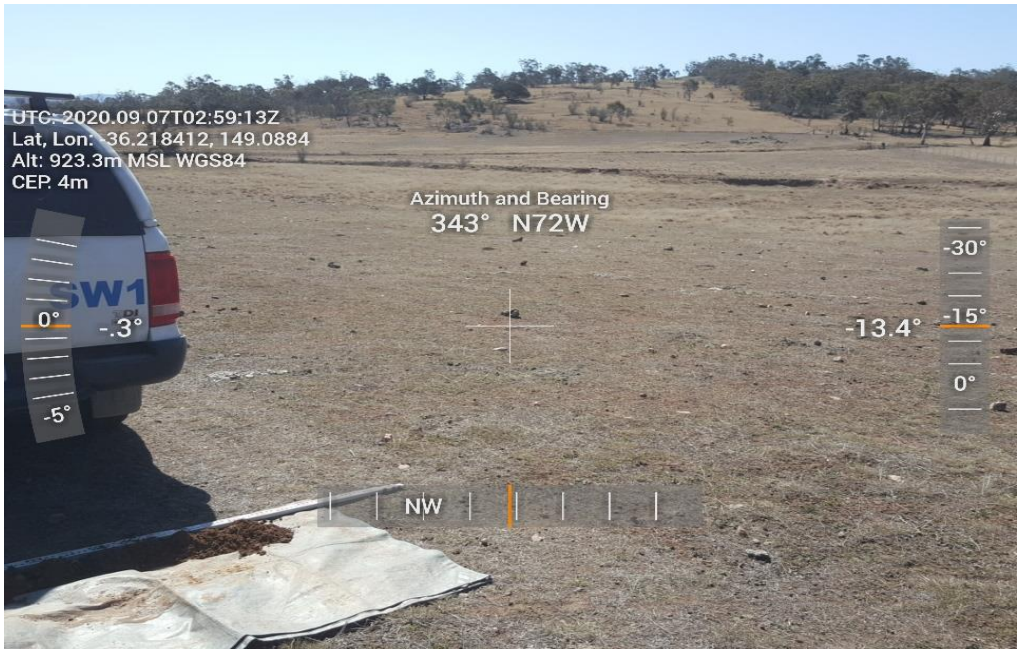


Figure 3: Gently sloping land adjacent to minor drainage depression

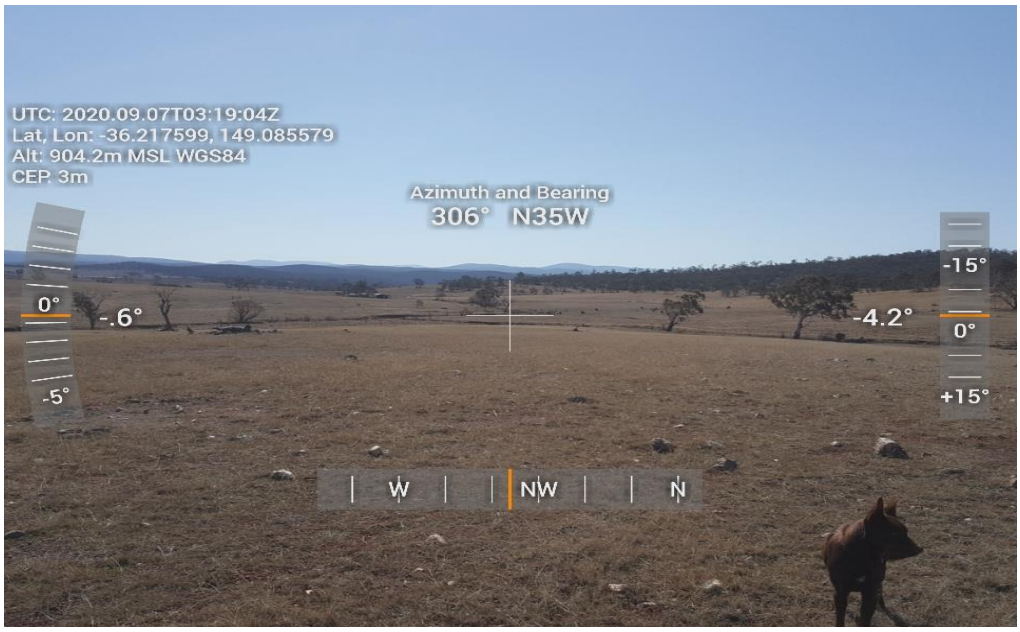


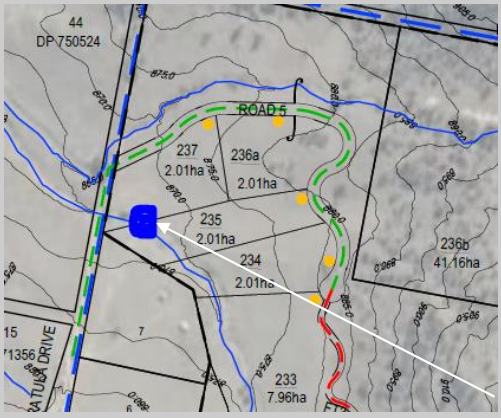
Figure 4: Gently sloping landscape generally unconstrained for effluent disposal

Figure 5: Moderately sloping landscapes generally unconstrained for effluent disposal

Figure 6: Localised area of moderate to steep slopes with outcropping rock constrained for effluent disposal

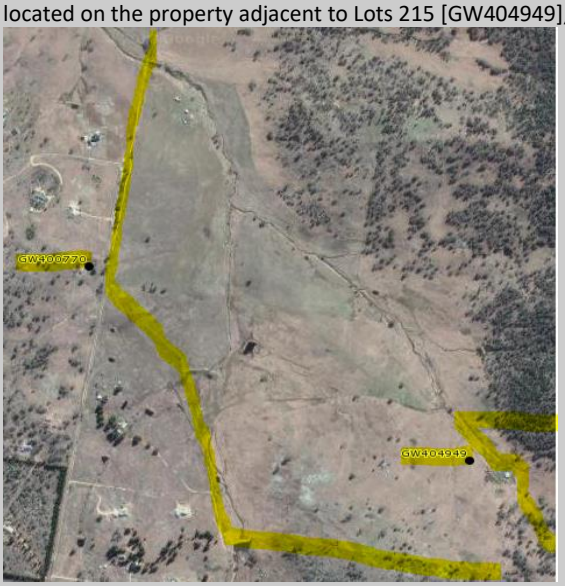
Figure 7: Looking south west from the development to neighbouring properties

SITE & SOIL ASSESSMENT	
Climate	Cool temperate climate with mean annual rainfall of approximately 550 mm, pan evaporation is 1200mm and evaporation exceeds rainfall in all months of the year. ***Climate is well suited to dispersal by surface spray or drip irrigation of secondary treated, disinfected effluent.***
Exposure	The area occupied by Stage 2 is extensively cleared with scattered remnant native trees and shrubs. Proposed effluent disposal and building areas on Stage 2 lots are located in open exposed areas with limited shading from remnant vegetation and are therefore suitable for the surface irrigation of secondary treated effluent. ***The level of exposure on Stage 2 lots is suitable for dispersal of secondary treated effluent via surface irrigation.***
Slope	The site displays a range of slope gradients, from extensive areas of gently sloping land to undulating to moderately sloping land with slopes of 8-15% across Stage 2 lots, refer **Figures 8d and 9d**. The areas of steep land with slope above 15% are constrained for effluent disposal and dwelling construction however these areas are generally confined to Lot 236b which does not contain a Building Envelope, and Lot 212 which is large with steep areas outside the Building Envelope. ***Effluent disposal and dwelling construction is moderately constrained by slope on some Stage 2 lots however not within the nominated Building Envelopes and associated effluent disposal areas.***
Landscape	The landscape is dominated topographically by the elevated vegetated areas to the east of the property with slopes falling from this feature towards the central 3rd order Snake Creek which flows through some of the lots in Stage 2. The areas considered suitable for effluent disposal and dwelling construction Building Envelopes on Stage 2 lots are generally gentle to moderately sideslope to lower slope parts of the landscape and as such generally have a divergent to flat slope form which spreads run-on/run-off. Limited areas of convergent slope form generally coincide with the central Snake Creek drainage depression and are mapped within the watercourse buffers. ***Slope form is suited to the dispersal of secondary treated effluent through surface or shallow subsurface irrigation.***
Surface rock and outcrop	The underlying geology is the Cooma Metamorphic Complex and includes micaschist, andalusite-sillimanite bearing schist, orthoclasecordierite knotted schist. In areas clos to Cooma the complex includes granodiorites, gneisses, migmatites and minor amphibolites. Rock outcrops are common in this landscape and loose surface rock is

	also prevalent. Areas of shallow stony soils and rocky outcrops have been mapped as constrained for effluent disposal in **Figure 8.** These are generally confined to Lot 236b which does not contain a Building Envelope, and Lot 212 which is large with areas of rocky outcrop outside the Building Envelope ***There are significant areas of rock outcrop and associated shallow soils which would constrain effluent disposal within Stage 2 however these are located outside the nominated Building Envelopes and associated effluent disposal areas which are unconstrained for effluent disposal. Areas of rocky outcrop associated with Stage 2 lots are not a constraint to dwelling construction.***
Hydrology	The fine sandy loam textured topsoil across the site have a moderate to high permeability, of 0.5 to 3.0 m/day. The sandy clay loam subsoils have a moderate permeability in the range of 0.5 to 1.5 m/day (from table L1 of ANZ STD 1547:2012). Approximately 5-10% of annual rainfall forms surface runoff, although in individual high intensity storm events over 50% of rainfall may form runoff. Rainfall that does not form surface runoff is either lost through evaporation and transpiration or infiltrates the soil. Rainfall which infiltrates soil generally drains vertically through the soil profile until it meets a less permeable subsoil layer (e.g. hard pan or clay layer), where a significant proportion drains laterally downslope as subsurface flows. In very permeable highly fractured bedrock a substantial amount of rainfall infiltrating the soil can move into the local groundwater table. Local groundwater tables can then rise to the point that discharge of groundwater occurs on the surface at points of topographical change (i.e. break of slope) or subsurface bottle necks caused by topography and / or geology. This occurs in association with the bedrock outcrops which intersect Snake Creek in several places and form an impediment to groundwater drainage which results in groundwater being brought to the surface in the bed of the creek as a spring, such as the spring fed dam on Snake Creek adjacent to Lots 237/235, see below.  **Location of Spring fed dam**.

	Drainage in the lower parts of the landscape is inherently slower due to lower slopes. The cumulative impact of the concentration of surface water, groundwater discharge and subsurface flows in these parts of the landscape can be considerable seasonal waterlogging and sometimes saline discharge areas. There are limited areas of seasonal waterlogging on the property however these seasonally waterlogged areas generally occur within the mapped drainage buffers and are therefore constrained for effluent disposal in any case. ***Effluent disposal will need to be properly designed and located on suitable soil types (including depths) to minimise hydrological impacts from surface irrigation, such as effluent run-off or rapid effluent drainage through permeable soil profiles into groundwater systems. Areas mapped as seasonally waterlogged are constrained for effluent disposal and mostly occur within drainage buffers. Stage 2 lots have adequate areas of well drained non-waterlogged soils for suitable for dwelling construction and effluent disposal.***
Soils	Detailed soil profile descriptions are provided in **Appendix 2a** of this report. Tenosols and Rudosols occur in limited areas adjacent to rocky outcrops and on steeper slopes and crests and are constrained for effluent disposal. The soils which are generally suitable for effluent dispersal range from Kandosols to Red/Brown Chromosols. These were formed in situ and on alluvial and colluvial material derived from the Cooma Metamorphic Complex. Soils comprise a massive to weakly structured sandy loam textured upper layer overlying a weak to moderately structured yellow-orange coloured sandy light clay loam subsoil. Soil depth varies considerably but typically ranges from 40 - >100cm, with shallower soil on crests and in the localised areas of rock outcrop. Extrapolating from the soil survey of the Cooma 1:100,000 sheet (Tulau, M.J., 1993), the soils on the gently sloping areas suitable for dwelling construction and effluent dispersal fit the Dairymans Plain and Dry Farm Soil Landscape Units. Soil samples from representative parts of the landscape were analysed in a NATA accredited laboratory. The analytical data shows a moderate phosphorous sorption level, non-saline subsoils and low to very low exchangeable sodium. As such the soils are free of any significant chemical limitations to effluent dispersal, refer **Appendix 2b**. ***Soils are generally unconstrained for dwelling construction. Soil depth in upper slopes and crests and close to rocky outcrops may be a major limitation to effluent disposal and are mapped as shallow soils /rocky outcrops and are constrained for effluent disposal. The remaining areas not mapped are unconstrained for effluent disposal.***

CONSTRAINTS ANALYSIS	
Soil erosion	The soil types associated with the Dairymans Plain Soil Landscape Unit, which dominate the western portion of the lot including the lower slopes and drainage lines, are susceptible to sheet, rill and even wind erosion if groundcover levels are depleted. The undulating and moderately sloping areas in the eastern portion of the block (Dry Farm Soil Landscape Unit) have a moderate risk for sheet erosion and low to moderate risk for gully erosion. As the undulating to moderately sloping areas have steeper slopes, they are also at an elevated risk for erosion. Cooma-Monaro LEP 2013 mapping does not identify any areas to be at risk of landslide. The property includes several areas of historic stream incision, gully erosion and sheet erosion which are currently relatively stable due to conservative stocking rates, refer image below. Some of these areas coincide with Stage 2 lots. Areas of erosion are unsuited to the dispersal of effluent due to the potential for effluent irrigation practices to exacerbate erosion, combined with the reduced capacity of eroded soil profiles to assimilate nutrients due to the loss of productive topsoil. Areas of erosion are also unsuited to dwelling construction due to the potential for erosion to undermine and damage built infrastructure. Most of these constrained erosion areas are mapped within the 40 m drainage buffer zones, refer **Figures 8 & 9**.  **Stabilised gully erosion on Lot 215**

	Recommendations • Greater than 70% groundcover be maintained across the property as far as practical. • Areas of historical gully and streambank erosion need to be managed to prevent the reactivation of stabilised erosion by maintaining 100% groundcover at all times. • Treated effluent should not be dispersed in area of active or historic erosion. • The construction of dwellings should not occur in areas of active or historic erosion. • Areas of erosion potential around drainage depressions and steep slopes should be monitored and remedial measures implemented should erosion issues persist or worsen.
Groundwater	The site is mapped as having Moderate groundwater vulnerability on the Department of Land and Water Conservation (2001) Groundwater Map of the Murrumbidgee Catchment. The site is not mapped as groundwater vulnerable on the Groundwater Vulnerability Map – Sheet CL1_013 in the Cooma-Monaro Local Environmental Plan 2013. There are two domestic bores registered in the vicinity of Stage 2 lots, including one located on the property adjacent to Lots 215 [GW404949], refer below image.  It is proposed to permanently decommission GW404949 located on the property adjacent to Lots 215. The next closest bore to Stage 2 lots is (GW 400770) which is approximately 550m west of the western boundary of Stage 2 and Lots 228/229/231. This bore is 30m deep with water bearing zones at 22-25m and has a yield of 1.25L/sec.

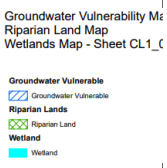
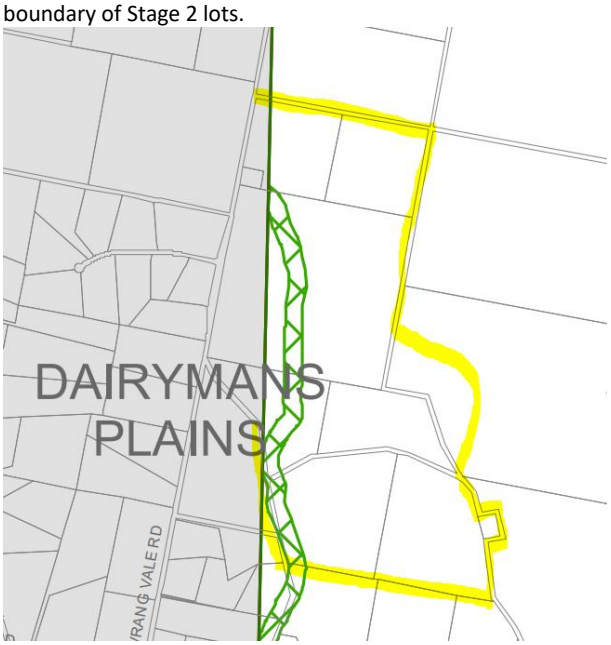
	There is a low risk of contamination of adjacent bores or the groundwater system, given a spatial (horizontal) separation of minimum 550m, and vertical separation of > 30m between effluent dispersal areas and water yielding zones, low rate of secondary treated and disinfected effluent to be applied to the surface, low density development with minimum size of 2 hectares, and the low transmissivity of the fractured rock groundwater aquifers that underlay the area. **Recommendations** • Maintain a minimum 250 m buffer between effluent dispersal areas and existing or any future bores. • Ensure a water supply works approval is sought prior to constructing a bore, (even though each landholder is entitled to take water from an aquifer which is underlying their land for domestic consumption and/or stock watering without the need for a water access licence under Basic Landholder Rights - application is available at www.water.nsw.gov.au and the fee is currently $241.83)
Riparian lands 	The Cooma-Monaro Local Environmental Plan 2013 - Riparian Land Map Sheet CL1_013 includes the riparian zone of Snake Creek which forms the western boundary of Stage 2 lots.  NSW DPI Office of Water (Guidelines for riparian corridors on waterfront land) defines appropriate riparian buffers for various stream orders to maintain the integrity of these sensitive areas, as below:

Figure 2. The Strahler System

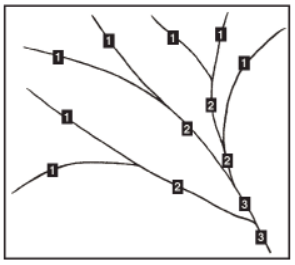
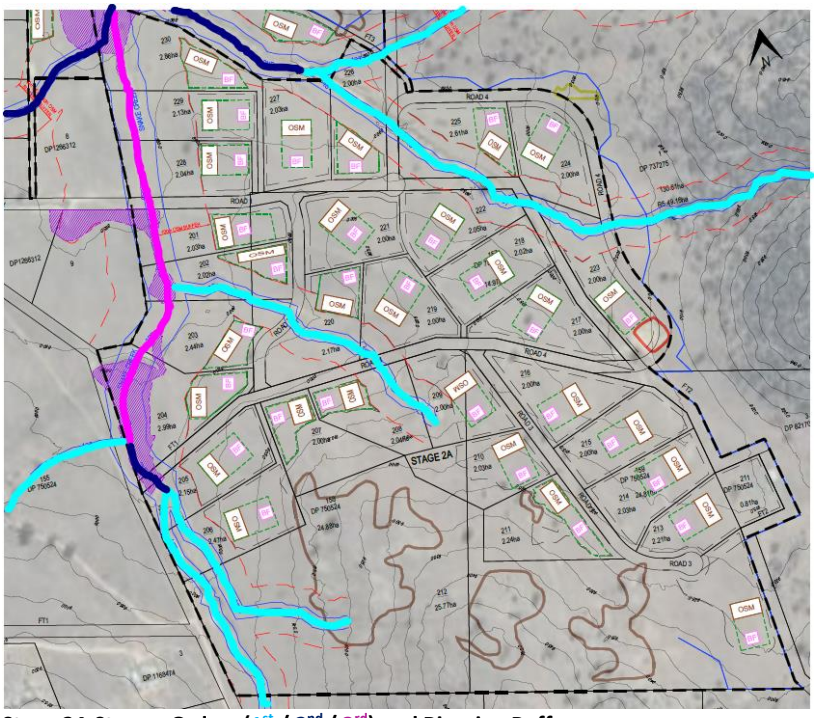
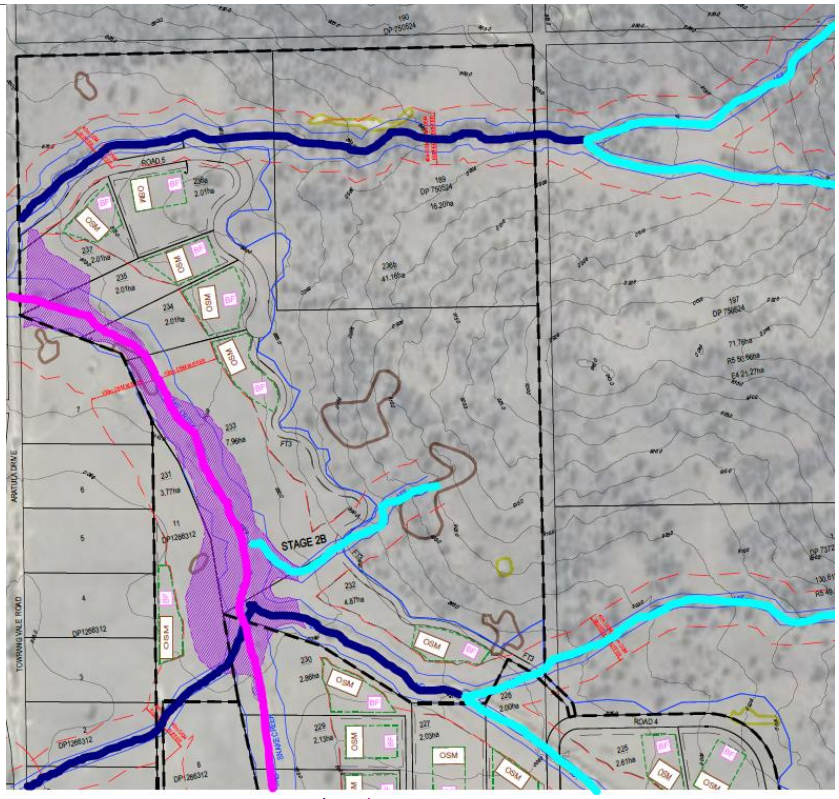


Table 1. Recommended riparian corridor (RC) widths

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1st order	10 metres	20 m + channel width
2nd order	20 metres	40 m + channel width
3rd order	30 metres	60 m + channel width
4th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 metres	80 m + channel width



Stage 2A Stream Orders (1st / 2nd / 3rd) and Riparian Buffers



Stage 2B Stream Orders (1st / 2nd / 3rd) and Riparian Buffers

The lots which border the 3rd Order section of Snake Creek will require a 30m riparian buffer within which effluent disposal and dwelling construction is not appropriate. The area mapped on Councils Riparian Land Map is also considered to be unsuited for effluent disposal or dwelling construction.

The lots which border and/or include 1st and 2nd Order Streams will require 10 and 20m buffers respectively. These buffers have been mapped as a constraint to dwelling construction as construction within these riparian zones would be inconsistent with DPI Water Guidelines, refer **Figures 9.**

These riparian buffer areas are all contained within the 40 metre buffer area required between drainage features and effluent disposal practices and are therefore already constrained for effluent disposal practices and are therefore not mapped separately in **Figure 8.**

Building Envelopes and associated effluent disposal areas on all dwelling lots are located outside the riparian corridors and buffers required from these features.

	Recommendations • Stage 2 lots which border and/or include 1st, 2nd or 3rd Order Streams will maintain a 10/20/30 m riparian zone either side of the stream, which excludes Building Envelopes and associated effluent disposal areas. • Building Envelopes and associated effluent disposal areas on Stage 2 lots should be located outside areas mapped on the Council Riparian Land Map shall exclude dwellings and major built infrastructure from mapped areas.
Drainage buffers - effluent dispersal	The *ANZ Standard 1547:2012 On-site Domestic Wastewater Management and On-site* and *Sewage Management for Single Households* (The Silver Book) NSW Govt, 1998, require appropriate buffers between drainage depressions, creeks and rivers and effluent dispersal areas. These include a 100 m buffer from major or permanent surface waters including 3rd order streams and creeks, and a 40 m buffer from any other water including dams, minor intermittent waterways and drainage channels. The Stage 2 lots which include or are adjacent to sections of Snake Creek (which is a 3rd order stream), require a 100m drainage buffer distance from effluent dispersal areas. Stage 2 lots which border and/or include 1st and 2nd order streams and/or drainage depressions will require a 40m buffer between these and effluent dispersal areas. Approximate locations for drainage buffers are shown in **Figure 8.** **Recommendations** • The land designated for effluent dispersal on lots including/bordering the 3rd Order section of Snake Creek will require a minimum 100m buffer from Snake Creek. • The land designated for effluent dispersal on Stage 2 lots including and/or bordering 1st or 2nd Order Streams and/or minor drainage depressions (including dams) will require a minimum 40m buffer from these features.

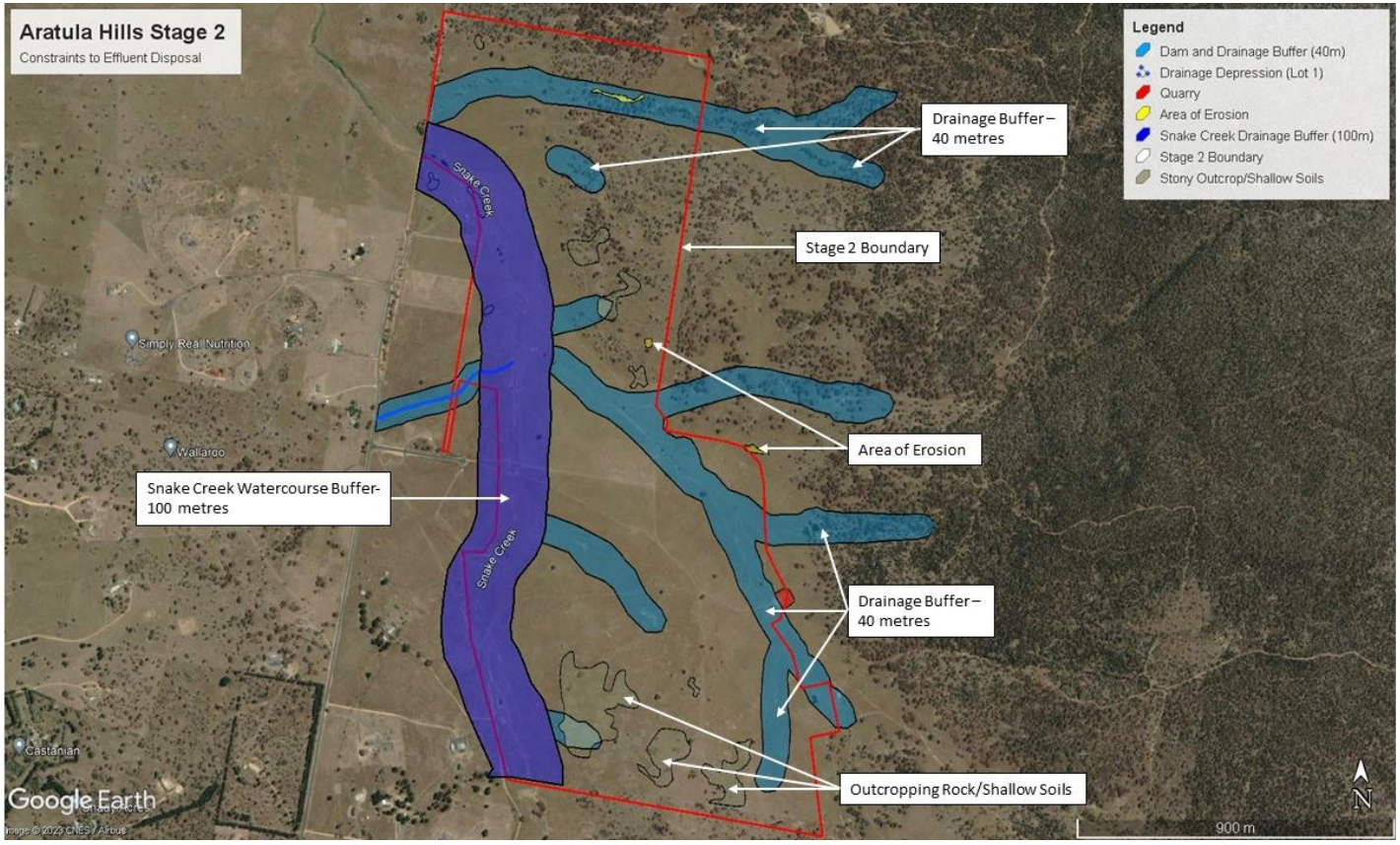


Figure 8a: Constraints to Effluent Dispersal – Stage 2

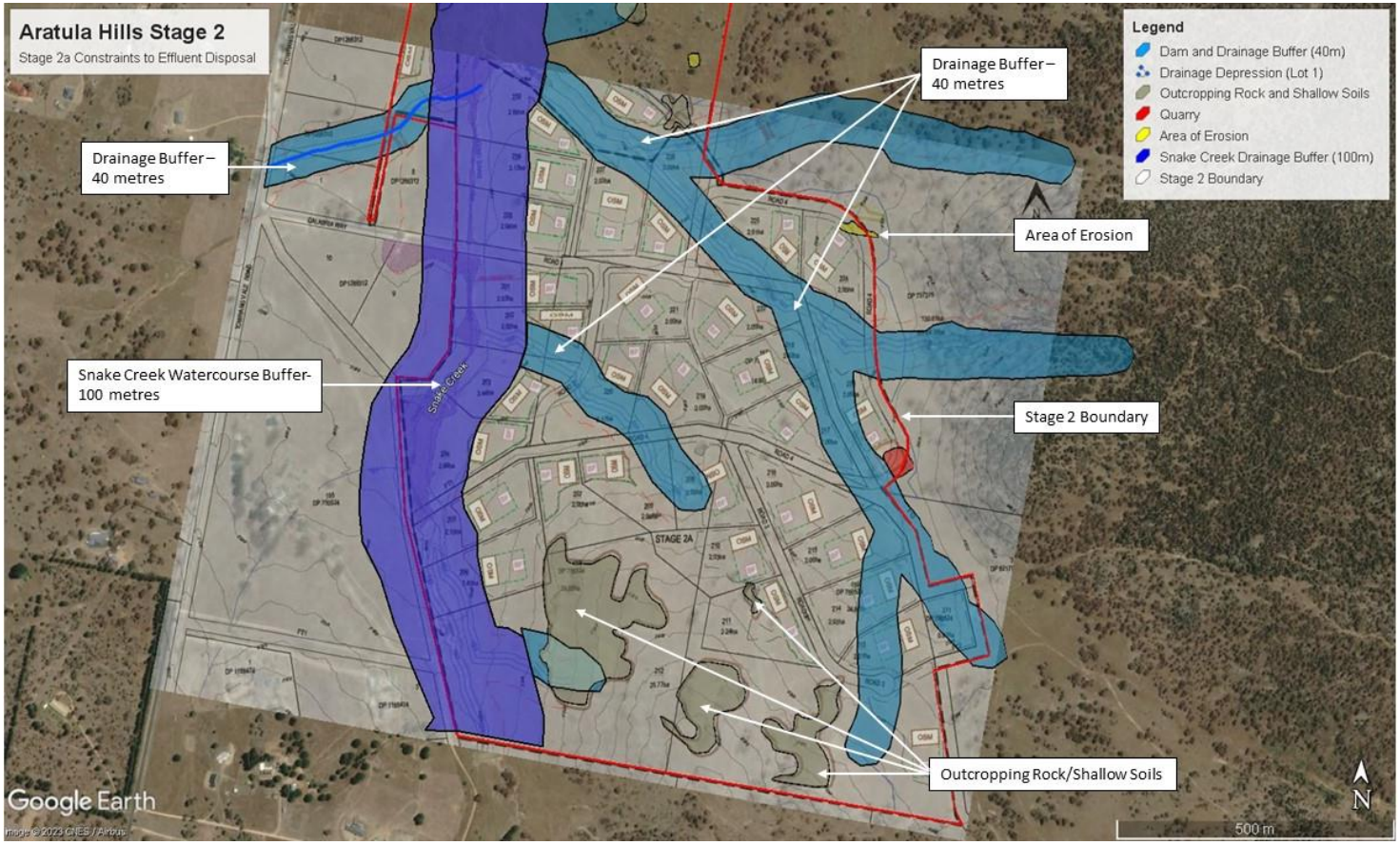


Figure 8b: Constraints to Effluent Dispersal – Stage 2a (southern section)

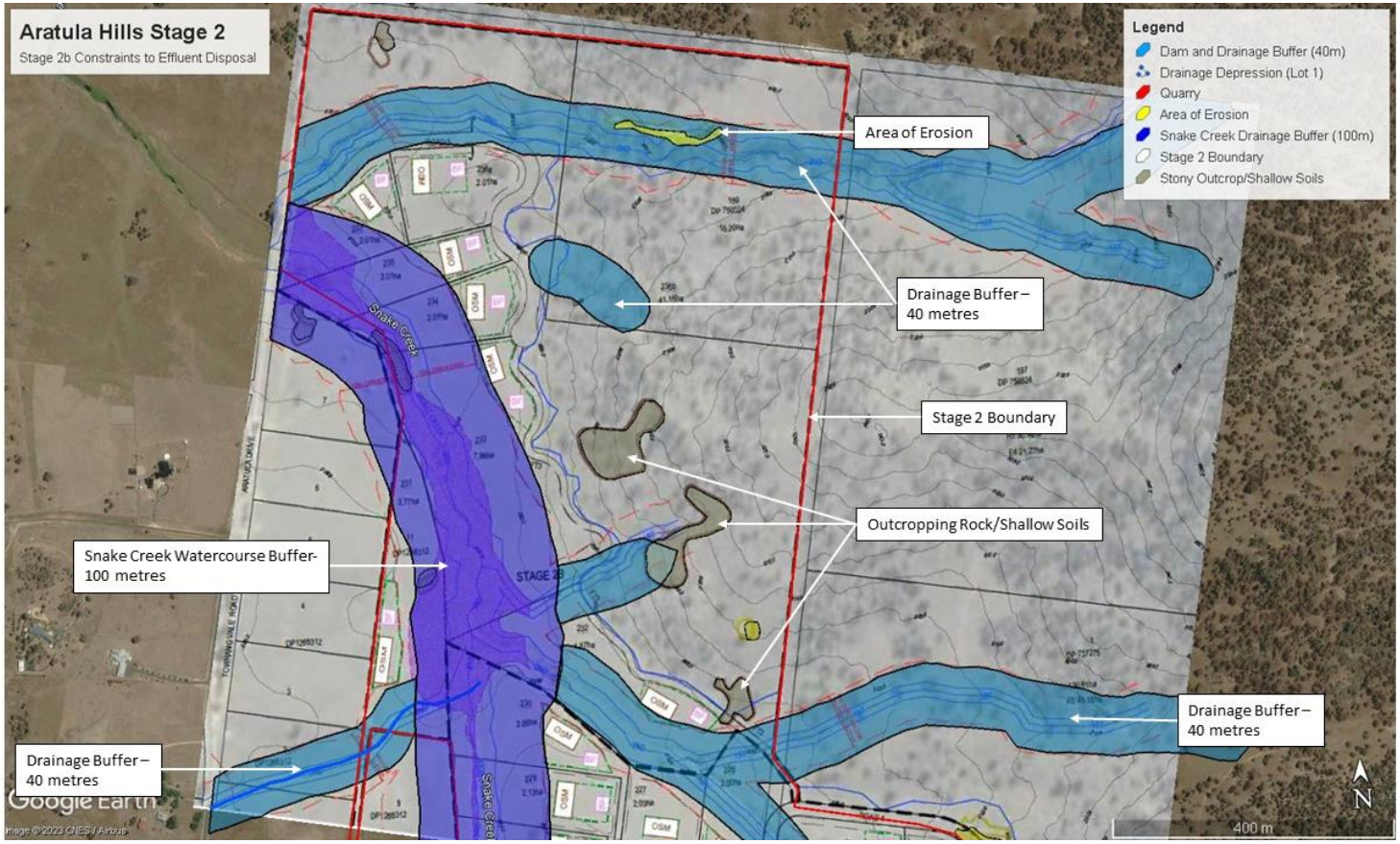


Figure 8c: Constraints to Effluent Dispersal – Stage 2b (northern section)

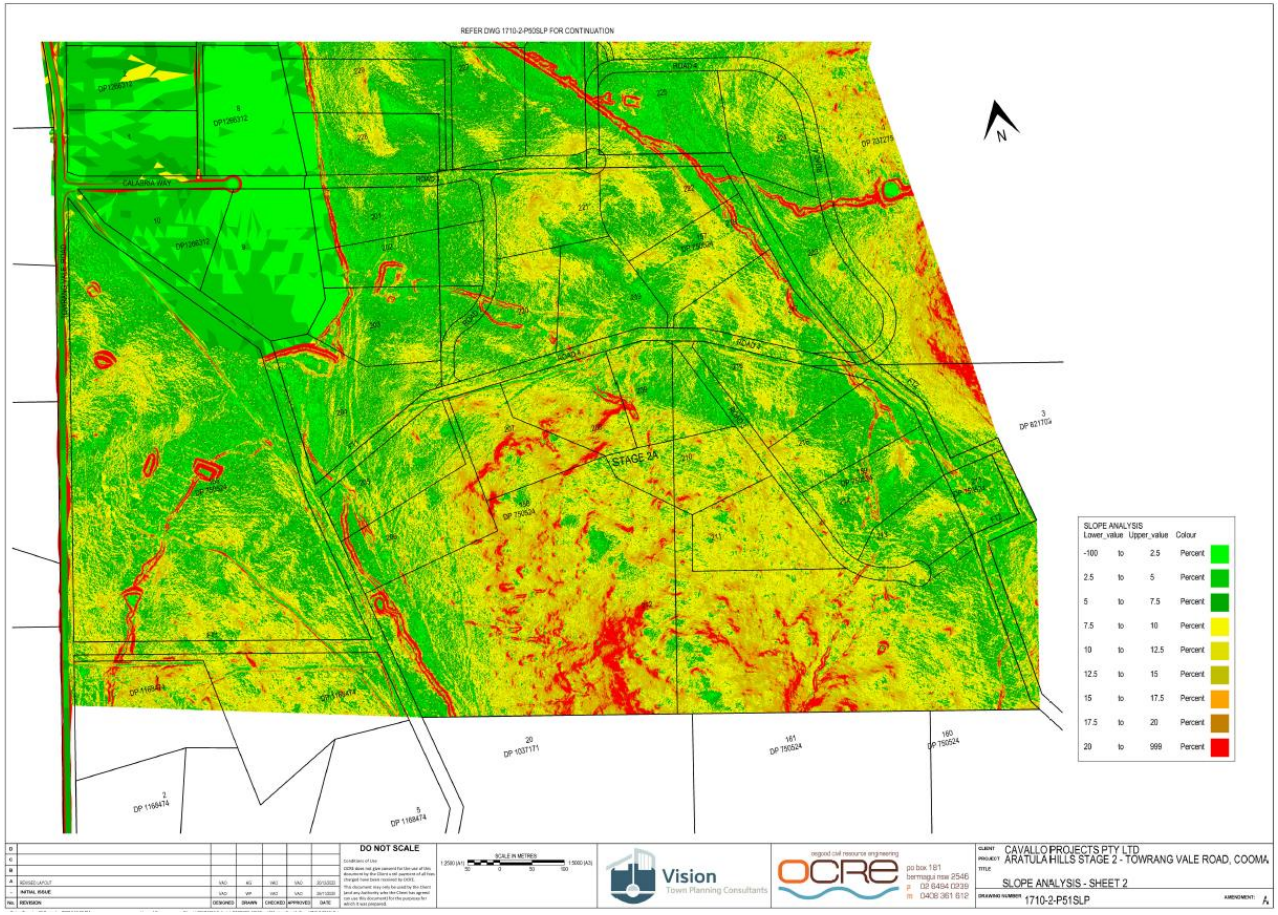


Figure 8d: Slope Analysis – Stage 2a

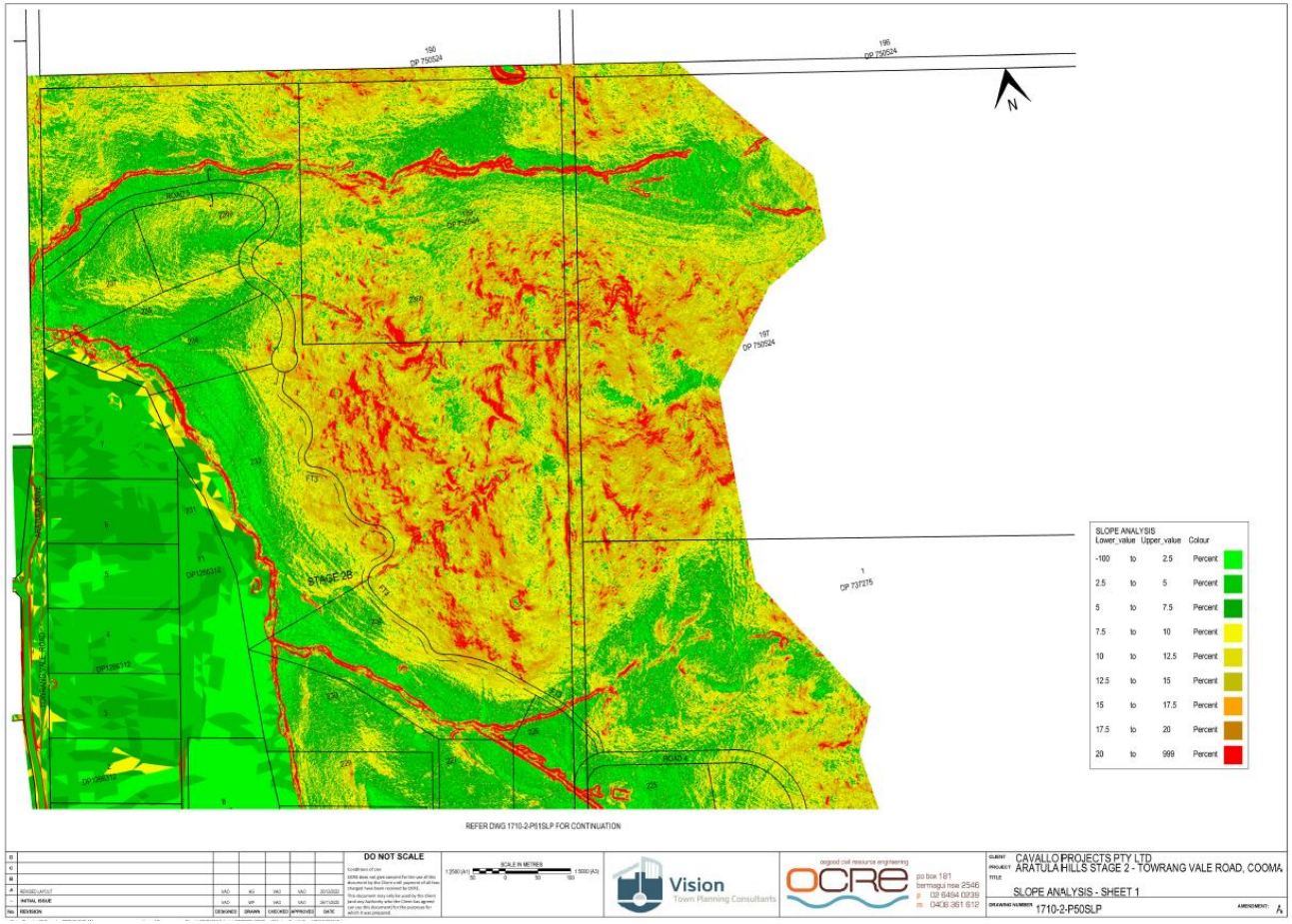


Figure 8e: Slope Analysis – Stage 2b

MANAGEMENT OF EFFLUENT	
Summary	This report assesses the general availability of adequately sized areas of land which are well drained, gently sloping and with moderately deep soil cover and suitable site conditions for the dispersal of effluent on all Stage 2 lots. For Stage 2 lots, a minimum area of 1,300 m^2 has been used as the benchmark for the area required for the effluent dispersal. This is a conservative approach, given that an irrigation area for a six-bedroom dwelling will be around 450 m^2, but accounts for the requirement to have a reserve area. Key constraints to effluent dispersal on the property are: • Rocky outcrops and limited soil depth • Areas of erosion • Drainage depression buffers of 40m (including dam) • Snake Creek buffers of 100m All Stage 2 lots have adequate areas of unconstrained land that is suited to effluent dispersal. Effluent disposal areas have been nominated within the Building Envelopes on all Stage 2 dwelling lots. The most widely used form of effluent treatment on relatively unconstrained rural residential developments in the region is a NSW Health accredited aerated wastewater system, with the secondary treated, disinfected effluent irrigated onto the surface. Reliability and maintenance issues with such systems are well known and the risk of failure is relatively low. There are a number of more innovative options for effluent treatment and disposal. The most promising of these is the Wisconsin sand mound, of which there are a small number in the region. These systems have a small footprint, (less than 150m^2), have a high degree of reliability and have a low energy requirement. There is however a lack of experienced installers for such systems in the region and the climate presents some issues in terms of maintaining grass cover through long dry summers if effluent is not being regularly loaded into the mound. This is generally only an issue if the attached dwelling is not permanently or fully occupied.

	In general, the area is not suited to subsoil absorption of primary treated effluent, due to the limited depths of soils across much of the landscape. The use of beds for dispersal of wet composting closet treatment systems (eg worm farms) is also considered unsuitable due to limited soil depth. The following section addresses the specific requirements of a number of effluent management options in order to show that on-site effluent can be achieved sustainably on the subdivision. This report assumes that detailed planning for effluent management on each lot will occur at the time of submitting building plans to council. At this stage the exact location, footprint, occupancy and usage patterns of the proposed dwelling will be known. These are all critical elements of the final design process which cannot be addressed by this report.
Secondary treatment system and surface irrigation	NSW Health accredited systems treat effluent to a minimum secondary standard, suitable for disposal by surface or subsurface irrigation (see list at http://www.health.nsw.gov.au/PublicHealth/environment/water/wastewater.asp). This includes aerated wastewater treatment systems (AWTS), sand and textile filters and biological filters. The sizing of the effluent irrigation area is based on nutrient balance which gives a general guide to a sustainable area required for irrigation. Significant improvement in effluent dispersal can be achieved by having at least two or three lines of sprinklers on risers attached to rigid supports, 30-50cm above ground level, with each riser tied into the delivery line. A manual valve on each line allows all or some of the lines to be used. The buried distribution lines with risers minimises the risk of damage by mowing and encourages the irrigation area to be better managed than currently common practice. The size of the area required for effluent irrigation will vary according to the number of bedrooms in the dwelling, which determines the design effluent loading. Based on the hydraulic and nutrient balance shown in **Appendix 3**, the sizing of the irrigation area is shown below: Three bedrooms…….250m^2 Four bedrooms……320m^2 Five bedrooms…….380m^2 Six bedrooms……450m^2

	Council also requires adequate suitable land for a reserve effluent dispersal area. Additionally, buffers with the boundary are required. *On-site Sewage Management for Single Households (The Silver Book) NSW Govt,* (1998), prescribes 6 m from driveways and property boundaries, 15 from dwellings, 3m from paths and walkways 40m from minor drainage depressions and 100m from permanent surface waters (i.e Snake Creek). **Hence, a conservative minimum area of suitable land for each lot is 1,300m^2.**
Primary treatment and subsoil absorption	Not generally suitable due limitations of soil depth.
Innovative effluent management systems	A Wisconsin mound pump dosed from a septic tank is feasible but is not ideal due to the limited availability of suitably experienced contractors to construct and maintain the system and the difficulty in maintaining a vegetative groundcover in the prevailing dry climate. Mound design would need to be developed on a site by site basis, including a soil profile at the mound site. Indicatively, based on the soil profiles for this assessment, the Basal Loading Rate would be 16mm/day and Linear Loading rate 47mm/day. The footprint would be slightly less than 150m^2 on a flat or gently sloping site.

Effluent management	**Recommendations**
	• A lot specific *site and soil assessment for on-site effluent management* will be required at the time of submitting building plans to Council for all Stage 2 lots, and the prescriptions of this report should be applied to the design process of each respective lot.
	• Buffers to be applied to effluent dispersal areas will include:
	  • 40 m from all dams and drainage depressions
	  • 100 m from permanent creeks
	  • 250 m from any existing or future bores
	  • 6 m from lot boundaries
	  • 15 from dwellings (for surface spray irrigation)
	  • 6 m from buildings
	• Effluent management systems suitable for Stage 2 lots include aerated wastewater treatment systems (and other systems capable of secondary standard treatment) with NSW Health accreditation, dispersing effluent to a surface spray and/or drip irrigation area.

	• The irrigation area size should be based on potential occupancy derived from the number of bedrooms. As a guide, the following areas would be appropriate for the soil and site conditions of the site: ▪ Three bedrooms…….250m^2 ▪ Four bedrooms……320m^2 ▪ Five bedrooms……380m^2 ▪ Six bedrooms……450m^2 • To ensure effective distribution of treated effluent, and provide protection of irrigation lines, the minimum requirement for irrigation dispersal should be buried distribution lines with decoupling sprinkler heads. There should be a minimum of two runs of distribution lines connected by a manual valve to allow for alternating dispersal areas. • More innovative systems such as a Wisconsin sand mound treating primary effluent from a septic tank, or a recirculating sand filter with a subsurface irrigation field, may be suitable but have practical limitations on this site due to climate. • A subsoil absorption bed receiving primary treated effluent is not suitable for the site.

CAPABILILTY FOR DWELLING CONSTRUCTION	
Summary	Land considered unsuitable or constrained for the construction of dwellings generally consists of areas with the following attributes: • a slope grade of 15% - the threshold is consistent with many building codes and Council requirements and also corresponds to the slope above which erosion hazard significantly increases (Landcom, 2004) • seasonally waterlogged or flood prone land - including the minor flow lines which drain the site • erosion affected land – including highly erodible dispersive soils, low wet bearing strength soils and unstable soils prone to movement In addition, under NSW DPI Office of Water (Guidelines for riparian corridors on waterfront land) requires a 30m buffer from the 3rd order stream (Snake Creek), a 20m buffer from 2nd Order Streams and 10m buffer from the 1st Order Streams which border and/or intersect Stage 2 lots. Dwelling construction within these buffers is inconsistent with DPI Water policy and these areas are therefore constrained for dwelling construction. The area mapped on Council's Riparian Land Map is also considered to be unsuited for the construction of dwelling or other major infrastructure. The crossing of drainage features by major access roads will require a Controlled Activity Approval from the Natural Resource Access Regulator under the Water Management Act. The 100m buffer on permanent drainage lines and the 40m buffer on drainage depressions required for effluent disposal areas, do not apply to dwelling construction. The remaining gently sloping, free draining land can be considered as suitable for dwelling construction. A slope analysis has identified numerous areas in excess of 15% on Stage 2 lots. These areas are generally located on the residual lot 236b, which does not include a Building Envelope, or the large Lot 212 where the Building Envelope is located outside the areas mapped as steep land. There are small areas of historical streambank erosion along Snake Creek and minor gully erosion elsewhere, that are constrained to dwelling

	construction. These areas are generally located Lot 236b which does not include a Building Envelope. Areas within the Riparian buffers required from 1st, 2nd or 3rd Order Streams, mapped on the Riparian Land Map and/or areas of historical or active erosion, have been mapped as constraints to dwelling construction in **Figure 9**.
Dwelling Construction	**Recommendations** • Building Envelopes will be restricted to suitable land which excludes areas of erosion and land within the 10, 20 or 30m riparian corridors from 1st, 2nd or 3rd order streams or mapped as Riparian Land (refer **Figure 9**) • Road crossings of 1st, 2nd or 3rd Order Streams will require a Controlled Activity Approval prior to construction.

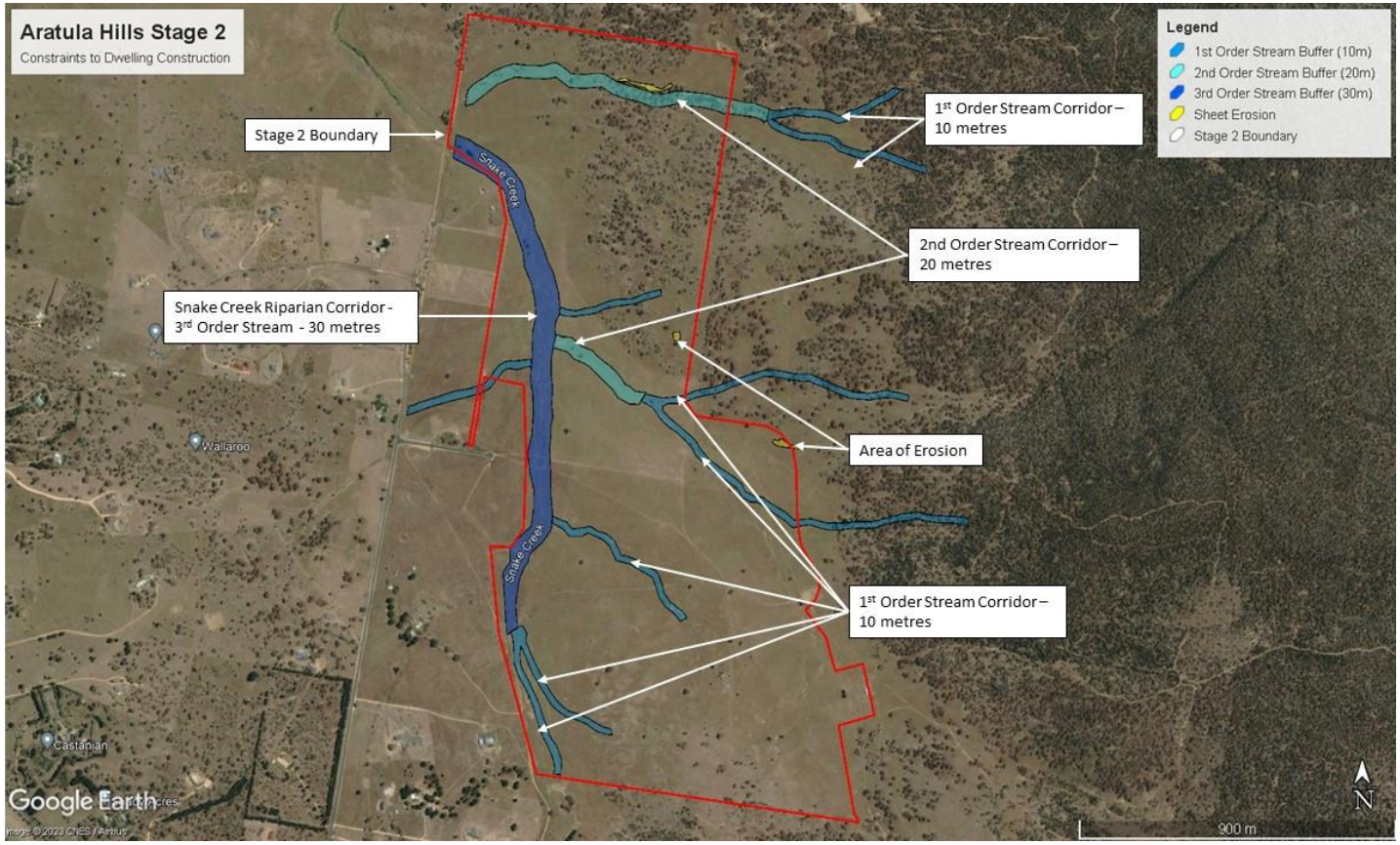


Figure 9a: Constraints to dwelling and infrastructure construction – Stage 2

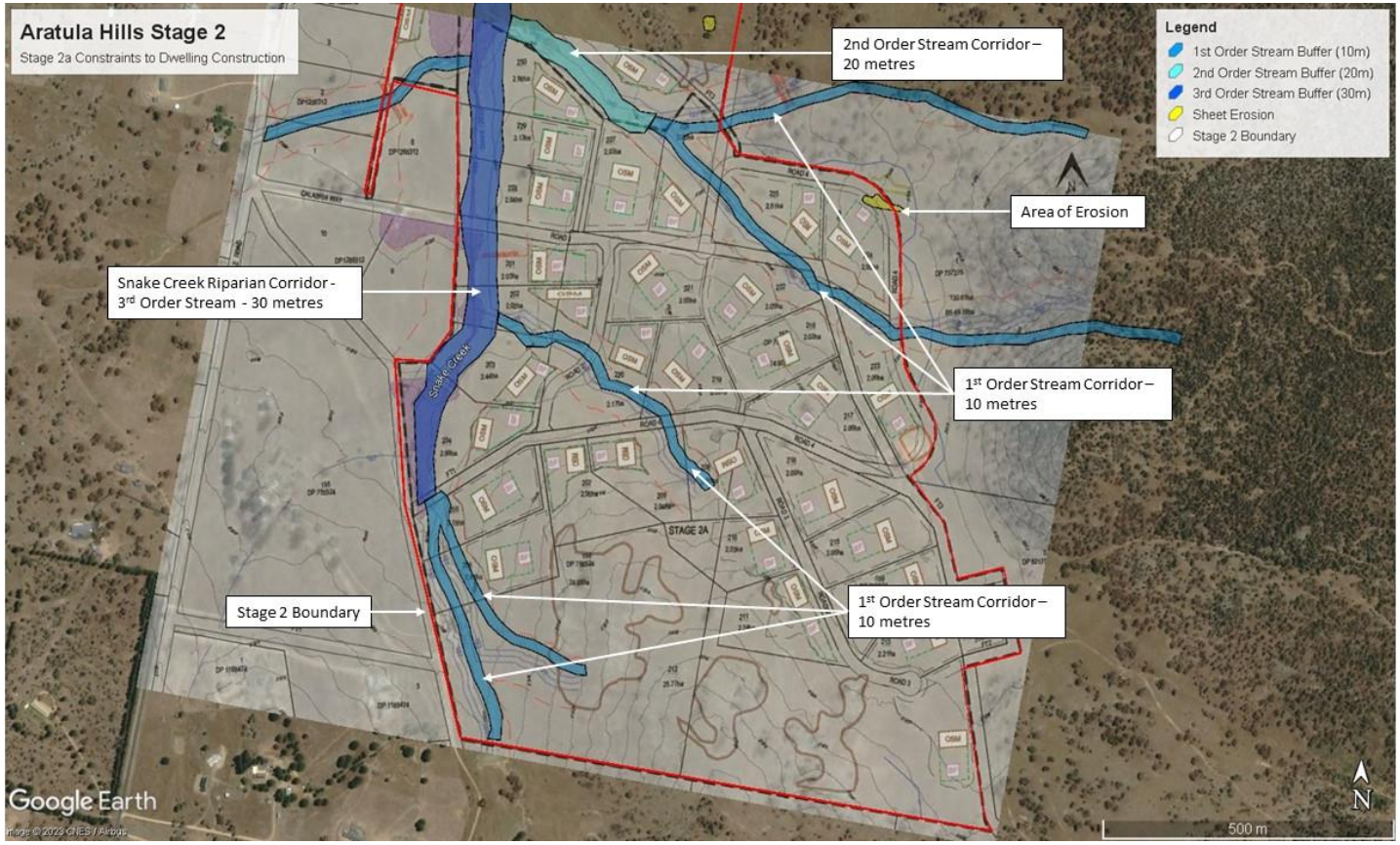


Figure 9b: Constraints to dwelling and infrastructure construction – Stage 2a (southern section)

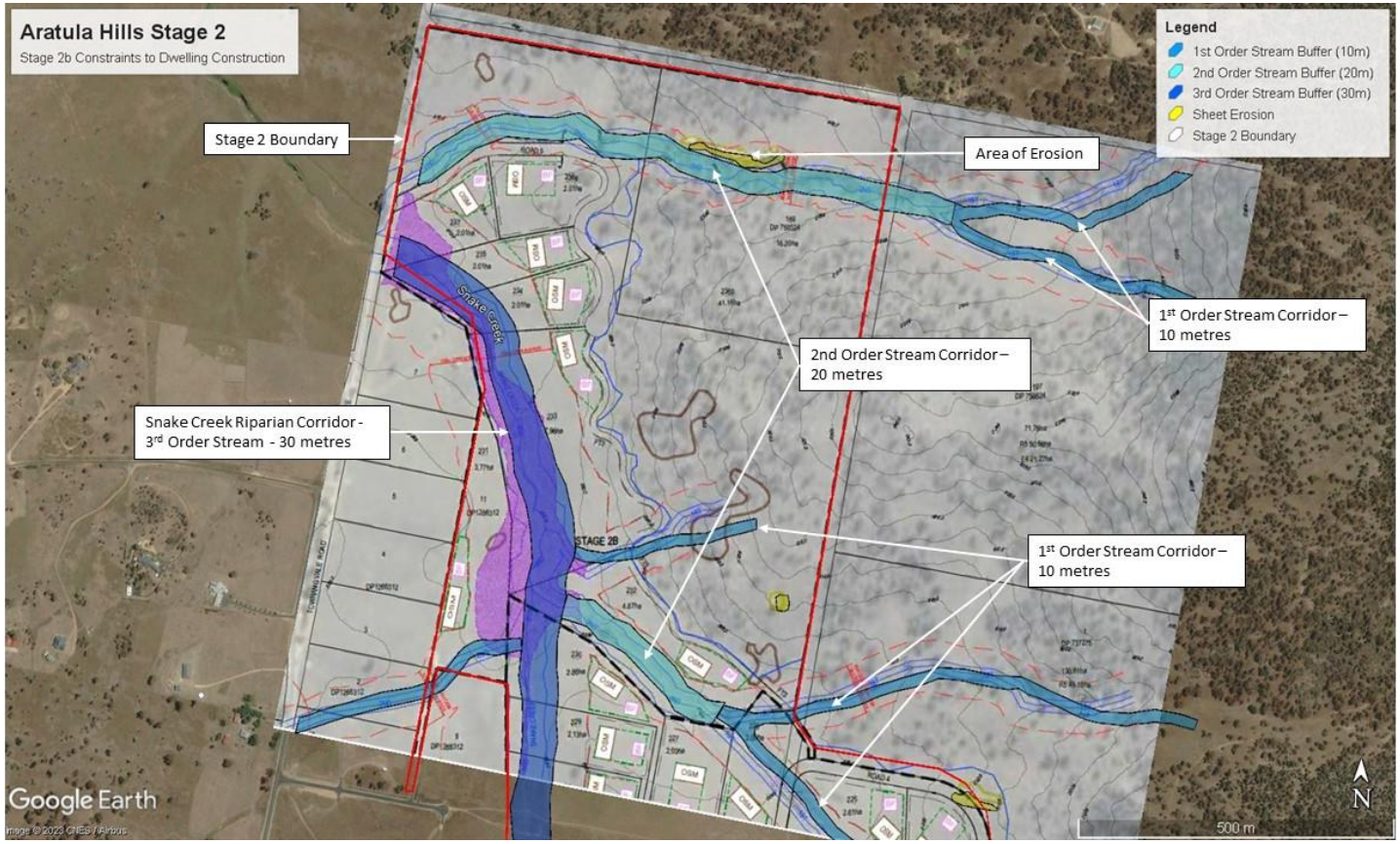


Figure 9c: Constraints to dwelling and infrastructure construction – Stage 2b (northern section)

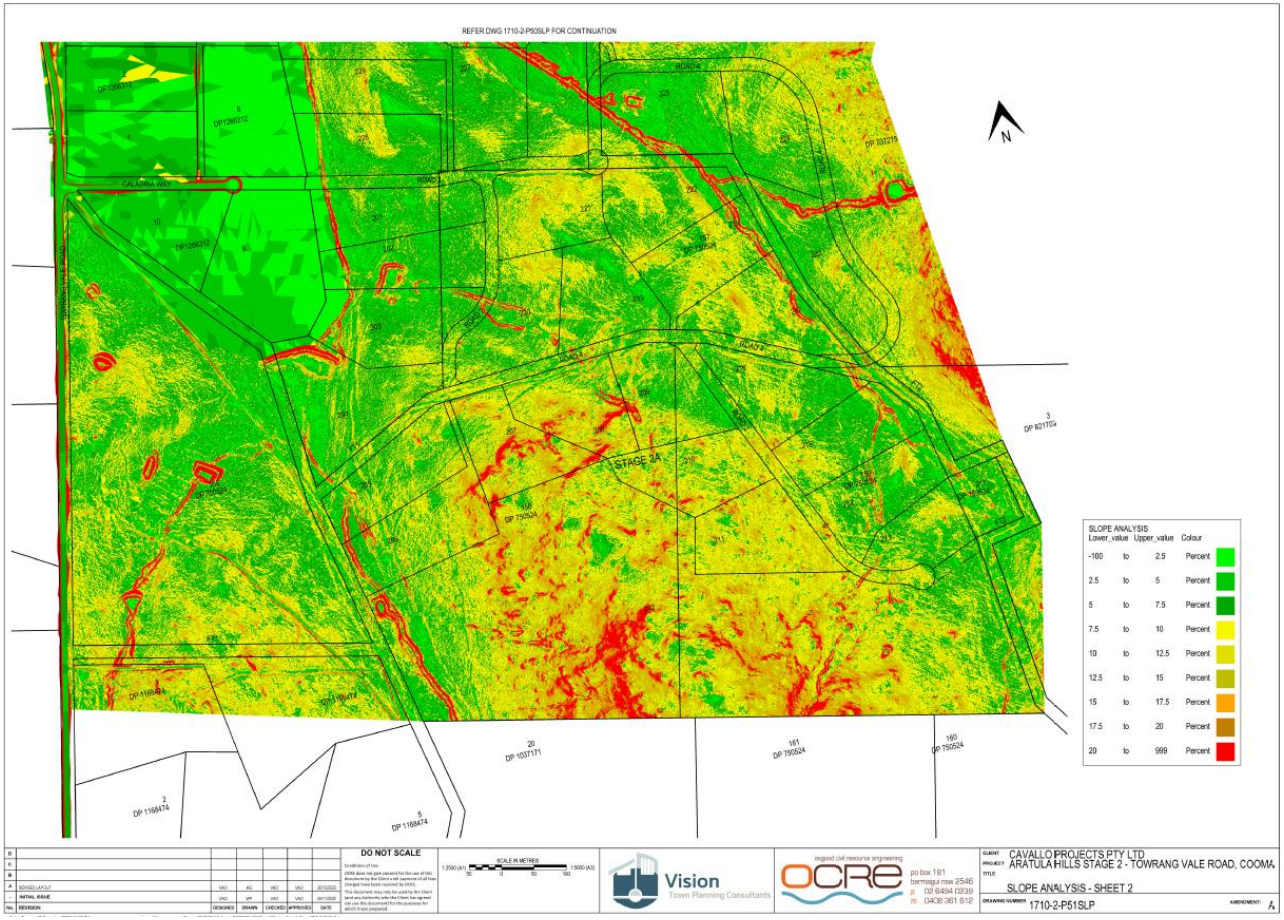


Figure 9d: Slope Analysis – Stage 2a

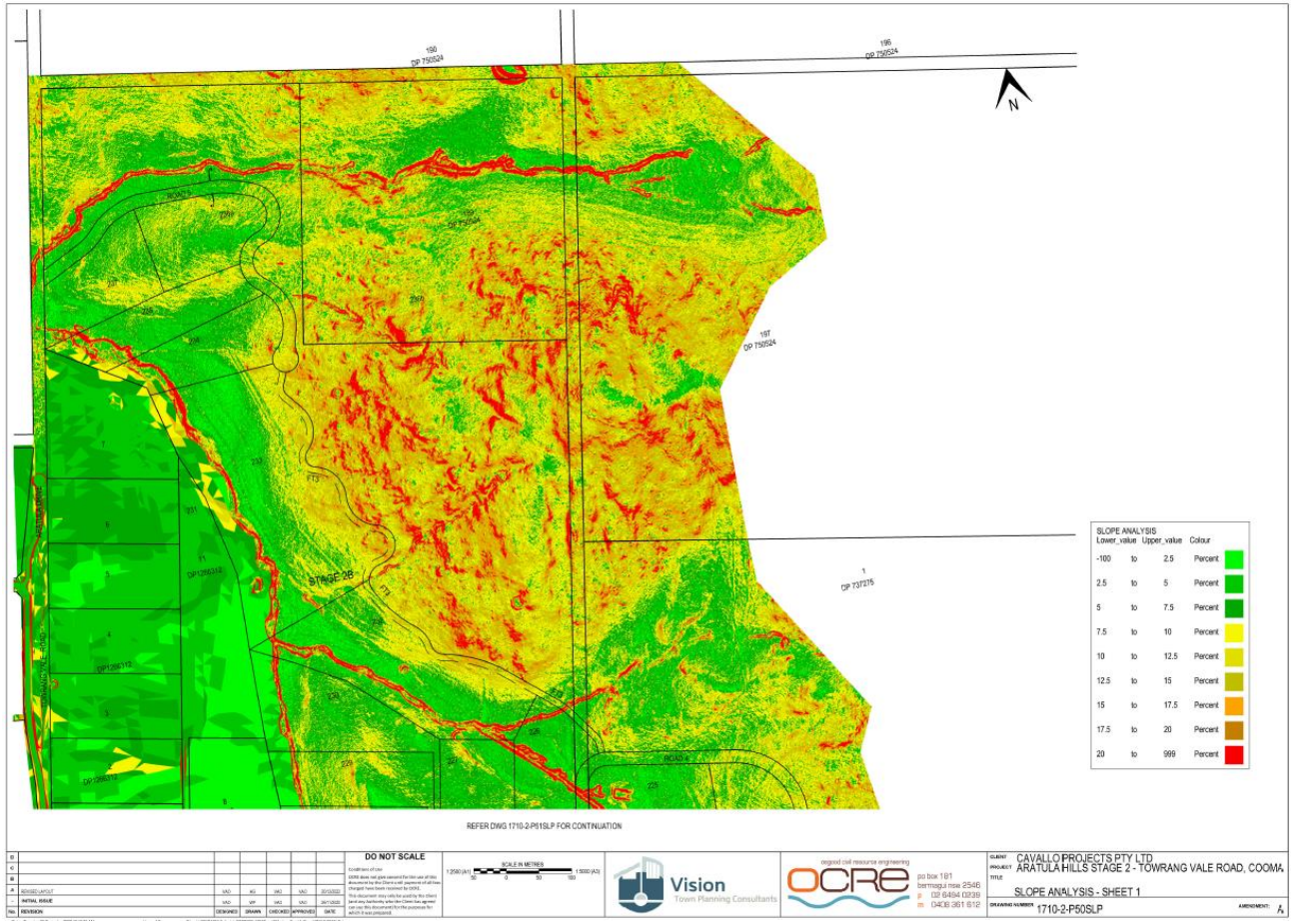


Figure 9e: Slope Analysis – Stage 2b

APPENDICES

Appendix 1: Site and Soil Limitation Assessment

The following two limitation tables are a standardised guide to the site and soil characteristics which may limit the suitability of the site for effluent disposal and which would require attention through specific management practices. The tables have been reproduced from *On-site Sewage Management for Single Households* (tables 4 and 6, Anon, 1998). The highlighted categories represent site and soil conditions of the land covered in this report. The tables show that the land designated for effluent application has slight to moderate limitations, but no severe limitations.

Site limitation assessment – Stage 2

Site feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Flood potential	All land application systems	> 1 in 20 yrs.		Frequent, below 1 in 20 yrs	Transport in wastewater off site
	All treatment systems	components above 1 in 100 yrs.		Components below 1 in 100 yrs.	Transport in wastewater off site, system failure
Exposure	All land application systems	High sun and wind exposure		Low sun and wind exposure	Poor evapo-transpiration
Slope %	Surface irrigation	0-6	6-12	>12	Runoff, erosion potential
	Sub-surface irrigation	0-10	10-20	>20	Runoff, erosion potential
	Absorption	0-10	10-20	>20	Runoff, erosion potential
Landform	All systems	Hillcrests, convex side slopes and plains	Concave side slopes and foot slopes	Drainage plains and incised channels	Groundwater pollution hazard, resurfacing hazard

Site feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Run-on and seepage	All land application systems	None-low	Moderate	High, diversion not practical	Transport of wastewater off site
Erosion potential	All land application systems	No sign of erosion potential	Minor stabilized sheet and gully erosion	Indications of erosion e.g. rills, mass failure	Soil degradation and off-site impact
Site drainage	All land application systems	No visible signs of surface dampness		Visible signs of surface dampness	Groundwater pollution hazard, resurfacing hazard
Fill	All systems	No fill	Fill present		Subsidence
Land area	All systems	Area available		Area not available	Health and pollution risk
Rock and rock outcrop	All land application systems	<10%	10-20%	>20%	Limits system performance
Geology	All land application systems	None	Small areas of isoclinal fractured regolith outcrop	Major geological discontinuities, fractured or highly porous regolith	Groundwater pollution hazard

Soil limitation assessment

Soil feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Depth to bedrock	Surface and sub surface irrigation	> 1.0	.5-1.0	< 0.5	Restricts plant growth
or hardpan (m)	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Depth to seasonal water table (m)	Surface and sub surface irrigation	> 1.0	0.5-1.0	< 0.5	Groundwater pollution hazard
	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Permeability	Surface and sub surface irrigation	2b, 3 and 4	2a, 5	1 and 6	Excessive runoff and waterlogging
Class	Absorption	3, 4		1, 2, 5, 6	Percolation
Coarse fragments %	All systems	0-20	20-45	>40	Restricts plant growth, affects trench installation
Bulk density (g/cc) **SL** **L, CL** **C**	All land application systems	 < 1.8 < 1.6 < 1.4		 > 1.8 > 1.6 >1.4	restricts plant growth, indicator of permeability
pH	All land application systems	> 6.0	4.5-6.0	-	Reduces plant growth
Electrical conductivity (dS/m)	All land application systems	<4	4-8	>8	Restricts plant growth

Soil feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Sodicity (ESP)	Irrigation 0-40cm; absorption 0-1.2mtr	0-5	5-10	> 10	Potential for structural degradation
CEC mequiv/100g	Irrigation systems	> 15	5-15	< 5	Nutrient leaching
P sorption kg/ha	All land application systems	> 6000	2000-6000	< 2000	Capacity to immobilise P
Aggregate stability	All land application systems	Classes 3-8	class 2	class1	Erosion hazard

Appendix 2a: Soil Profile Descriptions

Soil Profile 1: Lot 201 – representative of lower slope landscape position

Soil classification	Depth (cm)	Properties
Brown Chromosol	0- >100cm	A/B Medium brown fine sandy loam, no coarse material, massive to weak structure, moist and friable consistence, gradational colour change to

Soil profile augered in area suited to effluent disposal on Lot 201

Soil Profile 2: Lot 222 – representative of midslope landscape position

Soil classification	Depth (cm)	Properties
Rudosol	0-7	A Medium brown fine sandy loam, <5% coarse material, massive to weak structure, moist and friable consistence, gradational colour change to
	7- >100cm	B Brown sandy loam, 5% coarse fragments, weak structure, moist and friable, continues

Soil profile augered in area suited to effluent disposal on Lot 222

Soil Profile 3: Lot 212 – representative of crest landscape position

Soil classification	Depth (cm)	Properties
Brown Chromosol	0-10 10- 70cm	A Medium brown fine sandy loam, <5% coarse material, massive to weak structure, moist and friable consistence, gradational colour change to B Brown sandy loam, 5% coarse fragments, weak structure, moist and friable, degrades to bedrock parent material

Soil profile augered in area suited to effluent disposal on Lot 212

Appendix 2b: Laboratory Soil Test Results

NSW GOVERNMENT Department of Primary Industries

Report No. **WN201270**

Biosecurity Laboratory Operations
Environmental Laboratory
1243 Bruxner Highway, WOLLONGBAR NSW 2477
Phone: 02 6626 1103 Email: wollongbar.csu@dpi.nsw.gov.au

John Franklin
Soil & Water
GPO Box 837
CANBERRA ACT 2601

Soil Analysis Report

2 sample(s) of soil received on 10/09/20. Tested as per the following methods.
Testing commenced 10/09/20

Method	Method Description
S202	Soil Electrical Conductivity (1:5 soil/water extract)
S201	Soil pH in 1:5 water or 1:5 $CaCl_2$ suspension
SP901	Soil colour and texture **
SP903	Determination of the Emerson Class Number of Soil **
S259	Determination of Soil Phosphorus Sorption**
S273	Gillman & Sumpter Exchangeable Cations

** Where shown, indicates NATA accreditation does not cover the performance of this service.

Results relate only to the items tested.
Notes: Towrang Vale Road

- When required, samples air dried at 40ºC as per Soil Chemical Methods - Australasia (Rayment and Lyons 2011).
- Results are expressed on an air-dry weight basis unless otherwise stated.
- Physical soil testing results are calculated on 105ºC dry weight.
- This report should not be reproduced except in full.
- Samples will be retained for one calendar month from the date of the final report. Samples will then be discarded.
- Clients wishing to recover their samples must contact the laboratory within this period. This laboratory will return residual samples at client expense.

Date of issue 25/09/20

NATA Accredited for compliance with ISO/IEC 17025 – Testing
Accreditation No. 14173
ACCREDITED FOR TECHNICAL COMPETENCE

ASPAC

Approved for Release by:
Craig Hunt
Technical Officer

Report No. **WN201270**

Laboratory No. Client's ID	Units	Limit of Reporting	1 Minor Crest	2 Mid Slope
Soil Analysis				
Electrical Conductivity	dS/m	0.0010	0.021	0.038
pH (Water)	pH units	0.04	6.1	6.9
pH (CaCl2)	pH units	0.04	5.0	5.9
Texture			Sand	Sandy clay loam
Emerson aggregate test			Class 3 Sub(2)	Class 3 Sub(2)
P Sorption	mg/kg	25	67	38
Exchangeable Cations				
Aluminium	cmol(+)/kg	0.10	<0.1	<0.1
Calcium	cmol(+)/kg	0.030	1.7	2.9
Potassium	cmol(+)/kg	0.010	0.27	0.68
Magnesium	cmol(+)/kg	0.0070	1.0	0.66
Sodium	cmol(+)/kg	0.030	<0.03	<0.03
CEC (effective)	cmol(+)/kg	0.20	3.0	4.3
Calcium/Magnesium			1.7	4.4
Percent Aluminium Saturation	% of ECEC		N/A	N/A
Exchangeable Calcium	% of ECEC		58	69
Exchangeable Potassium	% of ECEC		9.0	16
Exchangeable Magnesium	% of ECEC		33	15
Exchangeable Sodium Percentage	% of ECEC		N/A	N/A

Appendix 3: Effluent Area Design

Using the DIR for surface spray or drip irrigation on weak loam soils of 4 mm/day and design loading of 600 L/day (4-bedroom dwelling loading), the following land application areas are required to manage additional hydraulic loading, nitrogen and phosphorous generated.	
Water balance	• Sizing based on hydraulic loading: A = Q (l/day)/DIR (mm/day) where A = area; Q = 600 l/day; DIR = 4 mm/day A = 600/4 = 150 m^2 **Area required = 150 m^2**
Nitrogen balance	• Sizing based on nitrogen balance: A = Q(l/day) X TN (mg/l)/L_n (critical loading of TN, mg/m^2/day) where A = area; Q = 600 l/day; TN = 25mg/l (from Silver Book) Assume 20% loss by denitrification; 25mg/l – (25 X .2) = 20mg/l L_n = 15,000mg/m^2/yr (ie 150kg/ha/yr, for introduced species) A = 600 X 20 X 365/15,000 = 292 m^2 **Area required = 300 m^2**
Phosphorous balance	• Sizing based on phosphorous balance A = P_{gen}/(P_{uptake} + P_{sorb}) [P sorption capacity in upper 50cm & 50 year design period] P_{gen} = 10mg/l X 600 X 365 X 50 = 109.5kg P_{uptake} = 4.4mg/m^2/day X 365 X 50 = .080kg/m^2 P_{sorb} = 2,746kg/ha = .275kg/m^2 A = 109.5/(.08+ .275) = 308 m^2 **Area required = 320 m^2**
Effluent irrigation area required	Therefore, a land application area of **320 m^2** will account for phosphorous, nitrogen and water applied based on usage patterns associated with a 4-bedroom dwelling on Stage 2 lots. An allowance of a reserve land application area will double this area to **640 m^2**. Irrigation areas required for different dwelling sizes are as follows: • 3-bedroom – 250m^2 • 5-bedroom – 380m^2 • 6-bedroom – 450m^2

Submission: 1

Sharon Thompson

From:
Sent:
To: Records Snowy Monaro Regional Council
Subject: Public Notification – Updated Proposal – Amended Plans Received – 10.2020.215.1, 10.2021.321.1, 10.2020.325.1 & 10.2021.326.1

ATTENTION: Mr John Gargett

RE: Public Notification – Updated Proposal – Amended Plans Received – 10.2020.215.1, 10.2021.321.1, 10.2020.325.1 & 10.2021.326.1

Dear John

Thank you for meeting with this morning regarding the above proposed development applications. Peter represents us as part of a group of concerned property owners surrounding the proposed large lot residential subdivisions.

In brief we fully concur with on a number of items surrounding these applications including, and not limited to, the fact that the submitted plans on exhibition are incorrect on more than one point.

We now await further advice from SMRC on whether the incorrectly exhibited plans are to be resubmitted and then exhibited in order to be correctly considered for submission/s of support or objection.

Regards

Submission: 2

The General Manager
Snowy Monaro Regional Council
P.O. Box 714
COOMA NSW 2630

26TH November, 2021

ATT'n Tim Pepperell

Dear Mr Pepperell, **10.2020.215.1 - ARATULA ESTATE**
10.2021.326.1 "
10.2021.321.1 "
10.2021.325.1 "

I refer to the above public notifications and our phone call of today's date.

As discussed, this development is of great concern to existing homeowners in the area who feel their rural lifestyle is being threatened by this development seeking to subdivide R5 zoned land down to 2ha lots. The LEP rule calls for 8ha lots.

The above notifications are confusing and the accompanying plans, for at least 10.2020.215.1, are incorrect. Consequently the documentation supplied by the developer, as notified by Council, is inadequate for purpose. The exhibition is confusing and does not enable the public to understand the proposed subdivision and consequently affected residents are denied their basic right to make an informed submission.

Consequently we formally ask Council to withdraw all 4 notifications and not to issue any further notification until the developer provides accurate, not confusing documentation any unsophisticated member of our community can understand in order they can make an informed submission. This should include explanation of how this subdivision can legally produce a development with an average lot size of 2ha's versus the LEP's 8ha requirement.

In anticipation we look forward to Councils favourable consideration and written confirmation within 5 working days.

Until then,

Yours sincerely

Submission: 3

09.12.2021

Chief Executive Officer

Snowy Monaro Regional Council

Dear Sir/Madam

Subject: Development Application number- 10.2021.321.1

Applicants name-Cavallo Projects Pty Ltd

Proposed Development- Large Lot Residential Subdivision 2C – 15 Lots

Property Description-Old Dry Plains Road Cooma 2630

Lot:1 DP:737275, Lot:11 DP:1266312, Lot: 157 DP750524,

Lot: 158 DP: 750524, Lot:159 DP:750524, Lot:189 DP:750524,

Lot: 97 DP: 750524, Lot: 211 DP:750524

This letter will formally register our strong objection to the proposed Fifteen lot subdivision to be located at the above property. Whilst not completely exhaustive, it includes most points to why the proposal should not go ahead.

The following points are not in order of importance but do describe why we believe the Applicants proposal is not suited to the area.

Traffic

We reject the DA' s advice the road has been upgraded to accept the eventual number of blocks, 86 blocks (first stage 10, second 76). Towrang Vale Road possibly, but other roads in the area have not. This will create a massive amount of extra traffic in the area. The average Australian household has 1.8 cars, meaning potentially an extra 139 cars and allowing 2 trips into town per car per day means 277 additional cars on Towrang Vale Road, Dry Plains Road and Snowy Mountains Highway. In winter, we experience traffic banking up from town over Mt Gladstone. With the number of extra vehicles, there is the potential to have an additional 139 cars waiting at the intersection of Dry Plains Road and Snowy Mountains Highway. The highway is already seeing an increase of traffic with Snowy 2.0 works. This is a single lane major highway and therefore all traffic could be halted out of Cooma due to cars banked up to turn right into Dry Plains Road. Potential for future litigation is high. Serious accidents have already occurred on and adjacent to this intersection. The intersection is made worse with a low westerly sun in the afternoon. Towrang Vale Road and Dry Plains Road intersection will also be congested, potentially we could have a traffic jam of the same amount waiting to return home over a crest, which again in the afternoon, is obscured by blinding westerly sun.

Rural Lifestyle.

moving out of town for privacy, silence and space. We are not against development, we did not object to the first DA and feel other people have the right to also live the rural lifestyle. But 86 blocks are obscene. The land will be over developed to the detriment of the current residents, future residents and the environment. An official from Council needs to travel to Towrang Vale Road to visit our homes to become familiar with what we have now and how it will become with an extra 76 homes, nearly all of them seen from our homes, some as close as 100 metres. I strongly object to DA's suggestion that an extra 76 homes will fit in with the already established homes on "large residential blocks". The homes which already exist are on "true" large residential blocks of 8ha or more, all fed from a single road, not 2ha blocks like proposed, accessed via a maze of roads throughout the subdivision, meaning that the new subdivision will not be the same as existing, it will be in fact 4 times as dense.

Use of Leased Crown Road for Fire Trail.

I strongly object to the use of the paper road for a fire trail in the evacuation of a bush fire.

This is important as the prevailing wind of the Monaro is from the north west. If a fire trail was to be constructed it would remove vegetation from the soil, releasing airborne debris and our house will be covered in dust as well as large rock outcrops would have to be removed and a large gully would have to have pipes installed. All this when another paper road is currently is being used with access to Dry plains road directly. The other option is using the same paper road and head back to the intersection of Towrang Vale Road and Calabri way. I believe once people purchase their properties, they will use the fire trail as a more direct route to Towrang Vale road reducing our privacy, and rural aspect further while creating more airborne debris.

Noise and Vibration pollution.

Silence and darkness are one of the key features to living in a rural setting with large block sizes. We are very fortunate in the area that residents are considerate. Light and noise pollution is extremely low which will definitely change if 76 lots are approved. Dogs barking, lawn mowing, sounds of 139 cars travelling within the proposed subdivision. If this is what the residents crave, we would move into Cooma where we could also have town water, rubbish collection and sewage. This not what we want, so we compromise essential services that are provided in exchange for silence, darkness and privacy.

Fire risk.

I have read the included bush fire report conducted by Blackash. Blackash's report notes on the included map, (page 10) that although the area not coloured and is not a classified fire risk, it needs to be considered as one. I agree with this but believe this is understated as it in fact heavily infested with African Lovegrass. Unlike natural grassland as implied by the map, African Lovegrass is extremely flammable and is known to burn twice in one fire event. The gradient and the direction of wind also need to be considered with density of African Love grass. The entire land is a fire risk which is amplified by averaging the lot sizes to 2 hectares. In the PEARS report it concludes that every section studied is affected by African Lovegrass.

Objectives of the Zoning

Objectives of the Zone 5 Large Residential Blocks- Note 1, ***To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally and sensitive locations and scenic quality.*** It is my belief this cannot be achieved when decreasing lot sizes one quarter the minimum land size. The surrounding blocks are not 2ha's, they are 8 ha or larger and are all in view of the proposed subdivision. How is it possible to preserve scenic quality when our rural setting will have 76 extra houses, sheds and infrastructure including roads and fencing in sight.

Sensitive locations, Cooma's water catchment area, could be impacted with an additional 76 septic systems and run off, off roads into local waterways.

Clause 4.1B ***Subdivision using averaging lot sizes***. I do not believe this clause applies to this subdivision as the objective of the clause **is to *facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes as possible***. Have essential Biodiversity analyses been conducted in this regard? Nowhere is it described in the proposal what the values and constraints are to which land that is listed as minimum lot size of 8ha must be reduced to 2ha. To use averaging to the extent where the residual blocks are also averaged until the lots are all 2ha's is inconceivable and insulting. Environmentally it will have a much larger impact in this case if the lots are averaged rather than kept to minimum sizing. I don't believe the objective of *Subdivision using averaging lot sizes* clause was designed to be used in this way and is not in the spirit of LEP.

Summary

We don't believe the proposed subdivision should proceed as it will have a major impact on existing residents, environment, bush fire control and traffic flow. It is unreasonable to have an area which is classed as R5 Large Residential Lots with legislated minimum lot sizes of 8ha to be subjected to Small Residential Lots which are one quarter the size stated in the current and draft LEP. The LEP is designed to protect the environment it covers. Minimum lot sizes take into consideration the environment and land use, current and future residents and their lifestyle, impact on rate payers, traffic etc. If land is needed for an expanding town and its residents, it should be provided with essential services such as water, sewage, rubbish collection and postal delivery. Towrang Vale has none of these services and as such should not be over developed in this way and is not Councils answer to land release. I note that, Draft Land Use Strategies Public Exhibition, (4.5) Combined Constraints and Findings, states *Greendale Road could be further explored with the potential to provide urban residential growth*. This proposal is totally inconsistent with the objectives and the expectations of the LEP and therefore must not proceed.

Submission 1

[redacted]

17 June 2023

Re: Large Lot Residential Subdivision - Stage 2A. Old Dry Plains Road Cooma 2630
Cavallo Projects
App No: 10.2023.150.1

[redacted]

My submission concerns Stage 2B, Lot 231, 3.77 Ha. (Previously called Lot 201)

Lot 231 has a western boundary with the Stage 1 Lots 3, 4, 5, 6 and 7.

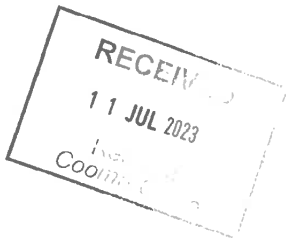
Each of these Stage 1 Lots has a 9.6m double rural gate in this boundary fence for firefighting access.

The Building Footprint (BF) for Stage 2B Lot 231, restricts access to these firefighting access gates. The easement provided between the Stage 1 Lots 1,2 and 8 to provide firefighting access should be continued along the eastern boundary of Stage 1 Lots 3, 4, 5, 6 and 7.

Please advise how the development proposal will retain firefighting access to my Stage 1 Lot 4 block (and also Lots 3, 5, 6 and 7) with regard to Stage 2B Lot 231.

[redacted]

SUBMISSION 2



10.07.2023

Chief Executive Officer

Snowy Monaro Regional Council

Dear Sir

Subject: Development Application number- 10.2023.149.1

Applicants name-R Papalia c/- Vision Property Development Hub

Proposed Development-Clause 37 Amendment to DA 10.2021.321.1- Proposed Large Lot Residential Subdivision - Stage 2B

Property Description-Old Dry Plains Road Cooma 2630

Lot:1 DP:737275, Lot:11 DP:1266312, Lot: 157 DP: 750524 Lot: 158 DP750524,

Lot:159 DP:750524, Lot:189 DP:750524, Lot: 197 DP: 750524,

Lot 211 DP: 750524

This letter will formally register our strong objection to the proposed 7 plus residue lot subdivision to be located at the above property. Whilst not completely exhaustive, it includes most points to why the proposal should not go ahead.

The following points are not in order of importance but do describe why we believe the Applicants proposal is not suited to the area.

Traffic

We reject the DA' s advice the road has been upgraded to accept the number of blocks, 47 blocks (first stage 10, second 37). Towrang Vale Road possibly, but other roads in the area have not. This will create a massive amount of extra traffic in the area. The average Australian household has 1.8 cars, meaning potentially an extra 85 cars and allowing 2 trips into town per car per day means 170 additional cars on Towrang Vale Road, Dry Plains Road and Snowy Mountains Highway. In winter and now summer too, we experience traffic banking up from town over Mt Gladstone. With the number of extra vehicles, there is the potential to have an additional 85 cars waiting at the intersection of Dry Plains Road and Snowy Mountains Highway. The highway is already seeing an increase of traffic with Snowy 2.0 works. This is a single lane major highway and therefore all traffic could be halted out of Cooma due to cars banked up to turn right into Dry Plains Road. Potential for future litigation is high. Serious accidents have already occurred on and adjacent to this intersection. The intersection is made worse with a low westerly sun in the afternoon. Towrang Vale Road and Dry Plains Road intersection will also be congested, potentially we could have a traffic jam of the same amount waiting to return home over a crest, which again in the afternoon, is obscured by blinding westerly sun.

Rural Lifestyle.

My husband and I have lived in the area since 2003, moving out of town for privacy, silence and space. We are not against development, we did not object to the first DA and feel other people have the right to also live the rural lifestyle. But an extra 47 (10 + 37) blocks are obscene. The land will be over developed to the detriment of the current residents, future residents and the environment. An official from Council needs to travel to Towrang Vale Road to visit our homes to become familiar with what we have now and how it will become with an extra 38 homes, nearly all of them seen from our homes, some as close as 100 metres. I strongly object to DA's suggestion that an extra 38 homes will fit in with the already established homes on "large residential blocks". The homes which already exist are on "true" large residential blocks of 8ha or more, all fed from a single road, not 2ha blocks like proposed, accessed via a maze of roads throughout the subdivision, meaning that the new subdivision will not be the same as existing, it will be in fact 4 times as dense. The development also features a residue block with no building envelope of 92.14 hectares, which I can only assume with previous development proposals will be developed further unless guarantees of being permanently secured for biodiversity/true use of averaging are made. If this occurred, my fears of this application and future ones would be alleviated.

Use of Leased Crown Road for Fire Trail.

I strongly object to the use of the paper road which is to the north of our property for a fire trail in the evacuation of a bush fire. We have leased this parcel of land since purchasing our property 18 years ago. I have continually paid fees for the use of the land. My use of the land is to have a buffer from other land users and their lack of weed control, grazing, privacy and keeping vegetation on the ground. Over the years we have paid thousands of dollars in lease payments and weed control maintaining this section of land. This is important as the prevailing wind of the Monaro is from the north west. If a fire trail was to be constructed it would remove vegetation from the soil, releasing airborne debris and our house will be covered in dust as well as large rock outcrops would have to be removed and a large gully would have to have pipes installed. The other option is using the same paper road and head back to the intersection of Towrang Vale Road and Calabri way. I believe once people purchase their properties, they will try to use the fire trail as a more direct route to Towrang Vale road reducing our privacy, use of land for grazing, rural aspect further while creating more airborne debris.

Noise and Vibration pollution.

Silence and darkness are one of the key features to living in a rural setting with large block sizes. We are very fortunate in the area that residents are considerate. Light and noise pollution is extremely low which will definitely change if 37 lots are approved. Dogs barking, lawn mowing, sounds of 85 cars travelling within the proposed subdivision. If this is what the residents crave, we would move into Cooma where we could also have town water and sewage. This not what we want, so we compromise essential services that are provided in exchange for silence, darkness and privacy.

Fire risk.

I have read the included bush fire report conducted by Blackash. Blackash's report notes on the included map. (page 10) that although the area not coloured and is not a classified fire risk, it needs to be considered as one. I agree with this but believe this is understated as it in fact heavily infested with African Lovegrass. Unlike natural grassland as implied by the map, African Lovegrass is

extremely flammable and is known to burn twice in one fire event. The gradient and the direction of wind also need to be considered with density of African Love grass. The entire land is a fire risk which is amplified by averaging the lot sizes to 2 hectares. In the PEARS report it concludes that every section studied is affected by African Lovegrass.

Objectives of the Zoning

Objectives of the Zone 5 Large Residential Blocks- Note 1, ***To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally and sensitive locations and scenic quality.*** It is my belief this cannot be achieved when decreasing lot sizes one quarter the minimum land size. The surrounding blocks are not 2ha's, they are 8 ha or larger and are all in view of the proposed subdivision. How is it possible to preserve scenic quality when our rural setting will have 47 (10+37) extra houses, sheds and infrastructure including roads and fencing in sight.

Sensitive locations, Cooma's water catchment area, could be impacted with an additional 37 septic systems and run off, off roads into local waterways.

Clause 4.1B ***Subdivision using averaging lot sizes***. I do not believe this clause applies to this subdivision as the objective of the clause **is to *facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes as possible*** which it doesn't, as no guarantees are made to what will happen to the residue land, in fact the opposite. I understand the theory behind the use of above-mentioned clause and agree that the land has limitations due to gradient percentages, biodiversity concerns, water courses etc, but where is the guarantee that residue land will not be developed further which is clearly the goal with the previous applications as evidence. If guarantees were given and no further development could be taken with legal restraints in place, clause 4.1B would apply, but as it currently stands it doesn't. To use averaging to the extent where the residual blocks are also averaged until the lots are all 2ha's is inconceivable and insulting. Environmentally it will have a much larger impact in this case if the lots are averaged rather than kept to minimum sizing. I don't believe the objective of *Subdivision using averaging lot sizes* clause was designed to be used in this way and is not in the spirit of LEP.

Summary

We don't believe the proposed subdivision should proceed as it will have a major impact on existing residents, environment, bush fire control and traffic flow. It is unreasonable to have an area which is classed as R5 Large Residential Lots with legislated minimum lot sizes of 8ha to be subjected to Small Residential Lots which are one quarter the size stated in the current and draft LEP. The LEP is designed to protect the environment it covers. Minimum lot sizes take into consideration the environment and land use, current and future residents and their lifestyle, impact on rate payers, traffic etc. If land is needed for an expanding town and its residents, it should be provided with essential services such as water, sewage and postal delivery. Towrang Vale has none of these services and as such should not be over developed in this way and is not Councils answer to land release. I note that, Draft Land Use Strategies Public Exhibition, (4.5) Combined Constraints and Findings, states *Greendale Road could be further explored with the potential to provide urban residential growth*. This proposal is totally inconsistent with the objectives and the expectations of the LEP and therefore must not proceed.

SUBMISSION 3

[redacted]

Chief Executive Officer
Snowy Monaro Regional Council
PO Box 714, Cooma NSW 2630

OBJECTION TO:

Proposed development – Clause 37 Amendment to DA 10.2021.3251 – Proposed Large Lot Residential Subdivision – Stage 2A

Proposed development – Clause 37 Amendment to DA 10.2021.3251 – Proposed Large Lot Residential Subdivision – Stage 2B

Old Dry Plains Rd, Cooma NSW 2630
Lot: 1 DP 737275, Lot: 11 DP: 1266312, Lot: 157 DP: 750524, Lot: 158 DP: 750524, Lot: 159 DP 750524, Lot: 189 DP 750524, Lot: 197 DP 750524, Lot: 211 DP: 750524

ATTN: SARAH BROWN

Dear Sarah,

As an adjoining landholder, I thank you for extending an opportunity to review the latest proposal for this subdivision. Please accept this letter as my submission.

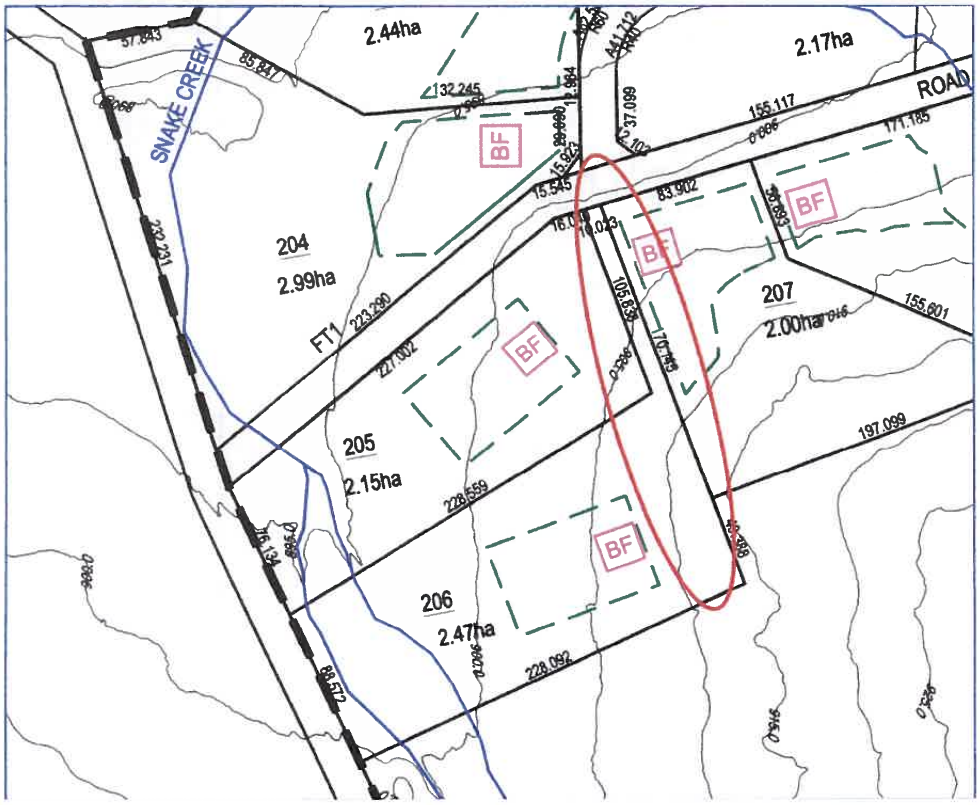
I would like to acknowledge the changes to previous applications that have been made in these amendments. However, on review, I wish to highlight several deficiencies that ought to be addressed:

TWO BATTLE AXE HANDLES LONGER THAN THE MAXIMUM LENGTH STIPULATED IN THE DCP / REASON INSUFFICIENT

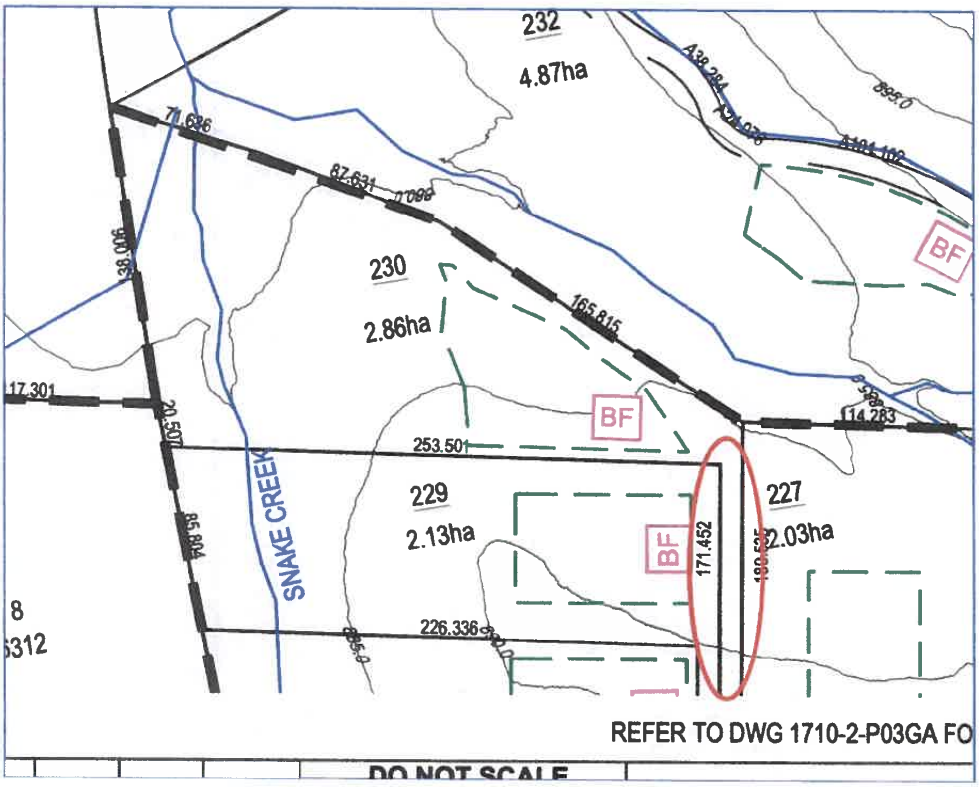
Section 4.1.3.2 of the *Cooma-Monaro Shire Development Control Plan 2014 (Amendment 4)* stipulates that the maximum length of a battle axe handle in a subdivision in the R5 zone be 100 metres (Table 9: *Design requirements for battle axe access handles on new lots (in metres)*, pages 92-3).

The development applications propose three lots that exceed this requirement. According to maps supplied in the application (shown below):

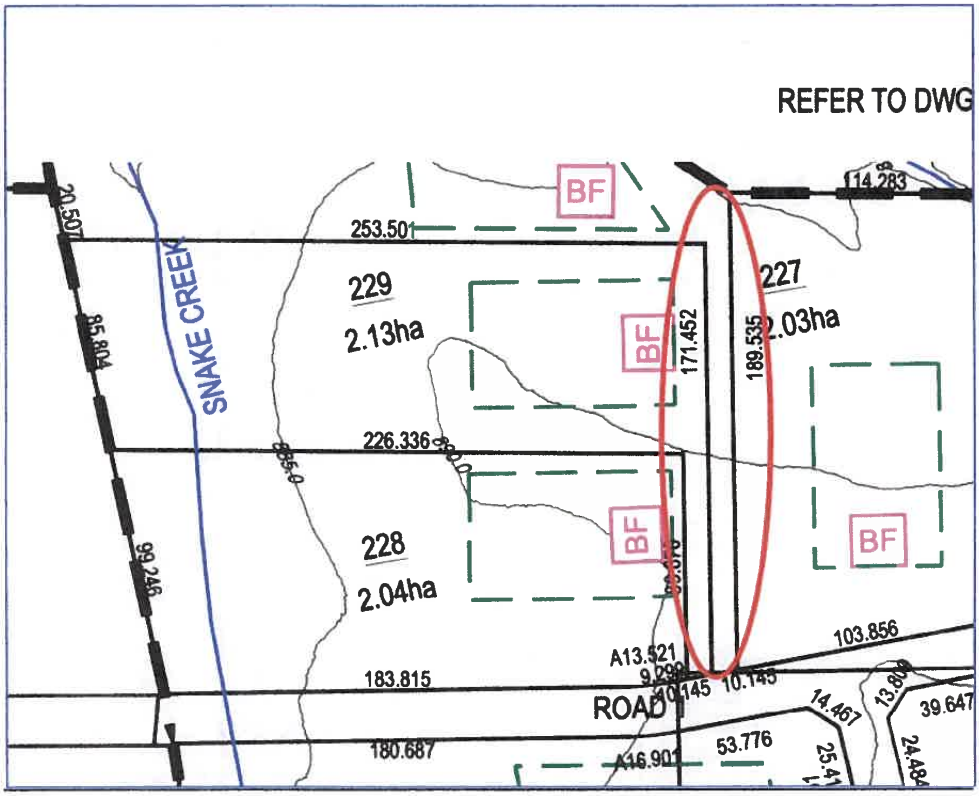
- Lot 206 (Stage 2A) contains a battle axe handle of 105.838 metres in length
- Lot 230 (Stage 2A) contains a battle axe handle of 171.452 metres in length
- Lot 231 (Stage 2B) contains a battle axe handle of 202.43 metres in length



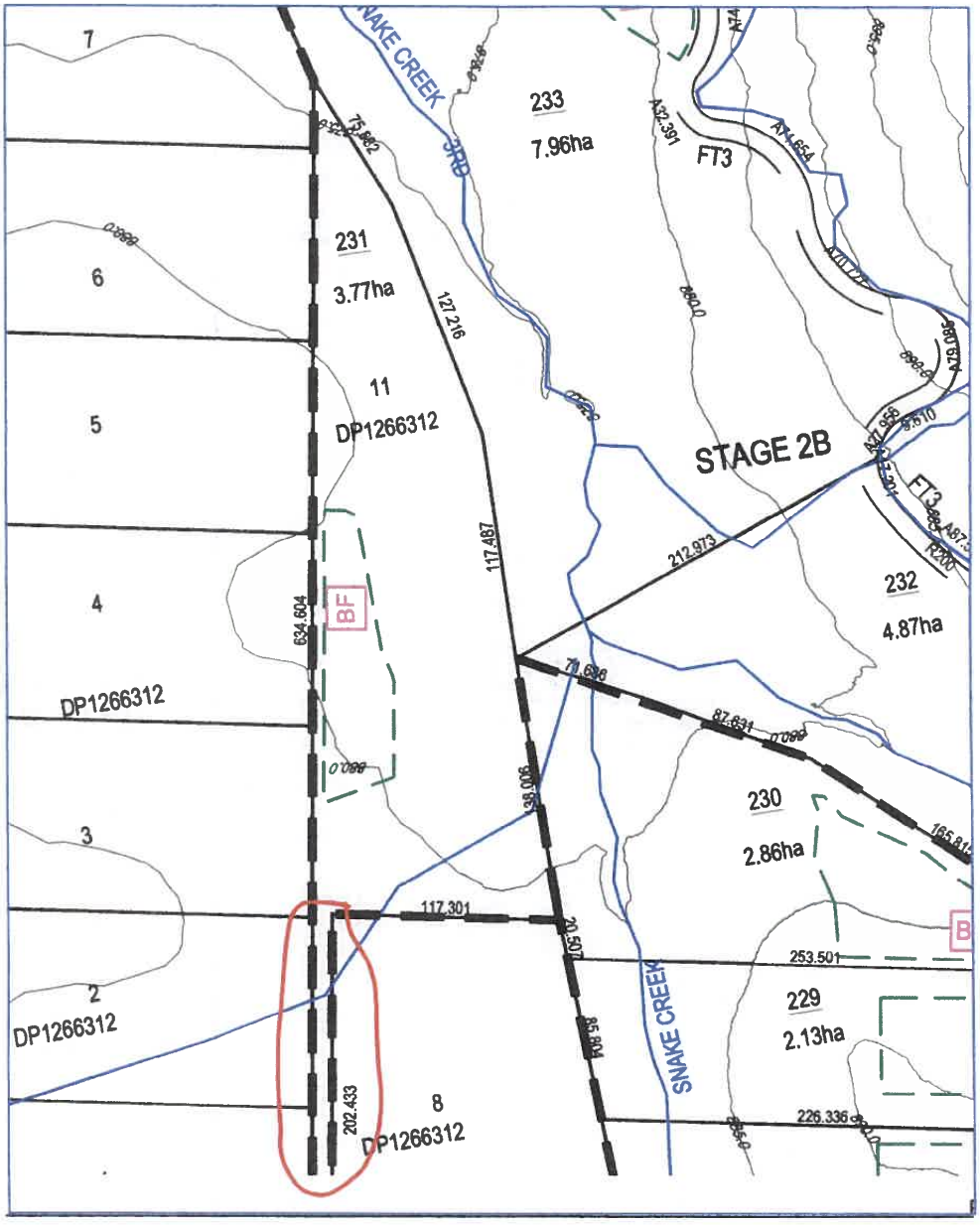
Proposed Lot 206



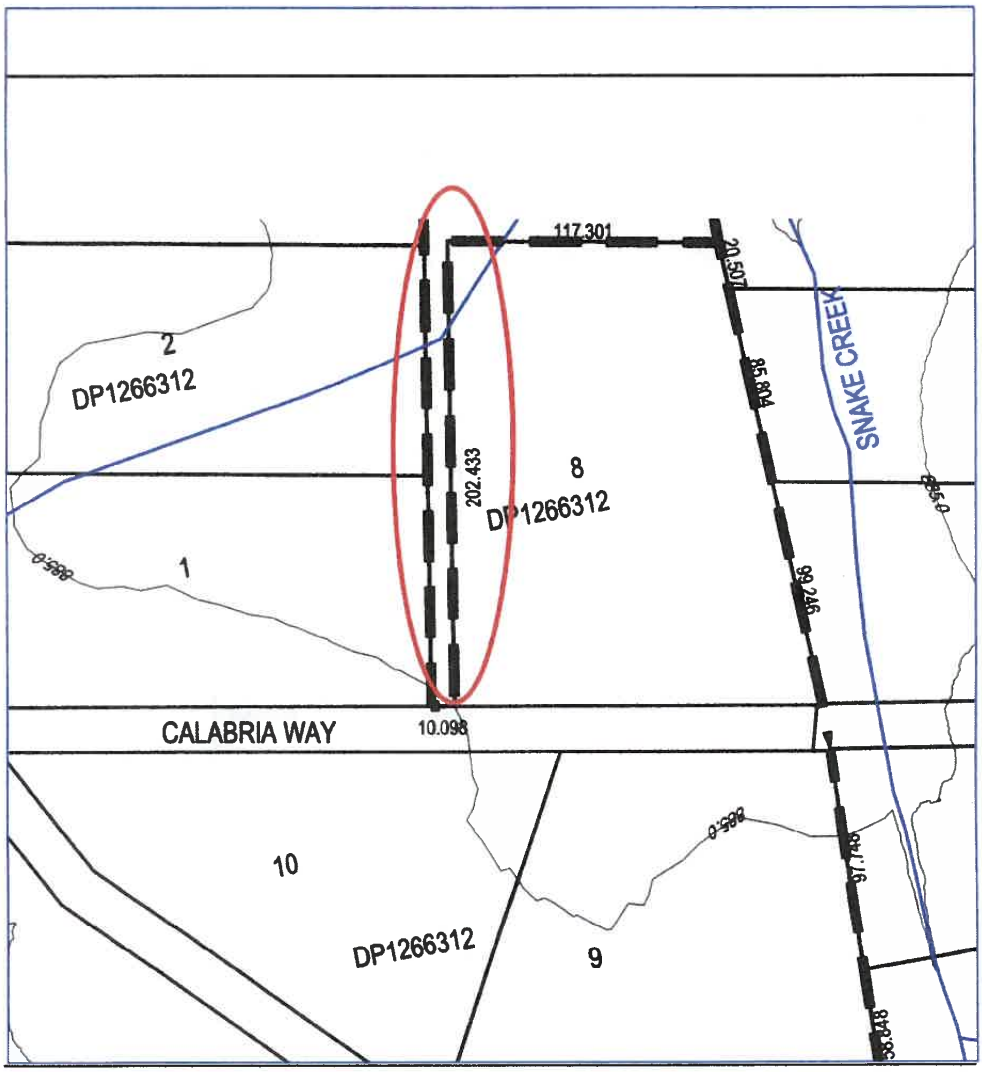
Proposed Lot 230



Proposed Lot 230 – alternate view



Proposed Lot 231



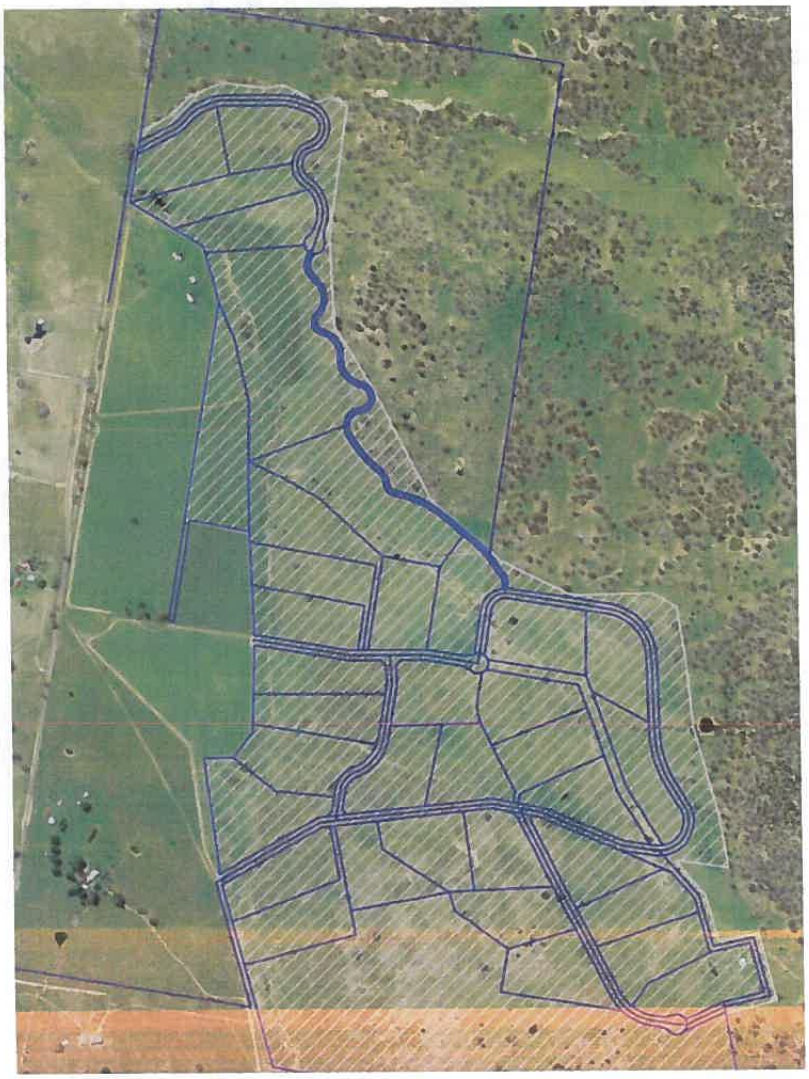
Proposed Lot 231 – alternate view

The applications seek to justify exceeding the length with the following reason on page 20:

> *Development includes some allotments with battle-axe handle driveways greater than 100 metres in length. This is included to reduce the amount of tree vegetation required to be removed by roadways. This is considered an appropriate design and environmental outcome.*

However, the following screenshot from the application's *Biodiversity Assessment Report* (page 6) demonstrates that the number of trees to be removed in the construction of roads

is negligible (possibly just one). Therefore it would be remiss to use this reason to justify adding as many as three extra lots in a way that does not comply with the DCP's battle axe handle requirements.



Roads overlay from the application's Biodiversity Assessment Report (page 6)

DCP REQUIREMENT FOR PUBLIC OPEN SPACE HAS NOT BEEN MET

Section 4.1.5 of the *Cooma-Monaro Shire Development Control Plan 2014 (Amendment 4)* requires "the provision of open space where appropriate within a subdivision, for the general welfare of the wider community" (page 94).

According to Section 4.1.5.2,

> *For subdivisions of ten (10) lots or more within Zones R1, R2, R5 and RU5, a dedicated area of open space is to be provided such that all lots within the subdivision are within 1,200 metres of either an existing or proposed area of public open space that contains a playground (ie playground equipment).*

This section of the DCP also offers an alternative method of open space provision, with the option of public access to a natural stormwater drainage or area of high conservation or environmental value.

The applications do not meet the requirement for the provision of open public space in either of these ways.

NUMBER OF PROPOSED LOTS EXCEEDS ALLOWABLE QUANTITY

In Clause 4.1 of the *Cooma-Monaro Local Environmental Plan (2013)*, the minimum lot size stipulated for R5-zoned land (according to *Lot Size Map - Sheet LSZ_013*) is 8 hectares.

The applications have utilised Clause 4.1B (*Subdivision using average lot sizes*) to create a large number of smaller lots as little as 2 hectares in size. However the average across the entire proposed subdivision – in the sections zoned R5 – must still average 8 hectares according to the planning standard.

The development applications state that a total of 251.93 hectares of R5-zoned land across Stages 2A and 2B (submitted to Council together and therefore should be assessed together).

A simple calculation (251.93 hectares divided by 8 hectares) demonstrates that the maximum number of potential lots ***no more than 31.49***, however the application proposes 37 lots to be developed (30 in Stage 2A and 7 in Stage 2B).

Clause 4.1B of the LEP states that the objectives of this clause are to:

1) *(a) facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes possible, and*

As described above, the objectives of the clause are to facilitate better subdivision design – not to override the minimum lot size stipulated in Section 4.1 of the Act.

It should also be noted that Stage 2B comprises residual land from Stage 2A, and Stages 2A and 2B combined comprise residual land from Stage 1 (10 lots approved in 2018). By repeatedly activating Clause 4.1B over the entire lifetime of this subdivision, these applications seek to maximise the number of lots well beyond the objectives of Clause 4.1 of the LEP, and well beyond the intent of both Clauses 4.1 and 4.1B.

THE APPLICATION ADVERSELY AFFECTS THE AMENITY OF EXISTING LANDHOLDERS THROUGH OVERDEVELOPMENT

According to the *Cooma-Monaro Local Environment Plan (2013)*, the first objective of the R5 zoning is to:

> *provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.*

The applications propose overdevelopment – as evidenced in the previous section of this submission – which affects my amenity and scenic quality as an adjoining landholder, as well as being detrimental to the rural character of the Dairymans Plains area.

According to page 4 of the application for Stage 2A, the proposed subdivision "will have positive outcome without negative impacts". However, the application fails to demonstrate what those positive outcomes might be for neighbouring residents.

While I do not oppose development in principle – nor seek to deprive others of accessing the kind of lifestyle that I enjoy – I cannot support excessive development which negatively impacts on the amenity and rural lifestyle that myself and fellow neighbours have sought to secure through the acquisition of R5 land that meets the development standard set out in the *Cooma-Monaro Local Environment Plan (2013)*.

SUBMISSION 4

[redacted]

11 July 2023

Snowy Monaro Regional Council
PO Box 714
Cooma NSW 2630

RE: DA 10.2021.325.1 AND DA 10.2021.321.1

Further to correspondence of 30 January 2021 where I submitted an objection to this development, I submit further objection to the development continuing to corrupt the intent and spirit of the LEP.

I would again re-iterate that utilising residual areas from previously approved sub-divisions in order to circumvent the intended minimum lot size and quadruple housing density is blatant manipulation and in opposition to the intent of the LEP.

Despite changes to the application, the developer still seeks to create and sell lots of around 2ha with none exceeding 3ha. This is in no way could be considered an 'average minimum' of 8ha. The development is completely inconsistent with the character of the precinct. The block size should be restricted to a MINIMUM 5ha to maintain the existing ambiance.

With only 5 houses erected on the original sub-division that created 10 x 2ha blocks using residual as the methodology for sliding the application through the development process, is already impacting the visual and practical amenity of the valley and the increase in traffic on Towrang Vale Rd is noticeable.

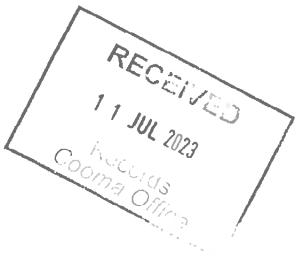
A further 37 blocks with single access from Towrang Vale Rd via Dry Plains Rd will significantly increase traffic on these roads. Both of these roads have exceedingly dangerous sections including the 90 degree intersection of Old Dry Plains Rd and Dry Plains Rd where there is no verge with a sever drop off and the excessive incline of Towrang Vale Rd at the intersection of Dry Plain Rd.

The upgrade of Towrang Vale Rd undertaken as a condition of the original sub-division has visibly deteriorated in a short period of time. The road builders have destroyed my driveway which previously had bitumen surface right through to the bitumen of the road. The school bus now uses this road with several stops including the top of the rise near the intersection of Dry Plains Rd. This is a hazard for the existing users. Increased traffic would further increase the hazard to road users and children catching the bus.

Please deny this application in its current format and insist on realistic application of the 8ha minimum lot size.

[redacted]

Submission 5



10.07.2023

Chief Executive Officer

Snowy Monaro Regional Council

Dear Sir

Subject: Development Application number- 10.2023.149.1

Applicants name-R Papalia c/- Vision Property Development Hub

Proposed Development-Clause 37 Amendment to DA 10.2021.321.1- Proposed Large Lot Residential Subdivision - Stage 2B

Property Description-Old Dry Plains Road Cooma 2630

Lot:1 DP:737275, Lot:11 DP:1266312, Lot: 157 DP: 750524 Lot: 158 DP750524,

Lot:159 DP:750524, Lot:189 DP:750524, Lot: 197 DP: 750524,

Lot 211 DP: 750524

This letter will formally register our strong objection to the proposed 7 plus residue lot subdivision to be located at the above property. Whilst not completely exhaustive, it includes most points to why the proposal should not go ahead.

The following points are not in order of importance but do describe why we believe the Applicants proposal is not suited to the area.

Traffic

We reject the DA' s advice the road has been upgraded to accept the number of blocks, 47 blocks (first stage 10, second 37). Towrang Vale Road possibly, but other roads in the area have not. This will create a massive amount of extra traffic in the area. The average Australian household has 1.8 cars, meaning potentially an extra 85 cars and allowing 2 trips into town per car per day means 170 additional cars on Towrang Vale Road, Dry Plains Road and Snowy Mountains Highway. In winter and now summer too, we experience traffic banking up from town over Mt Gladstone. With the number of extra vehicles, there is the potential to have an additional 85 cars waiting at the intersection of Dry Plains Road and Snowy Mountains Highway. The highway is already seeing an increase of traffic with Snowy 2.0 works. This is a single lane major highway and therefore all traffic could be halted out of Cooma due to cars banked up to turn right into Dry Plains Road. Potential for future litigation is high. Serious accidents have already occurred on and adjacent to this intersection. The intersection is made worse with a low westerly sun in the afternoon. Towrang Vale Road and Dry Plains Road intersection will also be congested, potentially we could have a traffic jam of the same amount waiting to return home over a crest, which again in the afternoon, is obscured by blinding westerly sun.

Rural Lifestyle.

My wife and I have lived in the area since 2003, moving out of town for privacy, silence and space. We are not against development, we did not object to the first DA and feel other people have the right to also live the rural lifestyle. But an extra 47 (10 + 37) blocks are obscene. The land will be over developed to the detriment of the current residents, future residents and the environment. An official from Council needs to travel to Towrang Vale Road to visit our homes to become familiar with what we have now and how it will become with an extra 38 homes, nearly all of them seen from our homes, some as close as 100 metres. I strongly object to DA's suggestion that an extra 38 homes will fit in with the already established homes on "large residential blocks". The homes which already exist are on "true" large residential blocks of 8ha or more, all fed from a single road, not 2ha blocks like proposed, accessed via a maze of roads throughout the subdivision, meaning that the new subdivision will not be the same as existing, it will be in fact 4 times as dense. The development also features a residue block with no building envelope of 92.14 hectares, which I can only assume with previous development proposals will be developed further unless guarantees of being permanently secured for biodiversity/true use of averaging are made. If this occurred, my fears of this application and future ones would be alleviated.

Use of Leased Crown Road for Fire Trail.

I strongly object to the use of the paper road which is to the north of our property for a fire trail in the evacuation of a bush fire. We have leased this parcel of land since purchasing our property 18 years ago. I have continually paid fees for the use of the land. My use of the land is to have a buffer from other land users and their lack of weed control, grazing, privacy and keeping vegetation on the ground. Over the years we have paid thousands of dollars in lease payments and weed control maintaining this section of land. This is important as the prevailing wind of the Monaro is from the north west. If a fire trail was to be constructed it would remove vegetation from the soil, releasing airborne debris and our house will be covered in dust as well as large rock outcrops would have to be removed and a large gully would have to have pipes installed. The other option is using the same paper road and head back to the intersection of Towrang Vale Road and Calabri way. I believe once people purchase their properties, they will try to use the fire trail as a more direct route to Towrang Vale road reducing our privacy, use of land for grazing, rural aspect further while creating more airborne debris.

Noise and Vibration pollution.

Silence and darkness are one of the key features to living in a rural setting with large block sizes. We are very fortunate in the area that residents are considerate. Light and noise pollution is extremely low which will definitely change if 37 lots are approved. Dogs barking, lawn mowing, sounds of 85 cars travelling within the proposed subdivision. If this is what the residents crave, we would move into Cooma where we could also have town water and sewage. This not what we want, so we compromise essential services that are provided in exchange for silence, darkness and privacy.

Fire risk.

I have read the included bush fire report conducted by Blackash. Blackash's report notes on the included map, (page 10) that although the area not coloured and is not a classified fire risk, it needs to be considered as one. I agree with this but believe this is understated as it in fact heavily infested with African Lovegrass. Unlike natural grassland as implied by the map, African Lovegrass is

extremely flammable and is known to burn twice in one fire event. The gradient and the direction of wind also need to be considered with density of African Love grass. The entire land is a fire risk which is amplified by averaging the lot sizes to 2 hectares. In the PEARS report it concludes that every section studied is affected by African Lovegrass.

Objectives of the Zoning

Objectives of the Zone 5 Large Residential Blocks- Note 1, ***To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally and sensitive locations and scenic quality.*** It is my belief this cannot be achieved when decreasing lot sizes one quarter the minimum land size. The surrounding blocks are not 2ha's, they are 8 ha or larger and are all in view of the proposed subdivision. How is it possible to preserve scenic quality when our rural setting will have 47 (10+37) extra houses, sheds and infrastructure including roads and fencing in sight.

Sensitive locations, Cooma's water catchment area, could be impacted with an additional 37 septic systems and run off, off roads into local waterways.

Clause 4.1B ***Subdivision using averaging lot sizes.*** I do not believe this clause applies to this subdivision as the objective of the clause **is to *facilitate a subdivision design that takes into consideration the values and constraints on the land and achieves the best environmental and agricultural outcomes as possible*** which it doesn't, as no guarantees are made to what will happen to the residue land, in fact the opposite. I understand the theory behind the use of above-mentioned clause and agree that the land has limitations due to gradient percentages, biodiversity concerns, water courses etc, but where is the guarantee that residue land will not be developed further which is clearly the goal with the previous applications as evidence. If guarantees were given and no further development could be taken with legal restraints in place, clause 4.1B would apply, but as it currently stands it doesn't. To use averaging to the extent where the residual blocks are also averaged until the lots are all 2ha's is inconceivable and insulting. Environmentally it will have a much larger impact in this case if the lots are averaged rather than kept to minimum sizing. I don't believe the objective of *Subdivision using averaging lot sizes* clause was designed to be used in this way and is not in the spirit of LEP.

Summary

We don't believe the proposed subdivision should proceed as it will have a major impact on existing residents, environment, bush fire control and traffic flow. It is unreasonable to have an area which is classed as R5 Large Residential Lots with legislated minimum lot sizes of 8ha to be subjected to Small Residential Lots which are one quarter the size stated in the current and draft LEP. The LEP is designed to protect the environment it covers. Minimum lot sizes take into consideration the environment and land use, current and future residents and their lifestyle, impact on rate payers, traffic etc. If land is needed for an expanding town and its residents, it should be provided with essential services such as water, sewage and postal delivery. Towrang Vale has none of these services and as such should not be over developed in this way and is not Councils answer to land release. I note that, Draft Land Use Strategies Public Exhibition, (4.5) Combined Constraints and Findings, states *Greendale Road could be further explored with the potential to provide urban residential growth*. This proposal is totally inconsistent with the objectives and the expectations of the LEP and therefore must not proceed.

Submission 6

[redacted]

10th July 2023

The Chief Executive Officer
Snowy Monaro Regional Council
81 Commissioner Street
(PO Box 714)
Cooma NSW 2630

Dear Chief Executive Officer

REF: Application Number 10.2023.1501 - Proposed Large Lot Residential Subdivision – Stage 2A
Application Number 10.2023.149.1 - Proposed Large Lot Residential Subdivision – Stage 2B

Thank you for the opportunity to submit our objection to the new proposals above. We strongly object to these DAs on the following grounds:

1. LOT AVERAGING/EXCEPTIONS TO DEVELOPMENT STANDARDS

The land proposed for subdivision is zoned R5 being Large Lot Residential – with the standards being minimum 8ha lots. If the consenting authority permits lot averaging then minimum block size will be slashed by up to 75% of what the current zoning permits. That would be in direct contrast to the intent of R5 Zoning as stated in the Cooma-Monaro Local Environmental Plan 2013 Land Use table which is "to provide residential housing in a rural setting" size of 8ha and not at all fitting with any of the surrounding development/s.

2ha blocks have a village or town aesthetic – definitely not a 'rural setting'. Permitting 2ha blocks will be in complete contrast to any of the recent development already permitted and approved in the Towrang Vale Road, Dry Plains Road, and Old Dry Plain Road areas.

Using the proposed 'lot averaging' method as the application states will mean that the development does not respect the local character and amenity and/or will result in unreasonable impacts and/or burden (visual, economic and environmental) on an area that is zoned as R5 and has been zoned to ensure the locality retains a pleasing aspect and outlook for generations of Monaro residents.

This DA has not demonstrated how it addresses Part 4 – Principal development standards of the Cooma-Monaro Local Environmental Plan 2013. To be effective all of part 4 needs to be considered when making a determination on development standards. Noting Section 4.1B states that despite clause 4.1 (which is the standard for minimum lot sizing) development consent may be granted if the development meets parts 3a, b and c. But in granting development consent the subdivision must still meet the requirements of this being **an exception** to the development standards as set out in Part 4. Therefore, in determining what is classed as an exception to the Cooma-Monaro Local Environmental Plan 2013 standard for R5, using average lot sizes to reduce minimum lot then this DA has not considered or made a determination **how** the exception is to be applied as per section 4.6.

The DA has not shown as per 4.6(b) below - how **a reduction in allowable lot sizes will achieve a better outcome** for and from this development and **in what particular circumstances.** In fact applying average lot sizes in the manner of the application completely obliterates the R5 zoning or the intent thereof.

4.6 Exceptions to development standards

(1) The objectives of this clause are as follows—

b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

The DA does not show as per section 3 below - that the applicant has supplied a written request to the consenting authority showing how the development justifies contravention to the development standard showing that the compliance to the standard is unreasonable or unnecessary. Hence the DA cannot now show the consenting Authority is satisfied that the development has demonstrated how it has justified that the development standard is unreasonable or unnecessary. And it cannot show that this development is in public interest by being consistent with the objectives of the standard for the development within the R5 level for development standards.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating—

*(a) that **compliance with the development standard is unreasonable or unnecessary in the circumstances** of the case, and*

(b) that there are sufficient environmental planning grounds to justify contravening the development standar..

(4) Development consent must not be granted for development that contravenes a development standard unless—

(a) the consent authority is satisfied that—

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

*(ii) the **proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone** in which the development is proposed to be carried out.*

The DA has not met section 4.6 6 below - which shows that development consent must not be granted under this clause (ie Part 4) if part (a) cannot be met.

(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone C2 Environmental Conservation, Zone C3 Environmental Management or Zone C4 Environmental Living if—

(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or

(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.

The application states '4.6 Variation applied for – not applicable'. We firmly believe that under 4.6 of Cooma-Monaro Local Environmental Plan 2013 that the applicant has not 'applied to make an application' to use lot averaging to determine lot size that varies from that Cooma-Monaro Local Environmental Plan 2013 standards set out for R5 zoning standards. Instead the applicant is attempting to obliterate the zoning standards that do apply. If approved by the consenting authority, this would set a precedent that allows developers to circumnavigate the Cooma-Monaro Local Environmental Plan 2013 and the planning standards which have been put in place to maintain a standard of planning to ensure the unique qualities of our various landscapes are maintained and developed to benefit our communities – not hinder or burden.

2. Vehicle/Road Safety Concerns

The application has proposed across the two DA's that there will be an additional 37 lot residential subdivision. This will generate a large increase on current vehicle movement. These increased vehicle movements will be using the existing Towrang Vale Road, Dry Plains Road and the intersection of the Dry Plains Road and Snowy Mountains Hwy.

Within the DAs there has been no planning that addresses the increased vehicle movements. The only mention of external road infrastructure is in section 2 which states:

The developers also opted to complete roadworks to widen and improve an existing section of Towrang Vale Road back to Dri (Sic) Plains Road providing greatly improved roadway access to stage 1 of the subdivision and other existing residences.

In the comments section of Clause 7.1 which states:

does not unreasonably increase any demand for public services as a section of Towrang Vale Road leading to the development has been previously upgraded.

The DA does not provide any validation or certification that Towrang Vale Road is now of sufficient standard to meet current or increased, usage levels.

The DA does not show a determination of how many additional vehicle movements this subdivision will involve and place onto the existing roadways.

Note:

1. There are no turning lanes from Towrang Vale Road into Calabria Way. Towrang Vale road is a high-speed road with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from Towrang Vale Road.

2. There are no turning lanes from Dry Plains Road into Towrang Vale Road. Both Towrang Vale Road and Dry Plains Road are high-speed roads with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from and to Dry Plains Road and Towrang Vale Road.

3. The DA has not determined with RMS that the uphill turning lane from Snowy Mountains Highway into Dry Plains Road is adequate to safely take the extra vehicle movements. Consideration has not been given that the Snowy Mountains Highway is a **high-volume, high-speed** road.

4. Currently there is no turning lane on the downhill section of Snowy Mountains Highway into Dry Plains Road. The DA has not considered the number of extra vehicle movements that would be turning into Dry Plains Road coming from the Jindabyne end of Snowy Mountains Highway.

5. The DA has not considered the already substandard Dry Plains Road and the impact/safety of increased traffic.

6. The DA has not considered with RMS the safety of road users due to the increased vehicle movements.

7. Considering there have been two road fatalities related to turning off the Snowy Mountains Highway in this locality in recent times then it is evident that all these road/traffic issues need to be investigated very carefully and remediation's implemented before any further loss of life or injury is incurred.

To ensure the safety of all road users the Cooma- Monaro Local Environmental Plan 2013 covers that if a DA does not satisfy any of the following services then the development consent must not be granted see below section 6.10 e:

6.10 Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required

(e) suitable vehicular access.

The Cooma-Monaro Shire Development Control Plan 2014 (Amendment 1) Further makes determination on the requirements for vehicle access. The DA has only made a determination of internal access roads, and only touched on the external access roads that will have extra vehicle movement due to this subdivision. The DA does not validate how it has come to the determination that Towrang Vale Road is adequate and has not considered Dry Plains Roads or the turn off at Snowy Mountains Highway into Dry Plains Road.

Section 2.5 states that suitable and safe vehicle access be provided to all road users.

2.5 Vehicular access and roads

It is a requirement of the Cooma-Monaro Local Environmental Plan 2013 *that suitable vehicular access be provided to all new development (clause 6.10(e)). Council considers a "suitable vehicular access" to be one which complies with the requirements of this DCP, in particular the requirements of this Section.*

Within Cooma-Monaro Shire there are two types of public roads – those vested or owned by the Crown, known as Crown roads, and those vested or owned by the Council, known as Council roads. Some Council roads are also known as 'classified' roads under the Roads Act 1993. The major highways (Monaro Highway and Snowy Mountains Highway) through the Shire are classified roads.

Objectives

- *To ensure that roads and access points to properties are safe for all road users.*
- *To ensure that construction is to a satisfactory standard which minimises future maintenance.*
- *To minimise disputes over access roads amongst members of the community.*
- *To provide access to multiple lots from the same road where possible.*
- *The vehicular access is legal and practical.*
- *Roads and property access points must be safe for all road users.*

Section 2.5.3 also covers that the development may be required to upgrade the road to the relevant standards.

2.5.3 Prescriptive Requirements

Road and vehicular access to a development must be constructed at the developer's expense to meet the standaRoads specified in Appendices 5 and 6 and Council's Specification for Engineering Works – Volume 1 (Design) and Specification for Engineering Works – Volume 2 (Construction) (SFEW). If a development is proposed which will utilise a sub-standaRoad public road for access, an assessment will be made by Council as to the likely impact of the proposed development on the road. The proposed development may be required to upgrade the road (or parts of the road) to the relevant standaRoads in this DCP for the particular class of road.

3. Open space

To date there has been no allowance or provision of open space. This is a requirement from the Cooma-Monaro Shire Development Control Plan2014 (Amendment 4):

4.1.5 Provision of open space

4.1.5.1 Objectives

- *To require the provision of open space where appropriate within a subdivision, for the general welfare of the wider community.*

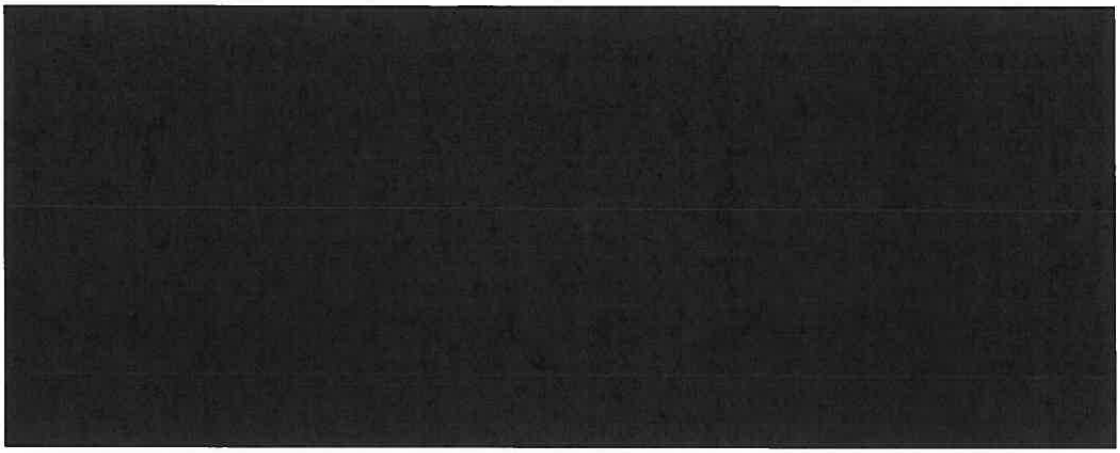
4.1.5.2 Requirements

- *For subdivisions of ten (10) lots or more within Zones R1, R2, R5 and RU5, a dedicated area of open space is to be provided such that all lots within the subdivision are within 1,200 metres of either an existing or proposed area of public open space that contains a playground (ie playground equipment).*
- *Where a playground is to be provided, the land and design of the playground must meet the relevant principles in Council's Playgrounds Strategy in terms of accessibility, safety and usability.*
- *A new park provided within a subdivision should have street frontage and be fronted by houses rather than being located at the rear of houses.*
- *Land to be provided as open space in accordance with this provision is to be 95 dedicated to Council as part of the subdivision.*
- *Open space may also be provided as part of a 'natural' stormwater drainage system or to protect or provide public access to areas of high conservation or environmental values (eg a river or creek frontage), provided the on-going management costs are acceptable to Council.*

4. Provision of services

We also have justified concerns relating to water availability for such a high risk bushfire area.

We also have justified concerns re the concentrated number of septic systems in what is a catchment area for the Murrumbidgee water supply.



Submission 7

Chief Executive Officer
Snowy Monaro Regional Council
Email: council@snowymonaro.nsw.gov.au

July 13, 2023

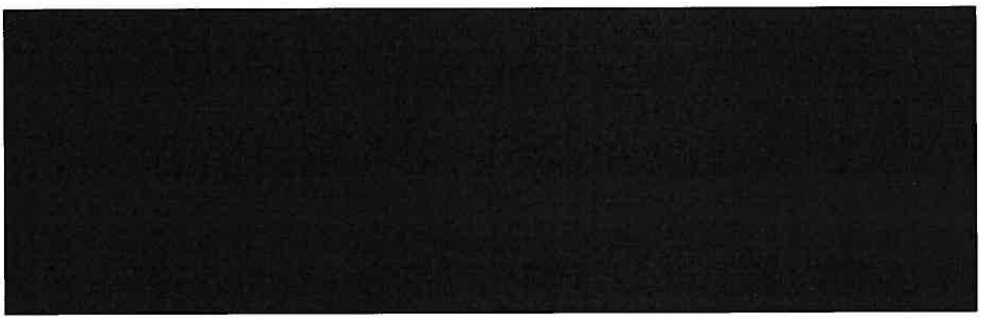
Dear Mr Bascomb

Submission on DA 10.2023.150.1

Thank you for the opportunity to comment on the above Development Application.

The subdivision includes Lot 197 DP737275, as confirmed in the Statement of Environmental effects, the application portal description, the cover letter from the developer, the overview map, the lot averaging calculation, and the discussion on "residues". Yet the biodiversity values assessments fail to address this Lot in full: they simply address those in the building envelope. This is not acceptable as the development will undoubtedly have impacts on the adjacent bushland areas within this Lot. Further documentation on the impacts of the development on the full Lot area are required and these new environmental assessments should then be made publicly available for review.

It is not clear from the application that the areas classed as "residue", i.e., outside the building envelope, would not become unavailable for further sub-division if this DA was approved. Given the history of this application, which included a much larger area for residential development under Stage 2c and Stage 2d, it is in the public interest that there be transparency on this issue in the public review of this application.



Submission 8a

The General Manager
Snowy Monaro Regional Council
P.O. Box 714
COOMA NSW 2630

11H July , 2023

Dear Sir, DA 10.2023.150.1 - Stage 2 A - Clause 37 Amendment to 10.2021.325.1
DA 10.2023.149.1 - Stage 2 B - Clause 37 Amendment to 10.2021.325.1

Attached please see:

i) Notification Non-Compliance Statement
ii) Submissions regarding both DA's
iii) Political Donation disclosure

My property at Old Dry Plans Road Cooma abuts the proposed development. Please accept this letter and its attachments as my submission regarding the above Development Applications

As detailed in the attachments, we say the Application, in its current form, cannot be considered a complying Application suitable for Notification and exhibition, and must be withdrawn.

The Application and supporting documentation would suggest it wrongly considers Council's role is one of playing 'tick the box'. The Application and the supporting Reports lack the required depth and accuracy of the information to enable the community or the Consent Authority to assess the merit of the Application without further information.

In anticipation we trust Council, as the Consent Authority, finds our submission helpful, and assists in producing an Application worthy of Council's and the community's consideration.

In anticipation we look forward to Councils consideration of these submissions.

1. INVALID NOTIFICATION:

i) **The Notification documents do not meet the 'notification objectives' of SMRC's Community Participation Plan: 5.1 Objectives:** "To provide clarity and consistency"

Lot	DP	Total Area [ha]	R5 Area [ha]	E4 Area [ha]	Notes
1	737275	130.61	48.91	81.70	
157	750524	14.97	14.97		
158	750524	24.88	24.88		
159	750524	24.81	24.81		
189	750524	16.20	16.20		
197	750524	71.76	50.49	21.27	
211	750524	0.81	0.81		
11	1266312	70.86	70.86		Stage 1 Residue
	TOTAL	354.90	251.93	102.97	

Stage 2A				
Available R5 Area			251.93 ha	
Allowable # of 8ha Lots		31.5	No	Say 30 + Residue
Lots Proposed to be Developed	#201-#230		88.29 ha	
Lots Proposed to be developed tally		30	No	
Road & Fire Trail Area			4.40 ha	
Residue Area		1	159.24 ha	
Stage 2B				
Available R5 Area			159.24 ha	
Allowable # of 8ha Lots		19.9	No	Say 18 + Residue
Lots Proposed to be Developed	#231-#237		65.80 ha	
Lots Proposed to be developed tally		7	No	
Road & Fire Trail Area			1.30 ha	
Residue Area		1	92.14 ha	

Stage One "Say 30 + Residue"
Stage Two "Say 18 + Residue"
Total 48

(a) The above table exert from the Application states authority to the create **48 Lots** over Stage 2 A & B combined. However, the maps accompanying these tables indicate a total of **37 Lots.**

(b) 1.4.1 Description of proposed development (Biodiversity Assessment Report)
The proposed development consists of subdividing the 336ha property into **forty lots** with three lots being retained for the conservation of biodiversity. The footprint of residential lots and roads would total 130ha, leaving 206ha for conservation.

Is it 48Lots, 40Lots or 37Lots. The Application requires clarification and consistency, it does NOT meet the requirements of a Notifiable Application.

ii) **The Application cannot be made at clause 37 of the Regulations as an "amendment":** The Application fails to comply with 37(6): *"If the amendment will result in a change to the development, the application must contain details of the change, including the name, number and date of any plans that have changed, to enable the consent authority to compare the development with the development originally proposed".*

iii) **The Application breaches s.38(2)(a) as the amendments are not minor.**

iv) **The Application does not have any supporting documentation to meet the requirements of s.38(3)** *"If the consent authority approves an amendment to a development application for integrated development or development requiring concurrence, the consent authority must, as soon as practicable after approving the amendment, give a copy of the amended development application to the approval body or concurrence authority through the NSW planning portal."*

v) **The Application seeks approval 'in unison' of both 2A and 2B. As such averaging, if it can be applied at all in the way the application seeks, can only be applied once. That is to 251.93ha, not to both 251.93ha and any resulting residual Lot of 2A. (at the same time.)**

vi) **The Application does not meet the requirement at s.4.6 of the Cooma-Monaro LEP, "exceptions to a development standard".**
The Application seeks to modify 'development standard' s.4.1(3) using averaging at s.4.1B(3). s.4.1B(3) is an exemption to a development standard. An Application seeking to contravene a 'development standard' is to be accompanied by a written request at s.4.6(3). There is no request attached to the Application.

vii) **The Application has not considered the objectives of 4.6 at 4.6(1):**
(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,
(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

viii) **The Application does not satisfy s.4.6(6)**
Development consent must not be granted under Zone R5 Large Lot Residential, if—
(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or
(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.
The purpose of 4.1B(3) is only to set the minimum lot size to be created. NOT to extinguish the development standard at 4.1(3) or be applied in isolation of s.4.6 or the Zone Objectives.

ix) **The Application is false or misleading:**

i) In applying DCP: s.4.1.3.2 of the *Cooma-Monaro Shire Development Control Plan 2014 (Amendment 4)* stipulates that the maximum length of a battle axe handle in a subdivision in the R5 zone be 100 metres (Table 9: *Design requirements for battle axe access handles on new lots (in metres)*, pages 92-3).

The Applicant is 'false or misleading' where the Application states: *"The Development includes some allotments with battle-axe handle driveways greater than 100 metres in length. This is included to reduce the amount of tree vegetation required to be removed by roadways. This is considered an appropriate design and environmental outcome."*

However the Biodiversity Assessment Report confirms the area is African Lovegrass grassland. The Application is false or misleading to seek advantage.

ii) In applying SEPP 55 the Application fails to recognise the change in land use from grazing to residential.

iii) In applying "State Environmental Planning Policy (Infrastructure) 2007 (SEPP Infrastructure)" the Application fails to address safety issue at intersections of the subdivision access roads to a main highway. The only way in or out. These costs should not be borne by the community or taxpayer. They are a subdivision cost to provide safe access to and from the subdivision.

x) **The Application leaves the C3 zoning landlocked without access:**
No access for firefighting purposes **or** access for a future owner. **Landlocked.**

SUBMISSIONS:

A. APPLICATION OF 4.1B CMLEP - "AVERAGING":

COOMA-MONARO LEP - R5 LARGE LOT RESIDENTIAL:

i) Objectives of Zone:

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To promote an innovative and flexible approach to rural residential development.

ii) **Minimum Subdivision Lot Size:**
4.1 (3) : *"The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map*[8ha] *in relation to that land."*

iii) **Subdivision using Averaging:**
4.1B(3) : *"Despite clause 4.1, development consent **may** be granted for the subdivision of land to which this clause applies if (d) for land in Zone R5 Large Lot Residential, each lot created by the subdivision will have an area of at least 2 hectares".*

iv) **4.6 Exceptions to development standards:**
*(3) Development consent **must not be granted** for development that contravenes a development standard **unless** the consent authority has considered a **written request** from the applicant that seeks to justify the contravention of the development standard by demonstrating:*
(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and
(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

v) **Case-Law:**
*(a) **Elimatta Pty Ltd v Read and Anor** [2021] NSWLEC 75 (Elimatta, Land and Environment Court*
Court ruled that clause 4.1B is **not** a "development standard" where the relevant "development standard" is clause 4.1. Rather 4.1B(3) is an 'exemption' to a development standard.

(b) ***Project Blue Sky Inc v Australian Broadcasting Authority*** (1998) 194 CLR 355; [1998] HCA 28 at [69], [78]. As stated by the High Court in *SZTAL v Minister for Immigration and Border Protection* (2017) 262 CLR 362; [2017] HCA 34 at [14]:

"The starting point for the ascertainment of the meaning of a statutory provision is the text of the statute whilst, at the same time, regard is had to its context and purpose. Context should be regarded at this first stage not at some later stage"

The Application asks the consent authority to solely apply 4.1(B) in the absence of, and without consideration and regard to context and purpose of other Legislative requirements including other sections of the Cooma-Monaro LEP , e.g. s.4.6.

c. **Interpretations Act:**
33 - Regard to be had to purposes or objects of Acts and statutory rules
"In the interpretation of a provision of an Act or statutory rule, a construction that would promote the purpose or object underlying the Act or statutory rule (whether or not that purpose or object is expressly stated in the Act or statutory rule or, in the case of a statutory rule, in the Act under which the rule was made) shall be preferred to a construction that would not promote that purpose or object".

CONCLUSION:
A. The above case law and section of the interpretations act require the Application to apply the CMLEP with consideration as a whole in order to arrive at the purpose and objectives. Consequently we say s.4.1(3), 4.1B(3) and 4.6 – **must** be considered in the context of the CMLEP by virtue of s.4.15 of the Environment Planning and Assessment Act.

However the Application seeks to apply 4.1B(3) in isolation. This is not the intention of the legislation as evidenced in (a), (b) and (c) above. Simply stated, had the intention of the Legislation been to create developments with all Lot sizes less than the 8ha development standard it would done so.

The Application seeks to "contravene" the "development standard" at 4.1(3) by creating only Lot sizes less than the required 8ha minimum 'development standard' (CMLEP's R5 zoning.) And in doing so it seeks to defeat the objectives of the R5 Residential Large Lot Zoning, not to produce a better outcome but to maximise return.

The Application has not satisfied the condition prerequisite at 4.6(3): *"Development consent must not be granted for development **that contravenes a development standard unless** the consent authority has considered a **written request from the applicant** that seeks to justify the contravention of the development standard by demonstrating……."*

And/Or:

The Application fails to demonstrate how the objectives of the R5 Zoning are better achieved via the proposed development that considers only Lot sizes less that the "development standard" in isolation from the objectives of the CMLEP and EPAA

Clause 4.1B(3) **'may'** provide an "exception" to a development standard, it is not a standard in itself (Elimatta) and therefore not a rite of passage. 4.1B(3) is required to be considered in context with the Objectives of the zoning of the land, and the holistic intention of the Legislation. (Project Blue Sky and 33 of the Interpretations Act). We say the intent of 4.1(B) is to set the minimum Lot size but the number of such Lots is controlled at 4.6(6) to two.

The application does not demonstrate how it supports and promotes the objectives of the R5 and E4 zonings. Impacts are exacerbated by the applicant's desire to create a 2ha lot subdivision in an 8-ha zoning that will maximize impacts on and destroy the fabric of the R5 and abutting E4 zonings.

The consent authority is not in a position to considerer the Application or to grant consent to any application where subdivision consent cannot be granted at 4.6(4) CMLEP and 4.15 EPAA.

B. BUSHFIRE PRONE LAND:

Bush fire prone land (BFPL) is land that has been identified by **local council** which can support a bush fire or is subject to bush fire attack. Bush fire prone land maps are prepared by local council and certified by the Commissioner of the NSW RFS. https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/planning-for-bush-fire-protection/bush-fire-prone-land#:~:text=Bush%20fire%20prone%20land%20(BFPL,Commissioner%20of%20the%20NSW%20RFS

i) NSW RSF ACT:

s.3 Objects:

The objects of this Act are to provide:

(a) *"for the prevention, mitigation and suppression of bush and other fires in local government areas (or parts of areas) and other parts of the State constituted as rural fire districts, and"*

s.7 Responsible local authorities in rural fire districts (NSW RFS Act)

Snowy Monaro Regional Council has a function conferred or imposed by or under this Act in respect of a rural fire. This is over and above taking receipt of and ticking the box for a 100B Certificate issued. The SMRC is responsible to declare bushfire prone land and to ensure the objects of the RFS Act.

N.B. Where a Council is the Consent Authority it has very high duty of care in regard to dealing with, and consenting to Development that is at threat from designated Bushfire Prone Land where a Council:-

a) **has a role in identifying and designating Bushfire Prone Land, and**
b) **has a designated responsibility under the NSW Rural Fire Services Act, and**
c) **is the consent authority in the creation of land subject to hazard from Bushfire Prone Land.**

ii) Application's Bushfire Hazard Report(BHR):

The proposed development abuts mapped bushfire prone land. This Bushfire Prone Land includes large areas Zoned C3 which are habitat for flora and fauna.

The BHR is insufficient as it does not adequately address the following dangers:

a) **Identification of any dangers from, and to, the abutting Bushfire Prone Land**

b) **African Lovegrass:**

Lovegrass is a recognised fire accelerant and high danger fire risk. Both to the proposed lots to be created and to the adjacent Bushfire Prone Land.

The Application's Biodiversity Assessment Report identifies infestation levels of 95% African Lovegrass across the proposed development site. However, there is no mention of the word 'Lovegrass 'anywhere in the Bushfire Hazard Report.

5.1.4 Subdivision in grassland hazard areas (pg. 41)

The risk posed by grass fires is different to that of fires in other vegetation types. Grass fires burn at a higher intensity and spread more rapidly with a shorter residence time. Embers produced by grass fires are smaller and fewer in number than those produced from forest fires.

At residential subdivision stage, an assessment must be carried out to determine whether an APZ can be provided around the proposed development to avoid flame contact.

Subdivision will not be supported where the development would be BAL-40 or BAL-FZ. The APZ distances identified in Tables A1.12.2 and A1.12.3 provide the acceptable solutions for meeting this threshold.

All of the other performance criteria and acceptable solutions within Tables 5.3a to 5.3d apply to residential and rural residential proposals in grassland hazard areas. Table 5.1.4a (see over) provides the relevant FFDI to utilise for grassland hazard areas. https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0005/130667/Planning-for-Bush-Fire-Protection-2019.pdf

The Application is 'false or misleading where it omits to identify the fire hazard of African Lovegrass.

c) The Report does not consider the impacts from **"absentee landlords"** and the current duty under the Biosecurity Act regarding African Lovegrass. These duties and costs should not pass to the new lot owners. Cost includes "risk".

d) **Access:**
The BHR does not adequately address access. The Application seeks to create additional and high residential use 4 times greater than the Legislated minimum 8ha R5 Lot size. The only access in and from the proposed development is via one road Towrang Vale Road. **https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0005/130667/Planning-for-Bush-Fire-Protection-2019.pdf**

Clause 1.2: (pg. 10) "enable appropriate access and egress for the public and firefighters.

N.B. The Application and BHR does not correctly address the requirements at the "State Environmental Planning Policy (Transport and Infrastructure) 2021": Schedule 3 Traffic-generating development to be referred to TfNSW—Chapter 2:
The threshold for subdivision is 50 allotments:

Stage 1	**10**
Stage 2A	**31**
Stage 2B	**19**
Residual	**? (Potential future subdivision)**
TOTAL	**60 Lots**

At 4.14 (EPAA) the Consent Authority is to be satisfied that RISK from Bushfire is eliminated or minimised and manageable.

The Report fails to recognise all the hazards and consider the required risk assessment and risk management. This report is not 'fit for purpose'.

C. PROVISION OF THE ESSENTIAL SUPPLY OF WATER:

LEP Clause 6.10 - Essential services
Development consent must not be granted *to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required—*
(a) the ***supply*** *of water,*

The application does not demonstrate how the essential supply of water will be provided. The application fails to demonstrate how the subdivision will supply each lot created with the average water usage per household. In NSW the accepted a minimum of 190,000 litres p.a. is the essential service of water to be provided to each lot created.

Council's 2014 DCP refers to the construction of new dwellings and calls for the supply of a tank. However the LEP is the "superior" document and requires at Clause 6.10(a) the Council to be "satisfied" the Application will provide the essential service of water.

NOTE: *Cooma-Monaro DCP – "In the hierarchy of the State-wide planning system a Development Control Plan sits beneath a State Environmental Planning Policy (SEPP) or a Local Environmental Plan (LEP). As such, in the event of any inconsistency between the provisions of this plan and the provisions of the Cooma- Monaro Local Environmental Plan 2013, the Cooma-Monaro Local Environmental Plan 2013 will prevail to the extent of the inconsistency.*

NSW Water Management Act:
Cooma Monaro Council approved 15 Lots along Towrang Vale Road conditioned to the provision of a communal bore for all lots created.
Assuming the Application intends to supply water via rain harvesting considerations need to be given to:

i) Any impacts to ground water by rain harvesting
ii) If rain harvesting will require supplementation.
ii) Compliance with the requirements of the NSW Water Management Act.

D. COOMA-MONARO DCP

i) Open Space 4.1.6:

The Stage 2A and Stage 2B Applications and Stage 1 Approval have not considered the CM-DCP requirements

ii) Landscaping: 4.1.5

The Stage 2A and Stage 2B Applications and Stage 1 Approval have not considered the CM-DCP requirements.

E. REMEDIATION OF LAND

The application does not address the remediation of the land to be subdivided for residential purposes in area zoned high-risk fire-zone. This land includes R5 and E4 zonings contaminated with infestation levels of African Lovegrass 95% (see Biodiversity Assessment Report Appendix A pg. 41)

The site subject of the development application abuts land zoned a "high-risk fire danger". with an extensive seedbank. 25+ year viable seed bank. African Lovegrass is a known fire accelerant.

The application has not complied with Clause 7(2) of the NSW SEPP 55: *" before determining an application for consent to carry out development that would cause a change of use on any land specified in subclause (4)(residential purposes) the consent authority **MUST** consider a report specifying the findings of a preliminary investigation of the land concerned".*

CHANGE OF USE:	Currently and historically this land has been used as grazing land, the applications seeks to change this current usage by subdividing the land for residential usage.
CONTAMINATION:	*Means land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.*

The application should have been accompanied by an appropriate report.

F. POEO ACT (as per E above)

Pollution under the POEO Act includes land and plant matter. As per point 5 above, the land is polluted by infestation levels of African Lovegrass and a long established(25+ Year viable seed bank) annual production of seed accumulated into the ground seed bank. The application does not consider or demonstrate how the requirements of NSW POEO legislation will be complied.

The Application cannot simply transfer risk and costs to the next land holder.

G. NSW BIOSECURITY ACT:

The current owner is in breach of duties under the Biosecurity Act. The Application does not consider the impacts from "absent landlords" and the current requirements under the Biosecurity Act. These duties and any costs should not pass to the new lot owners or be left with the community .

H. OBJECTIVES OF THE COOMA-MONARO LEP R5 & E4 ZONINGS

LEP Clause 2.3(2)

The consent authority **must have regard to the objectives** for development in a zone when determining a development application in respect of land within the zone.

LEP- Zone R5 - Large Lot Residential

Objectives of zone

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

- To promote an innovative and flexible approach to rural residential development.

LEP - Zone - E4 - Environmental Living

Objectives of zone

- To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.
- To ensure that residential development does not have an adverse effect on those values.

The application does not demonstrate how it supports and promotes the objectives of the R5 and E4 zonings. Impacts are exacerbated by the applicant's desire to create a 2ha lot subdivision in an 8-ha zoning that will maximize impacts on and destroy the very fabric of the R5 and E4 zonings abutting the site of the Applications..

I. ROADS COOMA MONARO - DCP 2.5.3 Prescriptive Requirements:

The road proposed to service the subdivision does not comply with Council's DCP requirements. Ultimately the upkeep of roads will become the responsibility of the Snowy Monaro Council. Council has an obligation to ensure at the time roads are upgraded to the required standards they have meet a professional standard:
REASON: To ensure the community is not burdened with unnecessary infrastructure costs.

The Application is required to consideration of impacts on services and infrastructure. The proposed subdivision relies on an existing one road in, one road out, Towrang Vale Rd access.

INTERTSECTIONS:
The development will use existing roads to obtain access to the development site via Towrang Vale Rd from Kosciuszko Rd(100kpm highway):
Dry Plains Rd
Old Dry Plains Rd(currently dirt access road providing access to properties off Old Dry Plains Rd but is used as a short cut to Kosciuszko Rd Highway at Cooma Steel.

The proposed development will increase daily vehicular movements by 400 plus. This will place additional stress on the key intersection of
Dry Plains Rd and Towrang Vale Rd
Dry Plains Rd and Kosciuszko Rd Highway
Dry Plains and Old Dry Plains Rd
Old Dry Plains Road and Kosciuszko Rd Highway.
N.B. Kosciusko Rd Highway is the highway taking "snow traffic' to the ski fields. At times this traffic can be bumper to bumper at the intersections of the highway with Old Dry Plains Rd and Dry Plains Rd

The above intersections do not meet the current standards to provide the required safety standards. On ???? there was a fatal accident at the intersection of Dry Plains Rd and the Kosciuszko Rd Highway.

At ???? the Developer is responsible to meet these costs ????

J. BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT:

Is not fit for purpose
Does not consider any of the adjoining C3 Land
Hears frogs but doesn't determine if any are vulnerable

Identifies the vulnerable Striped Earless Lizard but does call for a species impact statement
Does not consider night-time Owls etc.
Does not consider flight paths and animal corridors
Does not consider impacts via increased residential dwelling on resident Gang Gang birds located adjacent to the site.

The proposed subdivision is over a large parcel of land. The proposed subdivision will abut a High-Risk Fire Zone including a large parcel of E4 land and a riparian zone, snake creek. There are at least one pair of Gang Gang parrots who live in and around this area.

Gang-gang's are listed as "threatened":
https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2000-2003/gang-gang-cockatoo-callocephalon-fimbriatum-endangered-population-listing

The area is also known to home the "endangered" Grassland Earless Dragon lizard:
https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10817

What steps were undertaken to determine their presence? And establish what impacts a 2ha high density residential development, in a R5 Rural setting calling for an average Lot size of 8ha

The application does not address the flora and fauna impacts. It does not state if the application is biodiversity compliant as required by the Regulations: *"(ea) for biodiversity compliant development, an indication of the reason why the development is biodiversity compliant development"*

K. ABORIGINAL HERITAGE SURVEY

Living on the Australian continent for over 60,000 years. The oldest known aboriginal burial site in the Monaro discovered in 1996 was 7,000+ years old.
https://www.snowymonaro.nsw.gov.au/files/assets/public/community/documents/20150525_kangaroo_tooth_necklace.pdf

The Application's Report fails to consider anything below the ground in an area with a water course and known passage of Aboriginal ancestors

L. CLIMATE CHANGE

The application is silent on the impacts of climate change on future generations of landowners of the proposed subdivision.

Global warming is an accepted impact across the Snowy Monaro Region, producing rising temperatures and reduced rainfall. This is particularly relevant where Council approves new subdivision that does not connection to town water and sewerage.

Land is a finite asset and should not be compromised, the "precautionary principle" applies. Council may expose itself to future legal, and or, class action, based on decisions of today that do not take into account global warming.

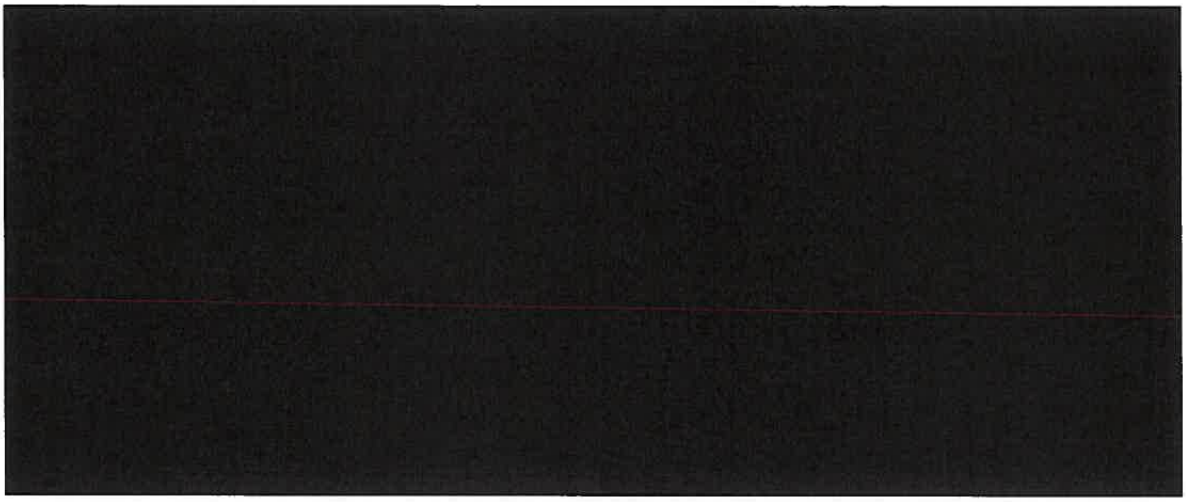
Council must ensure compliance with biosecurity concerns particularly in relation to small holdings. Negligent, absentee landholders and developers further exacerbate climate change related risks of disasters such as bush fires, flooding and weed infestations.

Global warming is already having a negative impact, these impacts will only become more pronounced and severe over time. The future is now!

M. RIPARIAN ZONE

The application does not demonstrate how onsite sewerage and stormwater will not impact on the Riparian zone.

Submission 8b



Hi Sarah,

Over all this Application makes your job difficult as the work required to produce the necessary Reports has not been done, they are not fit for purpose.
The Reports are some of the poorest I have ever seen, and don't produce the intent or objects of the legislation that requires them.

BIODIVERSITY:
Wild life does not stay in bed all day, and they have BIG backyards. This land has been an open corridor and flight path for millions of years.
We abut this property as does our neighbour. There have been a pair go Gang Gang's nesting in a tree on our neighbours land for as long as we have been here. The Report failed to identify these birds.
The Report did not consider any bushland adjacent to the site of even the tree covered C3 ridge line land they own.
The Report heard frogs in Snake Creek! BUT made NO attempt to establish what type of Frog.
The Report confines itself to two days and NO nights
It identified striped earless lizards(vulnerable) and identified a habitat area, but fell short of saying it represented a colony.
Does not identify the wild life corridor or flight paths or the family of Wedge Tail eagles that live in the C3 ridge line and hunt on the updraft at the rear of my property and rest in a BIG gum on the land the subject to the development.
Did not talk to neighbours or Ngarigo people.

ABORIGINAL HERITAGE:
The Report makes no effort to discover anything.
Aboriginal people have been coming thru here for thousands of years, on my block and my neighbour there were camp sites until the land was carved up to make the blocks we own.
The land subject to the DA contains Snake Creek the only water source in the immediate area. Makes sense Aboriginal mobs camped there too.

The Report basically says nothing on the ground nothing to report. It makes no attempt, to establish the Aboriginal Heritage within this area.
Did not talk to neighbours or Ngarigo people.

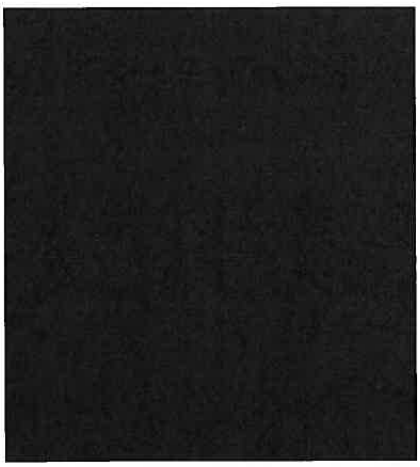
These and the other Reports, just don't produce the necessary depth of information, and consequently don't enable the trust to rely on them.
The fire report is down right scary and does not consider the real safety of future owners, nor the danger future owners may impose on the high fire zone C3 land where the majority of our wild life live.

We are not anti development. But we cant support development for no sake other than to maximise the profit by producing unlawful yields and spending minimum money. The Objects of the zoning will be stripped by this development and some folk have already made plans to move on. They have no confidence we can produce a better outcome. They feel like the area, their home, is dying the death of a thousand lashes.

What supports their view is that Council has accepted a substandard finish to the required upgrade of Towrang Vale Rd as a part of Stage 1, it's a bandaid. This will push costs, that should be subdivision costs, onto the rate payer via Council. The fact that Council has not ensured a better outcome, has some members questioning how high Council will set the bar for this current development application.

We would all support a development sympathetic to the location that reflects the objects of the zoning, and delivers landscaping and quality infrastructure. One that as a consequence of the development produces a safer environment Spec call the intersections of Dry Plains Rd/Kosciuszko Rd Highway and Art Plains Rd/Towrang Vale Rd.
Currently moving to the location of the development is dangerous, moving onto and off the 100kph highway with no proper safety areas.

Hopefully with Council's support we can encourage the developer to produce something, that long after the developer has moved on, we, you, Council, the Developer, the community and future generation can be proud of the outcome we were all able to deliver.



Submission 9

[redacted]

12th July 2023

The Chief Executive Officer
Snowy Monaro Regional Council
81 Commissioner Street
(PO Box 714)
Cooma NSW 2630

REF: Application Number 10.2023.1501 - Proposed Large Lot Residential Subdivision – Stage 2A

Application Number 10.2023.149.1 - Proposed Large Lot Residential Subdivision – Stage 2B

Dear Chief Executive Officer
Thank you for the opportunity to submit our objection to the new proposals as above. We strongly object to these DAs not only on the fact that the blocks on offer are basically a town block size but also on the following grounds:

1. LOT AVERAGING/EXCEPTIONS TO DEVELOPMENT STANDAROADS

The land that is being considered for development is designated R5, which refers to large lot residential, with minimum 8ha lot requirements. Lot averaging will result in a minimum block size that is up to 75% less than what the existing zoning allows if the consenting authority approves it. That would be completely at odds with the purpose of the R5 Zoning, which is "to provide residential housing in a rural setting" and has an area of 8 ha, as stated in the Cooma-Monaro Local Environmental Plan 2013 Land Use table, and would also not fit in at all with any of the other developments.

2 ha blocks do not have a "rural setting"; rather, they have a town vibe and not a rural vibe as to why we chose to live out of town in the first place. The approval of 2ha blocks will be completely at odds with any recent development that has previously been granted approval along Towrang Vale Road, Dry Plains Road, and Old Dry Plain Road.

According to the application, if the proposed "lot averaging" method is used, the development will not respect the neighbourhood's character and amenities and/or will have unreasonable impacts and/or burdens (visual, economic, and environmental) on a region that is zoned R5, which was done so to ensure the neighbourhood retains a pleasing appearance and outlook for future generations of Monaro residents.

This DA has not demonstrated how it addresses Part 4 – Principal development standards of the Cooma-Monaro Local Environmental Plan 2013. To be effective all of part 4 needs to be considered when making a determination on development standards. Noting Section 4.1B states that despite clause 4.1 (which is the standard for minimum lot sizing) development consent may be granted if the development meets parts 3a, b and c. But in granting development consent the subdivision must still meet the requirements of this being **an exception** to the development standards as set out in Part 4. Therefore, in determining what is classed as an exception to the Cooma-Monaro Local Environmental Plan 2013 standard for R5, using average lot sizes to reduce minimum lot then this DA has not considered or made a determination **how** the exception is to be applied as per section 4.6.

According to 4.6(b) below, the DA has not demonstrated how, for this development, and under what specific conditions, a reduction in allowed lot sizes will lead to better results. In actuality, the R5 zoning and/or its objectives are utterly destroyed by applying average lot sizes in the manner of the application.

4.6 Exceptions to development standards

(1) The objectives of this clause are as follows—

b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

According to section 3 below, the DA does not demonstrate that the applicant has given a formal request to the consenting authority outlining how the development justifies deviating from the development standard and why doing so would be inappropriate or unnecessary. Therefore, the DA is no longer able to establish that the consenting Authority is convinced that the development has shown why the development standard is inappropriate or superfluous. Additionally, the development's compliance with the goals of the standard for the development within the R5 level for development standards cannot demonstrate that it is in the public interest.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating—

*(a) that **compliance with the development standard is unreasonable or unnecessary in the circumstances** of the case, and*

(b) that there are sufficient environmental planning grounds to justify contravening the development standar..

(4) Development consent must not be granted for development that contravenes a development standard unless—

(a) the consent authority is satisfied that—

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

*(ii) the **proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone** in which the development is proposed to be carried out.*

The DA has not met section 4.6 6 below - which shows that development consent must not be granted under this clause (ie Part 4) if part (a) cannot be met.

(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone C2 Environmental Conservation, Zone C3 Environmental Management or Zone C4 Environmental Living if—

(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or

(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.

The application states '4.6 Variation applied for – not applicable'. We firmly believe that under 4.6 of Cooma-Monaro Local Environmental Plan 2013 that the applicant has not 'applied to make an application' to use lot averaging to determine lot size that varies from that Cooma-Monaro Local Environmental Plan 2013 standards set out for R5 zoning standards. Instead the applicant is attempting to obliterate the zoning standards that do apply. If approved by the consenting authority, this would set a precedent that allows developers to

circumnavigate the Cooma-Monaro Local Environmental Plan 2013 and the planning standards which have been put in place to maintain a standard of planning to ensure the unique qualities of our various landscapes are maintained and developed to benefit our communities – not hinder or burden.

2. Vehicle/Road Safety Concerns

The application has proposed across the two DA's that there will be an additional 37 lot residential subdivision. This will generate a large increase on current vehicle movement. These increased vehicle movements will be using the existing Towrang Vale Road, Dry Plains Road and the intersection of the Dry Plains Road and Snowy Mountains Hwy.

Within the DAs there has been no planning that addresses the increased vehicle movements. The only mention of external road infrastructure is in section 2 which states:

The developers also opted to complete roadworks to widen and improve an existing section of Towrang Vale Road back to Plains Road providing greatly improved roadway access to stage 1 of the subdivision and other existing residences.

In the comments section of Clause 7.1 which states:

Does not unreasonably increase any demand for public services as a section of Towrang Vale Road leading to the development has been previously upgraded.

The DA does not provide any validation or certification that Towrang Vale Road is now of sufficient standard to meet current or increased, usage levels.

The DA does not show a determination of how many additional vehicle movements this subdivision will involve and place onto the existing roadways.

Note:

1. There are no turning lanes from Towrang Vale Road into Calabria Way. Towrang Vale road is a high-speed road with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from Towrang Vale Road.

2. There are no turning lanes from Dry Plains Road into Towrang Vale Road. Both Towrang Vale Road and Dry Plains Road are high-speed roads with a speed limit of 100kms per hour. The DA has not determined the safety of road users due to the extra vehicle movements requiring access from and to Dry Plains Road and Towrang Vale Road.

3. The DA has not determined with RMS that the uphill turning lane from Snowy Mountains Highway into Dry Plains Road is adequate to safely take the extra vehicle movements. Consideration has not been given that the Snowy Mountains Highway is a **high-volume, high-speed** road.

4. Currently there is no turning lane on the downhill section of Snowy Mountains Highway into Dry Plains Road. The DA has not considered the number of extra vehicle movements that would be turning into Dry Plains Road coming from the Jindabyne end of Snowy Mountains Highway.

5. The DA has not considered the substandard Dry Plains Road and the impact/safety of increased traffic. Apart from the above the Dry Plains Road has its own issues with one bend at the end of Old Dry Plains Road in particular being dangerous and therefore more traffic on this road will increase risk of a serious accident if this is not dealt with. We have on a number of occasions reported the said bend to be extremely dangerous as I myself have been run off the road on a number of occasions.

6. The DA has not considered with RMS the safety of road users due to the increased vehicle movements.

7. Considering there have been two road fatalities related to turning off the Snowy Mountains Highway in this locality in recent times then it is evident that all these road/traffic issues need to be

investigated very carefully and remediations implemented before any further loss of life or injury is incurred.

To ensure the safety of all road users the Cooma- Monaro Local Environmental Plan 2013 covers that if a DA does not satisfy any of the following services then the development consent must not be granted see below section 6.10 e:

6.10 Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required

(e) suitable vehicular access.

The Cooma-Monaro Shire Development Control Plan 2014 (Amendment 1) Further makes determination on the requirements for vehicle access. The DA has only made a determination of internal access roads, and only touched on the external access roads that will have extra vehicle movement due to this subdivision. The DA does not validate how it has come to the determination that Towrang Vale Road is adequate and has not considered Dry Plains Roads or the turn off at Snowy Mountains Highway into Dry Plains Road.

Section 2.5 states that suitable and safe vehicle access be provided to all road users.

2.5 Vehicular access and roads

It is a requirement of the Cooma-Monaro Local Environmental Plan 2013 *that suitable vehicular access be provided to all new development (clause 6.10(e)). Council considers a "suitable vehicular access" to be one which complies with the requirements of this DCP, in particular the requirements of this Section.*

Within Cooma-Monaro Shire there are two types of public roads – those vested or owned by the Crown, known as Crown roads, and those vested or owned by the Council, known as Council roads. Some Council roads are also known as 'classified' roads under the Roads Act 1993. The major highways (Monaro Highway and Snowy Mountains Highway) through the Shire are classified roads.

Objectives

- *To ensure that roads and access points to properties are safe for all road users.*
- *To ensure that construction is to a satisfactory standard which minimises future maintenance.*
- *To provide access to multiple lots from the same road where possible.*
- *To minimise disputes over access roads amongst members of the community.*
- *The vehicular access is legal and practical.*
- *Roads and property access points must be safe for all road users.*

Section 2.5.3 also covers that the development may be required to upgrade the road to the relevant standards.

2.5.3 Prescriptive Requirements

Road and vehicular access to a development must be constructed at the developer's expense to meet the standaRoads specified in Appendices 5 and 6 and Council's Specification for Engineering Works – Volume 1 (Design) and Specification for Engineering Works – Volume 2 (Construction) (SFEW). If a development is proposed which will utilise a sub-standaRoad public road for access, an assessment will be made by Council as to the likely impact of the proposed development on the road. The proposed development may be required to upgrade the road (or parts of the road) to the relevant standaRoads in this DCP for the particular class of road.

3. Open space

To date there has been no allowance or provision of open space. This is a requirement from the Cooma-Monaro Shire Development Control Plan2014 (Amendment 4):

4.1.5 Provision of open space

4.1.5.1 Objectives

• To require the provision of open space where appropriate within a subdivision, for the general welfare of the wider community.

4.1.5.2 Requirements

• For subdivisions of ten (10) lots or more within Zones R1, R2, R5 and RU5, a dedicated area of open space is to be provided such that all lots within the subdivision are within 1,200 metres of either an existing or proposed area of public open space that contains a playground (ie playground equipment).

• Where a playground is to be provided, the land and design of the playground must meet the relevant principles in Council's Playgrounds Strategy in terms of accessibility, safety and usability.

• A new park provided within a subdivision should have street frontage and be fronted by houses rather than being located at the rear of houses.

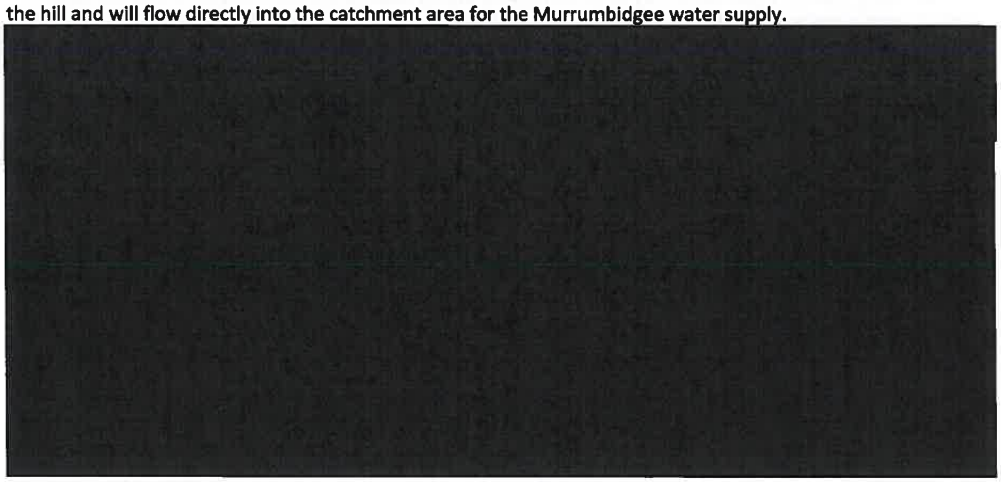
• Land to be provided as open space in accordance with this provision is to be 95 dedicated to Council as part of the subdivision.

• Open space may also be provided as part of a 'natural' stormwater drainage system or to protect or provide public access to areas of high conservation or environmental values (eg a river or creek frontage), provided the on-going management costs are acceptable to Council.

4. Provision of services

We also have concerns relating to water availability for such a high-risk bushfire area.

We also have concerns re the concentrated number of septic systems as most of the blocks are on the side of the hill and will flow directly into the catchment area for the Murrumbidgee water supply.



Submission 10

[redacted]

Snowy Monaro Regional Council
POBox 714
Cooma NSW 2603

Dear Sir/Madam,

RE: Thirty Seven (37) Large Lot Residential Subdivision Old Dry Plains Road COOMA 2630, stage 2A and stage 2B. Development Application No. 10.2023.150.1 and Development Application No. 10.2023.149.1.

Objection

Land Value:

1. Large number of properties being released will lower existing property valve (risk of oversupply in the area). Smaller stage releases should be considered.
2. When purchasing our 11 Calabira Way property, both the developer, real estate agent and Vision Town Planning informed us that there was only going to be a further 17 properties released (total 27 including the initial 10).

Roads:

1. Dangerous intersection Snowy Mountains Highway/Dry Plains Road, poor vision, narrow lane width and fast moving traffic.
2. Dangerous corner on Dry Plains (just past wrecking yard, heading to Towrang Vale Road). Limited shoulder for oncoming large trucks, etc.
3. Road width, heading down Towrang Vale Road, there is a coulvet which is narrow and has started to sink on the east side, limit/no shoulder. With increased traffic this should be addressed.
4. Speed limit down Towrang Vale Road, does not support sporting and lifestyle adopted by the locals.
5. All vehicle movement are along Towrang Vale Road, no second means of entry and exist into Towrang Vale and new estate (dead end). This is a large development and a second access must be considered.
6. It is not clear if a traffic impact assessment has been complete or not. 37 new lots will have a significant impact on vehicle movement on Towrang Vale Road and Dry Plains Road (possibly 440 movements a day).

Lifestyle and Services:

1. Developer has been marketed the pervious 10 lots as a rural lifestyle, this will be compromised with the proposed additional 37 lots.
2. The current proposal does not include any community recitational areas (parks, gardens and etc).
3. The proposal does not include walking and bike paths.
4. This development does not appear to consider the wildlife.
5. This development application does not include bus stops or shelters for school children.

It appears that the developer has taken the quick development approach, however Snowy Monaro Council must give consideration to the long-term development, items listed under "Lifestyle and Services" may become a liability to the ratepayer.

We have not received any update on how the original objection/s items have been addressed. May please Snowy Monaro Council please provide an update for these it?

[redacted]

Submission 11

[redacted]

11 July, ,2023

Dear Sir/Madam

RE: Stage 2A & 2B Large Lot Residential Subdivision, Old Dry Plains Road Cooma 2630
Application numbers: 10.2023.150.1 & 10.2023.149.1

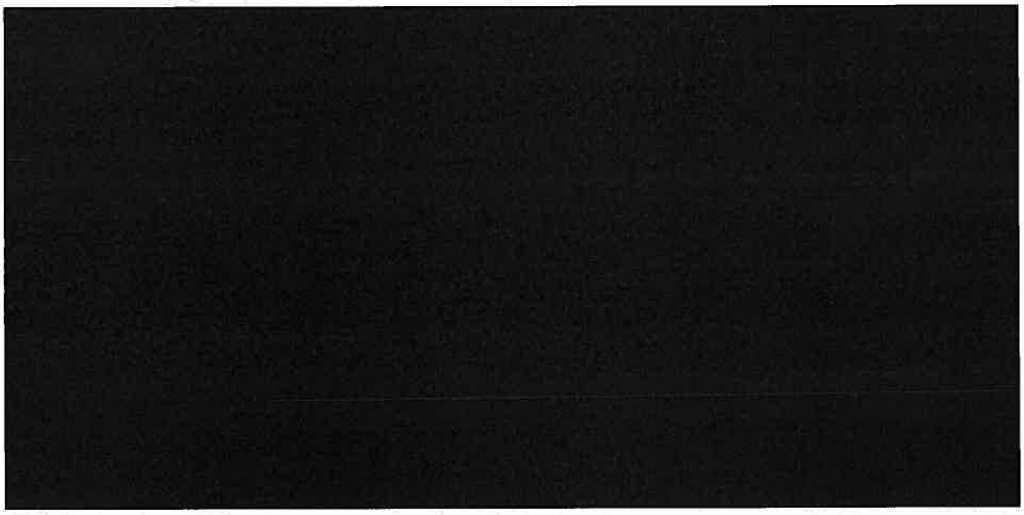
We refer to the development applications that have been submitted for the above subdivisions. We wish to lodge an objection on the following grounds:

- The road works that were done to widen Towrang Vale Road, Dairymans Plains as part of the previous subdivision are inadequate. The bitumen that was added to the side of the original road is starting to sink causing unevenness to the road. The road has also had to be patched several times since it was initially done and the first part of the road where it meets Dry Plains Road is continually in need of repair.
- Towrang Vale Road is a high speed road with a speed limit of 100km/h. With the addition of a further 37 households, that speed limit is excessive for that road when vehicle numbers, wildlife and road conditions are taken into consideration.
- The intersection of Towrang Vale Road and Calabria Way is at a point in the road where there is a slight bend just prior to the intersection when heading south. With a speed limit of 100km/h and in the absence of a turning lane, that intersection has the potential to become hazardous.
- No maintenance has been done to the nature strip for a long period of time resulting in grass being severely overgrown. This creates a danger to road users due to the large number of kangaroos in the area. Kangaroos are unpredictable and visibility is poor for a large portion of both Towrang Vale Road and Dry Plains Road.
- Dry Plains Road is not wide enough to accommodate another 37 households and their vehicles. The edges of the road are crumbling away in sections and when forced to leave the roadway to make way for larger oncoming vehicles, there is very little verge available for vehicles. On certain parts of the road there is no space to take such evasive action.
- Dry Plains Road has a speed limit of 100km/h. This road is dangerous, particularly at the sweeping bend at the intersection of Old Dry Plains Road. If vehicles were to collide at that bend, there is nowhere for the vehicles to go other than down a small embankment. There is evidence of a fatal motor vehicle accident on that bend in the past. With an increase in vehicle numbers, and the current speed limit, there is an increased risk that this may occur again at some time in the future.

- The intersection of Dry Plains Road and Towrang Vale Road would need to have either a roundabout or turning lane/s added to safely accommodate the increase in traffic should this subdivision be approved. The roadway at this intersection is only one lane in each direction and the addition of 37 households and their vehicles has the potential to create congestion at this intersection.
- The intersection of Snowy Mountains Highway and Dry Plains Road Cooma does not have adequate turning lanes in any direction to safely accommodate another 37 households and their vehicles. The turning lane on the highway when coming from the Cooma direction is not long enough. There is no turning lane on the highway when coming from the Berridale direction which makes turning left off the highway onto Dry Plains Road particularly hazardous, especially in peak seasons. There was a fatal motor vehicle accident at that intersection in October 2020.
- Access to the proposed subdivision is entirely via Towrang Vale Road. In the event of a fire or other catastrophe, there is not a sufficient network of roads for all residents to safely evacuate the area. There is a crown road that goes from Towrang Vale Road to Woodlands Drive, however, this road is rutted, overgrown and unsuitable for 2WD vehicles and inexperienced 4WD users.

We request that Council consider the following issues:

- The 100km/h speed limit on Dry Plains Road and Towrang Vale Road.
- The unsatisfactory condition of Dry Plains Road and Towrang Vale Road to cope with increased traffic flow.
- The lack of maintenance by Council of Dry Plains Road and Towrang Vale Road.
- The need for adequate turning lanes on Snowy Mountains Hwy, Dry Plains Road and Towrang Vale Road.



lindsaytaylorlawyers
planning • environment • local government

Confidential

28 May 2021 Our ref: SMRC21001

The General Manager
Snowy Monaro Regional Council
PO Box 143
BERRIDALE NSW 2628

Attention: John Gargett

Email

Dear Sir,

Application of Clause 4.1B, Lot Averaging to DA 10/2020/215, Dairymans Plains

Introduction

1 We refer to John Gargett's email to dated 19 May 2021 and the teleconference between Council officers and Lindsay Taylor on Friday 21 May 2021.

2 Council has received development application 10.2020.214 (**DA**) that seeks development consent for the staged subdivision of land into 77 large lots for future residential use and the extension and construction of roads and fire trails.

3 The land comprises Lot 1 DP 737275, Lot 11 DP 1266312, Lot 157 DP 750524, Lot 158 DP 750524, Lot 159 DP 750524 and Lot 189 DP 750524, known as 23 Calabria Way and 108 Old Dry Plains Rd, Dairymans Plains (**Site**).

4 The Site is zoned both R5 Large Lot Residential and E4 Environmental Living pursuant to the *Cooma-Monaro Local Environmental Plan 2013* (**LEP**).

5 The applicant for the DA seeks to rely on clause 4.1B of the LEP, '*Subdivision using average lot sizes*'.

6 On 24 February 2021, Council requested the applicant justify how the DA is permissible pursuant to clause 4.1B and queried if the DA applies to Lot 211 DP 750524 and Lot 197 DP 750524.

7 On 8 April 2021, Holding Redlich replied on behalf of the applicant with a proposed way forward (**Proposal**).

8 The Proposal is to:

8.1 amend the DA such that it seeks development consent for the subdivision of the Site into 30 lots and a residue lot only (**Amended DA**).

8.2 lodge 3 separate development applications, seeking:

8.2.1 subdivision of the residue lot created by the Amended DA into 22 lots and a residue lot (**Proposed DA 2**),

8.2.2 subdivision of the residue lot created by Proposed DA 2 into 14 lots and a residue lot (**Proposed DA 3**),

8.2.3 subdivision of the residue lot created by Proposed DA 3 into 10 lots and a residue lot (**Proposed DA 4**).

9 By reference to the '*General Arrangement Plan*' prepared by Osgood Civil Resource Engineering, Revision B, dated 27 November 2020 (**Arrangement Plan**), the land the subject of the Proposal is:

9.1 Amended DA – marked Stage 2A,

9.2 Proposed DA 2 – marked Stage 2B,

9.3 Proposed DA 3 – marked Stage 2C,

9.4 Proposed DA 4 – marked Stage 2D.

Advice requested

10 Council seeks advice on the interpretation of clause 4.1B of the LEP and specifically the following questions:

10.1 is it is permissible to use clause 4.1B(3)(a) to subdivide land in stages in a single development application, such as the DA, where the 'residue' created by each stage can then be further subdivided using lot averaging?

10.2 does the Proposal overcome the permissibility issue? In particular, can Council simultaneously determine the Amended DA and Proposed DAs 2 – DA 4, when the residue lots proposed for subdivision have not yet been created?

Summary of Advice

11 We agree with Council's letter dated 24 February 2021, that the DA as lodged was not permissible pursuant to clause 4.1B(3)(a).

12 Clause 4.1B(3)(a) requires the total number of lots created by any '*subdivision of land*' pursuant the clause, to not exceed the total number of lots permitted in that same subdivision, if the subdivision was to occur via clause 4.1(3) of the LEP.

13 Although the DA adopted a staged approach, our view is that it is one application for subdivision that proposes the division of land into 78 'parts'.

14 That proposed subdivision exceeded the total number of lots that can be created from 251.93 hectares of R5 land pursuant to clause 4.1(3) of the LEP, and is consequently impermissible.

15 We consider the Proposal put forward by Holding Redlich overcomes this permissibility issue.

16 There is nothing in clause 4.1B, or the LEP, that prevents the clause being utilised more than once to effect separate subdivisions of land.

17 However, as the Proposal will create residue lots that contain E4 zoned land, Council will need to assess whether the subdivisions will result in any significant adverse environmental impacts pursuant to clause 4.1B(4)(b).

18 We do not see any issue with Council simultaneously determining the Amended DA and Proposed DAs 2 – 4, despite the residue lots proposed to be subdivided not having been created.

19 The Courts have accepted that an identifiable parcel of land can exist, despite not having been created by the registration of a plan of subdivision and no certificate of title having been issued. The limits of that land must be specified.

20 Applying these authorities, we consider that the words in clause 4.1B permitting development consent for *'the subdivision of land'*, do not require the relevant land to form part of a registered parcel.

21 To ensure the land proposed for subdivision is clearly identified, we recommend that Council request the applicant provide updated subdivision plans that clearly demarcate and identify the lots proposed to be created and the residue lot for each stage.

Advice

Clause 4.1B

22 Clause 4.1B relevantly provides:

'…

(2) This clause applies to land in the following zones (other than land identified as "Area A" on the Lot Size Map)—

(a) Zone RU1 Primary Production,

(b) Zone R5 Large Lot Residential,

(c) Zone E4 Environmental Living.

*(3) **Despite clause 4.1**, development consent may be granted for the subdivision of land to which this clause applies if—*

(a) the total number of lots created from the subdivision will not exceed the number of lots that could be created under clause 4.1 (3), and

(b) for land in Zone RU1 Primary Production, each lot created by the subdivision will have an area of at least 20 hectares, and

(c) for land in Zone E4 Environmental Living, each lot created by the subdivision will have an area of at least 10 hectares, and

(d) for land in Zone R5 Large Lot Residential, each lot created by the subdivision will have an area of at least 2 hectares.

(4) Development consent must not be granted for the subdivision of a resulting lot unless the consent authority is satisfied that—

(a) the lots to be created will not be used for the purpose of residential accommodation, and

(b) the subdivision will not result in any significant adverse environmental impacts on the land being subdivided.

(5) In this clause, resulting lot means a lot created under this clause being land in Zone RU1 Primary Production or Zone E4 Environmental Living.'

*[**Our emphasis**]*

23 Clause 4.1B applies to the Site, as the land is zoned R5 and E4 and not identified as 'Area A' on the Lot Size Map.

Permissibility of using Clause 4.1B(3) to Subdivide Land in Stages

24 To rely on the lot averaging provisions in clause 4.1B, an application must first satisfy clause 4.1B(3)(a).

25 Clause 4.1B(3)(a) relevantly provides:

> *'Despite clause 4.1, development consent may be granted for **the subdivision of land** … if— … **the total number of lots** **created from the subdivision*** [of the land] *will not exceed the number of lots that could be created under clause 4.1(3), …'*
>
> *[**Our emphasis**]*

26 We understand Council's question as to whether cl4.1B(3)(a) permits the *staged* subdivision of residue lots, is directed towards a proposal for a staged or sequenced subdivision of a lot occurring via one development application.

27 To answer that question, our view, is that the focus of the enquiry should be on the words in clause 4.1B(3)(a): *'the total number of lots created from the subdivision'.*

28 Those words make clear that the total number of lots created by any '*subdivision of land*' pursuant to clause 4.1B, must not exceed the total number of lots permitted in that same subdivision, if the subdivision was to occur via clause 4.1(3) of the LEP.

29 Put another way, the question is what the relevant subdivision of the land is, and how many lots will be created from it?

30 The words '*subdivision of land*' in the LEP have the same meaning as in the *Environmental Planning and Assessment Act 1979* (**EPA Act**): see s11 of the *Interpretation Act 1987*.

31 The EPA Act defines '*subdivision of land*' at section 6.2, to mean:

> '*(1) … **subdivision** of land means the division of land into 2 or more parts that, after the division, would be obviously adapted for separate occupation, use or disposition. The division may (but need not) be effected—*
>
> *(a) by conveyance, transfer or partition, or*
>
> *(b) by any agreement, dealing, plan or instrument rendering different parts of the land available for separate occupation, use or disposition.'*

32 The 'subdivision of land' proposed in the DA, is the division of 251.93 hectares of R5 land at the Site into 77 lots plus a residue lot, via a staged approach.

33 The total number of lots that could be created pursuant to clause 4.1(3) from the subdivision of 251.93 hectares of R5 land, is 31 lots.

34 This is because clause 4.1(3) and the Lot Size Map prescribe a minimum lot size of 8 hectares for land zoned R5 and 80 hectares for land zoned E4. 251.93 hectares of R5 Land, divided by the minimum lot size of 8 hectares, totals 31 lots.

35 For that reason, we agree with Council's letter dated 24 February 2021, that the DA as lodged was not permissible.

36 Although the DA adopted a staged approach, our view is that it is one application for subdivision, proposing the division of land into 78 'parts' albeit in stages.

37 As that subdivision exceeds the 31 lots permitted pursuant to clause 4.1, clause 4.1B(3)(a) is not satisfied.

38 In our view, to apply clause 4.1B(3)(a) in the manner sought by the applicant in the DA would require the words underlined below to be read into the subclause:

> *'Despite clause 4.1, development consent may be granted for the subdivision of land … if— … the total number of lots created from* **[each stage of]** *the subdivision* [of the land] *will not exceed the number of lots that could be created under clause 4.1 (3), …'*

39 There is nothing in the LEP that supports that construction, and we do not consider that reading accords with the definition of 'subdivision' in section 6.2 of the EPA Act.

Permissibility of the Applicant's Proposal

40 There is nothing in the clause or the LEP, in our view, that prevents clause 4.1B being relied on more than once to effect separate subdivisions through a series of development applications.

41 By removing the proposed staging from the DA, we consider the Proposal put forward by Holding Redlich involving the Amended DA and Proposed DAs 2 - 4 overcomes the permissibility issue discussed above.

42 Relying on the figures at page 7 of the Applicant's Statement of Environmental Effects dated 11 December 2020, clause 4.1B(3)(a) is satisfied, as the total number of lots created by each proposed subdivision will not exceed the total number that could be created for each 'residue lot' pursuant to clause 4.1(3).

43 The Proposal will otherwise satisfy clause 4.1B(3)(c) and (d).

44 In respect of clause 4.1B(3)(d), all resulting lots in the R5 zone have an area exceeding 2 hectares.

45 In respect of clause 4.1B(3)(c), only Lot 1 DP 737274 and Lot 197 DP 750524 contain land in both the E4 and R5 zone.

46 While the applicant does not propose to create any lots in the E4 zoned land, Stages 2C and 2D will effect a subdivision of these lots that leaves the E4 land as residue. We understand that the E4 zoned portions of those residue lots will exceed 10 hectares (being 81.70ha and 21.27ha respectively), and therefore comply with clause 4.1B(3)(c).

47 Clause 4.1B(4)(a) does not apply.

48 For the reason stated at paragraph 45, there will be '*resulting lots*'. Clause 4.1B(4)(b) consequently applies and Council will need to assess whether the Proposal results in any significant adverse environmental impacts on the E4 zoned land.

Determining Subdivision DAs for Lots not yet created

49 We understand that Council holds a concern with simultaneously determining the Amended DA and Proposed DAs 2 – 4, as when the applications are determined, the residue lots proposed for subdivision will not yet have been registered.

50 Council consequently questions whether it would be granting consent to the subdivision '*of land*'.

51 The Courts have considered an analogous question, whether the words '*allotment*' or '*lot*' must mean a *registered* lot. These cases concerned provisions that restricted the carrying out of development, such that it could only occur on '*an allotment of land*' or '*one allotment of land*'.

52 In *Personal Design Projects Pty Ltd v Hornsby Shire Council* [1991] NSWLEC 34, Bignold J considered whether 3 lots delineated in a plan of subdivision that had been approved by the council but not yet registered, were each an '*allotment*' for the purpose of an environmental planning instrument.

53 His Honour held that the words 'allotment of land', in the context of the relevant instrument, were not words of a technical meaning but meant '*an identifiable piece or parcel of land*'.

54 As each lot had been clearly defined in the approved subdivision it did not matter that they had not yet been registered.

55 The Court held the same in *S & I Investments v Pittwater Municipal Council* [1993] NSWLEC 166, stating that 'allotment' was an ordinary word meaning '*a separate or distinct area of land with a definite identity*'. Talbot J did state that the limits of the area must be specified.

56 In *Demihale Pty Ltd v Ku-ring-gai Municipal Council* [2002] NSWLEC 178 (***Demihale***), Pearlman J considered the analogous question of whether the Court had power to consent to a development application, where no certificate of title had been issued in respect of the 'allotment' on which the development was proposed.

57 The planning instrument under consideration in *Demihale* allowed development that resulted in two dwellings being located on the one allotment of land. The Council argued that as no plan of subdivision constituting the 3 allotments had been registered, there were no 'allotments of land' in existence on which dwellings could be erected.

58 Pearlman J held that an 'allotment of land', in the context of the relevant instrument, may properly be in existence despite not having been through the formal process of registration of an approved plan of subdivision. Her Honour stated at [18] that:

> '*The expression "allotment" is not defined …, and it does not bear a technical meaning. Rather, it bears its ordinary meaning as being an identifiable piece or parcel of land. There is nothing in SEPP 53 to suggest that the expression "allotment" means an allotment of land identifiable solely by reason of having been created by registration of a plan of subdivision.*'

59 These decisions were approved by the Court of Appeal in *Issa v Burwood Council* [2005] NSWCA 38, where Pearlman AJA stated at [39] that the precise identification of an allotment will depend on the facts and circumstances of each case, and may be derived from the, '*delineation of a lot or lots on a plan of subdivision (which may, but need not, be registered)* …'.

60 Applying these decisions to the words in clause 4.1B of the LEP, *'development consent may be granted for the subdivision **of land**'*, and subject to our comments below, we do not see any issue with Council simultaneously determining the Amended DA and Proposed DAs 2 – 4.

61 The Courts have accepted that an identifiable parcel of land can exist, despite not being created by registration of a plan of subdivision.

62 Further, it is well accepted that '*land*' is a highly contextual term of a general meaning: see *Stamford Property Services Pty Ltd v Mulpha Australia Ltd* [2019] NSWCA 141.

63 The LEP does not define the meaning of '*land*'.

64 The EPA Act provides an inclusive definition that does not restrict clause 4.1B in any way:

> *'**land** includes—*
>
> *(a) the sea or an arm of the sea,*
>
> *(b) a bay, inlet, lagoon, lake or body of water, whether inland or not and whether tidal or non-tidal, and*
>
> *(c) a river, stream or watercourse, whether tidal or non-tidal, and*
>
> *(d) a building erected on the land.*'

65 We consider there to be nothing in clause 4.1B, or elsewhere in the LEP, that confines the application of clause 4.1B to *land* that has been the subject of a registered subdivision.

66 We do however consider that the General Arrangements Plan does not clearly show which parts of the Site will exist as residue lots following the proposed subdivisions in the Amended DA and Proposed DAs 2 – 4, marked as Stages 2A – 2D.

67 To ensure that the land proposed for subdivision is clearly identified, we recommend that Council request the applicant provide updated subdivision plans that demarcate and identify the land proposed for subdivision by the Amended DA and Proposed DAs 2 – 4, and each residue lot.

68 We thank you for your instructions in this matter. If you would like to discuss any aspect of this advice please contact Dr Lindsay Taylor on 02 8235 9701 or Katie Mortimer on 02 8235 9716.

Yours Sincerely,

Dr Lindsay Taylor
Senior Partner

Katie Mortimer
Senior Associate

Department of Planning and Environment

Letter to Applicant
(consent granted)

Our reference: 23/08498
LOC No: 643280

28 November 2023

Vision Property Development Hub
PO Box 852
COWRA NSW 2794

Attn: Joanne Chambers & Rocco Papalia

By Email: admin@visiontpc.com.au
Cc: office@visiontpc.com.au

Dear Sir/Madam

Consent for Development Comprising:	Access to Crown roads for 37 Lot residential subdivision – Stages 2A and 2B
Crown Land	Crown Road adjoining Lot 1 DP 737275, Lots 157, 189 & 197 DP 750524 and Lot 11 DP 1266312
Parish	Binjura
County	Beresford
Applicant	Rocco Papalia

Consent is granted by the Minister for Water, Property & Housing to the lodgement of applications for approval under the *Environmental Planning and Assessment Act 1979*, and other associated applications required under other legislation, for the development proposal described above.

The Land Owner Consent is granted conditional to the following:

1. Land Owner Consent will expire after a period of 12 months from the date of this letter if not acted on within that time. Extensions of this consent may be sought
2. You are required to forward a copy of the DA approval to the NSW Department of Planning, Industry & Environment – Crown Lands ("the Department") after approval and prior to commencing works.
3. You are required to ensure that the approval provided is consistent with this Land Owner Consent.
4. The Land Owner Consent is provided for the works detailed on the plans provided by you and retained by the Department as DOC23/233016

Land Owner Consent is granted in accordance with the following:

- Land Owner Consent is given without prejudice so that consideration of the proposed development may proceed under the *Environmental Planning and Assessment Act 1979* and any other relevant legislation.
- The grant of this Land Owner Consent does not guarantee that any subsequent authority to occupy will be granted.

- Land Owner Consent does not imply the concurrence of the Minister for Water, Property & Housing for the proposed development and does not provide authorisation under the Crown Lands Act 1989 for this proposal.
- The issue of Land Owner Consent does not prevent the Department from making any submission commenting on, supporting or opposing an application.
- The Minister reserves the right to issue Land Owner Consent for the lodgement of applications for any other development proposals on the subject land concurrent with this Land Owner Consent.
- Any changes made to the proposal, including those imposed by the consent authority, must be consistent with the Land Owner Consent and therefore if modifications are made to the proposed development details must be provided to the Department for approval.
- Land Owner Consent also allows application to any other approval authority necessary for this development proposal.

This letter should be submitted to the relevant consent or approval authority in conjunction with the development application and/or any other application. You are responsible for identifying and obtaining all other consents, approvals and permits required under NSW and Commonwealth laws from other agencies for the proposed development.

It is important that you understand your obligations relating to Condition 3. If any alterations are made to the application (whether in the course of assessment, by conditions of consent, or otherwise), it is your responsibility to ensure the amended or modified development remains consistent with this Land Owner Consent. If there is any inconsistency or uncertainty you are required to contact the Department before undertaking the development to ensure that the Department consents to the changes. A subsequent LOC application may incur additional application fees.

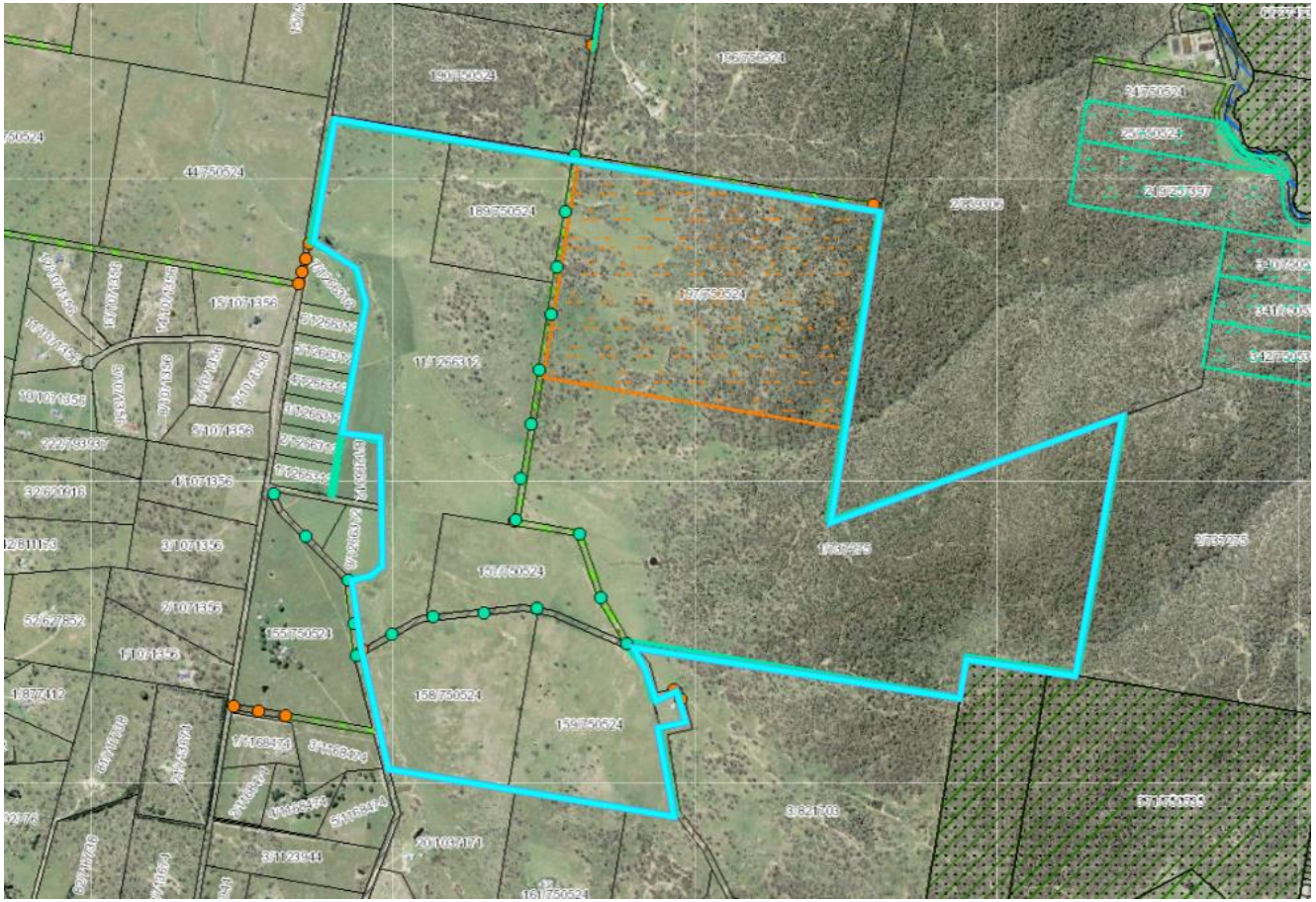
It is advised that the Department will provide Snowy Monaro Regional Council a copy of this Land Owner Consent and will request that Snowy Monaro Regional Council notify the Department of the subsequent development application, for potential comment, as part of any public notification procedure.

Should you require any further information, please do not hesitate to contact me at the Goulburn Crown Lands Office by phone on 02 4824 3731 or email tia.galvin@dpie.nsw.gov.au

Yours sincerely

Tia Galvin
Property Services Officer
Department of Planning, Industry & Environment - Crown Lands
29 November 2023

Attachment A – Location Map



Department of Planning and Environment

CM9 Ref: 23/00005#45/46

The General Manager
Snowy Monaro Regional Council
PO Box 714
COOMA NSW 2630

Attn: Sarah Brown

Email: council@snowymonaro.nsw.gov.au

Dear Sir/Madam

Adjoining Owner Notification – Old Dry Plains Road, Cooma Stage 2A & 2B

Proposed Development:	DA10.2021.321.1 and DA10.2021.325.1
Applicant:	R Papalia
Location:	Old Dry Plains Road, Cooma

I refer to previous correspondence with Council regarding DA10.2021.321.1 and DA10.2021.325.1 providing the Department of Planning and Environment – Crown Lands (the Department) the opportunity to comment on the subject development proposal.

The Department as adjoining landowner has reviewed both stages of this proposal in accordance with the principles of Crown land management (s.1.4 *Crown Lands Management Act 2016*).

Both stages of the proposed development represent a significant intensification of the use of the adjacent Crown road for part of its length adjoining Lot 158 DP 750524, Lot 11 DP 1266312, Lot 157 DP 750524, and Lot 189 DP 750524. In accordance with Departmental policy, any Crown roads proposed to be upgraded or utilised for access in conjunction with this development will need to be transferred to Council for management as a Council public road.

Please see page 2 of this letter showing map of roads requiring transfer as indicated by blue dots.

Should the development be modified in any manner that impacts the adjoining Crown land, e.g., by amendment to the development proposal or draft conditions of consent, the Department requests an opportunity to further review the application prior to determination.

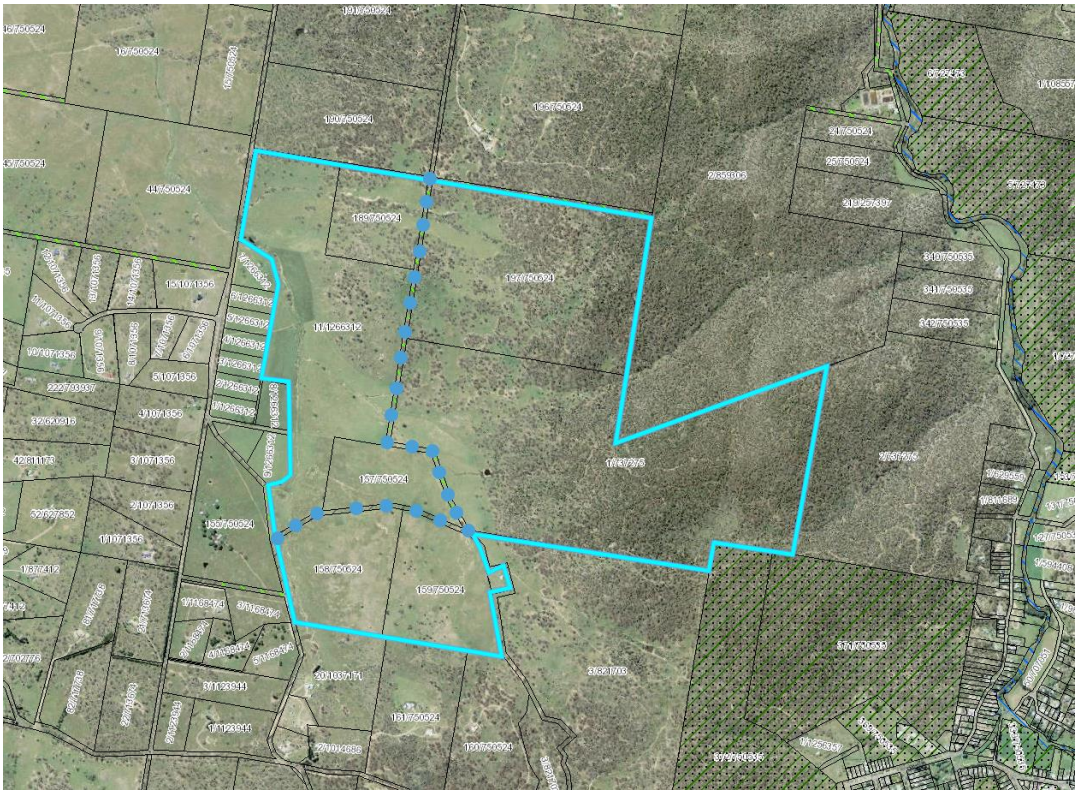
Should you require any further information, please do not hesitate to contact me at the Goulburn Crown Lands Office by tia.galvin@dpie.nsw.gov.au

Yours sincerely

Tia Galvin
Property Services Officer
Department of Planning & Environment - Crown Lands

Date: 21 February 2024

Department of Planning and Environment



PO Box 2215, Dangar, NSW 2309
Tel: 1300 886 235 Visit: www.industry.nsw.gov.au/lands