

Kempsey - Armidale Road Restoration

Appendix K

Arborist Report

McArdle and Sons
Arboricultural Services



Tree Assessment Report (Part A)

PREPARED FOR

Geo Link

PROJECT NAME

Kempsey to Armidale Road Recovery Program

Chainage markers: 1820031 to 103500. (Draft DMC V0.1)

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Document Tracking

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1. EXECUTIVE SUMMARY

1.1 GEO Link has commissioned a Tree Risk Assessment to evaluate tree hazards, failure potential and, if viable, to make recommendations that mitigate risk and/or remediate trees at Back Kempsey Rd Jeogla.

1.2 The assessment was conducted on the 31st of October and the 1st of November 2023 by AQF 5 Consulting Arborist Dan McArdle and Jim McArdle B.Ed. Sci (ACU), Dip. Arb AQF L5 (Ryde), both qualified in Tree Risk Assessment Qualified (TRA), Quantified Tree Risk Assessment (QTRA) & Tree Contractors Association of Australia (TCAA) Visual Tree Risk Assessment (vTRA®).

The report is broken into two sections Part A data and Part B Photos, the assessment applied specifically to proposed work site areas including culvert, slip repair areas and proposed sites.

1.3 One hundred and thirty-two (132) trees/groups (160 individual) on site and in the adjacent surrounding area were assessed between the designated chainage ;1820031 to 103500.

1.4 **Recommendations:**

- **Remove** ninety-eight (98) trees/groups (118 individual) numbered 1, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 37, 38, 39, 40, 42, 44, 45, 46, 47, 48, 49, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 88, 89, 90, 92, 93, 401, 405, 406, 407, 408, 410, 411, 412, 413, 418, 419, 422, 423, 424, 428, 430, 431, 433, 434, 435, 436, 437, 438, and 439.
- **Prune** thirty (30) trees numbered 1a, 2, 3, 5, 11, 18, 34, 41, 43, 50, 55, 63, 64, 65, 75, 76, 84, 91, 403, 404, 409, 414, 415, 416, 417, 420, 425, 426, 427, and 429.
- **Options to prune or remove** three (3) trees numbered 74, 402 and 421.
- **Monitor** three (3) trees numbered 4, 84 and 432.

2. INTRODUCTION

2.1 **AIMS:** To assess trees in specified areas including proposed work areas of the 12km site for health and evaluate the tree's hazards, structural defects and failure potential.

2.1.1 To document, locate and photograph trees that require remediation only.

2.1.2 To provide recommendations to mitigate the likelihood of tree failure and to diminish risk in accordance with Australian Standard® AS 4373-2007 – Pruning of Amenity Trees.

2.2 **SCOPE:** Inspection of trees that are potential hazards in identified work site area (6.1 Maps) within 30m envelopment. Report and make remedial recommendations.

2.2.1 Geo-link commissioned a Tree Risk Assessment for Kempsey to Armidale Road, Jeogla NSW 2350. (*Chainage 118200 to 103500*)

2.2.2 The assessment was conducted on the 31st of October and the 1st of November 2023 by AQF 5 Consulting Arborist Dan McArdle and Jim McArdle B.Ed. Sci (ACU), Dip. Arb AQF L5 (Ryde), both qualified in Tree Risk Assessment Qualified (TRA), Quantified Tree Risk Assessment (QTRA) & Tree Contractors Association of Australia (TCAA) Visual Tree Risk Assessment (vTRA®).

2.2.3 Tree management measures are regulated by Armidale Dumaresq Development Control Plan (DCP) 2012 and Armidale Regional Local Environmental Plan (LEP) 2012.

2.2.4 One hundred and thirty-two (132) trees/groups (160 individual) on site and in the adjacent surrounding area were assessed.

2.2.5 The inspection does not include below ground root excavation, and no expert laboratory analyses – including internal diagnostics, inaccessible trunk and aerial inspections – were conducted. No pathology tests or soil analyses were conducted. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale.

2.2.6 The owner or manager of this site has not provided other documentation relating to the trees. Apart from post-site research and comparisons of similar sites, our observations are the only details analysed.

2.2.7 *The maps in section 7 are based off the Hazardous Tree Assessment prepared by Geo-Link on the 20th of September 2023.*

2.3 METHODOLOGY

2.3.1 The inspection was primarily conducted using ground-based collection of data to identify visible signs of tree health, structure and potential hazards. Collection data methods may include the use of a mallet for sound testing, the use of a trowel to test for soil compaction, and the use of a screwdriver to probe cavities for pathogens, pests and disease. The assessments do not involve laboratory analysis. Methods may include the following:

Visual Tree Assessment (VTA) Mattheck and Breloer (1994), a method for assessing biological and lower-level mechanical functions and signs of decay, damage or defects. There are three (3) levels to the VTA and within this report elements of the Level 3 assessment are detailed (Appendix A).

Tree Useful Life Expectancy (TULE) (Barrell 1993; adapted with permission for TCAA 2014), determines the time a tree can be expected to be usefully retained in normal circumstances (Appendix B).

- **Long** > 40 years.
- **Medium** 15 – 40 years.
- **Short** 5 – 15 years.
- **No retention potential** 0 – 5 years.

Landscape Significance Rating (Morton 1996), (Appendix C).

- **Significant** – based on heritage or ecological value.
- **Very High** – based on adjacent area surrounding the site.
- **High** – neighbourhood status but may have some conditions or health issues.
- **Moderate** – good and worthy of preservation, may have minor health issues.
- **Low** – worthy of preservation, may have major conditions or health issues.
- **Very Low** – retain if possible.
- **Insignificant** – exempt from retention.

Visual Tree Risk Assessment (vTRA®) (adapted by Sullivan vTRA & TCAA 2014) Australian Standard® ISO 31000:2018 Risk Management Guidelines (Appendix D). Identifies the likelihood of failure as:

- **Extreme** – serious injury or death, high value property, imminent failure.
- **Very High** – serious injury or death, high value property.
- **High** – substantial injury, moderate to high value property.
- **Medium** – minor personal injury, low to moderate value property.
- **ALARP (As Low as Reasonably Possible)** – no personal injury, low value property.

The TCAA cohort has been trained in this vTRA method and benchmarking of the pre-climb, vTRA risk matrix and assessment¹ as part of their licensing requirement on the 28th of April 2022. Jim McArdle is a trainer of the method utilising the Tree Management Guidelines from the TCAA (2022). A report writer's seminar was hosted on the 20th of May 2023 by McArdle and Sons Arboricultural Services Pty Ltd for the TCAA and included a refresher for the vTRA risk assessment and tree management guidelines.

Planting Specifications from NATSPEC (Clark 2003) and Australian Standard® AS 2303-2018 – Tree Stock for Landscape Use (Appendix E).

2.3.2 **Tree contractors** must have a minimum AQF Level 3 Certificate in Arboriculture and work in accordance with Australian Standard® AS 4373-2007 – Pruning of Amenity Trees, the Work Health & Safety (WHS) Act 2011 and the WHS Regulations 2017, the SafeWork NSW – Guide to Managing Risks of Tree Trimming and Removal Work 2016, and the Code of Practice for The Amenity Tree Industry 1998. Work near powerlines should be carried out in accordance with the Code of Practice for Work Near Overhead Power Lines.

¹ McArdle D & J (2014 ed. 2022) TCAA Tree Management Guidelines. Best Industry Practice, Australia.

3. RESULTS

3.1 THE SITE

3.1.1 The site is Kempsey to Armidale Road, Jeogla NSW 2350. (*Chainage 118200 to 103500*)

3.1.2 This landscape has undulating slopes, and the soils² are classified generally as silty loam.



Figure 1: Aerial site map of Kempsey Road, Jeogla NSW 2350 (Nearmap 2023). The site perimeter is outlined in yellow.

² Espade.environment.nsw.gov.au

3.2 LEGISLATION AND SIGNIFICANCE IN THE ENVIRONMENT

Trees are subject to the following commonwealth and State legislation:

3.2.1 Commonwealth Legislation regulates the **Biosecurity Act 2015**, (diseases and pests) and the **Environmental Protection & Biodiversity Conservation Act 1999 (EPBC Act)** which manages nationally endangered ecological communities (EEC) and national heritage items. The EPBC Act delegates to the **NSW Biodiversity Conservation Act 2016 (BC Act)**³ and allows state and local authorities to manage ecological and heritage matters of significance. The BC Act repealed (but still has some transitional arrangements) the NSW Threatened Species Conservation Act, 1995. The BC Act may require Species Impact Statement and Biodiversity Banking and Offset Scheme agreements determined by the Biodiversity Assessment Method (BAM).

3.2.2 NSW State Legislation³ is regulated under the **NSW Environmental Planning and Assessment Act 1979 (EP&A Act)**, which manages significant development and infrastructure in NSW. The EP&A Act utilises **Environmental Planning Instruments (EPI)**⁴, These instruments include **State Environment Planning Policies (SEPP)** that deal with matters of state or regional environmental planning significance and **Local Environmental Plans (LEP)** that provide local Councils a framework for land usage. **SEPP (Vegetation in Non-Rural Areas) 2017** does not apply to this local government area (LGA).

3.2.4 NSW **Rural Fire Act 1997**⁵ regulates a **10/50 Vegetation Clearing Code**, which may allow a designated area to clear trees within 10 metres of a home and clear underlying vegetation such as shrubs (but not trees), within 50 metres of a home to reduce risk from bushfires. The 10/50 Vegetation Clearing Code does not apply to this site.

3.2.5 An analysis of state and local legislation, development controls and planning instruments concludes the following:

- **Tree management measures**⁶ are regulated by Armidale Dumaresq DCP 2012 and Armidale Regional LEP 2012.
- **Biodiversity values** are mapped on site.
- **Bushfire Prone Land:** Vegetation Category 1.
- **Land Zoning:** C1: National Parks and Nature Reserves
- **Local Aboriginal Land Council:** Armidale.

³ <https://www.legislation.gov.au/>

⁴ <https://www.planningportal.nsw.gov.au/>

⁵ <https://www.rfs.nsw.gov.au/>

⁶ <https://www.armidaleregional.nsw.gov.au/>

3.3 LOCAL PLANNING AND ZONING CONTROLS

Site Address: Kempsey Road, Jeogla NSW 2350.



Figure 2: Biodiversity Values (purple).

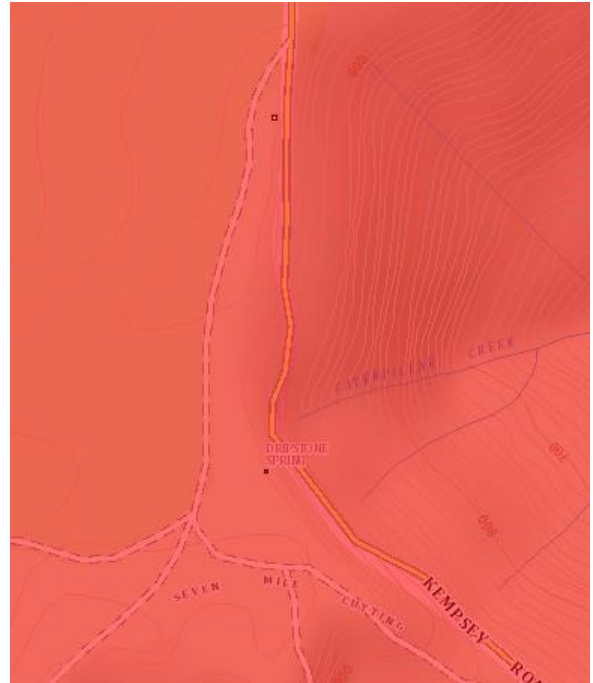


Figure 3: Bushfire Prone Land. Vegetation Category 1 (red).



Figure 4: Land Zoning.
C1 – National Parks and Nature Reserves (brown).

3.4 TREE SCHEDULE

Table 1: Tree Schedule - Health and Structural Condition of Trees (*DBH-Diameter Breast Height, *TULE-Tree Useful Life Expectancy, *ALARP-As Low as Reasonably Possible).

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
1	-30.64484602, 152.197071025 148034	Dead stag	24	30	-	Dead, no hollow.	Clearing	High1	4a	Remove.
1a		<i>Eucalyptus netriens</i> Hillgrove box	35	60	20	Mature, good condition but poor development, multiple dead wood.	Culvert	High1	2d	Prune dead wood (5 branches) from 15 to 26 meters.
2	-30.64483697, 152.197063984 34937	<i>Eucalyptus netriens</i> Hillgrove box	30	45	6	Immature, good condition but poor development.	Clearing	High1	3a	Prune dead wood at 2 meters.
3	-30.64688601, 152.197147971 019149	<i>Eucalyptus netriens</i> Hillgrove box	33	80	18	Semi mature, lean to the South, good condition but poor development.	Clearing	High1	2d	Prune dead wood at 15 meters – heavy dead wood over site to the East.
4		<i>Eucalyptus netriens</i> Hillgrove box	28	70	12	Semi mature, failed the mallet test, minor dehydration, moderate condition, large cavity at base.	Slip	Medium	3c	Monitor.
5	-30.647863, 152.197061972 692609	<i>Eucalyptus caliginosa</i> New England Stringy	30	60	14	Semi mature, minor cavity at base, cavity at 8 meters, lean to the South.	Slip	Medium	2d	Prune dead wood over works.
6	-30.648956, 152.197324996 814132	Dead stag	15	20	-	Dead, no hollow.	Culvert	High1	4a	Remove.
7	-30.64950996, 152.197801005 095243	<i>Eucalyptus caliginosa</i> New England Stringy	33	70/50	14	Semi mature, cavity at base (30cm x 30 cm), twin stem, mistletoe.	Slip	High1	4c	Remove.
8	-30.64953502, 152.197813997 045159	<i>Eucalyptus caliginosa</i> New England Stringy	32	80	14	Lean to the West, significant cavity.	Slip	High1	4c	Remove.
9	-30.65016702, 152.198645984 753966	Dead stag	26	30	-	Dead, no hollow.	Slip	High1	4a	Remove.
10	-30.651846, 152.201129961 758852	<i>Eucalyptus caliginosa</i> New England Stringy	28	110	18	Post mature, lean to the South, 90% decay.	Clearing	High1	4c	Remove.
11	-30.65276801, 152.201429028 064013	<i>Eucalyptus caliginosa</i> New England Stringy	38	90	20	Mature, minor dead wood.	Clearing	High1	2d	Prune dead branches over road.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
12	-30.65425999, 152.203296013 176441	Dead stag	38	200	-	Post mature, hollow.	Clearing	High1	4a-5c	Remove.
13	-30.65444699, 152.203843016 177416	<i>Eucalyptus caliginosa</i> New England Stringy	37	80	16	Semi mature, fracture to the East side.	Clearing	High1	4c	Remove.
14	-30.65528903, 152.204773994 162679	Dead tree	22	30	-	Dead, cavity.	Culvert	High1	4c	Remove.
15	-30.65591499, 152.205432979 390025	<i>Eucalyptus microcorys</i> Tallowood	34	60	16	Dead.	Clearing & culvert	High1	4a	Remove.
16		<i>Eucalyptus microcorys</i> Tallowood	40	90	16	Dead.	Clearing & culvert	High1	4a	Remove.
17	-30.655801, 152.205746965 482831	<i>Eucalyptus saligna</i> Blue Gum	28	40	16	Immature, cavity, fracture at base.	Culvert	High1	4c	Remove.
18 X3	-30.656161, 152.206176035 106182	<i>Eucalyptus dalrympleana</i> Mountain White Gum	42	65	18	Semi mature, minor dead wood.	Culvert & clearing	High1	3a	Prune dead wood over work area.
19	-30.65660801, 152.205887027 084827	<i>Syncarpia glomulifera</i> Turpentine	33	70	16	Mature, cavity at base is greater than 70% decay, lean to the North.20 meters off edge	Clearing	High1	4c	Remove.
20	-30.65750202, 152.206053994 596004	<i>Eucalyptus caliginosa</i> New England Stringy	26	75	4	Immature, dying, epicormic growth, decay on base.		High1	4c	Remove.
21	-30.657541, 152.206145022 064447	Dead stag	10	10	-	Dead, small, no hollow.	Clearing	High1	4a	Remove.
22	-30.65754603, 152.206220962 107182	Dead stag	10	10	-	Immature, good condition.		High1	4a	Remove.
23	-30.65767402, 152.206404022 872448	Dead stag	18	20	-	Dead.	Clearing	High1	4a	Remove.
24	-30.65768802, 152.206454984 843731	Dead stag	28	35	-	Dead.	Culvert	High1	4a	Remove.
25	-30.65848396, 152.206143010 407686	<i>Casuarina littoralis</i>	25	40	6	Immature, cavity on Southeast.	Culvert	High1	4c	Remove.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
26	-30.658534, 152.206044020 13123	Dead stag	8	40	-	Dead.	Culvert	High1	4c	Remove.
27	-30.658477, 152.206138987 094164	<i>Eucalyptus dalrympleana</i> Mountain White Gum	32	50	16	Semi mature, damage to roots, fracture, cavity.	Culvert	High1	4c	Remove.
28	-30.658707, 152.205532975 494862	<i>Eucalyptus caliginosa</i> New England Stringy	28	60	15	Semi mature, unbalanced canopy and lean, damage to roots, movement.	Culvert	High1	4c	Remove.
29	-30.658779, 152.205309011 042118	<i>Casuarina littoralis</i>	20	35	-	Dead.	Clearing	High1	4a	Remove
30	-30.65908201, 152.205119999 1256	<i>Casuarina littoralis</i>	14	28	-	Dead.	Culvert	High1	4a	Remove.
31	-30.65947001, 152.204529996 961355	<i>Eucalyptus caliginosa</i> New England Stringy	15	30	10	Immature, substantial damage to roots.	Culvert	High1	4c	Remove.
32	-30.65952097, 152.204475011 67655	<i>Casuarina species</i>	12	15	40	Immature, split on Eastern stem.	Culvert	High1	4c	Remove.
33	-30.65988902, 152.204030016 437173	<i>Eucalyptus caliginosa</i> New England Stringy	18	30	90	Immature, cavity, poor condition.	Clearing	High1	4c	Remove.
34	-30.65999597, 152.203754000 365734	<i>Eucalyptus caliginosa</i> New England Stringy	30	70	18	Semi mature, poor condition, hollow, cavity.	Clearing	High1	4c	Prune to reduce by 50%.
35	-30.66046896, 152.203414030 373096	<i>Syncarpia glomulifera</i> Turpentine	18	40	8	Immature, damage to roots, fire damage, cavity.	Culvert	High1	4c	Remove.
36	-30.66059796, 152.203406989 574432	Dead stag	-	40	-	Dead, has fallen over. Fallen tree on south side	Slip	High1	4c	Remove.
37	-30.66131503, 152.203230969 60783	<i>Eucalyptus caliginosa</i> New England Stringy	25	50	16	Semi mature, decay, moderate condition, roots on surface. On bank	Culvert	High1	4c	Remove. On bank.
38	-30.661208, 152.202711040 154099	Dead stag	9	20	-	Dead. On cliff	Clearing	High1	4a	Remove.
39	-30.66120397, 152.202577013 522387	<i>Eucalyptus caliginosa</i> New England Stringy	25	40	12	Immature, damage to roots, damaged, poor condition.	Culvert	High1	4c	Remove to stump.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
40	-30.66115201, 152.202484980 225563	<i>Casuarina species</i>	16	20/20	10	Dead stag.	Culvert	High1	4c	Remove.
41	-30.66118, 152.202376015 484333	<i>Eucalyptus caliginosa</i> New England Stringy	25	45	45	Immature, at 12 meters, 20% dehydration.3 meters off bank.	Culvert	High1	3d	Prune dead wood over road.
42	-30.66132803, 152.202263027 429581	Dead Casuarina stag	16	30	6	Dead.3 meters off bank	Clearing	High1	4a	Remove.
43	-30.66156096, 152.201931020 244956	<i>Eucalyptus caliginosa</i> New England Stringy	27	50/40	16	Semi mature, twin stem.	Culvert	High1	4a	Prune dead wood over bank.
44	-30.66190101, 152.201586021 110415	<i>Eucalyptus caliginosa</i> New England Stringy	25	35	10	Immature, good condition, cavity to the East, lean, structural unsound.	Clearing	High1	4c	Remove.
45	-30.66199204, 152.201546039 432287	<i>Eucalyptus caliginosa</i> New England Stringy	12	25	6	Immature, moderate condition, damage to roots, slip/loose soil, declining.	Clearing	High1	4a	Remove.
46	-30.66344596, 152.201633965 596557	Dead stag	20	30	-	Dead, leaning towards road.	Clearing	High1	4a	Remove.
47 X6	-30.66353599, 152.201589960 604906	<i>Eucalyptus caliginosa</i> New England Stringy	20	30-40	10	Immature, damage to roots, roots affected by edge of cliff. Edge off cliff.	Clearing	High1	4c	Remove.
48	-30.66434098, 152.201829012 483358	<i>Syncarpia glomulifera</i> Turpentine	14	45	6	Immature, hollow, failed the mallet test, cavity at base, poor condition.	Clearing	High1	4c	Remove.
49	-30.66461398, 152.201910987 496376	Dead stag	20	45	-	Dead, no hollow.	Clearing	High1	4a	Remove.
50	-30.66510298, 152.202134029 939771	<i>Eucalyptus caliginosa</i> New England Stringy	27	60	20	Mature, moderate condition.	Culvert	High1	2d	Prune dead wood at 10 to 20 meters.
51	-30.66515998, 152.202209969 982505	Dead stag	28	80	-	Dead, has hollows.	Culvert	High1	4a	Remove.
52	-30.66543398, 152.202047025 78485	<i>Eucalyptus caliginosa</i> New England Stringy	22	45	14	Immature, cavity to the West.	Clearing	High1	4c	Remove.
53	-30.66521103, 152.202136041 596532	<i>Eucalyptus caliginosa</i> New England Stringy	15	35	10	Immature, dying, failed branch at 12 meters, 50% dehydration.	Clearing	High1	4c	Remove.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
54	-30.66645901, 152.201190982 013941	<i>Eucalyptus caliginosa</i> New England Stringy	22	50	10	Immature, good condition but poor development, damage to roots.	Culvert	High1	4c	Remove.
55	-30.66715001, 152.201492981 985211	<i>Eucalyptus caliginosa</i> New England Stringy	24	35	8	Immature, good condition but poor development, minor dead wood.	Culvert	High1	2d	Prune dead wood over road.
56	-30.66721598, 152.201641006 395221	<i>Eucalyptus caliginosa</i> New England Stringy	26	40	14	Semi mature, damage to roots, 25% dehydration.	Clearing	High1	4c	Remove.
57	-30.66724498, 152.201601024 717093	Dead stag	25	25	-	Dead, no hollow.	Clearing	High1	4c	Remove.
58	-30.66728697, 152.201601024 717093	<i>Eucalyptus caliginosa</i> New England Stringy	26	45	8	Immature, unbalanced canopy to the West, failed the mallet test.	Clearing	High1	4c	Remove.
59	-30.66730801, 152.201586021 110415	Dead stag	18	25	-	Dead, no hollow.	Clearing	High1	4a	Remove.
60	-30.66747397, 152.201601024 717093	<u><i>Eucalyptus dalrympleana</i></u> <u>Mountain White</u> <u><i>Gumalrympleana</i></u> Mountain White Gum	24	40	8	Immature, cavity in base,	Clearing	High1	4c	Remove.
61	-30.66778997, 152.201386028 900743	Dead stag	24	80	-	Large leaning dead stag.	Clearing	High1	4a	Remove.
62	-30.66796197, 152.201417963 951826	<i>Eucalyptus caliginosa</i> New England Stringy	21	30	7	Immature, lean to the South, epicormic growth, poor condition, failed the mallet test.	Clearing	High1	4c	Remove.
63	-30.66786801, 152.201450988 650322	<i>Eucalyptus caliginosa</i> New England Stringy	22	40/15	10	Immature, good condition but poor development, 20% dehydration, hanging branch, minor dead wood.	Culvert	High1	3d	Prune dead wood and hanging branch over target.
64	-30.66805098, 152.201339006 42395	<i>Eucalyptus caliginosa</i> New England Stringy	32	80	14	Semi mature, moderate condition, minor dead wood.	Culvert	High1	3a	Prune dead wood over target.
65	-30.66821401, 152.201246973 127127	<u><i>Angophora costata</i></u> Red Gum	26	65	14	Immature, unbalanced canopy to the West, scar to the East at 8 meters, fungal.	Clearing	High1	3d	Prune with 300 mm diameter cut at 16 meters.
66 X2	-30.66839003, 152.201286032 795906	<i>Eucalyptus caliginosa</i> New England Stringy	15	25	8	Immature, structural fracture.		High1	4c	Remove.
67	-30.66923903, 152.201410001 143813	<i>Eucalyptus caliginosa</i> New England Stringy	14	24	6	Immature, lean, damage to roots to the West.	Culvert	High1	4c	Remove.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
68	-30.66934599, 152.201516032 218933	<i>Eucalyptus caliginosa</i> New England Stringy	27	35/10	12	Immature, good condition but poor development, damage to roots.	Clearing	High1	4c	Remove.
69	-30.67008301, 152.201806968 078017	<i>Eucalyptus caliginosa</i> New England Stringy	14	40	8	Immature, extensive damage to roots on West side.	Clearing	High1	4c	Remove to stump.
70	-30.67265801, 152.202310971 915722	<u><i>Eucalyptus microcorys</i></u> Tallowood	25	30	10	Immature, physical damage at base, fire damage, 25% dehydrating.	Clearing	High1	4c	Remove.
71 X2	-30.672872, 152.202323963 865638	<u><i>Eucalyptus microcorys</i></u> <u><i>Corymbia maculata</i></u>	26	70/50	10	Mature, cavity at base, 80% decline.	Clearing	High1	4c	Remove two trees.
72	-30.67321398, 152.202245006 337762	Dead stag	26	40	-	Dead tree.	Clearing	High1	4a	Remove.
73 x2	-30.67482297, 152.203937983 140349	Dead stag	26 12	50 10	-	Dead, no hollow.	Clearing & slip	High1	4a-4c	Remove.
74	-30.674971, 152.204089025 035501	<i>Eucalyptus caliginosa</i> New England Stringy	23	10	10	Immature, cavity at base, greater than 50% dehydration.	Clearing & slip	High1	4c	Remove or prune weighted branch.
75	-30.67772898, 152.207450000 569224	Dead stag	27	40	–	Dead no hollow, minor dead stubs.	Clearing	High1	4a	Prune by 50% over road.
76	-30.67766603, 152.207548990 84568	<i>Eucalyptus caliginosa</i> New England Stringy	28	40/50	20	Immature, twin stem, 30% dehydration.	Clearing	High1	3d	Prune dead wood over road 12 to 25 meters.
77	-30.67845301, 152.209700960 665941	Dead stag	16	25	-	Dead, no hollow.	Clearing	High1	4a	Remove.
78	-30.67855502, 152.209897013 381124	Dead stag	12	25	-	Dead, no hollow.2 meters off road	Clearing	High1	4a	Remove.
79	-30.67864001, 152.209934983 402491	Dead stag	20	50	–	Dead, no hollow.	Clearing	High1	4a	Remove.
80	-30.678754, 152.209976976 73738	Dead stag	14	20	–	Dead, lean to the South.	Clearing	High1	4a	Remove.
81 X3	-30.68599597, 152.209195028 990507	Dead stag	20	30	–	Dead.	Clearing	High1	4a	Remove.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
82	-30.68609797, 152.209412036 463618	Dead stag	15	40	–	Dead, no hollow.	Clearing	High1	4a	Remove.
83	-30.71203996, 152.194846970 960498	Dead stag	26	80	–	Dead, no hollow.2 meters off road.	Clearing	High1	4a	Remove.
84	-30.71190803, 152.194787962 36217	<i>Corymbia maculata</i> Spotted Gum	27	50	14	Immature, fungal attack at 8 meters.	Clearing	Medium	3d	Prune and monitor.
85 X4	-30.71116297, 152.194985020 905733	Dead stag & <i>Casuarina species</i>	12	12	5	Immature, good condition but poor development, dead.	Clearing	High1	3d-4c	Remove.
86 X2	-30.71070498, 152.194714033 976197	Dead stag	10	10-15	–	Dead.4 meters from curtilage.	Clearing	High1	4a	Remove.
87	-30.70999503, 152.194725014 269352	<i>Eucalyptus dalrympleana</i> Mountain White Gum	19	30	8	Immature, 80% in clearing.	Clearing	High1	4c	Remove.
88 X2	-30.70901896, 152.194422008 469701	<i>Pittosporum undulatum</i> Pittosporum	10	30	-	Dead.	Clearing	High1	4a	Remove.
89	-30.708581, 152.194395018 741488	<i>Angophora floribunda</i> Rough Bark Apple	32	100	30	Semi mature, failure at 8 meters to the South, moderate condition.	Clearing	Medium	3c	Remove tree if working adjacent.
90	-30.70926304, 152.193895038 217306	Dead stag	13	20	-	Dead stag, lean to the West.	Clearing	High1	4a	Remove.
91	-30.71090598, 152.193760005 757213	<i>Eucalyptus dalrympleana</i> Mountain White Gum	36	50	30	Semi mature, good condition but poor development, dead Western leader.	Clearing	High1	2d	Prune stag off tree.
92	-30.71146203, 152.193737961 351871	Dead stag	25	40	–	Dead, no hollow.	Clearing	High1	4a	Remove.
93	-30.71156798, 152.193631008 267403	<i>Eucalyptus dalrympleana</i> Mountain White Gum	26	50	–	Semi mature, fungal, dead branches.	Clearing	High1	4c	Remove.
401	-30.64512597, 152.196958959 102631	<i>Eucalyptus species</i>	12	20	5	Immature, lean, in stump.	Slip	High1	4c	Remove.
402	-30.64526604, 152.197013022 378087	<i>Eucalyptus caliginosa</i> New England Stringy	28	85	12	Mature, moderate condition, lean to the East, heavy dead wood.	Slip	High1	4c	Prune branches over work area or remove.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
403	-30.64709304, 152.197076976 299286	<i>Eucalyptus caliginosa</i> New England Stringy	36	110	14	Semi mature, lean, damage to roots.	Culvert	Medium	3c	Prune dehydration.
404	-30.64703898, 152.197026014 328003	<i>Eucalyptus caliginosa</i> New England Stringy	35	180	20	Semi mature, good condition but poor development.	Culvert	Medium	3a	Prune dead wood.
405	-30.64733796, 152.197070019 319654	<i>Eucalyptus caliginosa</i> New England Stringy	22	30	6	Immature, damage to roots, damage to roots.	Slip	High1	2d	Remove.
406	-30.64728004, 152.197087034 583092	<i>Eucalyptus caliginosa</i> New England Stringy	20	50	13	Immature, damage to roots, storm damage.	Culvert	High1	4c	Remove.
407 X3	-30.64822703, 152.196698030 456901	Dead tree	8-10	15	-	Dead.	Slip	High1	4a	Remove.
408	-30.648295, 152.196746980 771422	<i>Eucalyptus caliginosa</i> New England Stringy	14	20	50	Immature, damage to roots on bank.	Slip	High1	4a	Remove.
409		<u><i>Acacia species</i></u>	10	15	10	Immature, dying.	Slip	Medium	3a-3d	Prune branches overhanging work zone.
410 X2	-30.64900897, 152.197186024 859548	Dead stag	10	8	20	Dead	Culvert	High1	4a	Remove.
411	-30.65003299, 152.198097975 924611	<i>Eucalyptus caliginosa</i> New England Stringy	25	70	12	Semi mature, lean to the Southeast, tree is suspended.	Culvert	High1	4c	Remove.
412 X2		Dead	10	50*	-	Dead tree laying on ground.	Culvert	High1	4a	Remove.
413 X4	-30.65177701, 152.200717991 217971	Dead	26	40+20+ 10+20	26	Dead trees.	Clearing	High1	4a	Remove.
414	-30.65261001, 152.201326014 474034	<i>Eucalyptus caliginosa</i> New England Stringy	33	50	22	Semi mature, good condition but poor development.	Culvert	Medium	2d	Prune dead branch over work area.
415	-30.65264496, 152.201374964 788556	<i>Eucalyptus caliginosa</i> New England Stringy	29	40/25	16	Semi mature, good condition but poor development, passed the mallet test.	Culvert	Medium	2d	Prune dead branch over work area.
416	-30.65301502, 152.201745025 81358	<i>Eucalyptus caliginosa</i> New England Stringy	27	50	16	Semi mature, lean to the East, moderate condition.	Walkway area	Medium	2d	Prune dead wood over walk area.
417	-30.65365003, 152.202231008 559465	<i>Eucalyptus caliginosa</i> New England Stringy	34	50	16	Semi mature, lean to the Northeast, good condition but poor development.	Clearing	Medium	2d	Prune dead wood.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
418		<i>Eucalyptus caliginosa</i> New England Stringy	32	60	14	Semi mature, good condition but poor development, passed the mallet test.	Clearing	High1	2d	Remove
419	-30.65455302, 152.203445965 42418	Dead stag	14	20	-	Dead.	Work area	High1	4a	Remove.
420	-30.66380999, 152.201353004 202247	<i>Eucalyptus caliginosa</i> New England Stringy	28	80	16	Semi mature, good condition but poor development, minor dehydration.	Culvert	High1	2d	Prune dead wood at 14, 16 and 12 meters.
421	-30.66390303, 152.201302964 240313	<i>Eucalyptus caliginosa</i> New England Stringy	23	40	14	Immature, epicormic growth, 50% dehydration.	Clearing	High1	4a	Remove or prune canopy by 50%.
422	-30.66401803, 152.201258037 239313	Dead stag	24	90	-	Dead, hollow, cavity.4 meters off road	Clearing	High1	5a	Remove
423	-30.66397, 152.201677970 588207	Dead stag	25	45	-	Dead.	Clearing	High1	4a	Remove.
424 X3	-30.66435398, 152.201827000 826597	Dead stag	6-16	10-20	-	Dead, no hollow. Group	Clearing	High1	4a	Remove.
425	-30.66426898, 152.201834963 63461	<i>Eucalyptus saligna</i> Blue Gum	44	90	14	Semi mature, fire damage.	Clearing	High1	2d	Prune dead wood at 20 and 25 meters.
426	-30.66467802, 152.201795987 784863	<i>Syncarpia glomulifera</i> Turpentine	38	40	12	Immature, inclusion at 15 meters, fracture.	Clearing	High1	2d	Prune to one stem at 18 meters.
427	-30.66622004, 152.201406983 658671	<i>Eucalyptus robusta</i> Swamp Mahogany	27	75	16	Semi mature, good condition but poor development, minor dead wood.	Clearing	High1	2d	Prune dead wood over bank.
428	-30.67147801, 152.201518965 885043	Dead stag	16	32	-	Dead stag.	Clearing	High1	4a	Remove.
429	-30.67582897, 152.204233026 131988	<i>Eucalyptus pilularis</i> Blackbutt	42	100	18	Mature, large failed.	Culvert	Medium	2d	Prune failed branch.
430	-30.67579603, 152.204243000 596762	<i>Eucalyptus caliginosa</i> New England Stringy	20	50	8	Immature, minor fracture, structural.	Culvert	High1	4c	Remove.
431	-30.70396501, 152.200548006 221652	*Log On Bank	10	50	-	Log on ground.	Slip		4a	Remove.
432	-30.70389301, 152.200668035 075068	<i>Corymbia maculata</i> Spotted Gum	22	50	14	Mature, good condition but poor development.	Slip	Medium	3a	Monitor.

Tree No.	GPS location	Botanical Name Common Name	Height (m)	DBH* (cm)	Crown (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	Work Zone	Tree Risk Rating	TULE*	Intervention
433	-30.70870598, 152.194531979 039311	Dead stag	10-14	15	-	Dead.	Clearing	High1	4a	Remove.
434	-30.70849199, 152.194298962 131143	Dead stag	20	20	-	Dead.	Clearing	High1	4a	Remove.
435	-30.708451, 152.193953962 996602	Dead stag	14	25/25	-	Dead.	Clearing	High1	4a	Remove.
436	-30.70896104, 152.193731004 372239	Dead stag	27	50	-	Dead, no hollow.	Clearing	High1	4a	Remove.
437	-30.71447499, 152.193603012 71081	Dead stag	25	70	-	Dead.	Clearing	High1	4a	Remove.
438 X2	-30.71345902, 152.193542998 284101	Dead stag	28	40	-	Dead.	Clearing	High1	4a	Remove.
439	-30.71678999, 152.194356964 90109	Dead stag	16	30	-	Dead.	Clearing	High1	4a	Remove, and remove stumps.

3.5 OBSERVATIONS

See separate attachment "23235_PHOTOS Kempsey Rd Jeogla_2023.pdf"

4. DISCUSSION

4.1 One hundred and thirty-three (133) trees/groups (160 individual) on site and in the adjacent surrounding area of Kempsey Rd Jeogla were assessed. The four (4) trees numbered 12, 48, 51 and 422 to be removed do have hollows and will need special consideration prior to removal by checking the hollows and ameliorating the hollows with nesting boxes.

4.2 Ninety-eight (98) trees/groups (118 individual) require **removal**, thirty (30) trees require **pruning** to mitigate risk on site and three (3) trees have options to prune or remove.

4.3 LANDSCAPE SIGNIFICANCE AND TREE USEFUL LIFE EXPECTANCY (TULE)

4.3.1 The sustainability of a tree is a measure of a tree's quality and remaining lifespan, consideration to its health and condition, and its suitability to the locality and site conditions. This is expressed as its **TULE** category (Appendix B). The landscape significance of a tree is a measure of its contribution to amenity, heritage an ecological value and it is assigned a **landscape significance rating** based on criterion in Appendix C.

4.3.2 Eighteen (18) trees numbered 1a, 3, 5, 11, 50, 55, 91, 405, 414, 415, 416, 417, 418, 420, 425, 426, 427 and 429 have a **2d** TULE. These are trees that appear to be retainable for 15-40 years with a low to medium level of hazard. Trees that could be made suitable for retention in the medium term by intervention works.

4.3.3 Six (6) trees numbered 2, 18, 64, 404, 409 and 432 have a **3a** TULE. These are trees that appear to be retainable for 5-15 years with a medium to high level of hazard. Trees that may only live for between 5 and 15 more years.

4.3.4 Three (3) numbered 4, 89 and 403 have a (**3c** TULE). Trees that appear to be retainable for 5-15 years with a medium to high level of hazard. These are trees that may live for more than 15 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.

4.3.5 Six (6) trees numbered 41, 63, 65, 76, 84 and 85 have a (**3d** TULE). These are trees that appear to be retainable for 5-15 years with a medium to high level of hazard. Trees that require substantial intervention works and are only suitable for retention in the short term.

4.3.6 Fifty two (52) trees numbered 1, 6, 9, 12, 15, 16, 21, 22, 23, 24, 29, 30, 38, 42, 43, 45, 46, 49, 51, 59, 61, 72, 73, 75, 77, 78, 79, 80, 81, 82, 83, 86, 88, 90, 92, 407, 408, 410, 413, 419, 421, 423, 424, 428, 431, 433, 434, 435, 436, 437, 438 and 439 have a (**4a** TULE). These are trees that should be removed within the next 5 years with a high to very high level of hazard. Dead, dying or declining trees through disease or inhospitable conditions.

4.3.7 Forty-six (46) trees numbered 7, 8, 10, 13, 14, 17, 19, 20, 25, 26, 27, 28, 31, 32, 33, 34, 35, 36, 37, 39, 40, 44, 47, 48, 52, 53, 54, 56, 57, 58, 60, 62, 66, 67, 68, 69, 70, 71, 74, 87, 93, 401, 402, 406, 411 and 430 have a (**4c** TULE). These are trees that should be removed within the next 5 years with a high to very high level of hazard. Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.

4.3.8 One (1) tree numbered 422 have a (5a TULE). These are trees that should be removed immediately with a very high to extreme level of hazard. Dead, dying or declining trees diseased or inhospitable conditions.

4.4 TREE RISK ASSESSMENT (TRA)

4.4.1 Hazardous trees are defective – either in part or as a whole – with a risk of failure and a target that is threatened. A Tree Risk Assessment (TRA) identifies a tree’s likelihood of failure and a target’s frequency of occupation around a tree to determine the Tree Risk Rating (Appendix D). The consequences of failure can be seen in Chart 3 of Appendix D. The failure potential considers the tree’s physical condition. The target use considers whether people are likely to be in high-use areas such as worksites and park boundaries where trees may be a risk to their safety or property. The targets and intervention/controls to mitigate risk are specified in the Tree Schedule (Table 2).

4.4.2 The Tree Risk Ratings of the assessed trees were determined as follows:

Table 2: Tree Risk Ratings.

Tree Risk Rating				
High3	High2	High1	Medium	ALARP*
-	-	1, 1a, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 88, 90, 91, 92, 93, 401, 402, 405, 406, 407, 408, 410, 411, 413, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 430, 433, 434, 435, 436, 437, 438, and 439.	4, 5, 84, 89, 403, 404, 409, 414, 415, 416, 417, 429, and 432.	-

*ALARP-As Low as Reasonably Possible.

4.4.3 Trees with **High1** tree-risk ratings may cause substantial personal injury, moderate to high value property damage, or considerable disruption.

- One hundred and eighteen (118) trees have a **High1** risk rating and they are numbered 1, 1a, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 88, 90, 91, 92, 93, 401, 402, 405, 406, 407, 408, 410, 411, 413, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 430, 433, 434, 435, 436, 437, 438, and 439.

4.4.4 Trees with **Medium** tree-risk ratings may cause minor personal injury, low-to-moderate value property damage, or small disruption of activities.

- Thirteen (13) trees have a **Medium** risk rating and they are numbered 4, 5, 84, 89, 403, 404, 409, 414, 415, 416, 417, 429, and 432.

5. RECOMMENDATIONS

5.1 Tree works are effective control measures required to mitigate risk as follows:

- **Remove** ninety-eight (98) trees/groups (118 individual) numbered 1, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 37, 38, 39, 40, 42, 44, 45, 46, 47, 48, 49, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 88, 89, 90, 92, 93, 401, 405, 406, 407, 408, 410, 411, 412, 413, 418, 419, 422, 423, 424, 428, 430, 431, 433, 434, 435, 436, 437, 438, and 439.
- **Prune** thirty (30) trees numbered 1a, 2, 3, 5, 11, 18, 34, 41, 43, 50, 55, 63, 64, 65, 75, 76, 84, 91, 403, 404, 409, 414, 415, 416, 417, 420, 425, 426, 427, and 429.
- **Options to prune or remove** three (3) trees numbered 74, 402 and 421.
- **Monitor** three (3) trees numbered 4, 84 and 432.

5.2 **Suitably Qualified Arborist:** Most councils require written consent prior to tree pruning or removal. Tree contractors must have a minimum AQF Level 3 Certificate in arboriculture and work in accordance with Australian Standard® AS 4373-2007 – Pruning of Amenity Trees, the Work Health & Safety (WHS) Act 2011 and the WHS Regulations 2017, the Safe Work Guide to Managing Risks of Tree Trimming and Removal Work 2016 and the Code of Practice for The Amenity Tree Industry 1998. Work near powerlines should be carried out in accordance with the Code of Practice for Work Near Overhead Power Lines. Tree contractors shall be members of Tree Contractors Association Australia (TCAA) or Arborists Australia (AA) and hold Workers Compensation and Public Liability Insurance. Tree contractors must liaise with the consulting arborist to ensure that tree pruning, and removal works are completed according to specification.

5.3 **Monitoring:** An AQF Level 5 Arborist must annually monitor the health and structural condition of trees on site. Trees require monitoring by on-site staff after severe weather events such as lightning, heavy rain, or extreme winds. It is important that staff and children are not under trees when winds are greater than 35km/h. A virtual weathervane may be a useful tool in determining wind categories.

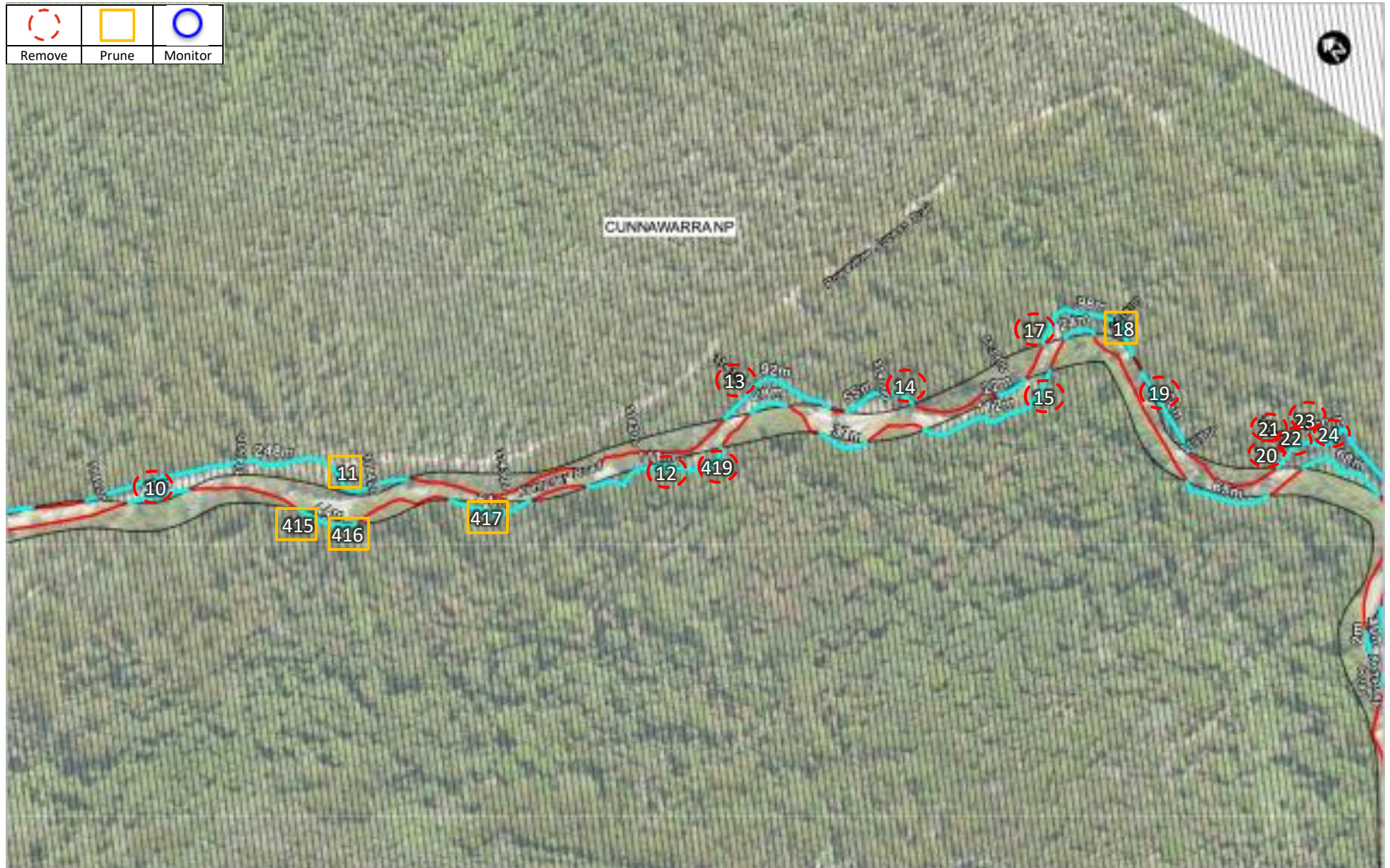
5.4 **Prestart checks:** Daily check on the trees for changes in their condition for example, broken and hung or suspended branches or failed section including stump plate or soil disturbance. It is recommended as part of the WH&S procedures and reviewed prior to the days start of work on sites where there is a daily constant occupation.

6. TREE RISK MANAGEMENT MAPS




6.1 SHEET 2 OF 10

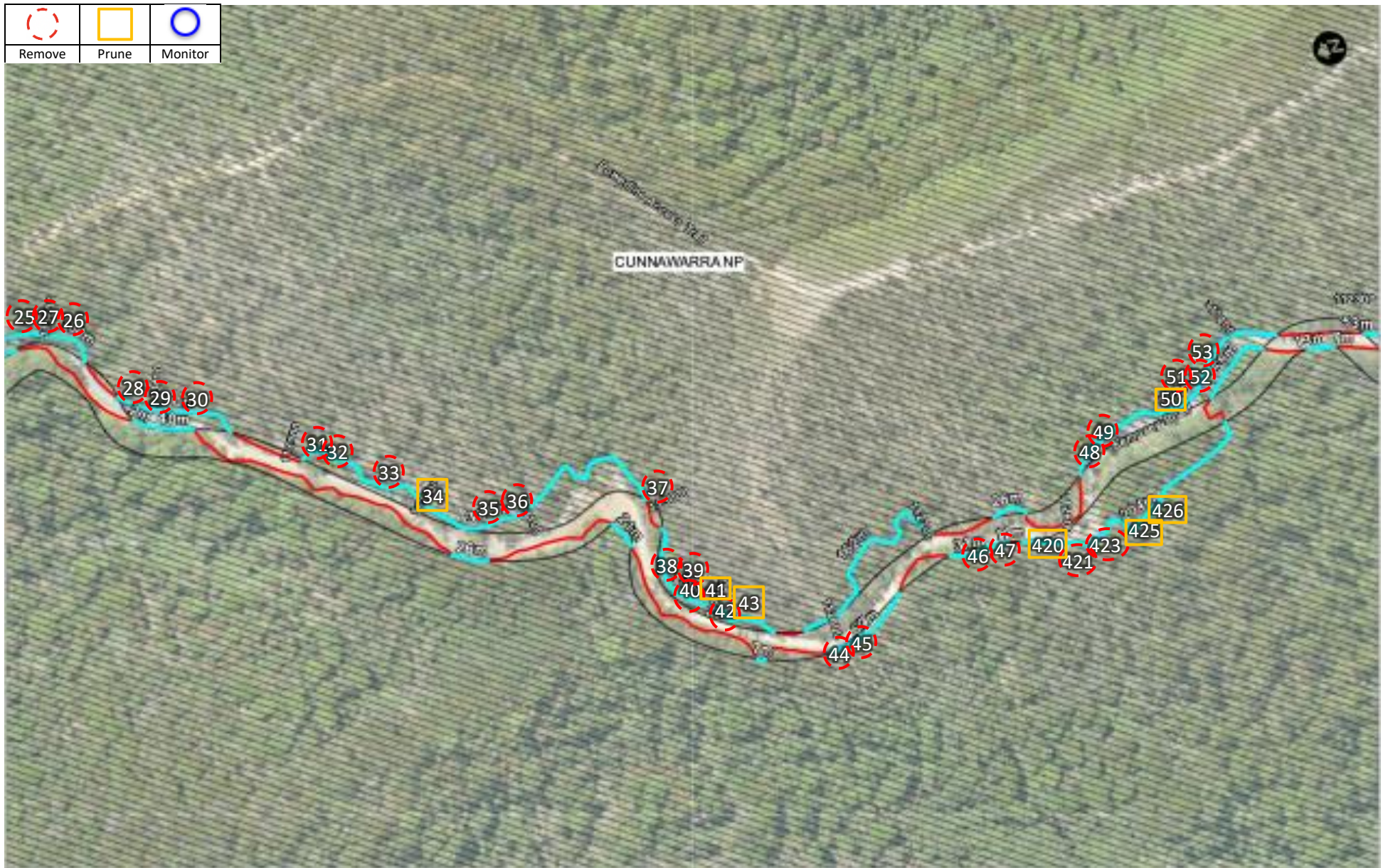


6.2 SHEET 3 OF 10






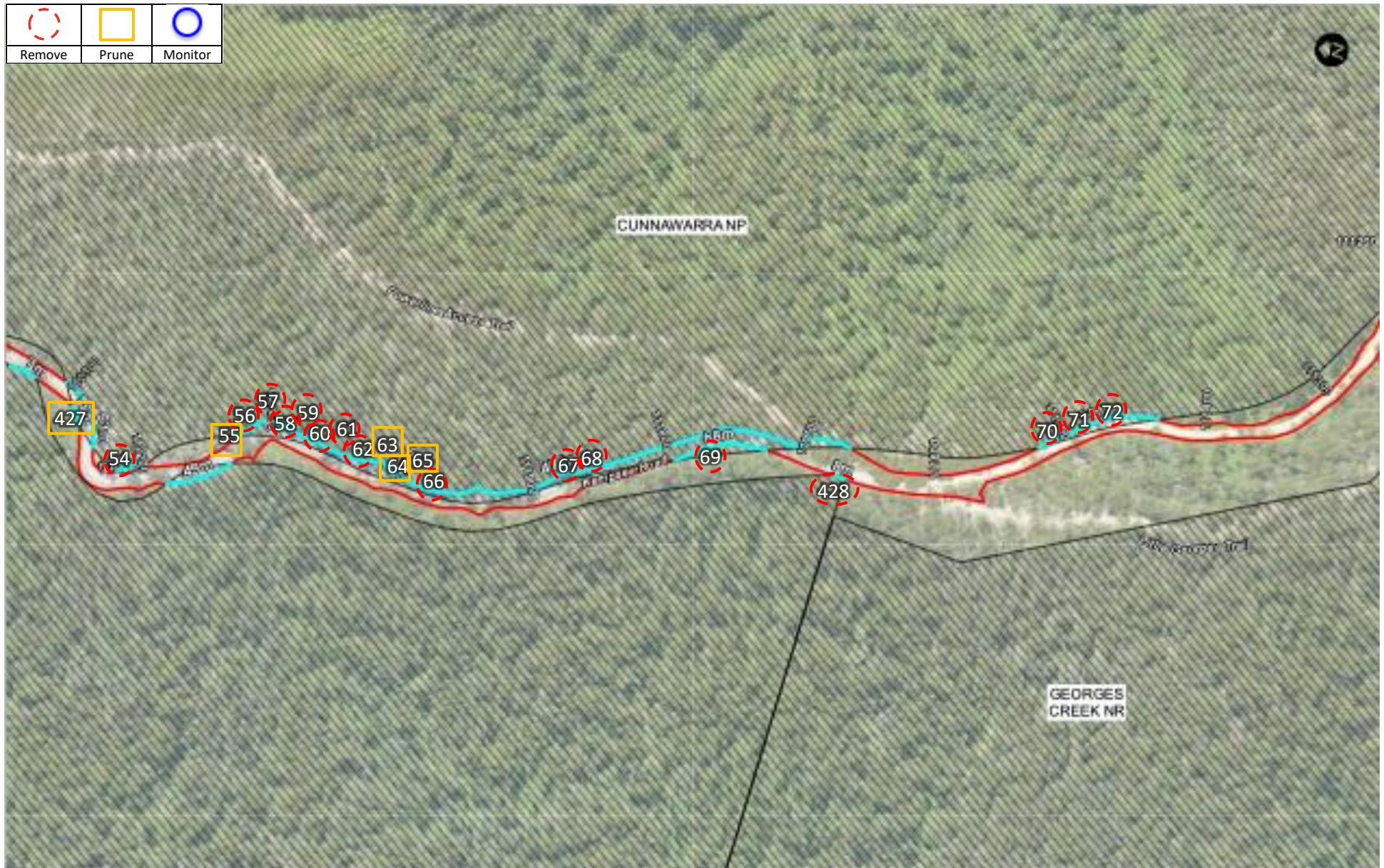
6.3 SHEET 4 OF 10

		
Remove	Prune	Monitor





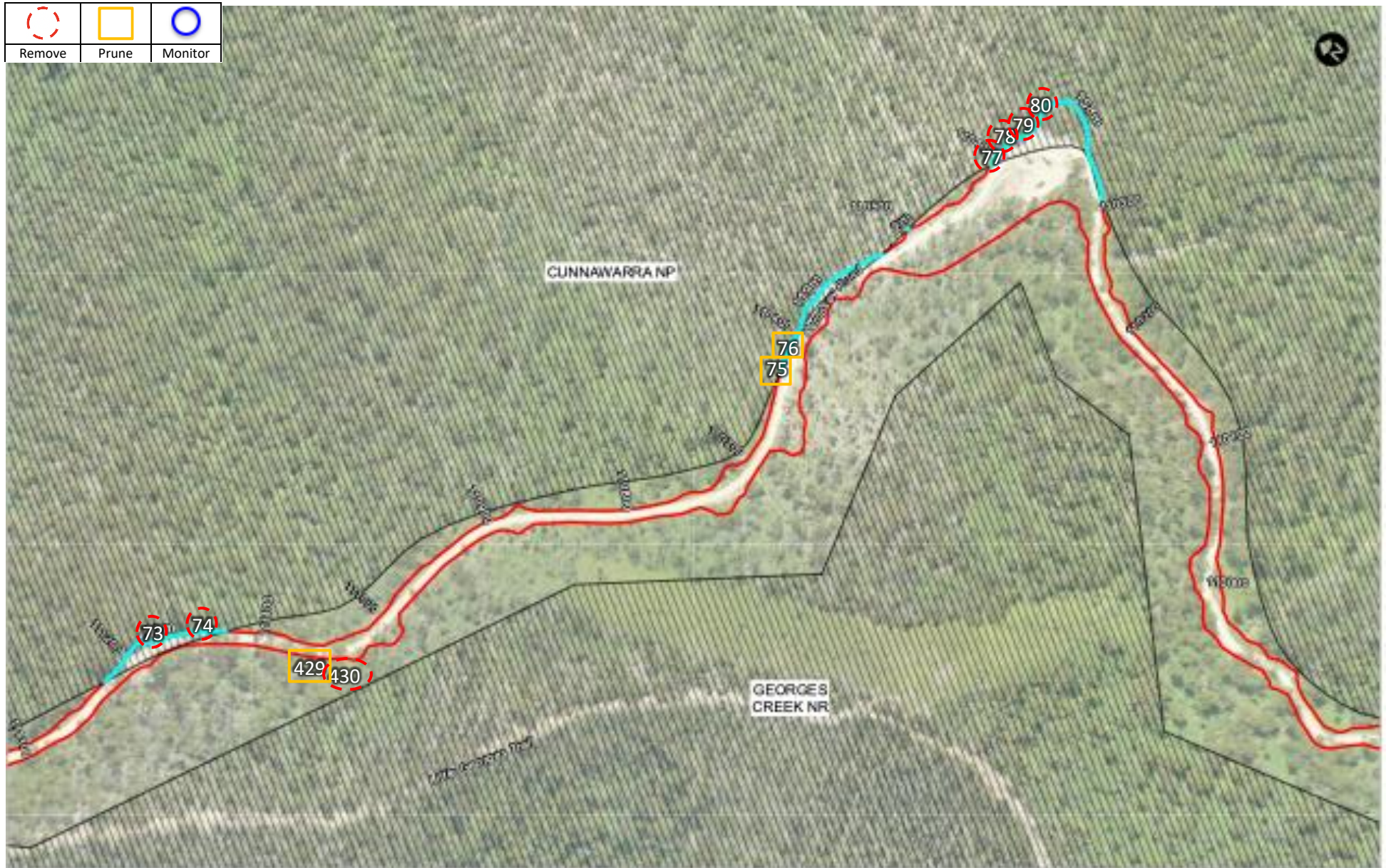
6.4 SHEET 5 OF 10

		
Remove	Prune	Monitor






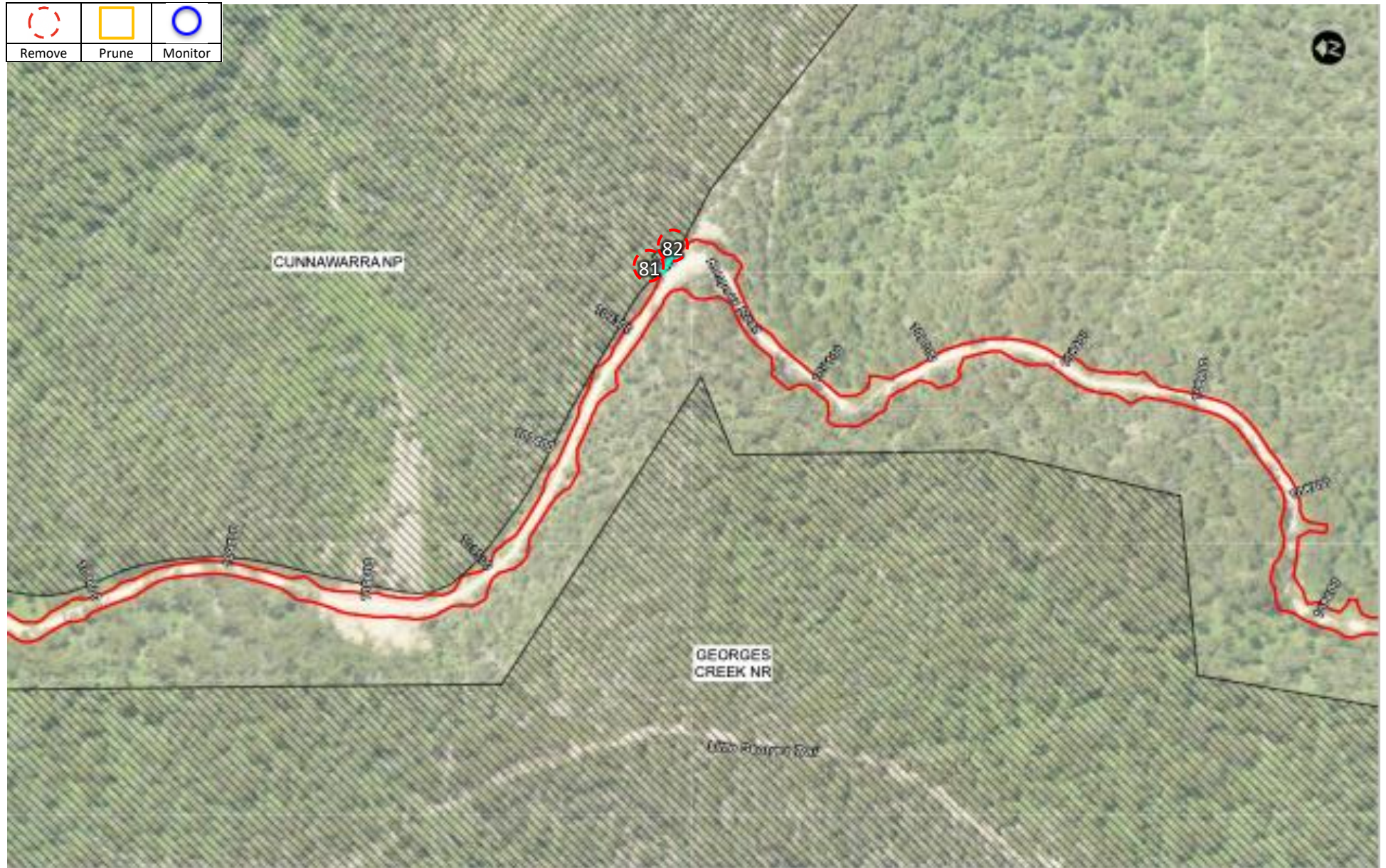
6.5 SHEET 6 OF 10

		
Remove	Prune	Monitor






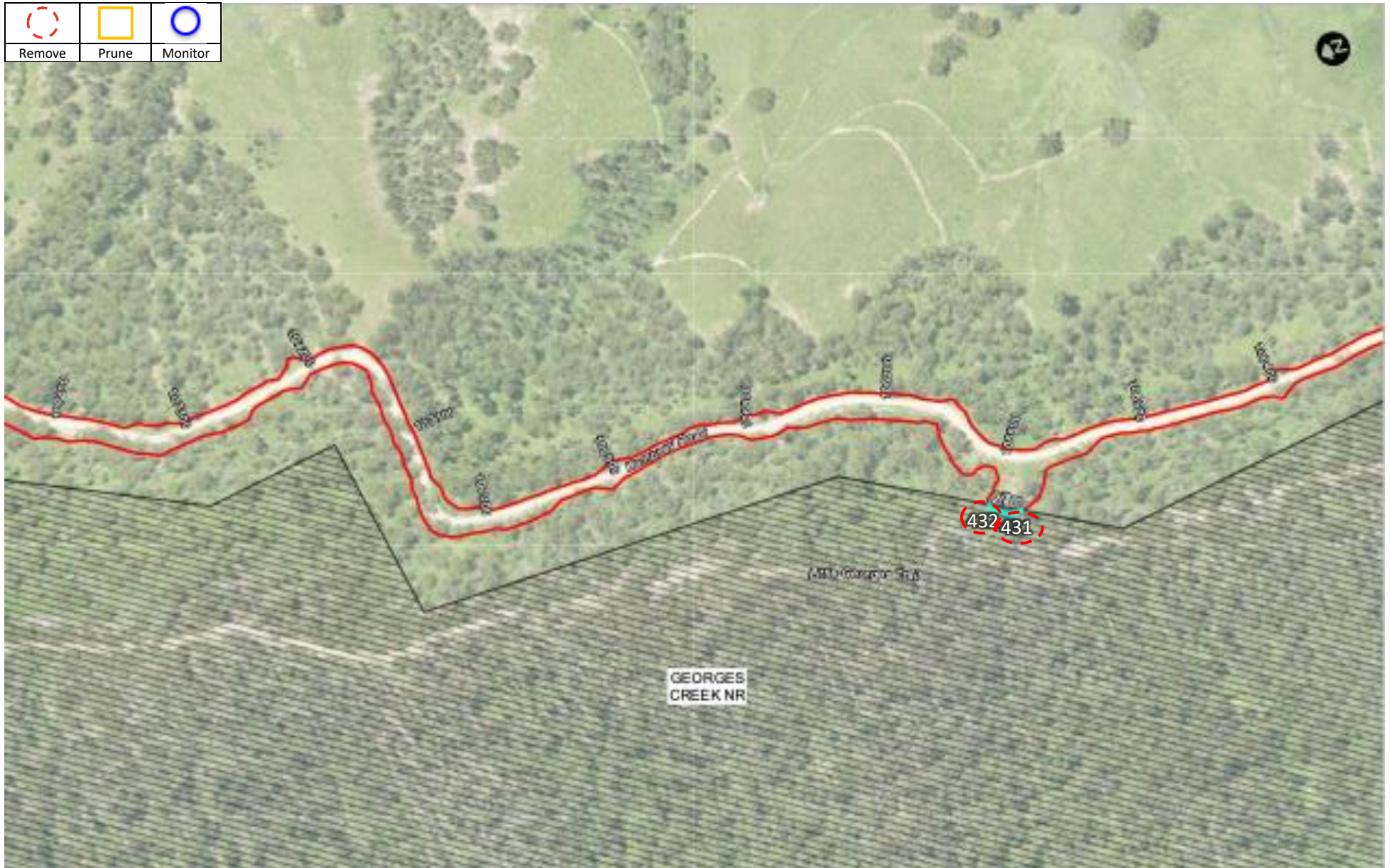
6.6 SHEET 7 OF 10

		
Remove	Prune	Monitor






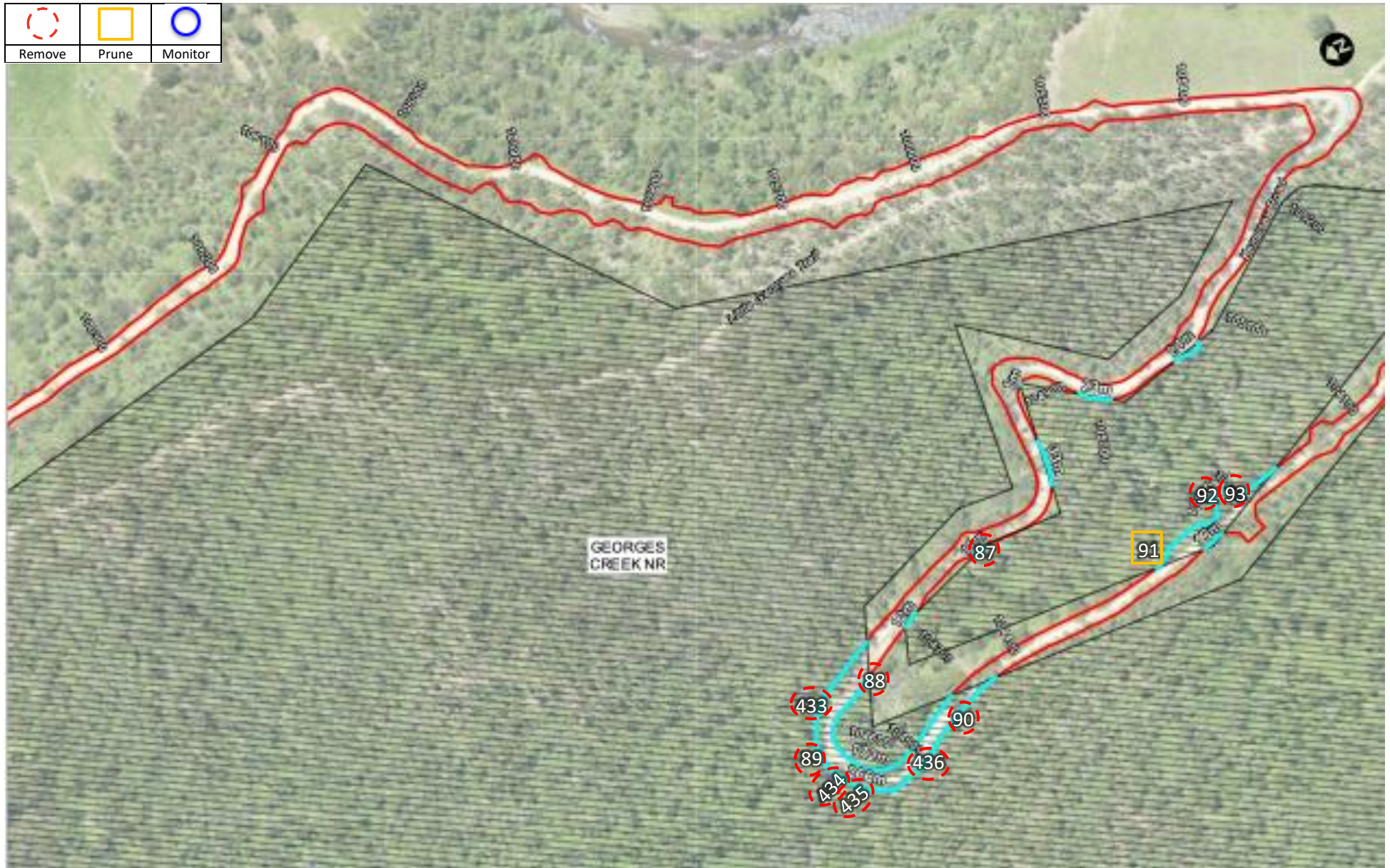
6.7 SHEET 8 OF 10

		
Remove	Prune	Monitor

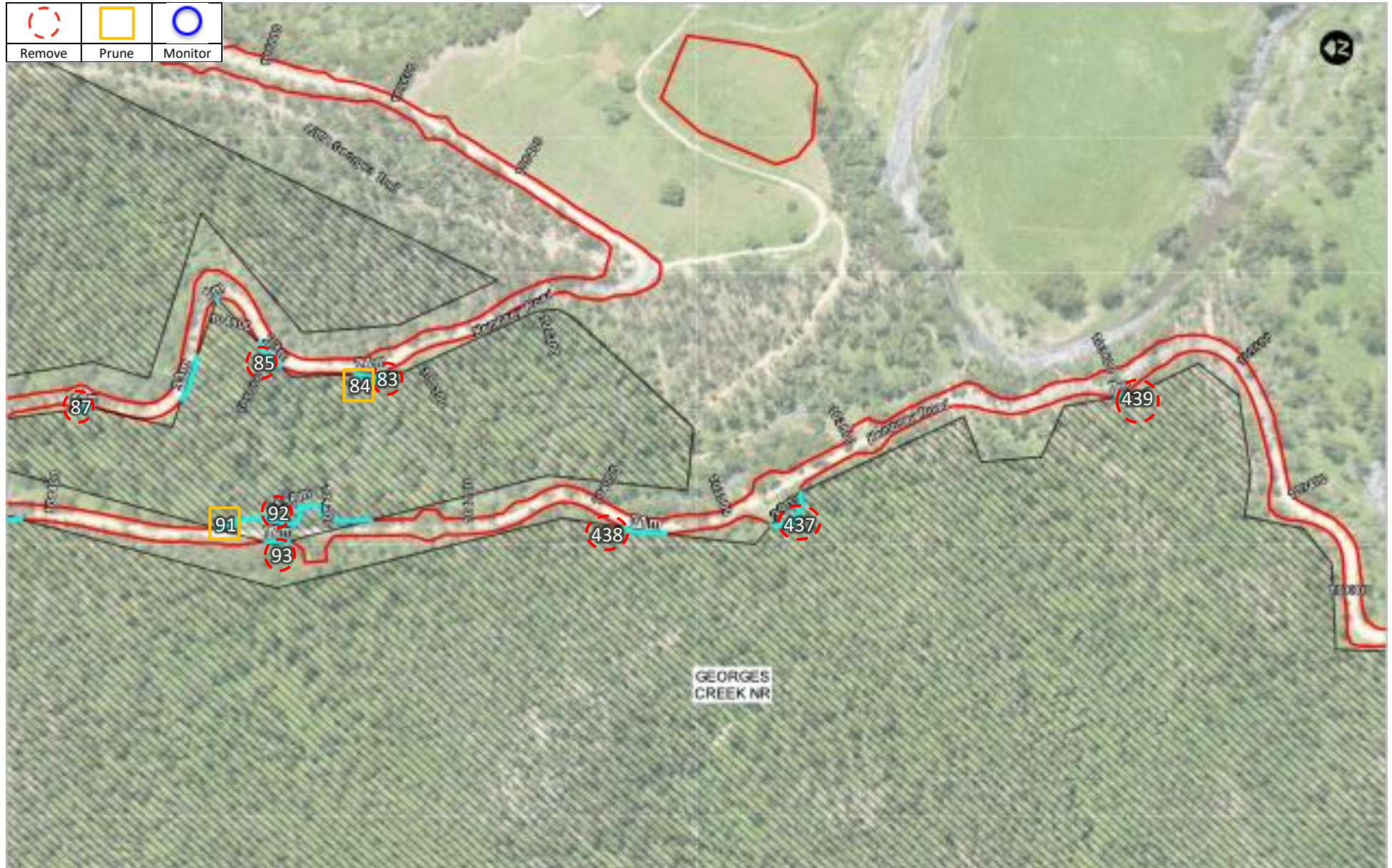


6.8 SHEET 9 OF 10

		
Remove	Prune	Monitor



6.9 SHEET 10 OF 10



7. GLOSSARY

Aerial Inspection: Where a tree is climbed by an arborist to inspect upper stem and crown for signs or symptoms of defects and disease.

Assets Protection Zone APZ: is a fuel reduced area surrounding a built asset or structure.

Bracket fungus: The rigid fruiting body of some fungus species.

Branch collar: The ring of wood tissue which forms around the base of a branch (near the branch attachment).

Cavity: A void, initiated by a wound within the trunk, branches or roots. These voids are referred to as hollows.

Canker: Fungal infections of the bark and cambium that can occur on all parts of the tree.

Co-dominant: Stems or branches equal in size and relative importance.

Crown: All the parts of a tree arising above the trunk where it terminates by its division forming branches, e.g. the branches, leaves, flowers and fruit: or the total amount of foliage supported by branches.

Crown Lifting: The removal of the lower branches of the tree.

Deadwood: Refers to any whole limb that no longer contains living tissues

Decay: Process of degradation of woody tissues by fungi or bacteria through decomposition of cellulose and lignin.

Deciduous: Describes trees and bushes that shed their leaves in the autumn. (opposite to evergreen)

Dieback: Tree deterioration where the branches and leaves die.

Drip line: Where the canopy releases water shed from the foliage during precipitation.

DBH/Diameter: Diameter at breast height, about 1.4 meters of trunk height.

Epicormic Shoots: These shoots often have a weak point of attachment. Epicormic growth/shoots are generally a survival mechanism, often indicating the presence of a current, or past stress event such as fire, pruning, drought, etc.

Flush cut: A cut, that damages or removes the branch collar or removes the branch and stem tissue and is inconsistent with the branch attachment as indicated by the bark branch ridge.

Genus/ Species: Identified using its botanical name. Where the species name is not known, species is used. The common name for trees may vary considerably in each area of geographical differences.

Height: Height has been estimated to + / - 2 meters.

Inclusion: The pattern of development at branch or stem junctions where bark is turned inward rather than pushed out. This fault is located at the point where the stems/branches meet.

Maturity: Tree age, Assessed as over-mature (last 1/3 of life expectancy), mature (1/3 to 2/3 life expectancy) and semi mature (less than 1/3 life expectancy).

Remedial (restorative) pruning: Removal of damaged, deadwood; trimming diseased or infested branches. Trimming branches back to undamaged tissue in order to induce shoots, from which a new crown will be established.

Resistograph® testing: A Resistograph® is a specialised machine that measures timber density by drilling a 3mm diameter probe through the wood, simultaneously plotting the results on a graph at full scale.

Structural Integrity: Describes the internal supporting timber. (Substantial too frail)

Structural root zone (SRZ): Refers to the radial distance in metres, measured from the centre of the tree stem, which defines the critical area required to maintain stability of the tree.

Target: Are people, property, or activities that could be injured, damaged, or disrupted by a tree.

Tree Protection Zone (TPZ): Refers to the radius distance in metres, measured from the centre of the tree stem which defines the tree protection zone for a tree to be retained. This is generally the minimum distance from the centre of the tree trunk where protective fencing is to be installed to create an exclusion zone associated with construction works.

Vigour: Refers to the tree's health as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion, and the degree of dieback.

Windthrow: Tree failure when a force exerted by wind against the foliage crown and trunk overcomes resistance to that force in the root plate.

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APPENDICES

Appendix A Visual Tree Assessment (VTA)

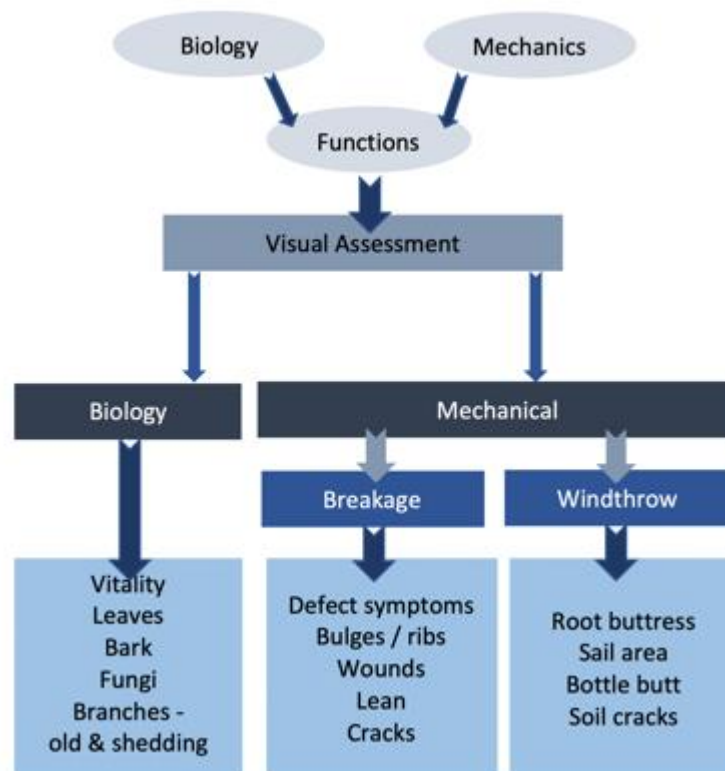


Diagram 1: VTA Chart by Claus Mattheck (1994) *The Body Language of Trees* adapted.

Schedule 1: Categories for VTA.

VISUAL TREE DIAGNOSTICS	
1	Maturity: J - Juvenile; IM - Immature; SM - Semi-Mature; M - Mature
Health & Vigour	Condition of Tree
KEY	KEY
4 Dieback is more than 20%.	2 Good Condition
4b Epicormics	3 Good Condition but poor development
5 Sparse Foliage Crown	3b Moderate.
7 Insect damage-foliage	5b Unbalanced Canopy
7b Borers	6 Physical Damage
8 Fungal Attack -pathogen	
10 Termite activity	9 Cavity
12b Dying	10b Inclusions
	11 Lean
14 Parasitic Vine Present	12 Heavily pruned
15 Damage by Climbing Plant	13 Damage to roots
	13b Encroachment
17 Habitat Tree	
18 Endangered Species	16 Inclusions

Appendix B Tree Useful Life Expectancy – (TULE)

Schedule 2: Adapted with permission Jeremy Barrell (SULE) 2014 for TCAA consulting arborists.

	1 LONG TULE	2 MEDIUM TULE	3 SHORT TULE	4 REMOVE	5 NO POTENTIAL FOR RETENTION	6 SMALL, YOUNG OR REGULARLY CLIPPED
	Trees that appear to be retainable for more than 40 years with a low level of hazard.*	Trees that appear to be retainable for 15-40 years with a low to medium level of hazard.*	Trees that appear to be retainable for 5-15 years with a medium to high level of hazard.*	Trees that should be removed within the next 5 years with a high to very high level of hazard.*	Trees that should be removed immediately with a very high to extreme level of hazard.*	Trees than can be easily transplanted or replaced.
A	Structurally sound trees located in positions that can accommodate future growth.	Trees that may only live for between 15 and 40 more years.	Trees that may only live for between 5 and 15 more years.	Dead, dying or declining trees through disease or inhospitable conditions.	Dead, dying or declining trees diseased or inhospitable conditions.	Small trees less than 5 metres in height.
B	Trees that could be made suitable for retention in the long term by intervention works.	Trees that may live for more than 40 years, but would need to be removed for safety or nuisance reasons.	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons.	Dangerous trees through instability or recent loss of adjacent trees.	Dangerous trees through instability or recent loss of adjacent trees.	Young trees less than 15 years old but over 5 metres in height.
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.	Trees that may live for more than 40 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees that may live for more than 15 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control growth.
D		Trees that could be made suitable for retention in the medium term by intervention works.	Trees that require substantial intervention works and are only suitable for retention in the short term.	Damaged trees that are clearly not safe to retain.	Damaged trees that are clearly not safe to retain and must be removed immediately.	
E				Trees that may live for more than 5 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	High toxicity/allergen trees, asthmatic and poisonous trees that must be removed immediately.	
F				Trees that may cause damage to existing structures within 5 years.	OTHER, with legitimate explanation to be removed immediately.	
G				Trees that will become dangerous after removal of other trees for reasons given in 4A to 4F.		

INSPECTION FREQUENCY					
Every 1-5 years by a competent inspector, or event monitored.	Every 1-5 years by a competent inspector, or event monitored.	Every 1-3 years by a competent inspector, or event monitored.	Annually by a competent inspector, or event monitored.	Every 1-7 days by a competent inspector and event monitored.	Bi-annually by a competent inspector.

* For sites with higher occupation.

Appendix C Landscape Significance Rating

Schedule 3: Heritage, Ecological and Amenity Significance. Source: Morton, A (2006) Criteria for Assessment of Landscape Significance.

RATING	HERITAGE VALUE	ECOLOGICAL VALUE	AMENITY VALUE
SIGNIFICANT	The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state, or national level of significance or is listed on Council's Significant Tree Register.	The subject tree is scheduled as a Threatened Species as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999.	The subject tree has a very large live crown size exceeding 300m ² with normal to dense foliage cover, is in a visually prominent position in the landscape, exhibits very good form and habit typical of the species.
	The subject tree forms part of the curtilage of a Heritage Item (building/structure/artefact as defined under the LEP) and has a known or documented association with that item.	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter, or nesting tree for endangered or threatened fauna species.	The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity.
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event.	The subject tree is a remnant tree, being a tree in existence prior to development of the area.	The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
VERY HIGH	The tree has a strong historical association with a heritage item (building/structure/artefact/garden etc..) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 200m ² , a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.
HIGH	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence.	The tree is a locally indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link/Wildlife Corridor or has known wildlife habitat value.	The subject tree has a large live crown size exceeding 100m ² ; The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distortion/suppression) with a crown density of at least 70% (normal); The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area.
MODERATE	The tree has no known or suspected historical association, but does not detract or diminish the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of this DCP.	The subject tree has a medium live crown size exceeding 40m ² ; The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc.) with a crown density of more than 50% (thinning to normal); and The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
LOW	The subject tree detracts from heritage values or diminishes the value of a heritage item.	The subject tree is scheduled as exempt (not protected) under the provisions of this DCP due to its species, nuisance, or position relative to building or other structures.	The subject tree has a small live crown size of less than 40m ² and can be replaced within the short term (5-10 years) with new tree planting.
VERY LOW	The subject tree is causing significant damage to a heritage Item.	The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or is a known nuisance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse).
INSIGNIFICANT	The tree is completely dead and has no visible habitat value.	The tree is a declared noxious weed under the Biosecurity Act 2015 (NSW) within the relevant Local Government Area.	The tree is completely dead and presents a potential hazard.

Appendix D Tree Risk Assessment (TRA)

Adapted by Sullivan vTRA & TCAA (2014) and McArdle D & J (2022) from Matheny, N.P and Clark, J.R, 1994 & Australian Standard® ISO 31000:2018 Risk Management Guidelines.

McArdle & Sons Pro Tree Service

Categories and Sub-Categories

		RISK TARGET RATING				
		OCCASIONAL USE	INTERMITTENT USE	FREQUENT USE	CONSTANT USE	CONTINUAL USE
FAILURE POTENTIAL	VERY LIKELY Almost certain to occur in most circumstances	Medium	High 1	High 1	High 2	High 3
	LIKELY May occur frequently	Medium	Medium	High 1	High 2	High 3
	SOMEWHAT LIKELY Possible and likely to occur at some time	ALARP	Medium	High 1	High 1	High 2
	UNLIKELY Not likely to occur but could happen	ALARP	ALARP	Medium	Medium	Medium
	HIGHLY UNLIKELY May occur in rare and exceptional circumstance	ALARP	ALARP	ALARP	ALARP	ALARP

Table: Risk Matrix Adapted with permission Bill Sullivan 2019 for TCAA licensed climbing Arborists.

The risk rating score is determined after assessing the Failure Potential and Target Rating of an identified hazard tree. The determination of these calculations will indicate a priority and course of action when implementing the risk reduction measures.

Failure Potential x Target Rating = Risk Assessment.

FAILURE POTENTIAL	
Very Likely	Partial or whole tree failure is imminent e.g. cavity in excess of 50% of the trunk. Major bark inclusions, dead limbs, leaning tree with lifting root plate, roots/trunk decayed or damaged, Toxins, HOSTING BEES (other).
Likely	Defects that could cause structural failure of the tree within the next 6 months.
Somewhat likely	Defects present that could cause portions of the tree to fail.
Unlikely	Defects are minor and not likely to cause significant harm.
Highly unlikely	Tree is healthy with no obvious defects.
TARGET RATING	
1. Occasional use	1. Suburban Park Quite Street, Restricted Area, etc. Intermittent use
2. Intermittent use	2. Parking lot, Ovals, play area in park, etc.
3. Frequent use	3. Busy street adjacent, school yard, child care centre.
4. Constant use	4. Occupied buildings, residences, CBD, etc.
5. High 1 Continual use	5. Hospitals, emergency services, High 1 Voltage power lines, busy High 1 way

Priority work is governed by the degree of risk as follows;

TARGET RATING	PRIORITY TIMEFRAME	RECOMMENDED CONTROL MEASURES & TREE AT ALARP
ALARP	n/a	no work required
Medium	Within 3 months	Recommended Control Measure can mean isolating a tree until work can be done
High 1	Within 1 month	
High 2	Within 7 days	
High 3	Within 24 hours	

Disclaimer

McArdle and Sons Arboricultural Services Pty Ltd does not assume responsibility for liability associated with the tree on/or adjacent to this project site, the future demise and/or any damage which may result therefrom. They take care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

McArdle and Sons Arboricultural Services Pty Ltd cannot be held responsible for any consequences as result of work carried out outside specifications, not in compliance with Australian Standard® or by inappropriately qualified staff. If further investigations such as, aerial, drill and root test are recommended, the report shall not be considered final until all investigations have been completed, as further defects may be found.

STATEMENT OF LIMITATIONS

McArdle and Sons Arboricultural Services Pty Ltd makes every effort to accurately identify current tree health and hazards. Results may or may not correlate to actual tree structural integrity. There are many factors that may contribute to limb or total tree failure. Not all these symptoms are visible. There can be hidden defects that may result in a failure even though it would seem that other, more obvious defects would be the likely cause of failure. All standing trees have an element of unpredictable risk.

The inspection was limited to a visual ground examination of the tree, without aerial inspections and below ground excavations. The assessments are limited and do not include specialised analysis. No internal diagnostics, aerial inspection and pathology test were conducted. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale. No part of this report is to be reproduced without written permission from the author.



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TREE PHOTOS (Part B)

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Arboricultural Services



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OBSERVATIONS



Plate 1: Tree 1, dead stag, remove. Yellow arrow.



Plate 2: Tree 1a, *Eucalyptus caliginosa* prune dead wood (5 branches) from 15 to 26 meters.



Plate 3: Tree 2, *Eucalyptus netriens*, Prune dead wood at 2 meters. Yellow arrow.



Plate 4: Tree 3, *Eucalyptus netriens* Prune dead wood to the East at 15 meters – heavy dead wood over site. Yellow arrow.



Plate 5: Tree 3, *Eucalyptus netriens* Prune dead wood to the East at 15 meters – heavy dead wood over site.

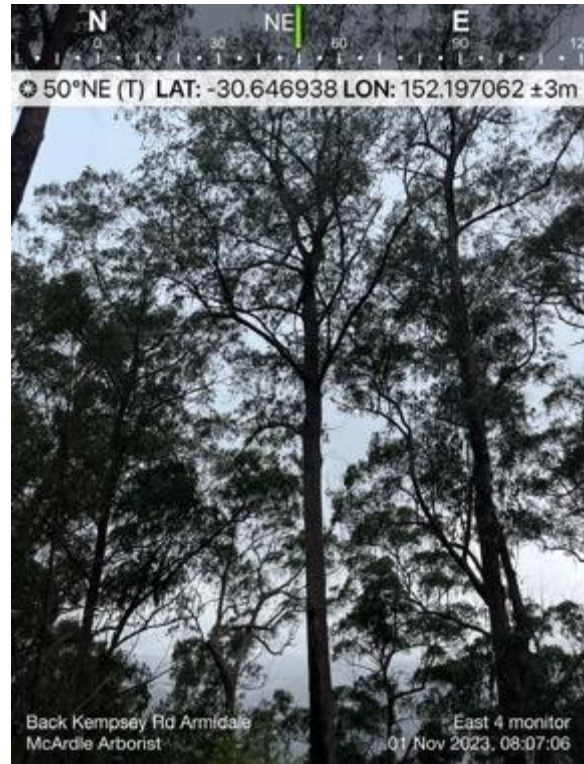


Plate 6: Tree 4, *Eucalyptus netriens* Monitor.

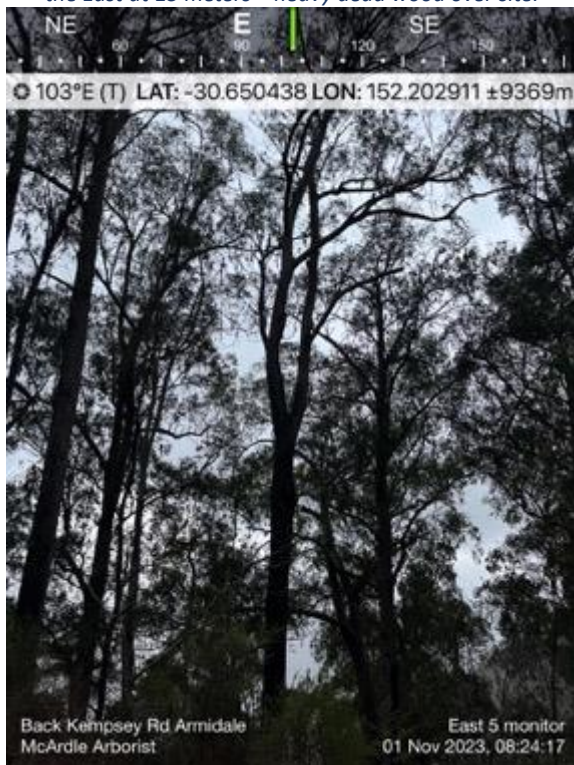


Plate 7: Tree 5, *Eucalyptus caliginosa* , Prune dead wood over works. Monitor.



Plate 8: Tree 6, Dead stag, Remove. Yellow arrow.



Plate 9: Tree 7, *Eucalyptus caliginosa*. Remove.



Plate 10: Tree 7, *Eucalyptus caliginosa*. Remove. Yellow arrow.



Plate 11: Tree 8, *Eucalyptus caliginosa*. Remove. Yellow arrow.



Plate 12: Tree 9, Dead stag, Remove. Yellow arrow.



Plate 13: Tree 10, *Eucalyptus caliginosa*. Remove.



Plate 14: Tree 11, *Eucalyptus caliginosa* Prune dead branches over road.



Plate 15: Tree 13, *Eucalyptus caliginosa*. Remove.



Plate 16: Tree 14, Dead tree, Remove.



Plate 17: Tree 15, *Eucalyptus microcorys*, Remove.
Tree 16, *Eucalyptus microcorys*, Remove.



Plate 18: Tree 17, *Eucalyptus saligna*, Remove. Yellow arrow.



Plate 19: Tree 18, *Eucalyptus saligna*, Prune dead wood over work area.



Plate 20: Tree 19, *Syncarpia glomulifera*, Remove.



Plate 21: Tree 20, *Eucalyptus caliginosa*. Remove Yellow arrow.



Plate 22: Tree 21, Dead stag, Remove.



Plate 23: Tree 22, Dead stag, Remove.

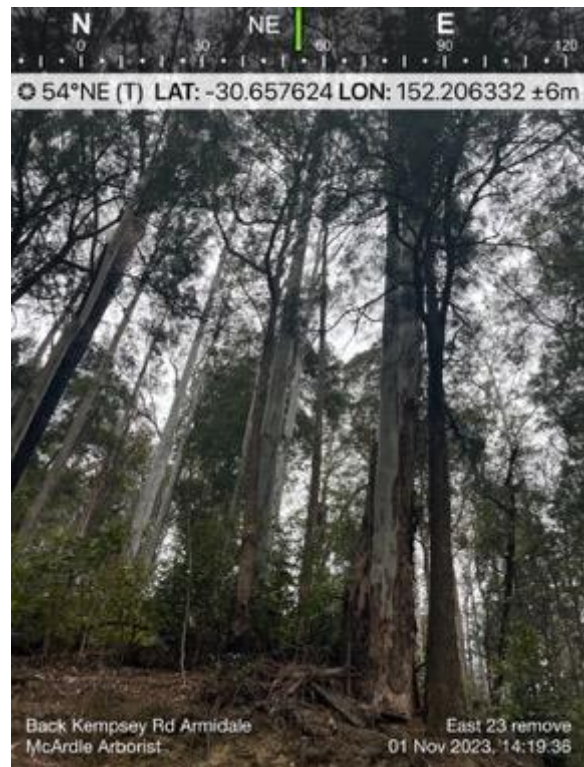


Plate 24: Tree 23, Dead stag, Remove.



Plate 25: Tree 24, Dead stag, Remove. Yellow arrow.



Plate 26: Tree 25, Casuarina species, Remove.



Plate 27: Tree 26, Dead stag, Remove.



Plate 28: Tree 27, Eucalyptus saligna, Remove.



Plate 29: Tree 28, *Eucalyptus caliginosa*. Remove.



Plate 30: Tree 29, *Casuarina* species, Remove. Yellow arrow.



Plate 31: Tree 30, *Casuarina* species, Remove.



Plate 32: Tree 31, *Eucalyptus caliginosa*. Remove.



Plate 33: Tree 32, *Casuarina species*, Remove.



Plate 34: Tree 33, *Eucalyptus caliginosa*. Remove.



Plate 35: Tree 34, *Eucalyptus caliginosa*. Prune to reduce by 50%.



Plate 36: Tree 35, *Syncarpia glomulifera*, Remove.



Plate 37: Tree 36, Dead stag, Remove.



Plate 38: Tree 37, Eucalyptus caliginosa. Remove. On bank.

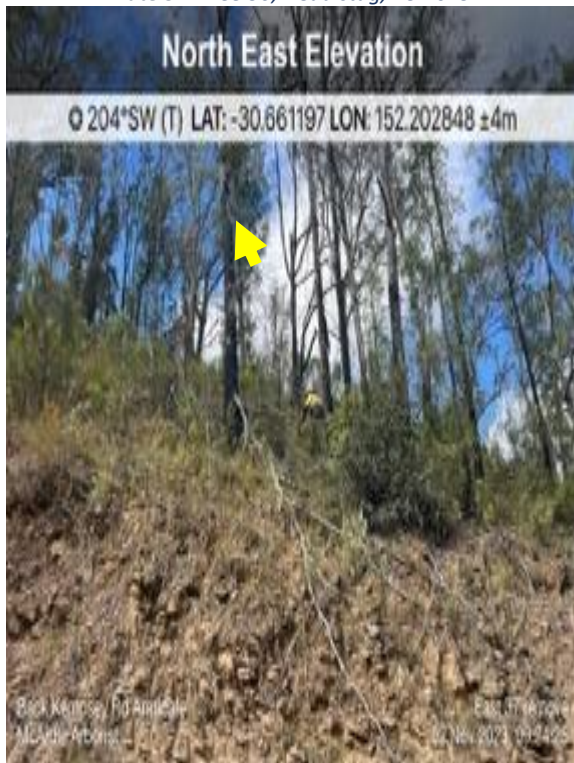


Plate 39: Tree 37, Eucalyptus caliginosa. Remove. On bank.



Plate 40: Tree 38, Dead stag, remove. Yellow arrow.



Plate 41: Tree 39, *Eucalyptus caliginosa*. Remove to stump.



Plate 42: Tree 40, *Casuarina* species, Remove.



Plate 43: Tree 41, *Eucalyptus caliginosa*. Prune dead wood over road.



Plate 44: Tree 42, Dead *Casuarina* stag, Remove. Yellow arrow.



Plate 45: Tree 43, *Eucalyptus caliginosa*. Prune dead wood over bank.

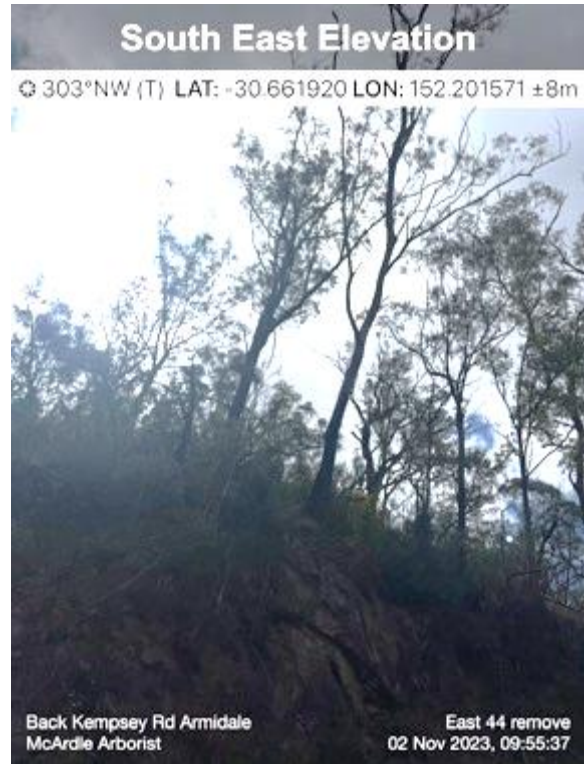


Plate 46: Tree 44, *Eucalyptus caliginosa*. Remove.



Plate 47: Tree 45, *Eucalyptus caliginosa* Remove.



Plate 48: Tree 46, Dead stag, Remove.



Plate 49: Tree 47, *Eucalyptus caliginosa* Remove in hatch.



Plate 50: Tree 47, *Eucalyptus caliginosa* Remove. Yellow arrow and yellow hatch.



Plate 51: Tree 48, *Syncarpia glomulifera*, Remove. Yellow arrow.



Plate 52: Tree 49, Dead stag, Remove.



Plate 53: Tree 49, Dead stag, Remove. Yellow arrow.



Plate 54: Tree 50, *Eucalyptus caliginosa* Prune dead wood at 10 to 20 meters.



Plate 55: Tree 51, Dead stag, Remove.



Plate 56: Tree 53, *Eucalyptus caliginosa* Remove. Yellow arrow.



Plate 57: Tree 54, *Eucalyptus caliginosa* Remove.



Plate 58: Tree 55, *Eucalyptus caliginosa* Prune dead wood over road.



Plate 59: Tree 57, Dead stag, Remove. Yellow arrow.



Plate 60: Tree 58, *Eucalyptus caliginosa*, Remove.



Plate 61: Tree 59, Dead stag, Remove. Yellow arrow.



Plate 62: Tree 60, *Eucalyptus saligna*, Remove.



Plate 63: Tree 61, Dead stag, Remove.



Plate 64: Tree 62, *Eucalyptus caliginosa* Remove.



Plate 65: Tree 62, *Eucalyptus caliginosa* Remove.



Plate 66: Tree 63, *Eucalyptus caliginosa*, Prune dead wood and hanging branch over target.



Plate 67: Tree 64, *Eucalyptus caliginosa* Prune dead wood over target.



Plate 68: Tree 65, *Angophora costata*, Prune with 300 mm diameter cut at 16 meters.



Plate 69: Tree 66, *Eucalyptus caliginosa* Remove.



Plate 70: Tree 67, *Eucalyptus caliginosa* , Remove.



Plate 71: Tree 68, *Eucalyptus caliginosa* , Remove. Yellow arrow.



Plate 72: Tree 69, *Eucalyptus caliginosa* , Remove to stump.



Plate 73: Tree 69, *Eucalyptus caliginosa*, Remove to stump.



Plate 74: Tree 70, *Eucalyptus microcorys*, Remove.



Plate 75: Tree 71, *Eucalyptus microcorys*, Remove two trees.



Plate 76: Tree 72, Dead stag, Remove.



Plate 77: Tree 73, Dead stag, Remove.



Plate 78: Tree 73, Dead stag, Remove.

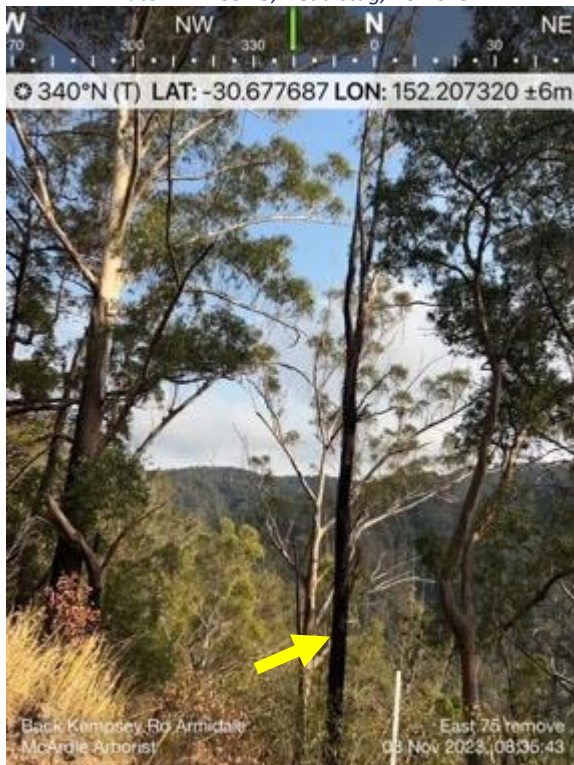


Plate 79: Tree 75, Dead stag, Prune by 50% over road.



Plate 80: Tree 76, Eucalyptus caliginosa, Prune dead wood over road 12 to 25 meters.



Plate 81: Tree 77, Dead stag, Remove.

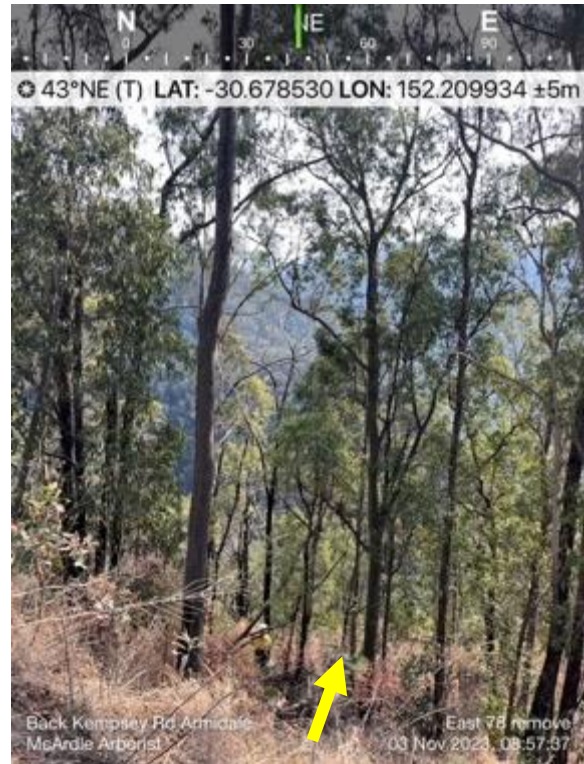


Plate 82: Tree 78, Dead stag, Remove.



Plate 83: Tree 79, Dead stag, Remove.



Plate 84: Tree 80, Dead stag, Remove.



Plate 85: Tree 80, Dead stag, Remove. Yellow arrow.



Plate 86: Tree 80, Dead stag, Remove. Yellow arrow.



Plate 87: Tree 81, Dead stag, Remove.



Plate 88: Tree 82, Dead stag, Remove.



Plate 89: Tree 82, Dead stag and Dan McArdle, Remove.

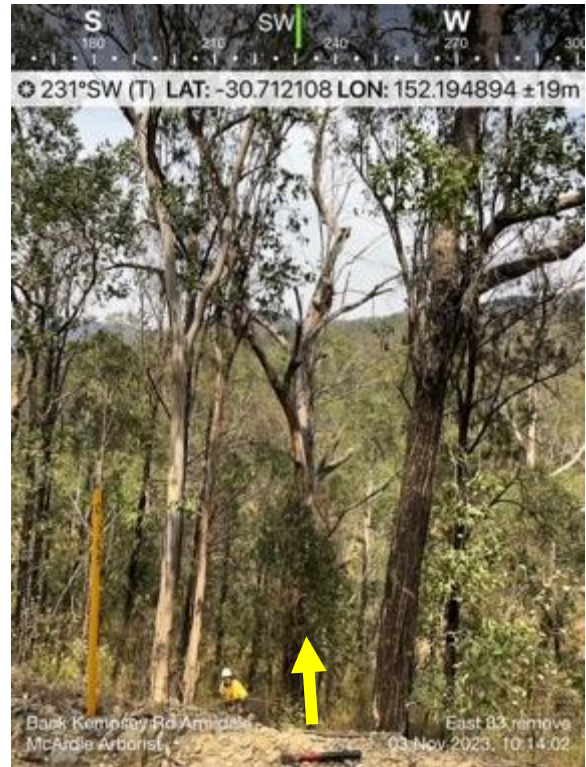


Plate 90: Tree 83, Dead stag, Remove.



Plate 91: Tree 84, *Corymbia maculata*, Prune and monitor.

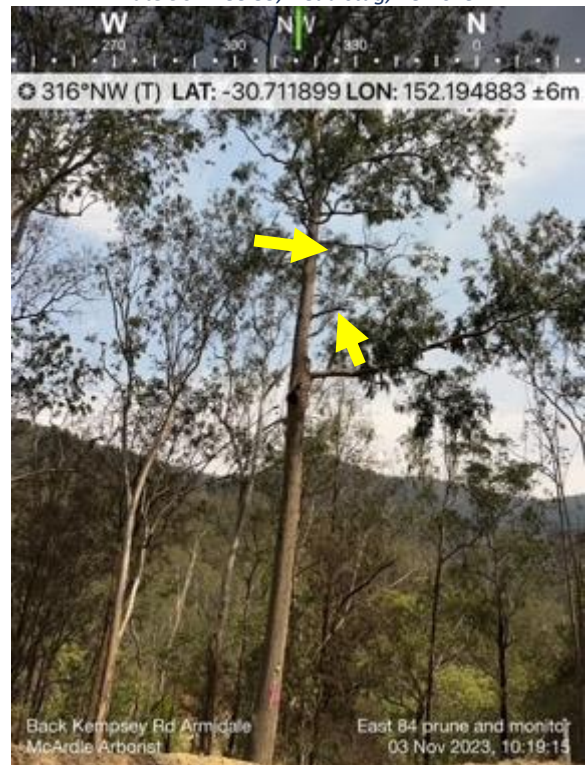


Plate 92: Tree 84, *Corymbia maculata*, Prune (Yellow arrow) and monitor.



Plate 93: Tree 85, Dead stag & Casuarina speices, Remove.



Plate 94: Tree 85, Dead stag & Casuarina speices, Remove. Yellow arrow.

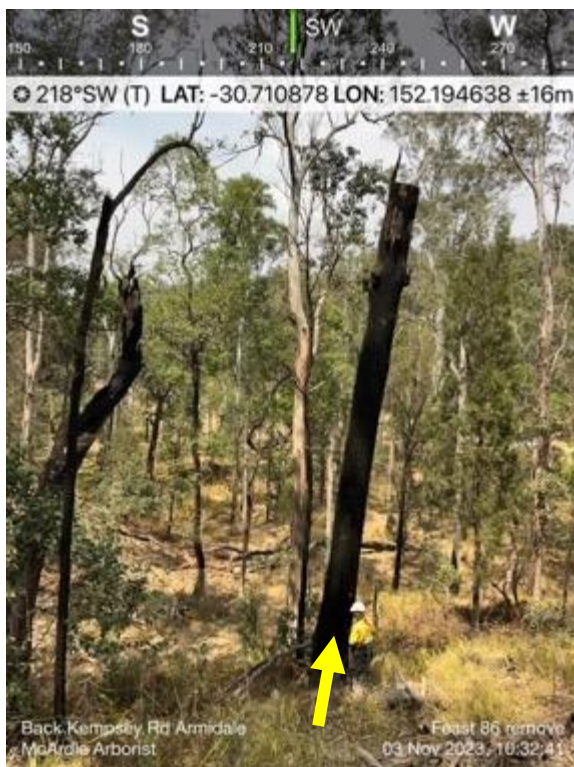


Plate 95: Tree 86, Dead stag, Remove.



Plate 96: Tree 87, Eucalyptus Remove.



Plate 97: Tree 88, *Pittosporum undulatum*, Remove.



Plate 98: Tree 89, *Angophora floribunda*, Remove tree if working adjacent.



Plate 99: Tree 89, *Angophora floribunda*, Remove tree if working adjacent. Yellow arrow.



Plate 100: Tree 90, Dead stag, Remove. Yellow arrow.



Plate 101: Tree 91, Eucalyptus Prune stag off tree.



Plate 102: Tree 92, Dead stag, Remove.



Plate 103: Tree 92, Dead stag, Remove.



Plate 104: Tree 92, Dead stag, Remove.

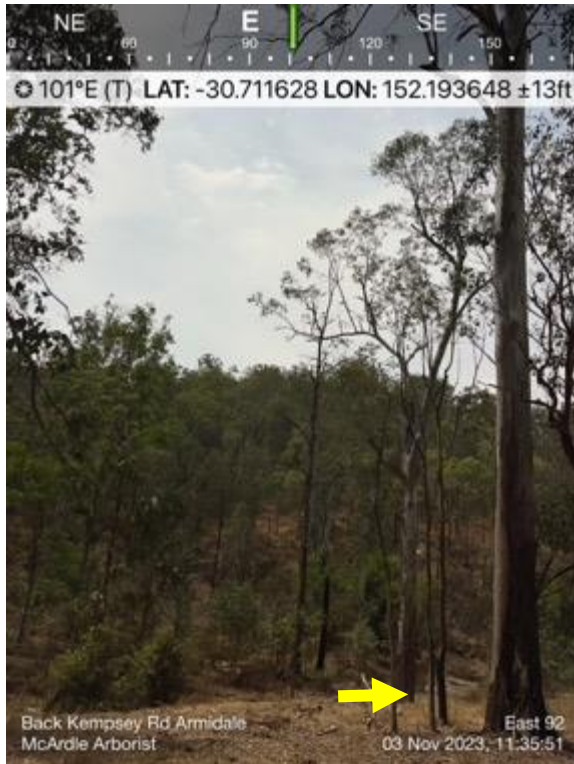


Plate 105: Tree 92, Dead stag, Remove.

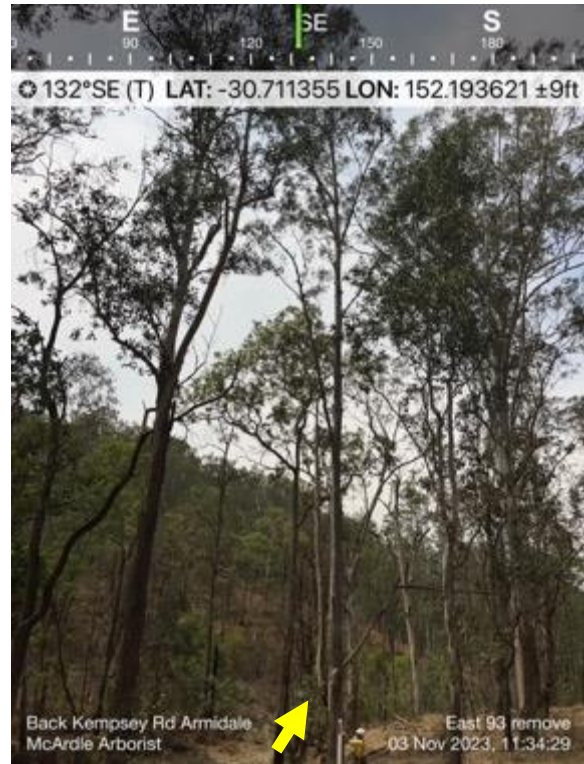


Plate 106: Tree 93, Eucalyptus Remove.



Plate 107: Tree 401, Eucalyptus species, Remove. Yellow arrow.



Plate 108: Tree 402, Eucalyptus caliginosa, Prune branches over work area or remove.



Plate 109: Tree 402, *Eucalyptus caliginosa*, Prune branches over work area or remove. Yellow arrow.



Plate 110: Tree 403, *Eucalyptus caliginosa*, Prune dehydration. Yellow arrow.



Plate 111: Tree 404, *Eucalyptus caliginosa*, Prune dead wood. Yellow arrow.



Plate 112: Tree 405, *Eucalyptus caliginosa*, Remove. Yellow arrow.



Plate 113: Tree 406, *Eucalyptus caliginosa*, Remove.



Plate 114: Tree 407, Dead tree, Remove in yellow hatch



Plate 115: Tree 408, *Eucalyptus caliginosa*, Remove.



Plate 116: Tree 409, *Acacia* species, Prune branches overhanging work zone. (Hatched area).



Plate 117: Tree 410, Dead stag, Remove.

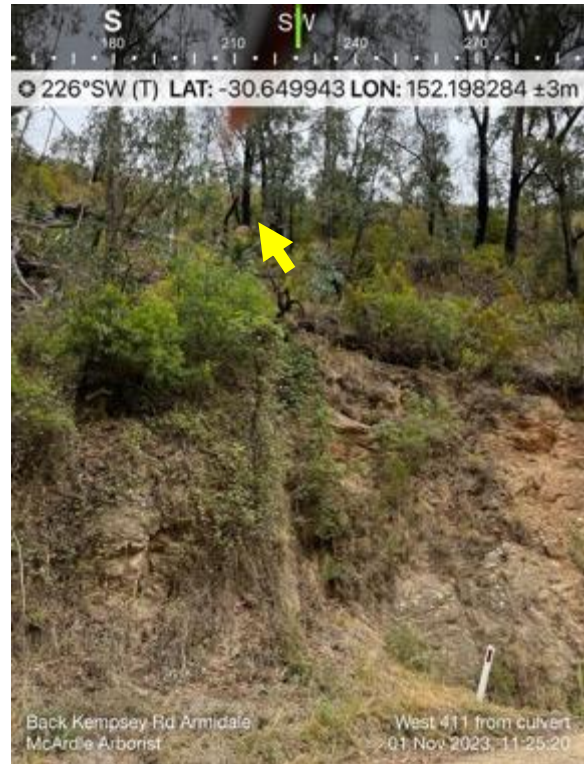


Plate 118: Tree 411, *Eucalyptus caliginosa*, Remove.



Plate 119: Tree 411, *Eucalyptus caliginosa*, Remove.
Yellow arrow.



Plate 120: Tree 411, *Eucalyptus caliginosa*, Remove.
Yellow arrow.



Plate 121: Tree 412, Dead, Remove.



Plate 122: Tree 412, Dead, Remove. Yellow arrow.



Plate 123: Tree 412, Dead, Remove. Yellow arrow.



Plate 124: Tree 413, Dead, Remove.



Plate 125: Tree 413, Dead, Remove.



Plate 126: Tree 414, Eucalyptus caliginosa, Prune dead branch over work area.

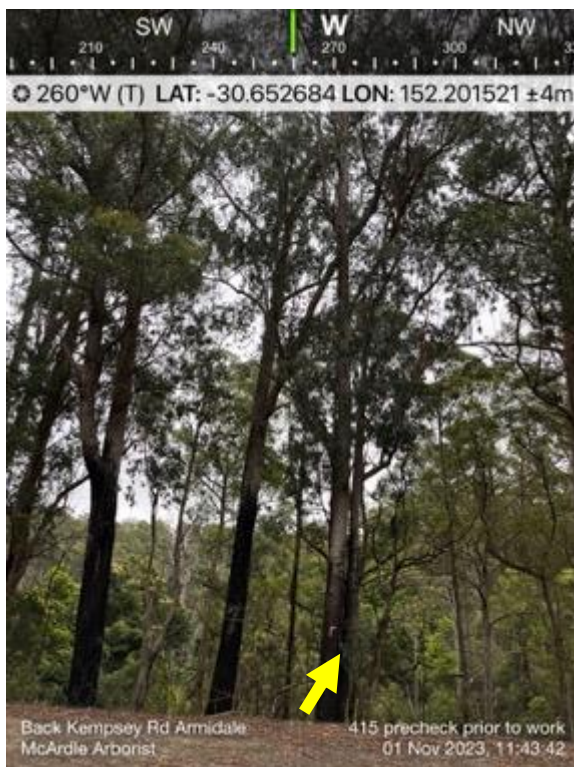


Plate 127: Tree 415, Eucalyptus caliginosa, Prune dead branch over work area.



Plate 128: Tree 416, Eucalyptus caliginosa, Prune dead wood over walk area.



Plate 129: Tree 417, *Eucalyptus caliginosa*, Prune dead wood.



Plate 130: Tree 418, *Eucalyptus caliginosa*, Remove. Yellow arrow.

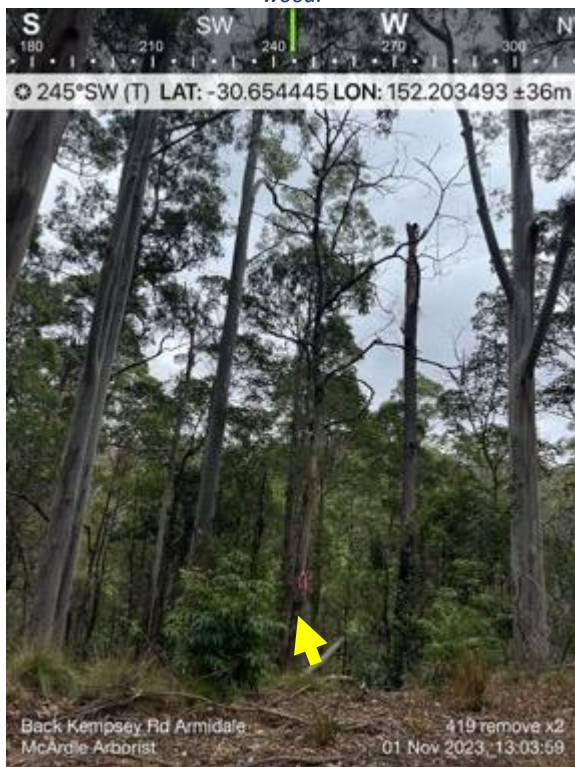


Plate 131: Tree 419, Dead stag, Remove.



Plate 132: Tree 419, Dead stag, Remove.



Plate 133: Tree 420, *Eucalyptus caliginosa*. Prune dead wood at 14, 16 and 12 meters.



Plate 134: Tree 421, *Eucalyptus caliginosa*. Remove or prune canopy by 50%.

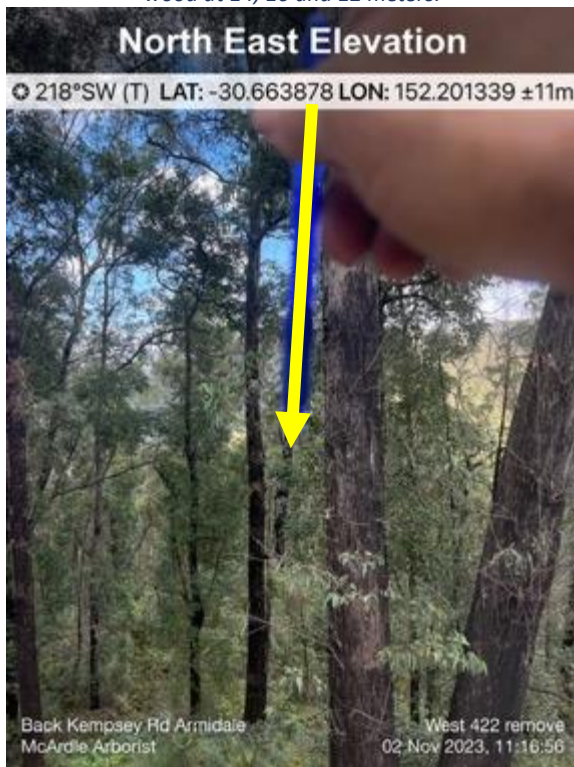


Plate 135: Tree 422, Dead stag, Remove. Yellow arrow.



Plate 136: Tree 423, Dead stag, Remove.



Plate 137: Tree 424, Dead stag, Remove.



Plate 138: Tree 424, Dead stag, Remove.



Plate 139: Tree 425, *Eucalyptus saligna*, Prune dead wood at 20 and 25 meters. Yellow arrow.



Plate 140: Tree 426, *Syncarpia glomulifera*, Prune to one stem at 18 meters.

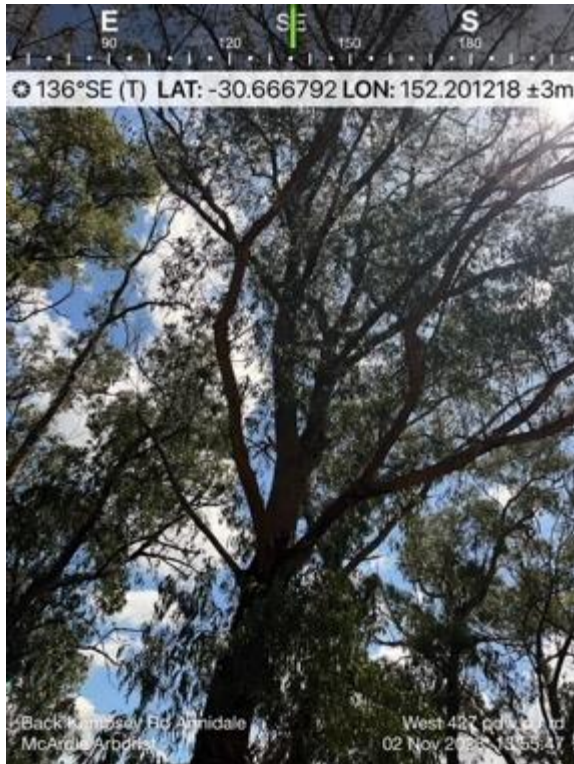


Plate 141: Tree 427, *Eucalyptus robusta*, Prune dead wood over bank.



Plate 142: Tree 427, *Eucalyptus robusta*, Prune dead wood over bank.



Plate 143: Tree 428, Dead stag, Remove.



Plate 144: Tree 429, *Eucalyptus pilularis*, Prune failed branch. Yellow arrow.



Plate 145: Tree 430, *Eucalyptus caliginosa* Remove. Yellow arrow.



Plate 146: Tree 431, log, Remove. Yellow arrow.



Plate 147: Tree 432, *Corymbia maculata*, Monitor.



Plate 148: Tree 432, *Corymbia maculata*, Monitor.



Plate 149: Tree 433, Dead stag, Remove. Yellow arrow.



Plate 150: Tree 434, Dead stag, Remove. Yellow arrow.



Plate 151: Tree 435, Dead stag, Remove.



Plate 152: Tree 436, Dead stag, Remove.



Plate 153: Tree 437, Dead stag, Remove with consent.



Plate 154: Tree 438, Dead stag, Remove.



Plate 155: Tree 438, Dead stag, Remove. Yellow arrow.



Plate 156: Tree 439, Dead stag, Remove, and remove stumps. Yellow arrow.