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## VEGETATION SURVEY –ROAD UPGRADES

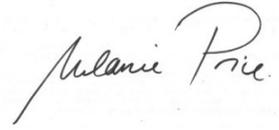
**Company:** Bowman and Partners Environmental      **Date:** 23 May 2019  
**To:** Martin Bowman, Director      **From:** Melanie Price  
**Email:** bpe@westnet.com.au      **Fax:**  
**Project Number:** FRE2018-003 VEG      **No. of Pages:** 7

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<b>Subject:</b>	Vegetation Mapping for Clearing Permit: Lee Road, Brown’s Road and Lake Saide Road Reserves, Youngs Siding, City of Albany.
<b>Introduction</b>	<p>A clearing permit is being sought to enable the creation of Lee Road and upgrade of Brown’s Road and Lake Saide Road at Youngs Siding in the City of Albany. The road upgrades are to facilitate the establishment of a lime pit on Lot 9000 Rock Cliff Road, Nullaki.</p> <p>The survey area was not included in the Albany Regional Vegetation Survey (Sandiford and Barrett, 2010).</p>
<b>Scope of Work &amp; Methodology:</b>	<p>The vegetation proposed to be cleared was mapped by Melanie Price of Aurora Environmental on 21 May 2019.</p> <p>To characterise the vegetation types and structures, the survey included:</p> <ul style="list-style-type: none"> <li>• Walking transects where no road was constructed; and</li> <li>• Driving along constructed road reserves.</li> </ul> <p>The survey did not include a full flora survey.</p> <p>A condition rating was assigned after Thackway and Lesslie (2006) and Keighery (1994) (Attachment 1).</p> <p>Vegetation types and conditions are illustrated in Attachment 2 (Maps 1 – 6).</p> <p>Photographs of vegetation are shown in Attachment 3.</p>
<b>Queries/Further Information:</b>	Should you require additional information or have any queries, please contact Melanie Price by email ( <a href="mailto:melanie.price@auroaenvironmental.com.au">melanie.price@auroaenvironmental.com.au</a> ) or telephone: 0447 446 343.

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For and on behalf of Aurora Environmental

A handwritten signature in black ink that reads "Melanie Price". The signature is written in a cursive style with a large, looped initial 'P'.

Melanie Price  
**Associate Environmental Scientist (Director)**

**Attachments:**

1. Condition Rating Table
2. Vegetation Maps 1 – 6
3. Photographs

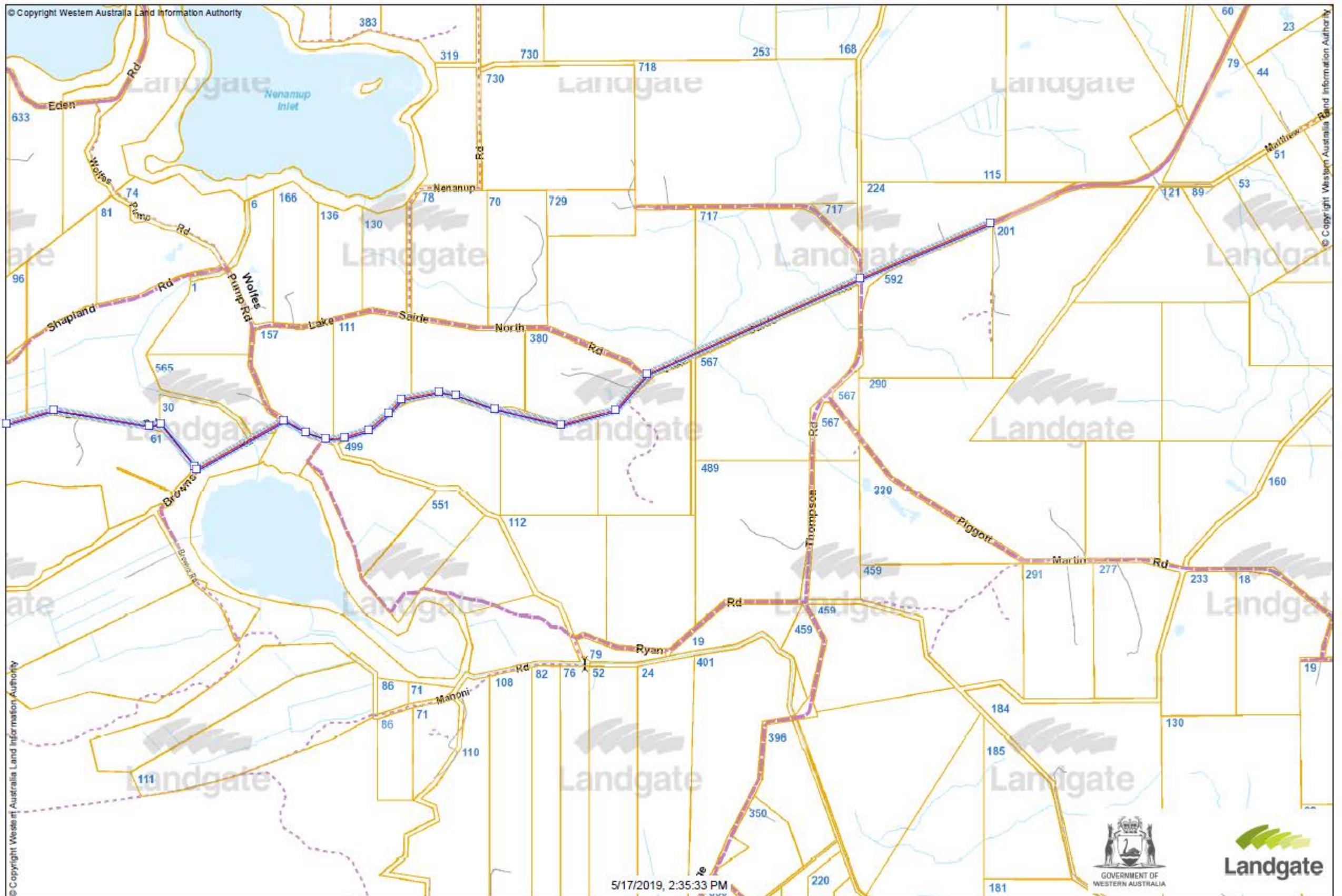
## **ATTACHMENT 1**

**Vegetation Condition Scale (Thackway and Lesslie 2006)**

		Native Vegetation Cover			Non-native Vegetation Cover		
<b>Vegetation Cover Class Criteria</b>	<b>Type 0 - Naturally bare Areas where native vegetation does not naturally persist</b>	<b>Type I Residual</b> Native vegetation community structure, composition, and regenerative capacity intact – no significant perturbation from landuse/land management practice	<b>Type II Modified</b> Native vegetation community structure, composition and regenerative capacity intact – perturbed by land use /land management practice	<b>Type III Transformed</b> Native vegetation community structure, composition and regenerative capacity significantly altered by land use/land management practice	<b>Type IV Replaced Adventive</b> Native vegetation replacement – species alien to the locality and spontaneous in occurrence	<b>Type V Replaced Managed</b> Native vegetation replacement with cultivated vegetation	<b>Type VI Removed</b> Vegetation removal
<b>Diagnostic Criteria</b>	Natural regenerative capacity unmodified	unmodified, structural and compositional integrity of native vegetation is very high	Natural regeneration tolerates/endures under past &/or present current land management practices. Structure is predominantly altered but intact e.g. a layer and/growth form and or age classes removed. Composition of vegetation is altered but intact	Natural regenerative capacity is limited/at risk under past &/or current land use or land management practices. Rehabilitation and restoration possible through modified land management practice Dominant structuring species of native vegetation community significantly altered e.g. a layer frequently and repeatedly removed	Regeneration of native vegetation community has been suppressed by ongoing disturbances of the natural regenerative capacity Limited potential for restoration. Dominant structuring species of native vegetation removed or predominantly cleared or extremely degraded.	Regeneration of native vegetation community lost or suppressed by intensive land management. Limited potential for restoration. Dominant structuring species of native vegetation community removed.	Nil or minimal. Vegetation absent or ornamental
<b>Corresponding Keighery (1994) Condition Scale</b>		Very good excellent, pristine	Good to very good	Very degraded to degraded/good	Completely degraded	Completely degraded	

Thackway, R. and Lesslie, R. (2006) Reporting Vegetation Condition Using the Vegetation Assets, States and Transitions (VAST) Framework. Ecological Management and Restoration. 7, Suppl. 1. S53-S62  
 Keighery (1994) Keighery, B.J. (1994) Bushland plant survey. A guide to plant community survey for the community. Wildflower Society of WA (Inc.), Nedlands, Western Australia.

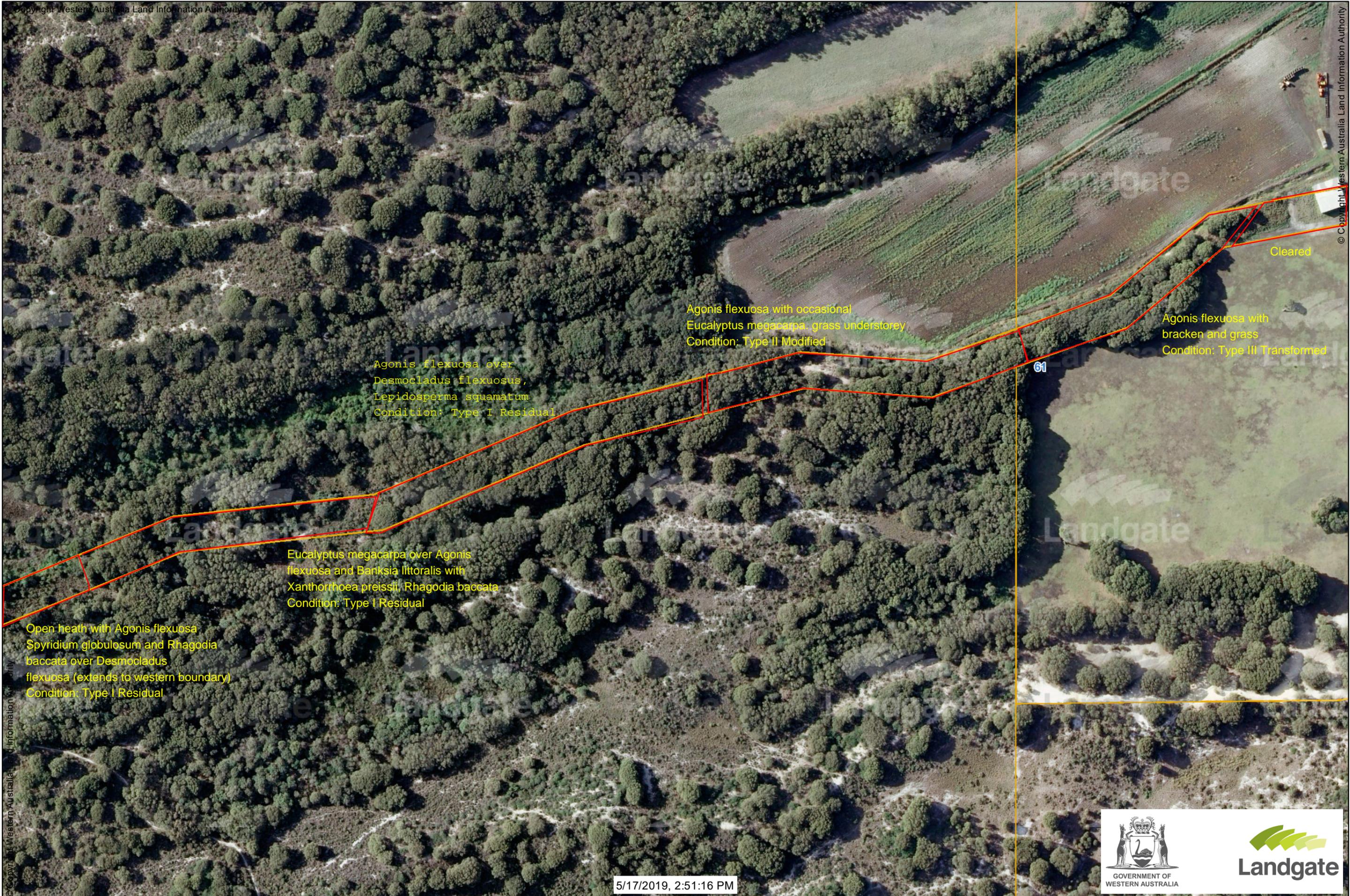
## **ATTACHMENT 2**



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# Map 1



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# Map 2

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Agonis flexuosa over Lepidosperma gladiatum  
and bracken  
Condition: Type II Modified

Cleared

Agonis flexuosa over Lepidosperma  
gladiatum  
Condition: Type II Modified

Cleared

Cleared

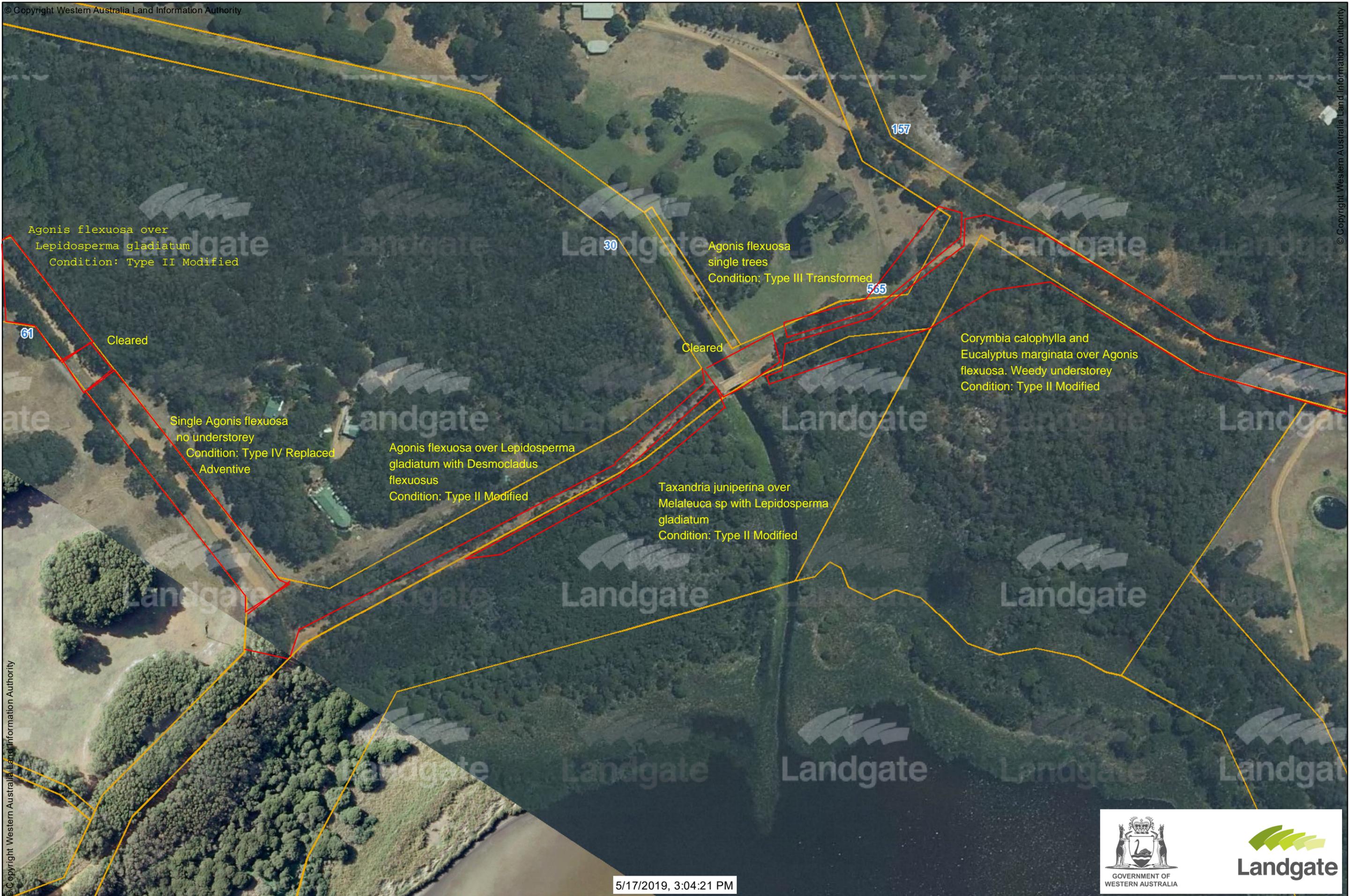
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# Map 3

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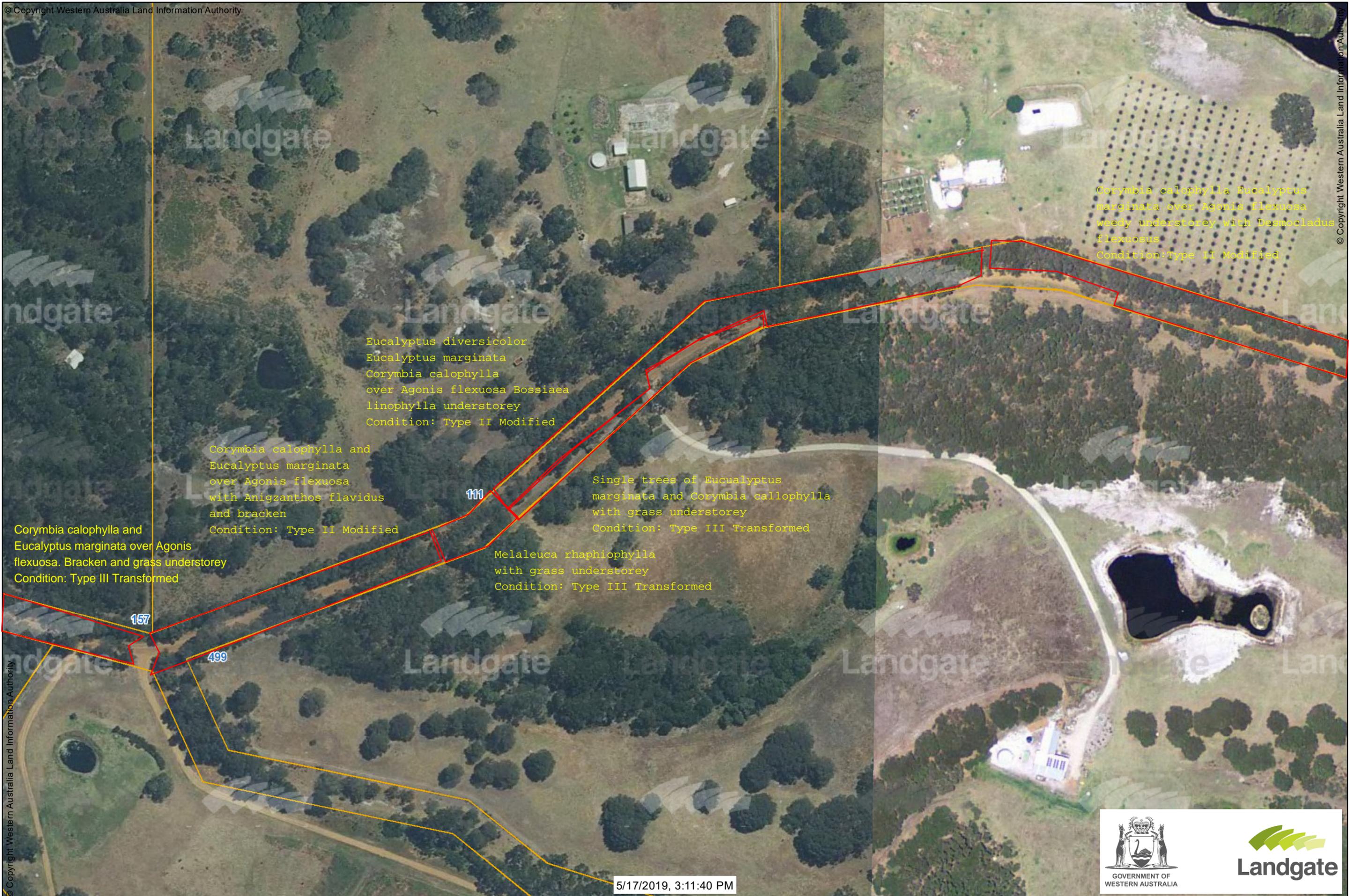
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# Map 4

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Corymbia calophylla Eucalyptus marginata over Agonis flexuosa weedy understorey with Desmodium flexuosus  
Condition: Type II Modified

Eucalyptus diversicolor  
Eucalyptus marginata  
Corymbia calophylla over Agonis flexuosa Bossiaea linophylla understorey  
Condition: Type II Modified

Corymbia calophylla and Eucalyptus marginata over Agonis flexuosa with Anigzanthos flavidus and bracken  
Condition: Type II Modified

Corymbia calophylla and Eucalyptus marginata over Agonis flexuosa. Bracken and grass understorey  
Condition: Type III Transformed

Single trees of Eucalyptus marginata and Corymbia calophylla with grass understorey  
Condition: Type III Transformed

Melaleuca raphiophylla with grass understorey  
Condition: Type III Transformed

157

111

499

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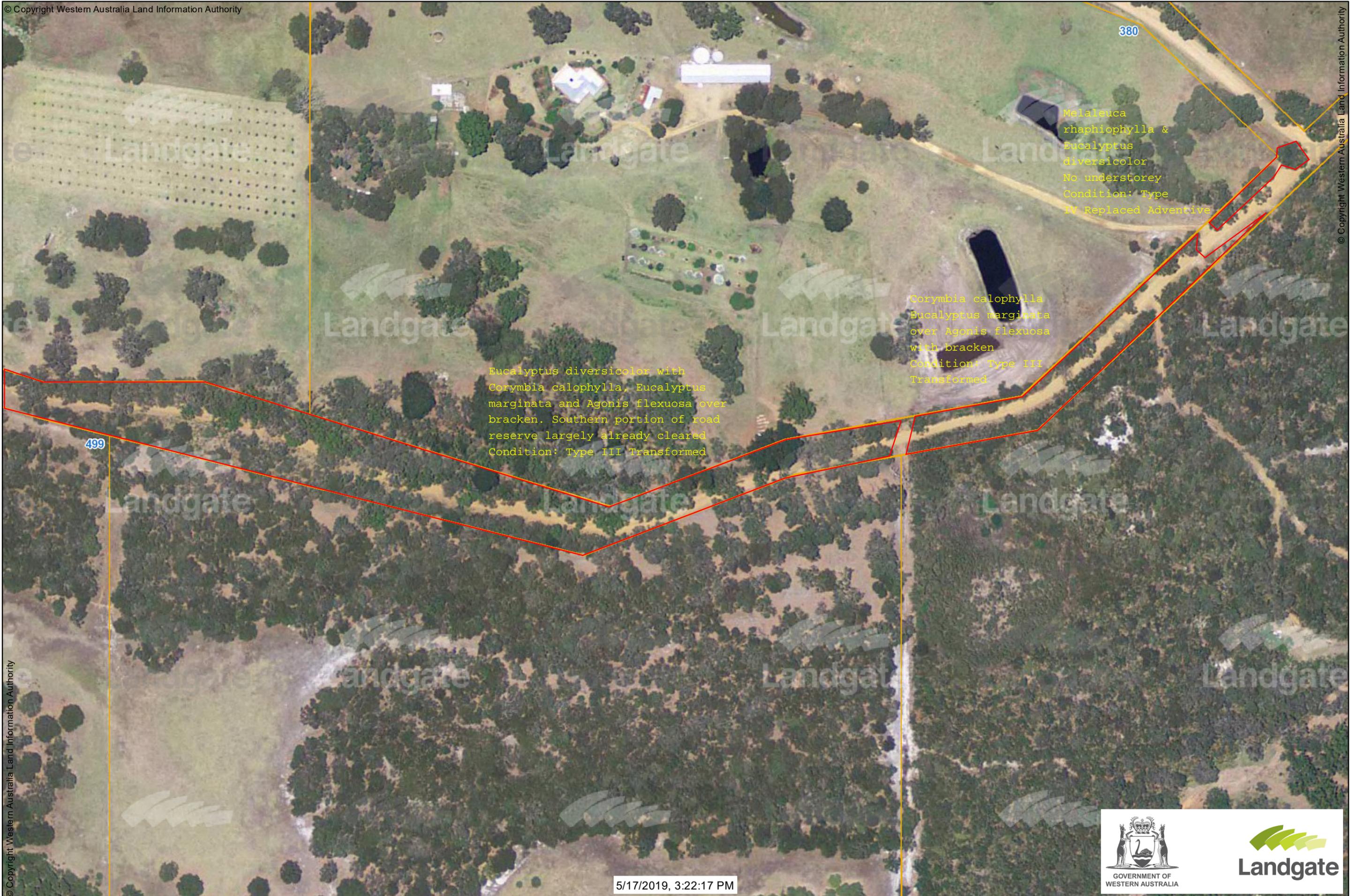
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# Map 5

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## **ATTACHMENT 3**



**Plate 1:** Open heath with *Agonis flexuosa*, *Spyridium globulosum* and *Rhagodia baccata* over *Desmocladius flexuosa*. Condition: Type I Residual



**Plate 2:** *Eucalyptus megacarpa* over *Agonis flexuosa* and *Banksia littoralis* with *Xanthorrhoea preissii*, *Rhagodia baccata*. Condition: Type I Residual

Vegetation Mapping: Lee, Brown and Lake  
 Saide Roads, Young Siding  
 FRE2018-003 VEG





**Plate 3:** *Eucalyptus megacarpa* over *Agonis flexuosa* and *Banksia littoralis* with *Lepidosperma gladiatum*, *Xanthorrhoea preissii*, *Rhagodia baccata*. Condition: Type I Residual



**Plate 4:** *Agonis flexuosa* over *Desmocladus flexuosus*, *Lepidosperma squamatum*. Condition: Type I Residual

Vegetation Mapping: Lee, Brown and Lake Saide  
Roads, Young Siding

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**Plate 5:** *Agonis flexuosa* with occasional *Eucalyptus megacarpa*. grass understorey. Condition: Type II Modified



**Plate 6:** *Agonis flexuosa* with bracken and grass. Condition: Type III Transformed

Vegetation Mapping: Lee, Brown and Lake Saide  
Roads, Young Siding

FRE2018-003 VEG



**Plate 7:** *Agonis flexuosa* over *Lepidosperma gladiatum* and bracken. Condition: Type II Modified



**Plate 8:** *Taxandria juniperina* over *Melaleuca sp* with *Lepidosperma gladiatum*. Condition: Type II Modified

Vegetation Mapping: Lee, Brown and Lake Saide Roads,  
Young Siding

FRE2018-003 VEG



**Plate 9:** *Corymbia calophylla* and *Eucalyptus marginata* over *Agonis flexuosa*. Weedy understorey. Condition: Type II Modified



**Plate 10:** *Eucalyptus diversicolor*, *Eucalyptus marginata* and *Corymbia calophylla* over *Agonis flexuosa* and *Bossiaea linophylla* understorey. Condition: Type II Modified

Vegetation Mapping: Lee, Brown and Lake Saide  
Roads, Young Siding

FRE2018-003 VEG





**Plate 11:** *Corymbia calophylla* and *Eucalyptus marginata* over *Agonis flexuosa*. Weedy understorey. Condition: Type II Modified



**Plate 12:** Single *Eucalyptus diversicolor* trees on the corner of Lake Saide and Thompson Roads. Condition: Type III Transformed

Vegetation Mapping: Lee, Brown and Lake Saide Roads, Young Siding

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