

2016 COMPLIANCE REPORT FOR EPBC APPROVAL 2008/4250

AVON RIDGE ESTATE, BRIGADOON

Project Number EP13-041

Prepared for Peet Limited
October 2016

2016 COMPLIANCE REPORT FOR EPBC APPROVAL 2008/4250
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Executive Summary

Peet Limited (Peet) received approval pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the special rural development of Lots 1010 and 1022 Campersic Road in Brigadoon in Western Australia on 8 October 2009 (EPBC 2008/4250).

The development, known as Avon Ridge Estate, is located approximately 30 km northeast of the Perth Central Business District, and contains a 450 hectare (ha) subdivision area and an adjacent 411 ha reserve for Parks and Recreation (PR Reserve) under the Metropolitan Region Scheme (MRS).

Emerge Associates (Emerge) have been appointed by Peet to prepare an annual compliance report (this report) to satisfy Condition 12 of the approval. In addressing Condition 12 of the approval, this document outlines the current level of compliance with all the conditions of EPBC 2008/4250 for the development thus far.

Specifically this document:

- Details the actions undertaken within the development from 5 July 2015 to 4 July 2016
- Demonstrates the level of compliance with the conditions of approval
- Identifies any further actions which are required to meet the conditions of the approval.

To date, stages one through four and stage seven (out of a total of nine stages) have been subject to clearing and construction activities, with 90 lots out of a total 214 sold.

Compliance has been achieved against all conditions throughout the reporting period through the ongoing implementation of Protective Covenants, Notifications on Title, management plans, revegetation and other works as detailed in this report.

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1 Proposal and proponent details

PROPOSAL TITLE	Brigadoon Estate (Avon Ridge Estate) Special Rural Development, Brigadoon Western Australia
PROPONENT	Peet Limited
EPBC ACT REFERENCE NUMBER	EPBC 2008/4250
DATE OF EPBC APPROVAL	8 October 2009
DATE OF PROJECT COMMENCEMENT	5 July 2010
CURRENT REPORTING PERIOD	5 July 2015 – 4 July 2016
CURRENT IMPLEMENTATION PHASE	Construction

1.1 Proposal background

Avon Ridge Estate Special Rural Development (the development) is located in Brigadoon, approximately 12 kilometres north of the Midland Regional Centre and 30 kilometres northeast of the Perth Central Business District. The development is located on the Darling Scarp and is bound to the north by Walyunga National Park. The development is also in close proximity to the Swan River to the west.

The development consists of a special rural subdivision of 214 lots over 450 hectares (ha), with lot sizes ranging from 1.5 ha to 5.1 ha. An additional area of 411 ha adjacent to the development is reserved as “Parks and Recreation” (PR Reserve) under the Metropolitan Region Scheme (MRS).

Peet Limited (Peet) submitted a referral pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the special rural development of Avon Ridge Estate in May 2008. The proposal was deemed to be a “Controlled Action” on 2 July 2008 and was assessed by “Preliminary Documentation”.

Additional information to inform the Preliminary Documentation assessment was prepared by Cardno (WA) Pty Ltd and was released for public comment in November 2008. A number of public comments were received and these were addressed in *Response to Submissions: Brigadoon Estate Special Rural Development, Brigadoon Western Australia, EPBC Reference 2008/4250* (Cardno 2009).

The Department of Environment, Water, Heritage and the Arts (DEWHA) (now Department of the Environment and Energy (DEE) also referred to as “the Department”) issued an environmental approval for the development on 8 October 2009 subject to 16 conditions. In October 2011 and January 2012, variations to approval conditions were approved by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC). A correction notification was also issued in March 2014.

The current list of 17 conditions is provided in **Table 2**, which incorporates all condition variations and corrections published by the Department to date.

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1.2 Purpose of report

This document has been prepared to satisfy the requirements of Condition 12 of the EPBC approval (2008/4250), which states:

“Within three months of every annual anniversary of commencement of the action, the person taking the action must submit to the Department a report addressing compliance with the conditions of this approval. Annual Reports must be provided until the Minister is satisfied that the proponent has complied with all conditions of the approval.”

The action commenced on 5 July 2010. The reporting period reflects the annual anniversary of the commencement of the action and is to be submitted within 3 months of this date. On this basis, the reporting period covers the period of 5th July to 4th July each year and each annual compliance report should be submitted by the 5th October.

The first compliance report was produced in October 2011 (Cardno 2011). Subsequent compliance reports (Cardno 2012, Emerge 2013, Emerge 2014 and Emerge 2015) were submitted by the 5th October each year.

On behalf of Peet, Emerge has prepared this compliance report to demonstrate the current level of compliance with conditions of approval under the EPBC Act. The objectives of this report are to:

- Detail the actions undertaken within the development from 5 July 2015 to 4 July 2016
- Demonstrate compliance with conditions of approval
- Identify further actions which are required to meet conditions of approval.

This compliance report covers the 2016 compliance reporting period and focuses on actions undertaken within the development during the reporting period. The definitions of compliance status terms used are provided in **Table 1** and the details of compliance with each condition under EPBC 2008/4250 are presented in **Table 2**.

A declaration of accuracy pertaining to the information presented in this report is provided in **Appendix C**.

2 Approvals under the *Environment Protection and Biodiversity Conservation Act 1999*

Peet received approval from the Department pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* for the special rural development of 450 ha of land at Campersic Road in Brigadoon on the 8 October 2009 (EPBC 2008/4250). The action commenced on 5 July 2010.

The approval was subject to 16 conditions. Two separate variations to the approval conditions have been approved by the Department including amendments to conditions 5, 6, 7 and 9 in October 2011 and amendments to conditions 1 and 2 and the addition of condition 17 in January 2012. A correction notification was also issued in March 2014. The current list of 17 conditions is provided in **Table 2**, which incorporates all condition variations and corrections published by the Department to date.

Emerge submitted a request to amend conditions 1, 2, 4 and 7 of EPBC 2008/4250 to the Department in September 2016 on behalf of Peet. The amendment request has been proposed in order to respond to changes to regulatory (and public) expectations, which have changed since the time of the original approval, and to address various matters associated with the implementation of the project. The proposed condition amendment request is currently being considered by the Department.

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2.1 Summary of approval conditions and compliance

The definitions of the compliance status terms are provided in **Table 1**. The approval conditions of EPBC Act Approval 2008/4250 are listed in **Table 2**, in addition to a summary of the current compliance status of the project in relation to each approval condition.

Table 1: Definitions of compliance status terms

COMPLIANCE STATUS TERMS	ABBREVIATION	DEFINITION	NOTES
Compliant	C	Implementation of the development has been carried out in accordance with the requirements of the condition.	This term applies to audit elements with: <ul style="list-style-type: none"> • ongoing requirements that have been met during the reporting period; and • requirements with a finite period of application that have been met during the reporting period, but whose status has not yet been classified as 'completed'.
Completed	CLD	The requirements of a condition with a finite period of application have been satisfactorily completed.	This term may only be used where: <ul style="list-style-type: none"> • Requirements of a condition have a finite period of application (e.g. construction activities, development of a document) • the development has been satisfactorily completed • the Department has provided written acceptance of 'Completed' status for the requirement of the condition.
Not required at this stage	NR	The requirements of the condition were not triggered during the reporting period.	This should be consistent with the 'Timeframe' column of the compliance summary table.
Potentially Non-compliant	PNC	Possible or likely failure to meet the requirements of the condition.	This term may apply where during the reporting period the proponent has identified a potential non-compliance and has not yet finalised its investigations to determine whether non-compliance has occurred.
Non-compliant	NC	Implementation of the proposal has not been carried out in accordance with the requirements of the requirements of the condition.	This term applies where the requirements of the condition have not been met during the reporting period.

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Table 2: List of approval conditions and current compliance status of EPBC 2008/4250

NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
1	<p>The person taking the action must not clear more than 63 hectares of native vegetation within the project area (Attachment 1) comprising:</p> <p>a) up to 30 hectares for constructing roads;</p> <p>b) up to 27 hectares for constructing boundary firebreaks on individual lots as identified in Attachment 2; and</p> <p>c) up to 6 hectares for the purposes of constructing strategic firebreaks and dams.</p>	<ul style="list-style-type: none"> Preparation and implementation of Construction Environmental Management Plan (CEMP). Maintain active records of area of vegetation clearing undertaken to date for these purposes. 	<ul style="list-style-type: none"> Results of spatial analysis to determine area of vegetation clearing to date. Approved CEMP document (Cardno 2010a). Record keeping of completed onsite forms and registers required under the CEMP. 	Construction phase	C	<ul style="list-style-type: none"> The CEMP was approved by the Department 24 June 2010. The civil contractor manages the implementation of the CEMP, including the completion of required onsite forms and registers. All completed forms are recorded and stored. A spatial analysis has been undertaken to quantify the extent of clearing completed up to the end of this reporting period for purposes outlined in Condition 1, as discussed in Section 2.2.1.
2	<p>The person taking the action must put in place measures to ensure that clearing undertaken by future landowners within the project area (Attachment 1) will not exceed 37.4 hectares of native vegetation comprising:</p> <p>a) up to 31.4 hectares for the purposes of constructing house sites, infiltration areas and buffers around the house sites; and</p> <p>b) up to 6 hectares for the purpose of constructing driveways.</p>	<ul style="list-style-type: none"> Place Protective Covenants on each lot title to restrict clearing for to certain areas (2000 m² or 10% of lot size, whichever is lesser) and for certain purposes only. Clearing restrictions regarding building envelopes for lots (as above) to be included in Structure Plan. Adaptive management where required. 	<ul style="list-style-type: none"> Protective Covenant (most current version as approved by the Department). Approved Structure Plan. 	Ongoing through the development	C	<ul style="list-style-type: none"> Current version of Protective Covenant (approved by the Department on 4 August 2014) is being placed on titles of all newly created lots and is provided in Appendix A. There a number of previous versions of the Protective Covenant (which were approved by the Department) which apply to various existing subdivided lots, but are no longer applied to new lots. These have previously been provided to the Department and approved.

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NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
3	<p>Revegetation and Fire Management Plan The person taking the action must prepare a Revegetation and Fire Management Plan that applies to the 100 ha within the Parks and Recreation Reserve and 450 ha of the subdivision (as identified at <u>Attachment 5</u>) including all 214 individual lots. The proponent must obtain written approval from FESA prior to submission to the Department for approval. The person taking the action must not commence clearing or construction within the project area until the Department has approved the Revegetation and Fire Management Plan in writing. Once approved, this plan must be implemented.</p>	<ul style="list-style-type: none"> Preparation of Revegetation and Fire Management Plan (RFMP). Referral of RFMP to the Department of Fire and Emergency Services (DFES) and then the Department for approval prior to its implementation. 	<ul style="list-style-type: none"> Current version of approved RFMP document (Emerge 2016). Approval advice from DFES and the Department. 	Prior to construction (updated as required)	C	<ul style="list-style-type: none"> The original RFMP has been revised and updated a number of times. The current version was prepared by Emerge in May 2016. This version was approved by DFES on 8 June 2016 and by the Department on 24 June 2016. The implementation of the RFMP is ongoing throughout the development, however some components have been completed (refer below).
	<p>The person taking the action must ensure that the Revegetation and Fire Management Plan includes (but is not restricted to):</p> <p>a) fuel reduction measures (including cool burn measures) specifying the timing and frequency of fuel reduction measures to minimise impacts on Black Cockatoo habitat.</p>	<ul style="list-style-type: none"> Include these measures within RFMP document. Implement these measures as required and specified in RFMP. 	<ul style="list-style-type: none"> Approved RFMP document, including prescribed burn schedule. Photos and details (timing, extent) of cool burn events as they are undertaken. 	Ongoing, prior to construction (staged across development)	C	<ul style="list-style-type: none"> A number of cool burns have been undertaken to date within the development. The proposed cool burn for the 2015/2016 reporting period was completed on 25 and 26 September 2016.
	<p>b) revegetation measure to create additional Black Cockatoo habitat across the project site, including in the Parks and Recreation Reserve, specifically:</p> <p>i. revegetation for all condition classes (excluding pristine and excellent classes) and vegetation complexes (including maps);</p> <p>ii. mix, numbers and density of species to be planted;</p> <p>iii. timing of proposed planting (must be during or following the annual winter rain period and generally between 1 June and 30 November);</p> <p>iv. weed management measures;</p>	<ul style="list-style-type: none"> Include these measures within RFMP document. Implement these measures as required and specified in RFMP. Engage revegetation contractor to undertake revegetation program and ongoing monitoring requirements. 	<ul style="list-style-type: none"> Approved RFMP document, which describes the revegetation program. Revegetation monitoring reports (monthly and bi-annual). 	Throughout development	C	<ul style="list-style-type: none"> 88,255 seedlings have been planted to date as part of the revegetation program. The 3 year monitoring period for this planting has now passed, with all of the completion criteria outlined in Condition 3 met for this planting. A bi-annual monitoring report was prepared in May 2016 by the revegetation contractor Tranen, provided as Appendix B.

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NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
	<p>v. The survivorship rate of all revegetation measures must be at least 90% after three years. If after three years of the date of the planting, a survival rate of 90% of the planted trees is not achieved, all dead trees must be replaced with other Black Cockatoo habitat species within 12 months and maintained for at least an additional two years;</p> <p>vi. annual monitoring measures within the project area undertaken by an appropriately qualified and experienced ecologist and must commence within 12 months of the completion of revegetation and continue for at least three years after the initial revegetation planting in any particular area (given that revegetation will be staged across the development);</p> <p>vii. annual monitoring measures undertaken by an appropriately qualified and experienced specialist must commence in the Parks and Recreation Reserve within 12 months of completion of revegetation and continue for at least three years after the initial revegetation planting in the Parks and Recreation Reserve for the purposes of establishing the survivorship rates and replanting efforts within the project area</p>					
	<p>viii. mapping of all potential Black Cockatoo habitat trees of 500 mm DBH or greater on individual lots and information on how these will be retained for permanent conservation.</p>	<ul style="list-style-type: none"> • Include locations of known potential Black Cockatoo habitat trees of 500 mm DBH or greater and a retention strategy within RFMP. 	<ul style="list-style-type: none"> • Approved RFMP. • Protective Covenants, which only allows for clearing of these trees within the Building Protection Zone or for fire management purposes. 	Construction and development phase.	C	Known potential habitat trees of 500 mm DBH or greater are flagged with white tape prior to clearing events and construction by Peet Limited for each stage of development.

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NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
4	<p>Building Protection Zone</p> <p>The person taking the action may thin native vegetation within the Building Protection Zone (Attachment 2) on each housing lot (Attachment 3). The total thinning within the Building Protection Zones of the 214 housing lots (Attachment 3) must not exceed 112,350 plants suitable for foraging habitat for Black Cockatoos. The thinning process must be managed under the terms of the approved Revegetation and Fire Management Plan, and be personally supervised (pre and post thinning inspection for individual lots) by a qualified Fire Management Consultant. The person taking the action must obtain written approval from FESA of the first appointed Fire Management Consultant(s) prior to the provision of any Building Protection Zone thinning advice. Any subsequent appointment of Fire Management Consultant(s) will be based on that consultant(s) having similar qualification as the initially appointed consultant.</p> <p>The Building Protection Zone must be implemented on each of the 214 housing lots in the dimensions specified in Attachment 2. The location of each Building Protection Zone and house site must be chosen in consultation with the Fire Management Consultant for the purpose of maximizing the retention of trees as specified in Condition 4.</p> <p>The person undertaking the action must ensure that all native vegetation that provides habitat for Black Cockatoos is retained outside of the Building Protection Zones within 214 housing lots. This excludes native vegetation that is specifically managed under the Revegetation and Fire management Plan.</p>	<ul style="list-style-type: none"> • Implement Protective Covenants on titles specifying Building Protection Zone requirements. • Implement RFMP. • Engage Fire Management Consultant (FMC) (subject to approval by DFES and the Department) to supervise thinning activities, including pre and post thinning inspections. 	<ul style="list-style-type: none"> • Protective Covenants • FMC communications and field reports with regard to BPZ and HSZ areas, in addition to thinning. 	Development phase	C	<ul style="list-style-type: none"> • Based on estimates of BPZ thinning undertaken to date, thinning has not exceeded 112,350 plants. • Protective Covenants addressing BPZ requirements continue to be implemented throughout development.

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NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
5	<p>The person taking the action must ensure that all potential breeding habitat trees for Black Cockatoos (as designated at Attachment 4 and 4A) are protected in perpetuity via a Notification on Title.</p> <p>The person taking the action must ensure that all other trees within the lot area (Attachment 1) with a diameter by breast height (DBH) of 500 mm or greater are retained unless:</p> <ol style="list-style-type: none"> they are located within the house site; they are located within the Building Protection Zone; and they are required to be removed for fire management purposes as advised by a qualified Fire Management Consultant(s). 	<ul style="list-style-type: none"> Include Notification on Title for lots where potential black cockatoo breeding habitat trees occur. Include restrictions on clearing of trees with a DBH of 500 mm or greater on Protective Covenant. 	<ul style="list-style-type: none"> Notification on Title Protective Covenant 	Ongoing through development	C	<ul style="list-style-type: none"> Notifications of Titles and Protective Covenants addressing these requirements continue to be implemented throughout development. A number of potential breeding habitat trees for black cockatoos were affected by controlled burns undertaken to date, discussed further in Section 2.2.5.
6	The person taking the action must ensure at the 411 ha Park and Recreation Reserve, as highlighted in green at Attachment 5 , be ceded to the WA State Government. The Department must be notified in writing once this has occurred.	Cede Parks and Recreation reserve to the WA State Government.	Deposited Plan and Certificate of Title of the reserve following ceding.	Initial stages of development	CLD	Evidence provided in previous annual compliance report.
7	<p>The person taking the action must ensure that following the sale and settlement each individual lot owner will be offered at least 1000 seedlings suitable for foraging and breeding habitat for Black Cockatoos to be permanently planted on their purchased lot. This planting must be undertaken under the direct supervision of a Revegetation Specialist at the proponent's expense.</p> <p>The person taking the action must ensure that any seedlings allocated for individual lots that cannot be planted because of Fire management or other reasons, must be planted in the Parks and Recreation Reserve as identified in Attachment 7. Planting must be undertaken following the sale and settlement of the individual lots so that the plantings</p>	<ul style="list-style-type: none"> Provide new lot owners with seedlings and coordinate supervision by Revegetation Specialist. If unable to revegetate within private lots, seedlings to be planted within PR Reserve. 	<ul style="list-style-type: none"> Correspondence with Revegetation Specialist following provision and planting of seedlings. Revegetation monitoring reports. 	Ongoing through development	C	<ul style="list-style-type: none"> 88,255 seedlings have been planted to date, generally aligning with the requirement to plant 1000 seedlings per purchased lot (based on 90 lot sales to date). All seedlings planted to date have been installed within the PR Reserve, in response to difficulties associated with implementing revegetation within private lots. This is discussed in Section 2.2.7.

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	under this condition total at least 214,000 plants on either individual lots or in the Parks and Recreation Reserve.					
	<p>The person taking the action must ensure that all purchasers of lots within the project area, prior to sale and settlement:</p> <p>a) are aware of the existence of potential and actual breeding habitat trees on the individual lots, Notifications on Title and the requirements that these must be conserved into perpetuity and not be cleared;</p> <p>b) are aware of the Protective Covenant;</p> <p>c) are aware of restriction relating to clearing of</p> <ol style="list-style-type: none"> i. potential breeding habitat trees over 500 mm DBH; and ii. areas within and outside of the Building Protection Zone. <p>d) are aware of proposed revegetation measures for their individual lot by person(s) as outlined in Condition 3;</p> <p>e) are provided with species related information on all Black Cockatoos, their presence in the area, ecology, species range and details on habitat.</p>	<ul style="list-style-type: none"> • Include this information on the Protective Covenants. • Provide in purchaser information packages. • Place Notifications on Titles for lots where potential breeding habitat trees are known to occur. 	<ul style="list-style-type: none"> • Approved Protective Covenants. • Notification on Title. • Purchaser information. 	Ongoing through development	C	Notifications of Titles and Protective Covenants addressing these requirements continue to be implemented throughout development.
8	The person taking the action must provide a final version of the Protective Covenant in writing to the Department for approval prior to the sale and settlement of any lot. The person taking the action must ensure that the approved Protective Covenant is in place for each of the 214 lots.	<ul style="list-style-type: none"> • Provide Protective Covenant to the Department for approval, prior to its application to subdivided lots. This should occur for any subsequent versions. • Apply approved Protective Covenant to lots. 	Correspondence from the Department approving the Protective Covenant.	Ongoing through development	C	<ul style="list-style-type: none"> • A number of versions of the Protective Covenant have been developed, approved and implemented to date. • The current version of Protective Covenant (provided in Appendix A) was approved by the Department on 4 August 2014 and is being placed on titles of all newly created lots.

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NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
9	All elements specified in Attachment 6 must be incorporated in either the Structure Plan, approved subdivision conditions or approved Protective Covenants. These must be complied with. The Department must be notified in writing on how all the elements in Attachment 6 have been incorporated and complied with. If any of the elements in Attachment 6 are not incorporated, to the Department's satisfaction, the person taking the action must negotiate an outcome to the Department's satisfaction, prior to commencing construction.	Incorporate elements in either Structure Plan, conditions of subdivision and/or Protective Covenant.	Structure Plan, conditions of subdivision and Protective Covenant.	Ongoing through development	C	<ul style="list-style-type: none"> The Structure Plan was endorsed by the WAPC on 27 March 2014. Subdivision of all lots within development has been approved, through various subdivision approvals. Approved Protective Covenants are applied to all new lots within the site. These mechanisms collectively incorporate all elements outlined in Attachment 6 and continue to be implemented as development progresses.
10	The person taking the action must prepare and implement a Construction Management Plan. This plan must be submitted and approved by the Department prior to any clearing taking place.	Prepare CEMP for approval by the Department.	Correspondence from Department confirming approval of CEMP document (Cardno 2010a).	Prior to clearing.	CLD	The CEMP was approved by the Department 24 June 2010.
	<p>The Construction Management Plan must clearly demonstrate that:</p> <ol style="list-style-type: none"> all habitat trees at Attachment 4 and 4A are to be retained in perpetuity; and all trees to remain that are greater than 300 mm DBH within the subdivision area (as at Attachment 3) and within 10 meters of an area to be proposed to be cleared (excluding those in the Building Protection Zone) are clearly marked and retained. areas of vegetation that are Black Cockatoo habitat and not for clearance (including roadside vegetation, streamline vegetation and Public Open Space areas) are clearly marked and retained; if clearing outside of stipulated areas occurs by other contracted parties, then the person 	<ul style="list-style-type: none"> Prepare CEMP, incorporating all specified requirements. Implement approved CEMP. 	<ul style="list-style-type: none"> Approved CEMP document (Cardno 2010a). Record keeping of completed onsite forms and registers required under the CEMP. 	Ongoing through development.	C	The civil contractor manages the implementation of the CEMP, including the completion of required onsite forms and registers. All completed forms are recorded and stored.

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	<p>taking the action must notify the Department in writing and will ensure that these areas will be revegetated to the same density (following the annual winter rain period and between 1 September – 30 November); and</p> <p>e) all contracted parties will undergo an induction programme prior to commencement of construction and/or clearing. This programme will include information on EPBC listed species and measures employed within the project area to protect Black cockatoo habitat.</p>					
11	Within 30 days of commencement of construction, the person taking the action must advise the Department in writing the actual date of commencement.	Advise the Department within 30 days of commencement of construction.	Letter to the Department advising date of commencement of construction.	Initial stage of construction	CLD	Evidence provided in previous annual compliance report.
12	Within three months of every annual anniversary of commencement of the action, the person taking the action must submit to the Department a report addressing compliance with the conditions of this approval. Annual Reports must be provided until the Minister is satisfied that the proponent has complied with all conditions of the approval.	Prepare and lodge with the Department an annual compliance report each year for the 5 July – 4 July annual period.	Annual compliance reports.	Ongoing, prior to 5 th October each year.	C	Annual compliance reports have been prepared and submitted to the Department each year since the date of approval.
13	If, at any time after five (5) years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of the construction of the rural residential development at Brigadoon, Western Australia, the action must not thereafter be commenced without the written agreement of the Minister.	Commence construction within 5 years of from date of approval.	Letter to DSEWPaC advising date of commencement of construction.	Within 5 years from date of approval.	CLD	Evidence provided in previous annual compliance report.

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NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
14	If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, reports or strategies referred to in these condition, the person taking the action must submit for the Minister's approval a revised version of any such plan, report or strategy. If the Minister approves such a revised plan, report or strategy than plan, report or strategy must be implemented in place of the plan, report or strategy originally approved.	Submit any revised plans, reports or strategies for Minsiter's approval.	The revised and approved RFMP (Emerge 2016)	Ongoing through development	C	The original RFMP has been revised and updated a number of times. The current version was prepared by Emerge in May 2016. This version was approved by DFES on 8 June 2016 and by the Department on 24 June 2016.
15	If the Minister believes that it is necessary or desirable for the better protection of threatened species and threatened ecological communities (s18 & s18A) to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or strategies approved pursuant to Condition 2 and submit the revised plan, report or strategy for the Minister's approval. The person taking the action must comply with any such request. The revised approved plan, report or strategy must be implemented in place of the plan, report or strategy originally approved.	Respond to Minister requests in this regard, as required.	Revised approved plans, reports or strategies, as prepared.	Ongoing through development	NR	No such requests have been extended by the Minister.
16	The person taking the action must maintain accurate records of all activities associated with or relevant to the above conditions of the approval, and make them available on request by the Department. Such document may be subject to audit by the Department and used to verify compliance with the conditions of approval. Summaries of audits may be posted on the Department website. The results of audits may also be publicised through the general media.	Maintain accurate records of all activities associated with or relevant to these approval conditions.	Accurate records of all activities described in this table.	Ongoing through development.	C	Various evidence documents are referred to throughout this compliance report.

2016 COMPLIANCE REPORT FOR EPBC APPROVAL 2008/4250

AVON RIDGE ESTATE, BRIGADOON

NO.	CONDITION REQUIREMENT	HOW	EVIDENCE	TIMEFRAME	STATUS	INFORMATION
17	<p>In order to offset the impact of clearing of Black Cockatoo habitat, before 30 June 2012, the person taking the action must:</p> <p>a) provide funds to the Western Australian Department of Environment and Conservation for the acquisition and management of one or more properties that contain at least 150 hectares of high quality foraging habitat for Black Cockatoos to be protected in perpetuity. The offset property must be approved in writing by the Department.</p> <p>b) provide documentary evidence to the Department that funds have been provided to the Western Australian Department of Conservation as required by approval condition 17a.</p>	<ul style="list-style-type: none"> • Transfer funds to DPAW for purchase of an offset site. • Provide evidence to the Department of this transfer. 	<ul style="list-style-type: none"> • Letters from DSEWPaC which detail approvals for; variation to conditions, the offset the site, Peet's remuneration, clearance of conditions. • Remittance from Peet to DPAW. 	Prior to 30 June 2012.	CLD	Evidence provided in previous annual compliance report.

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2.2 Compliance details

2.2.1 Condition 1

Clearing undertaken to date for the purposes of strategic firebreaks, lot boundary firebreaks and roads is discussed below.

Construction and Environmental Management Plan

Clearing within the development is managed through the implementation of the CEMP (Cardno 2010a) (prepared in accordance with Condition 10), which was approved by the Department on 24 June 2010. The civil contractor manages the implementation of the CEMP, with all onsite forms and registers required under the CEMP from this period kept on record.

Clearing within 2016 compliance reporting period

During this reporting period, civil construction works and associated clearing relating to Condition 1 has occurred within Stage 4 and Stage 7 of the estate.

During this compliance reporting period, a review was undertaken of the methodology previously used to quantify clearing within the development associated with Condition 1. As a result of this review, a new methodology has been developed and implemented to more accurately quantify clearing associated with the construction of roads, lot boundary firebreaks and strategic firebreaks undertaken by Peet. This methodology involves a comprehensive spatial analysis (using GIS software) of high resolution aerial photography, which is described as follows:

1. Analysis of high resolution aerial imagery captured in May 2010 (i.e. immediately prior to the commencement of development in July 2010) to attain a robust baseline dataset which delineates areas which were A) vegetated and B) non-vegetated (historically cleared by other parties to support previous land uses) at the time the development was commenced. This ensures that areas which were already non-vegetated at the commencement of the project are not incorrectly attributed to subsequent clearing works associated with the development.
2. Analysis of high resolution aerial imagery captured in late July 2016 (i.e. immediately after the current compliance reporting period) to determine A) vegetated and B) non-vegetated areas. This allows for all areas cleared since the commencement of the development to be delineated and quantified to a high degree of accuracy.
3. The areas identified as being cleared since the commencement of the development were then attributed with regard to their clearing purpose; either for the construction of roads, lot boundary firebreaks or strategic firebreaks (or for other purposes not specified in Condition 1).

The above methodology is considered to be more robust and accurate in quantifying the extent of clearing within the development compared to methodologies used in previous compliance reporting. It involves an analysis on the post-clearing environment (through high-resolution aerial photography captured after clearing events) compared to the use of pre-construction engineering plans, which detail only the proposed clearing extents. There are often discrepancies between pre-construction plans and the ultimate on-ground clearing footprint given practical limitations on site amongst other factors, which are accounted through the above methodology.

Table 3 provides a summary of clearing within the site undertaken to date associated with Condition 1, as determined through the above methodology.

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AVON RIDGE ESTATE, BRIGADOON

Table 3: Areas cleared to date under Condition 1

CONDITION 1 CLEARING RESTRICTIONS	CURRENT LEVEL OF CLEARING (HA)	REMAINING CLEARING (HA)	PERCENTAGE CLEARING (%)
Up to 30 hectares for the purpose of constructing roads	16.56	13.44	55.2%
Up to 27 hectares of the purpose of constructing boundary firebreaks on individual lots	24.27	2.73	89.9%
Up to 6 hectares for the purposes of constructing strategic firebreaks and dams	5.39	0.61	89.8%

Clearing for all purposes set out in Condition 1 are all compliant and have not exceeded their respective clearing allowances.

Approximately 90% of the total allowable clearing area for the purposes of constructing boundary firebreaks and strategic firebreaks and dams has been cleared to date. It is anticipated that once clearing for these purposes has been completed across the remainder of the development, the total cleared area is likely to exceed the allowable 27 ha and 6 ha clearing areas prescribed in Condition 1 for these purposes respectively. This has been identified and addressed through a proposed condition amendment, submitted to the Department in September 2016 and currently under consideration.

In summary, the development is currently compliant with Condition 1. However there is potential for the development to be non-compliant with Condition 1 in the future in relation to lot firebreak clearing and strategic firebreak and dam clearing. It is envisaged that the progression of the proposed condition amendment will resolve this issue before any potential non-compliance may occur.

2.2.2 Condition 2

A range of measures have been implemented by Peet in order to manage clearing within lots by future landowners, as outlined below. These measures continue to be implemented by Peet, maintaining compliance with the requirements of Condition 2.

Protective Covenants

Protective Covenants¹ apply to all residential lots sold within the project area, and are created under Section 136D of the *Transfer of Land Act 1893*, providing specific controls on:

- Clearing being permitted only for specific purposes including Aerobic Treatment Unit (ATU) discharge area, driveway, firebreaks and low fuel environment within a building protection zone (BPZ) (now Asset Protection Zone (APZ)) and hazard separation zone (HSZ).
- A restriction on clearing after the construction of the first dwelling
- The total cleared area not exceeding 10% of the lot (or 2,000 m²) whichever is the lesser
- The clearing of habitat trees and trees with a diameter at breast height greater than 300 mm
- The use of the Fire Management Consultant to provide specific advice on vegetation modification and clearing of house sites, buffers, APZs and HSZs.

¹ Restrictive Covenants are created under Section 138D of the *Transfer of Land Act 1893* and are referred to as 'Protective Covenants' within the approval conditions of EPBC 2008/4250 and within this report.

In addition, the Protective Covenants explicitly inform the landowner of their obligations pursuant to the EPBC Act. The Protective Covenants are registered on the title (which carries over to subsequent landowners) and are enforceable by other landowners within a subdivision stage (which are all lodged on the same deposited plan).

A copy of the current Protective Covenant applied to new subdivided lots is provided in **Appendix A**.

Structure plan

The development of the site is being implemented in accordance with an approved structure plan, which is spatial plan prepared under the *Planning and Development (Local Planning Schemes) Regulations 2015* and to which a decision maker (i.e. local government) must have 'due regard' when determining an application (such as a development application or building licence) within a structure plan area.

The approved structure plan outlines the maximum allowable size of building envelopes within subdivided lots to be 2000 m² or 10% of the lot area, whichever is lesser. This criteria was used as a basis to calculate the 31.4 ha of total allowable clearing across the development identified in Condition 2 for the establishment of building envelopes. This allowable clearing area is considered a reasonable area of clearing to incorporate the required infrastructure within an individual lot.

Individual building envelopes are approved by the City of Swan when considering building licence applications. As outlined above, this decision making process should involve due regard to the approved structure plan and the provisions within it, specifically relating to maximum allowable building envelopes.

Pre-clearing of approved building envelope

It has been identified that a number of landowners have exceeded the prescribed building envelope clearing allowance, either for fire management, aesthetics or personal preference. The mechanisms put in the place by the proponent to limit clearing are established on the presumption that individual lot owners will comply with the relevant mechanisms and legal requirements, which has not occurred in these particular lots.

In an effort to avoid future occurrences of purchasers over-clearing building footprints within subdivided lots, Peet Limited has undertaken adaptive management measures to engage with the City of Swan and undertake clearing of building envelopes prior to the sale of subdivided lots. This approach is intended to ensure that building envelopes do not exceed the allowable maximum area. This approach has been applied within a number of subdivided lots within Stage 4 and is anticipated to be implemented in future stages of development.

2.2.3 Condition 3

The original RFMP (Cardno 2010b), entitled *Brigadoon Estate Revegetation and Fire Management Plan Parts 1, 2 and 3* was approved by the Fire and Emergency Services Authority (now DFES) in May 2010 and the Department in June 2010. A number of revisions to the original RFMP have been made since this time, discussed in detail in previous annual compliance reports. The current version of the RFMP (revision D) was prepared by Emerge in May 2016 and was approved by DFES on 8 June 2016 and the Department on 24 June 2016. The implementation of the approved RFMP is in effect and ongoing, as discussed below.

RFMP implementation - fuel mitigation measures

The RFMP outlines a prescribed burn schedule for the development, timed to occur in stages over a number of years. Two prescribed burns have previously been undertaken within the eastern portion of the site in 2013 and 2014 prior to this reporting period, as discussed in previous compliance reports.

One prescribed burn was scheduled to occur during this reporting period in latter half of 2015 and was completed by the local bushfire brigade on 25 and 26 September 2015. This involved liaison with Peet, the approved Fire Management Consultant (Fireplan WA), DFES and residents located in proximity to the burn area. The prescribed cool burn generally aligned with the indicative prescription proposed in the RFMP and was successful in reducing bushfire fuel loads within this portion of the development.

Cool burns are controlled burning events undertaken to reduce potential bushfire fuel loads, primarily targeted at surface level fuels (such as leaf litter and near-surface vegetation). The completion of cool burns in heavily vegetated areas such as Avon Ridge Estate reduces the overall bushfire risk. During this prescribed burn event, three potential black cockatoo habitat trees (identified on Attachment 4 and 4A of the EPBC Act approval) were noted to be affected by the prescribed burn. This is discussed further in **Section 2.2.5**, given its application to Condition 5.

RFMP implementation – revegetation program status

A comprehensive revegetation and weed control program has been undertaken within the PR Reserve, which has included the planting of a wide range of suitable Black Cockatoo habitat species as outlined in the RFMP. The revegetation works, which have included ongoing monitoring and weed control measures, have been completed by Tranen (a qualified revegetation specialist), on behalf of Peet.

Six revegetation sites have been established since 2011, with the most recent site established in 2013. All revegetation sites planted to date have been monitored for at least 3 years. Regular inspections and associated monthly and bi-annual monitoring reports have been completed by Tranen throughout the program. A bi-annual monitoring report was prepared by Tranen in May 2016, provided in **Appendix B**.

88,255 seedlings have been installed within the PR Reserve as part of the revegetation program to date, which excludes 56,430 infill plantings completed to replace dead plants. The revegetation program for these seedlings has been completed (including the 3 year monitoring component), with the program achieving all of the specific completion criteria set out in Condition 3 of the EPBC approval and the RFMP, specifically:

- Plant survival rate has been > 90%
- Plants are generally healthy in appearance and diverse with no mass losses.
- Species richness is > 65% of total species numbers planted.
- Average seedling height has increased between assessments
- Weed presence is minimal and not inhibiting native plant survival and growth.

On this basis, the development is compliant with Condition 3. The revegetation program is further discussed in relation to Condition 7 in **Section 2.2.7**.

2.2.4 Condition 4

Peet engages the FMC to prepare APZ and HSZ advice for subdivided lots (to ensure compliance with Condition 2). The FMC meets with lot purchases to guide the location of building envelopes and conduct Bushfire Attack Level (BAL) assessments. During these visits the FMC provides guidance to new landowners regarding acceptable vegetation modification practices prior to any lot clearing in accordance with the Protective Covenants.

Once determined, the FMC details the spatial extent of APZs and HSZs and also provides an estimation of vegetation density in these areas. This information is used to quantify APZ thinning as opposed to post-clearing counting and recording of removed plants, which would be extremely onerous and difficult to manage on private lots, when the majority of APZ thinning is undertaken by landowners.

Six BAL assessments were completed within subdivided lots during this reporting period. Based on current estimates of APZ thinning, thinning has not exceeded 112,500 plants across the development and thus is compliant with Condition 4. Notwithstanding this, it is apparent that a different approach to managing the impacts of APZ thinning (with regard to black cockatoo habitat) and compliance with this condition is required.

On this basis, a proposed amendment to Condition 4 was lodged with the Department in September 2016. The adoption of the proposed condition amendment would ensure that suitable bushfire management outcomes are achieved, whilst also reducing the compliance burden and potential reporting errors.

2.2.5 Condition 5

Satisfaction of this condition is progressed on a stage by stage basis, through the application of Notifications on Titles as they are created and through Protective Covenants.

During pre-construction inspections of Stage 7 areas, three black cockatoo habitat trees (as detailed in Attachment 4 & 4A of the approval) were noted to be burnt (#25 (dead), #27 (marri) and #43 (marri)) and a further three noted to have fallen over (#26 (wandoo), #34 (marri) and #42 (marri)). These observations were made prior to the undertaken of any civil construction and associated clearing works within the site, and are considered to be as a result of natural causes or previously completed prescribed burning events.

2.2.6 Condition 6

On 5th July 2012, the PR Reserve was ceded to the WA State Government. This action completes Condition 6. The Deposited Plan and Certificate of Crown Land Title were included in the 2013 Compliance report (Emerge 2013).

2.2.7 Condition 7

88,255 seedlings of the total required 214,000 have been planted to date, generally aligning with the requirement to plant 1000 seedlings per purchased lot (based on 90 lot sales to date). As discussed in **Section 2.2.3**, the revegetation program for these seedlings has been completed (including the 3 year monitoring component), with the program achieving all of the specific completion criteria. On this basis, the development is considered be compliant with Condition 7.

All seedlings planted to date have been installed within the PR Reserve, in response to difficulties associated with implementing revegetation within private lots, including:

- Difficulty gaining permission for contractors to access private property
- Opposition by lot purchasers to additional planting
- Delays between the purchase of lots and eventual development of lots by purchasers
- Complexities associated with on-selling of lots to new owners
- Difficulties associated with distinguishing planting from natural recruitment and monitoring the survival success of scattered planting within remnant vegetation
- Inability to erect fencing to protect plants from impacts of grazing (rabbits and kangaroos).
- Planting of vegetation may provide complexities surrounding the construction and maintenance of APZs and HSZs, in addition to heightened public awareness of bushfire safety and associated hazard reduction.

The current RFMP reflects the change in strategy to locate all revegetation efforts within the PR Reserve, which was approved by the Department on 24 June 2016.

As discussed in previous annual compliance reports and the most recent bi-annual revegetation monitoring report (Tranen 2016), the remainder of the required revegetation planting under Condition 7 cannot be undertaken within the PR Reserve, given:

- The presence of existing vegetation within these areas and the inability to get machinery to access these areas to undertake the required site preparation (ripping).
- The steep slopes and shallow granite which make revegetation works difficult for contractors and machinery plus reduce the likelihood of revegetation success. This granite is often hidden below the surface and is not visible during initial site inspections and it is only after site preparation that areas of exposed granite are identified.
- The increased scrutiny and sensitivity by the public towards revegetation given recent bush fires in the Perth Hills.

This is proposed to be addressed through an amendment to Condition 7, which was lodged with the Department in September 2016. The proposed amendment is currently being considered by the Department and its acceptance would ensure any future non-compliance of Condition 7 is avoided.

2.2.8 Condition 8

Approval of the original Protective Covenant was granted by the Department in August 2010. Since this time, a number of revisions have been made to the Protective Covenant and have subsequently been referred to the Department for approval, described in detail in the 2014 compliance report.

The current version of the Protective Covenant being applied to new subdivided lots within the site was approved by the Department on 4 August 2014 and is provided in **Appendix A**.

2.2.9 Condition 9

The Structure Plan was endorsed by the Western Australian Planning Commission (WAPC) on the 27 March 2014. Subdivision of all proposed lots within the site has been approved, through WAPC subdivision approvals 137383, 141396, 144087 and 147722. The current version of the Protective Covenant applied to all new lots was approved by the Department on 4 August 2014.

All elements specified in Attachment 6 of the approval have been incorporated in either the Structure Plan, conditions of subdivision approval or approved Protective Covenants. Previous compliance

reports (Cardno 2011, Cardno 2012) have provided details on how the different elements contained within Attachment 6 of the Approval were included in the above planning mechanisms. Ongoing compliance of Condition 9 will involve the continued application of the Structure Plan, conditions of subdivision approval and approved Protective Covenants.

2.2.10 Condition 10

Construction works have been carried out according to the procedures outlined in the CEMP (Cardno 2010a) which was approved by the Department on 24 June 2010. The CEMP is implemented during clearing, construction and development phases and is primarily managed by the civil contractor. Registers and forms relating to construction and environment management required under the CEMP are completed for each stage of civil construction works, and are kept on file for future reference.

The elements outlined in Condition 10 have all been included within the CEMP document, as detailed in previous compliance reports.

2.2.11 Condition 11

This condition has been completed and reported in the 2011 Compliance Report (Cardno 2011).

2.2.12 Condition 12

This condition is addressed through the preparation of this Compliance Report.

2.2.13 Condition 13

This condition is completed and reported in the 2011 Compliance Report (Cardno 2011).

2.2.14 Condition 14

The original RFMP has been revised and updated a number of times. The current version was prepared by Emerge in May 2016. This version was approved by DFES on 8 June 2016 and by the Department on 24 June 2016.

2.2.15 Condition 15

No request has been received by the Minister requiring better protection for environmental features and this condition is therefore not applicable.

2.2.16 Condition 16

Records of activities undertaken within the site which are associated with these approval conditions are maintained by Peet and its project team. These records are updated as required and have been used to inform this annual compliance report. Copies of specific records can be made available upon request.

2.2.17 Condition 17

This condition is completed and reported in the 2011 Compliance Report (Cardno 2011).

3 Conclusion

This report has been prepared to satisfy Condition 12 of the EPBC Act Approval which was granted by the Department on 8 October 2009. This report outlines the level of compliance with conditions of the approval for the development in the reporting period of 5 July 2015 to 4 July 2016.

A high level of compliance with the approval conditions has been demonstrated in the reporting period. This is due to the implementation of environmental management measures prescribed by the following documents and mechanisms:

- Construction Environment Management Plan
- Revegetation and Fire Management Plan
- Protective Covenants
- Notification on Titles
- Use of the Fire Management Consultant.

Ongoing monitoring and evaluation of environmental management works has and continues to ensure continued compliance with approval conditions.

As discussed throughout this report, a proposal to amend conditions 1, 2, 4 and 7 of the approval was lodged with the Department in September 2016. This will be addressed separately with the Department and has not impacted upon compliance within this reporting period. It envisaged that the adoption of the proposed condition amendments will ensure the development continues to be compliant in the future.

A declaration of accuracy pertaining to the information presented in this report is provided in **Appendix C**.

4 References

Cardno 2009. *Response to Submissions: Brigadoon Estate Special Rural Development, Brigadoon Western Australia* (EPBC Reference 2008/4250).

Cardno 2010a. *Brigadoon Estate Construction Environment Management Plan*. Unpublished Report prepared for Peet Limited.

Cardno 2010b. *Brigadoon Estate Revegetation and Fire Management Plan (Parts 1-3)*. Unpublished Report prepared for Peet Limited.

Cardno 2011. *2011 Compliance Report for EPBC Approval 2008/4250, Avon Ridge, Brigadoon*. Unpublished Report prepared for Peet Limited.

Cardno 2012. *2012 Compliance Report for EPBC Approval 2008/4250, Avon Ridge, Brigadoon*. Unpublished Report prepared for Peet Limited.

Emerge Associates (Emerge) 2013. *2013 Compliance Report for EPBC Approval 2008/4250, Avon Ridge, Brigadoon*. Unpublished Report prepared for Peet Limited.

Emerge Associates (Emerge) 2014. *2014 Compliance Report for EPBC Approval 2008/4250, Avon Ridge, Brigadoon*. Unpublished Report prepared for Peet Limited.

Emerge Associates (Emerge) 2015. *2015 Compliance Report for EPBC Approval 2008/4250, Avon Ridge, Brigadoon*. Unpublished Report prepared for Peet Limited.

Emerge Associates (Emerge) 2016. *Avon Ridge Estate, Brigadoon – Revegetation and Fire Management Plan (Revised 2015)*. Unpublished report prepared for Peet Limited.

Tranen 2016. *Avon Ridge Estate Bi-annual Monitoring Report – Autumn 2016*. Unpublished Report prepared for Emerge Associates.

5 Glossary

TERM	DEFINITION
Notifications on Title	Are created under Section 70A of the Western Australian Transfer of Land Act 1893 to notify landowners of factors that may interfere with the use of their land. The person taking the action must put these titles in place to alert future purchasers if their lot contains habitat trees that must be retained in perpetuity and are not to be cleared in line with fire management procedures
Protection in perpetuity	A tenure or a conservation status on a notification attached to individual land titles that guarantees permanent preservation of vegetation into the future and ensures there will no clearing will be undertaken.

APPENDIX A



AVON RIDGE ESTATE PROTECTIVE COVENANT

Current version applied to subdivided lots, approved by the Department on 4 August 2014



Protective Covenants

1. PROTECTIVE COVENANT RELATING TO THE PROPERTY

The Buyer acknowledges that the Property will be encumbered by and is sold subject to the protective (restrictive) covenants to be imposed by the Seller as set out below, to be registered on the Property as restrictive covenants (subject to any amendments reasonably required by the Seller).

2. CLEARING LIMITATIONS

2.1 The Buyer must not clear or allow to be cleared vegetation on the Property other than as reasonably required for the following purposes:

- a) for an approved Aerobic Treatment Unit Discharge Area (within the Approved Building Envelope) as approved by the Fire Management Consultant;
- b) for the Approved Driveway;
- c) for fire breaks approved by the Fire Management Consultant; or
- d) for the purpose of maintaining a Low Fuel Environment within the Building Protection Zone and the Hazard Separation Zone, in accordance with the approved Bushfire Management Plan,

provided that:

- e) in respect of clauses 2.1(a) - (d), the Buyer does not clear or allow to be cleared vegetation on the Property within the Building Protection Zone after the construction of a dwelling on the Property, except as otherwise approved by the Fire Management Consultant;
- f) the Buyer seeks advice on vegetation modification and clearing requirements from the Fire Management Consultant, prior to clearing within the Building Protection Zone and Hazard Separation Zone, conducts any clearing in accordance with this advice, arranges for the Fire

Management Consultant to inspect the Property following the clearing to ensure that clearing has taken place in accordance with their advice, and the Buyer complies with any further modifications required by the Fire Management Consultant;

- g) if the Buyer undertakes, or allows to be undertaken, any over-clearing, the Buyer must not allow the affected area to remain without vegetation of the kind that has been cleared (to the satisfaction of the Seller); and

- h) the total cleared area on the Property must not exceed the lesser of a total area of 2,000m² or 10% of the total area of the Property.

2.2 The Buyer must not choose the location of each house site unless it is done in consultation with the Fire Management Consultant.

2.3 No Declared Plants are to be planted on the Property.

2.4 The Buyer acknowledges that there is no additional clearing for access roads or other community infrastructure within the Project Area unless approved by the relevant local authority.

2.5 The Buyer is aware of the existence of potential and actual breeding habitats for Black Cockatoos as disclosed in the Interests and Notifications in Annexure F and must not undertake or allow to be undertaken:

- a) any clearance of any vegetation that provides habitat for Black Cockatoos outside the Building Protection Zone;
- b) any clearance of any habitat trees;
- c) any clearance of any other trees deemed as being Ecologically Significant Trees



Protective Covenants

with a diameter by breast height of 300mm or greater unless those trees are:

- i) located within the Building Protection Zone; and
- ii) required to be removed for fire management purposes as advised by a qualified Fire Management Consultant.

3. **PLACEMENT OF APPROVED BUILDING ENVELOPES, FIREBREAKS & DRIVEWAYS**

3.1 The Buyer must not allow the Approved Building Envelope, the Building Protection Zone, firebreaks or any driveway to be present on portions of the Property identified on the Brigadoon Structure Plan as containing any of the following:

- a) Pristine Condition Vegetation;
- b) Excellent Condition Vegetation; and
- c) Priority Flora,

except in special circumstances where required for Bush Fire Protection purposes as defined by the approved Bushfire Management Plan and at the direction of the Fire Management Consultant.

3.2 The Buyer acknowledges that Approved Building Envelope boundaries must be at least 30m from Pristine Condition Vegetation and Excellent Condition Vegetation.

3.3 The Buyer is not to seek to alter, or allow to be sought to be altered, any of the Building Envelope Area as shown on the approved Brigadoon Structure Plan.

3.4 The Buyer must not relocate the crossover between the driveway on the Property and the public roadway as approved by the relevant local authority and as constructed by the Seller.

4. **BUILDING CONTROLS**

4.1 Individual dwellings shall not be constructed on the Property unless they are designed and built to conform with:

- a) Bush Fire Survival Manual Guidelines;
- b) any requirements specified by the local authority; and
- c) Australian Standards AS3959.

4.2 The Buyer must not construct or permit to be constructed on the Property any dwelling unless the form, scale and siting of the dwelling (and any associated outbuildings) are in harmony with the rural character of the balance of the Project Area.

4.3 The Buyer must not construct or permit to be constructed any outbuilding (including a shed) unless the outbuilding is located within the Approved Building Envelope.

4.4 The Buyer must not construct or permit to be constructed, the Approved Driveway unless:

- a) the Approved Driveway does not exceed 6.0m in width; and
- b) service connections to the primary residence (other than for Lots 190, 200, 230 and 241), including water, electricity and telecommunications, are positioned within the driveway area.

5. **ESTATE FENCING**

5.1 The Buyer must not alter, erect or allow to be altered or erected any fencing other than:

- a) estate fencing erected by the Seller; or
- b) 'Fauna-friendly' perimeter fencing up to 1.2m in height along the perimeter of the Approved Building Envelope (primarily to allow for the containment of domestic dogs).



Protective Covenants

5.2 The Buyer must not alter any fauna friendly 'sheep net' fencing provided by the Seller.

6. RESTRICTION ON ANIMALS/LIVESTOCK

The Buyer must not keep or permit to be kept on the Property:

- a) any livestock (excluding chickens);
- b) any domestic cats;
- c) any domestic dogs unless they are kept within the Approved Building Envelope and in a fenced area as specified in clause 5.1(b); or
- d) any chickens unless they are kept within the Approved Building Envelope and in a suitably constructed chicken coop.

7. VEGETATION

The Buyer acknowledges and agrees that as a condition of subdivision approval of the land of which the Property forms part imposed by DoE (formerly DEWHA) under the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) the Seller is required to make the Buyer aware of:

- a) the existence of potential and actual breeding habitat trees for Black Cockatoos on the Property and the Interests and Notifications in Annexure F ;
- b) the requirements to conserve habitat trees in perpetuity and

Aerobic Treatment Unit Discharge Area means that part of the sub-strata of the Property required by the relevant local authority to be set aside for the aerobic treatment discharge area which comprises of a maximum discharge area of 150m²;

Approved Building Envelope means the building envelope (which area must not be greater than 10% of the total area of the Lot

not to clear such areas;

- c) the protective covenants set out in this document and, in particular the restrictions relating to the clearing of:
 - i) potential breeding habitat trees and any other trees with a diameter by breast height over 300mm; and
 - ii) areas within and outside the Building Protection Zone; and
- d) the species related information on all Black Cockatoos, their presence in the area, ecology, species range and details of habitat.

8. AEROBIC TREATMENT UNIT

The Buyer must not permit any aerobic treatment unit supplied by the Seller to remain unconnected to the dwelling on the Property after practical completion of construction of the dwelling on the Property.

9. DEFINITIONS AND INTERPRETATION

A reference to any law, policy, guideline or standard is deemed to include any change, amendment, re-enactment or consolidation to that law, policy, guideline or standard, from time to time.

In this Annexure, unless the context otherwise requires or a contrary intention appears:

or 2000m², whichever is the lesser) approved by Peet and the City located within the Building Envelope Area for the construction of a house and outbuilding but does not include driveways and the approved fire break area on the Lot

Approved Driveway means a driveway linking the Approved Building Envelope to the public roadway servicing the Property;

Australian Standards AS3959 means Australian Standards AS3959 – 2009 Construction of building in bushfire-prone areas;

Black Cockatoos means the species *Calyptorhynchus latirostris* also known as the Carnaby's Black Cockatoo and *Calyptorhynchus baudinii* also known as Baudin's Black Cockatoo;

Brigadoon Structure Plan means outline development plan for Brigadoon shown in Annexure Q;

Building Envelope Area has the same meaning given to the expression 'Building Envelopes' as described in the Brigadoon Structure Plan;

Building Protection Zone means a 30m zone around the dwelling as shown hachured in red in the Brigadoon Structure Plan;

Bushfire Management Plan means the Fire Management Plan 2009 prepared by FirePlan WA which provides the management objectives that aims to reduce the threat to residents and fire fighters in the event of bushfire within or near the site;

Bushfire-Prone Areas has the same meaning as 'Bushfire-prone area' as defined in Australian Standards AS3959-2009;

Bushfire Survival Manual Guidelines means Bush Fire Survival Manual Guidelines, FESA 5th Edition, 2008, which is a survival manual prepared by DFES to inform the community about bushfires;

Declared Plant means a plant that:

- a) has the same meaning given to that expression under section 7 of the *Agriculture and Related Resources Protection Act 1976* (WA); or
- b) competes with native vegetation and has a detrimental impact on both native fauna and fire management regimes;

DEWHA means the Federal Department of Environment, Water, Heritage and the Arts (now DoE).

DoE means the Federal Department of

Environment.

DFES means the Department of Fire and Emergency Services (formerly the Fire and Emergency Services Authority of Western Australia)

Ecologically Significant Trees means trees that have been identified by the Fire Management Consultant as being worthy of retention due to habitat, ecosystem or amenity values, as shown in Annexure M. For example, trees that:

- a) provide food and shelter for native animals;
- b) has the potential of producing valuable hollows in the future;
- c) provide and maintain soil stability;
- d) provide landscape values; and
- e) provide shade.

EPBC Act means the Environment Protection and Biodiversity Conservation Act 1999 (Cth);

Excellent Condition Vegetation means vegetation with its structure intact and with any disturbance (including weeds) affecting individual species of the vegetation only being non-aggressive;

Fire Management Consultant means an individual appointed by the Seller and approved by DFES to provide advice on fire management purposes for the project area;

Hazard Separation Zone means a 60m zone around the dwelling constructed on the Property;

Low Fuel Environment means an area of vegetation that is actively managed to maintain a reduced fuel level in order to minimise the risk of bushfire.

Priority Flora means species that are classified by the Department of Parks and Wildlife under the Conservation Codes for Western Australian Flora and Fauna as follows

- a) Priority One – Poorly known species - species that are known

from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, for example, agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes;

b) Priority Two – Poorly known species – species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, for example, national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes;

c) Priority Three – Poorly known species – species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them;

d) Priority Four – Rare, Near Threatened and other species in need of monitoring –

(i) Rare: species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently

threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands;

(ii) Near Threatened: species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable;

(iii) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy; and

e) Priority Five - Conservation Dependent species – species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years;

Pristine Condition Vegetation means vegetation in pristine or near pristine condition, with no obvious signs of disturbance; and

Project Area means the area identified as 'the site' in the locality plan dated 30 April 2008 allocated with project number V7068 and drawing number SK01

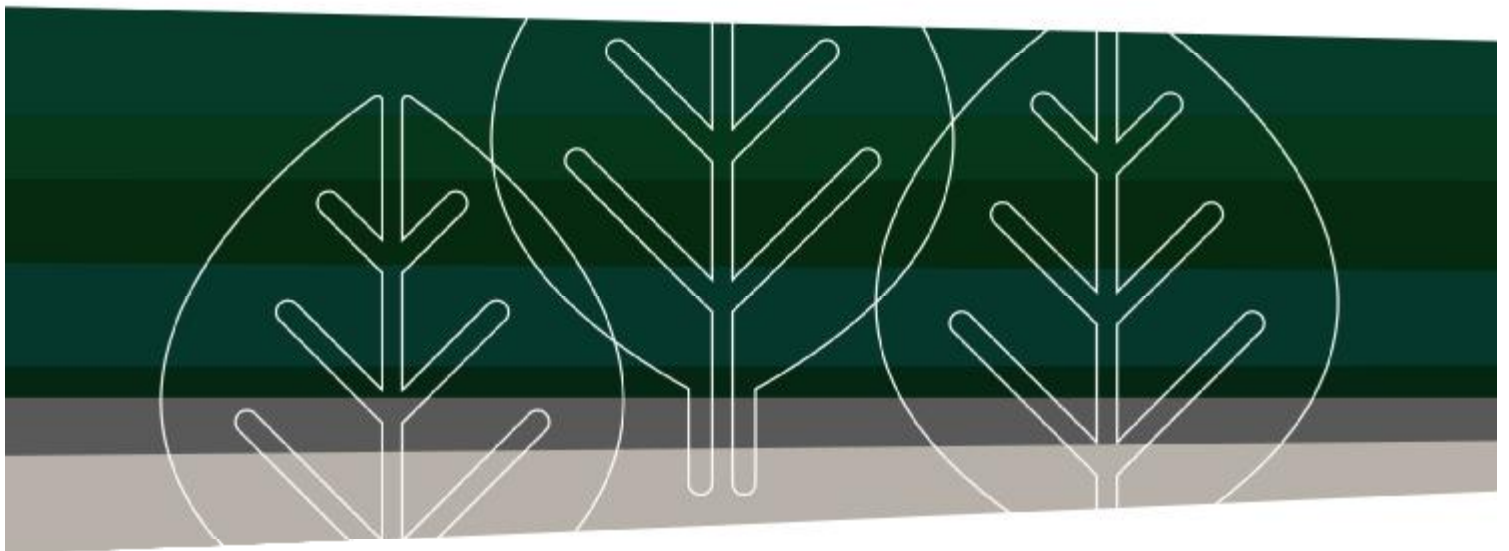
APPENDIX B



BI-ANNUAL REVEGETATION MONITORING REPORT

Avon Ridge Estate Bi-annual Monitoring Report – Autumn 2016 (Tranen 2016)

revegetating
rehabilitating
restoring



Avon Ridge Estate
Bi-annual Monitoring Report – Autumn 2016
Emerge Associates
P496-07-Rev00
May 2016

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1 SUMMARY

Tranen was engaged to undertake revegetation work at PEET's Avon Ridge development in winter 2011. Further revegetation or maintenance works have been undertaken in 2012 – 2016 with the aim of contributing to the target of 214,000 seedlings required as part of the offset package for the development.

Six revegetation sites were established between 2011 and 2013. A total of 88,255 seedlings were initially installed into these six sites. Infill planting has also occurred in 2012, 2013 and 2014 to replace dead plants, which is a pro-active approach to achieve the 90% survivorship criteria before the end of the three-year monitoring period. The infill plants do not count towards the 214,000 seedlings required to be planted, and future survivorship observations are calculated against the original number of seedlings planted. Prior to the autumn 2016 monitoring event, a total of 144,675 seedlings (initial plantings plus infill) had been installed in the six sites.

The approval given to PEET under the *Environment Protection Biodiversity Conservation Act 1999* requires a survivorship rate of 90% of all installed seedlings at the end of the three year maintenance period. Other completion criteria, as set out in the *Avon Ridge Estate, Brigadoon: Revegetation and Fire Management Plan* (Cardno 2012) are:

- Plants are healthy in appearance and diverse in species with no mass losses;
- At least 65% of the species planted have survived (a measure of species richness);
- The average seedling height has increased between assessments; and
- Weed presence is minimal and not inhibiting native plant survival and growth.

The revegetation works as a whole have met the 90% seedling survival target required for the EPBC Conditions, and the criteria stipulated in the *Revegetation and Fire Management Plan* (Cardno 2012). Individual sites may not be meeting all of the criteria, and the reasons for this relate mainly to kangaroo herbivory in unfenced trial sites performing below the criteria. It was not possible to plant the full amount of 214,000 seedlings stipulated in the offset package due to lack of space for revegetation. Therefore, while total plant numbers have not been met, the revegetation works to date for this project are considered to be complete.

2 INTRODUCTION

Tranen was engaged to undertake revegetation work at PEET's Avon Ridge development in winter 2011. These works have been maintained up to the present time with the aim of contributing to the target of 214,000 seedlings required as part of the offset package for the development as per the conditions under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

2.1 EPBC Approval Conditions (Section 2b)

The revegetation measures to create additional Black Cockatoo habitat across the project site, including in the Parks and Recreation Reserve, specifically are:

- Revegetating all vegetation condition classes (excluding pristine and excellent classes) and vegetation complexes;
- Designing species mix: numbers and density to be planted;
- Timing the proposed planting (must be following the annual winter rain period);
- Implementing weed management measures;
- The survivorship rate of all revegetation measures must be at least 90% after three years. If after three years of the date of the planting, a survival rate of 90% of the planted trees is not achieved, all dead trees must be replaced with other Black Cockatoo habitat species within 12 months and maintained for at least an additional two years;
- Annual monitoring measures within the project area undertaken by an appropriately qualified and experienced ecologist and must commence within 12 months of the completion of revegetation and continue for at least three years after the initial revegetation planting in any given area (given that revegetation will be staged across the development); and
- Annual monitoring measures undertaken by an appropriately qualified and experienced specialist must commence in the Parks and Recreation Reserve within 12 months of completion of revegetation and continue for at least three years after the initial planting in the Parks and Recreation reserve for the purpose of establishing the survivorship rates and replanting efforts within the project area.

2.2 Monitoring Program Objectives

The main objectives of the bi-annual monitoring program are to:

- Demonstrate the success of the revegetation against the completion criteria specified by the EPBC approval conditions; and
- Identify issues affecting the revegetation program, such as weeds, pathogens or acts of vandalism.

2.3 Completion Criteria

At the end of the three year maintenance period, the following completion criteria are required to be met (from the *Revegetation and Fire Management Plan*, Cardno 2012):

- Survivorship rate must be at least 90% (note: this is a condition of the EPBC Act approval);
- Plants are healthy in appearance and diverse in species with no mass losses;
- At least 65% of the species planted have survived (a measure of species richness);
- The average seedling height has increased between assessments; and
- Weed presence is minimal and not inhibiting native plant survival and growth.

3 REVEGETATION SITES AND WORKS TO DATE

Six revegetation sites have been established (for a map of their locations, refer to Appendix 1):

- Site 1A: established in 2011;
- Site 2: established in 2012;
- Site 3: established in 2013 as an unfenced trial site, which was subsequently fenced prior to the 2014 planting works;
- Site 4: established in 2013;
- Sales Office A: established in 2013 as an unfenced trial site; and
- Sales Office B: established in 2013.

A summary of the planting years, total area and number of seedlings planted for each revegetation site is presented in Table 1. The total number of seedlings planted to date is 144,675.

Table 1 Revegetation Sites

Site Name	Area (ha)	Fenced or Unfenced	2011 Seedlings	2012 Seedlings	2013 Seedlings	2014 Seedlings	2015 Seedlings	Total Seedlings
1A	13.4	Fenced	30,775	12,000	-	9,300	-	52,075
2	4.7	Fenced	-	24,000	6,520	2,000	-	32,520
3	0.3	Fenced ¹	-	-	2,610	3,800	-	6,410
4	2.8	Fenced	-	-	10,340	14,800	-	25,140
Sales Office A	0.8	Unfenced ²	-	-	6,150	-	-	6,150
Sales Office B	2.3	Fenced	-	-	14,380	8,000	-	22,380
TOTAL	24.3	-	30,775	36,000	40,000	37,900	-	144,675
Blue = initial planting number for each site					TOTAL of initial planting			88,255
Black = infill planting numbers								

¹ Site 3 was initially not fenced to investigate whether fences were necessary to protect seedlings. Results indicated kangaroos were eating seedlings, so a fence was erected prior to 2014 planting.

² Sales Office A was initially not fenced to investigate whether fences were necessary to protect seedlings. This area was abandoned as a trial area because of the proximity to houses (fire risk) and deleterious effects on the aesthetics of the area if a fence were to be established.

3.1 Site 1A

Site 1A was not monitored in autumn 2016; the site had met all completion criteria after the three year maintenance period, as reported in the spring 2014 monitoring report (Tranen 2015a).

3.2 Site 2

Site 2 was established in August 2012 and was formally assessed against the completion criteria using the results of the assessment in autumn 2015. However, plants that were required to bring Sales Office A up to the 90% survival rate were planted in Site 2 instead, which required Site 2 to be monitored for an additional year past its completion date.

The 2012 revegetation program at Site 2 consisted of:

- Deep ripping (not undertaken by Tranen);
- Installation of a kangaroo fence with rabbit proof skirt measuring 1,000 m long and 1.8 m high;
- Pre-planting weed control program of herbicide application (glyphosate and Simazine) in July 2012; and
- Planting of 24,000 seedlings in August 2012.

Since the initial installation the following maintenance activities have been undertaken at Site 2:

- Fencing repair (2012);
- Additional planting:
 - 6,520 seedlings in June and July 2013;
 - 2,000 seedlings in July 2014;
- Weed control maintenance:
 - Spring 2012;
 - Summer 2012/13;
 - Autumn 2013; and
 - Autumn 2014;
 - Summer 2014/15;
 - Autumn 2015; and
 - Spring 2015.



Figure 1 Site 2 – Transect # 19

3.3 Site 3

Site 3 was established in 2013 without a kangaroo-proof fence as a trial to determine whether grazing by kangaroos was an impacting factor on the seedlings. Results of seedling survival after the first year indicated that seedling survival was very poor compared with fenced sites (survival of 7% compared with > 30% in fenced sites). Hence, a fence was established prior to planting in 2014.

Revegetation at Site 3 commenced in 2013 and consisted of:

- Deep ripping (not undertaken by Tranen);
- Pre-planting weed control program of herbicide application (glyphosate and Oust® pre-emergent) in July 2013; and
- Planting of 2,610 seedlings in July 2013.

Since the initial installation the following maintenance activities have been undertaken at Site 3:

- Installation of a kangaroo fence with rabbit proof skirt measuring 259 m long and 1.8 m high in autumn 2014;
- Weed control in autumn 2014;
- Planting of 3,800 seedlings in July 2014;
- Weed control in summer of 2014/15;
- Weed control in autumn 2015; and
- Weed control in spring 2015.



Figure 2 Site 3 – Transect # 4

3.4 Site 4

Revegetation at Site 4 commenced in 2013 and consisted of:

- Deep ripping (not undertaken by Tranen);
- Installation of a kangaroo fence with rabbit proof skirt measuring 572 m long and 1.8 m high;
- Pre-planting weed control program of herbicide application (glyphosate and Oust® pre-emergent) in July 2013; and
- Planting of 10,340 seedlings in July 2013.

Since the initial installation the following maintenance activities have been undertaken at Site 4:

- Fence repairs (August 2013);
- Weed control in autumn 2014;
- Additional fencing was erected on both sides of the middle track during April 2014. This was necessary because members of the public were leaving the gates open on the middle track through which kangaroos were entering the site;
- Planting of 14,800 seedlings in July 2014;
- Weed control in summer of 2014/15;
- Weed control in autumn 2015; and
- Weed control in spring 2015.



Figure 3 Site 4 – Transect # 3

3.5 Sales Office A

Sales Office A was established without a kangaroo-proof fence as a trial to determine whether grazing by kangaroos was an impacting factor on the seedlings.

Revegetation at Sales Office A commenced in 2013 and consisted of:

- Deep ripping (not undertaken by Tranen); and
- Planting of 6,150 seedlings in June 2013.

Since the initial installation the following maintenance activities have been undertaken at Sales Office A:

- Weed control maintenance:
 - Winter 2013;
 - Spring 2013; and
 - Summer 2013/14 (two events).

Kangaroo herbivory significantly reduced plant survivorship at Sales Office A during the first year after planting. Due to the location of the site near residences and a lookout for the Avon River, a fence has not been erected to further protect the plants as this would reduce the aesthetic qualities of the area. No further revegetation works have been undertaken on the site, as kangaroos will continue to eat shrubs and therefore continually impede revegetation success. Tree species have established from the initial revegetation efforts and continue to grow without being grazed. The weeds have been allowed to grow on the site to stabilise the topsoil as the site is on a steep slope and erosion was noted in the first year after planting.



Figure 4 Sales Office A – Quadrat # 2

3.6 Sales Office B

Revegetation at Sales Office B commenced in 2013 and consisted of:

- Deep ripping (not undertaken by Tranen);
- Installation of a kangaroo fence with rabbit proof skirt measuring 825 m long and 1.8 m high;
- Pre-planting weed control program of herbicide application (glyphosate and Oust® pre-emergent) in July 2013; and
- Planting of 14,380 seedlings in July 2013.

Since the initial installation the following maintenance activities have been undertaken at Sales Office B:

- Weed control in autumn 2014;
- Planting of 8,000 seedlings in July 2014;
- Weed control in autumn 2015; and
- Weed control in spring 2015.



Figure 5 Sales Office B – Quadrat # 3

4 MONITORING METHODOLOGY

This report presents results from the field survey conducted on the 21 April 2016 (autumn monitoring). This is the final monitoring report for the project.

4.1 Plant Survival

Plant survival was assessed using transects along rip-lines or 10 m × 10 m quadrats that covered several rip-lines. The initial survey for each site, undertaken in the spring following seedling installation, determines the baseline data which is a count of the number of seedlings planted within the monitoring plot. Percentage survival is assessed against this figure for future monitoring events.

Survivorship at all sites has been calculated against the initial planting numbers, and therefore can be greater than 100% where the additional planting has increased plant numbers above the original number installed.

4.2 Monitoring Plot Establishment and Survival Calculations

Transects, quadrats or a combination of both, were used to assess percentage survival of seedlings at each site. The method employed for assessing survival was dependent on the characteristics of each site, as described below. Different methods were necessary because of the nature of the rip-lines (i.e. long, easily identifiable rip-lines compared with short rip-lines in multiple directions), and difficulties with being able to observe dead plants during the first survey after planting (because of herbivory or rapid decay).

In some transects, there are seedlings that appear to have germinated naturally (i.e. natural recruitment). These have been included in total seedling counts because they contribute to the total number of plants that are present at the site, and are a direct result of the site preparation activities (i.e. soil cultivation, weed management, etc.).

4.2.1 Site 2

The initial survey at Site 2 was a random sample of rip-lines throughout the site, and this was continued until the spring 2013 survey was undertaken when permanent transects were established. With previous surveys being random, there was no baseline data against which survival could be assessed. To determine baseline seedling numbers, the following was undertaken in spring 2013:

- Twenty permanent transects were established across the site.
- For each transect, living plants were counted.
- It was assumed that the living plants represented 66% of the original number of seedlings planted in 2012. This is based on the mean percentage survival that was calculated during the autumn 2013 survey by counting live and dead plants in random transects (Tranen 2013).

4.2.2 Site 3

Nine permanent transects were established along rip-lines in Site 3 during the initial survey in spring 2013. Baseline data were collected of live and dead plants on each transect to determine the total number of seedlings planted, and to enable percentage survival to be calculated.

These same rip-lines are assessed for each monitoring event.

4.2.3 Site 4

Fifteen permanent transects were established along rip-lines in Site 4 during the initial spring 2013 survey. Baseline data were collected of live and dead plants on each transect to determine the total number of seedlings planted, and to enable percentage survival to be calculated.

These same rip-lines are assessed for each monitoring event.

4.2.4 Sales Office A

Six quadrats measuring 10 × 10 m were established across the site during the spring 2013 survey. Quadrats were used instead of transects as this site had been ripped in multiple directions, rather than having parallel rip-lines installed across the slope.

Due to impacting factors at the site, the most severe being kangaroo herbivory, it was not possible to obtain counts of dead plants during the baseline survey, as there was little evidence of any dead plants remaining. To determine the baseline data and enable future calculations of percentage survival, the following steps were undertaken for each quadrat:

- Number of living plants was counted;
- The density of plants in each quadrat was calculated as:
 - [number of living plants] / 100 m²;
- The density in each quadrat was compared against the average density for the site, which was calculated as:
 - Total number of seedlings planted for the site divided by the area of the site = 6,150 seedlings / 8,000 m² = 0.77 plants / m²;
- The proportion of seedlings surviving was therefore calculated as: [quadrat stem density] / 0.77.

4.2.5 Sales Office B

A combination of quadrats and transects was employed at Sales Office B, as there were wide areas with clear rip-lines in some places, and small areas where multiple rip-lines had been installed in several directions. Ten transects and five 10 × 10 m quadrats were established during the initial survey in spring 2013 to obtain a representative survey of the site. Baseline data were collected of live and dead plants on each transect or in each

quadrat to determine the total number of seedlings planted, and to enable percentage survival to be calculated.

4.3 Other Observations

At each revegetation site, observations were made of weed species and cover, seedling health (including pest attack, drought stress etc.), species diversity, maximum plant height along transects, occurrence of erosion or soil disturbance, and the health or occurrence of remnant vegetation.

Species richness was calculated as the number of species observed across the site divided by the number of species planted into the site and expressed as a percentage. This was done by observations on transects and by a walk-through across the site to search for each species planted.

5 RESULTS

Section 5.1 below summarises the results for the whole project, with the results from individual zones shown in Sections 5.2 to 5.6. Raw data for all quadrats and transects at all sites are presented in Appendix 2.

5.1 Project-Wide Assessment

Three of the completion criteria are quantitative: percentage survival, species richness (as a percentage of total number installed), and plant heights. A summary of the quantitative data at a project level as assessed in autumn 2016 is presented in Table 2 for percentage plant survival, Table 3 for species richness, and Figure 6 for assessment of plant height increasing over the life of the project.

Table 2 Plant Survival at all Sites After Three Years

Site Name	No. Seedlings Initially Planted	% Survival after 3 Years	Total Alive
1A	30,775	94%	28,929
2	24,000	140%	33,600
3	2,610	98%	2,558
4	10,340	85%	8,789
Sales Office A	6,150	23%	1,415
Sales Office B	14,380	41%	5,896
TOTAL	88,255	-	81,187
Overall % Survival = 81,187 / 88,255		92%	
Completion Criteria		90%	

Plant survival across the sites was 92% when calculated based on total plant numbers surviving out of the total planted across the six sites (Table 3). This meets the completion criteria of 90% survival.

The percentage of species observed out of those installed across all sites (a measure of species richness) was 92% of the total, which meets the completion criteria of more than 65% of species being present (Table 4).

Table 3 Species Richness Measured Across all Sites After Three Years

No. Species Installed Across all Sites During Project	No. Species Observed Across all Sites After 3 Years	% Species Observed Across all Sites after 3 Years	Completion Criteria for % Species to be Observed
36	33	92%	65%

Plant heights at each of the sites increased between each assessment (Figure 6), which meets the completion criteria.

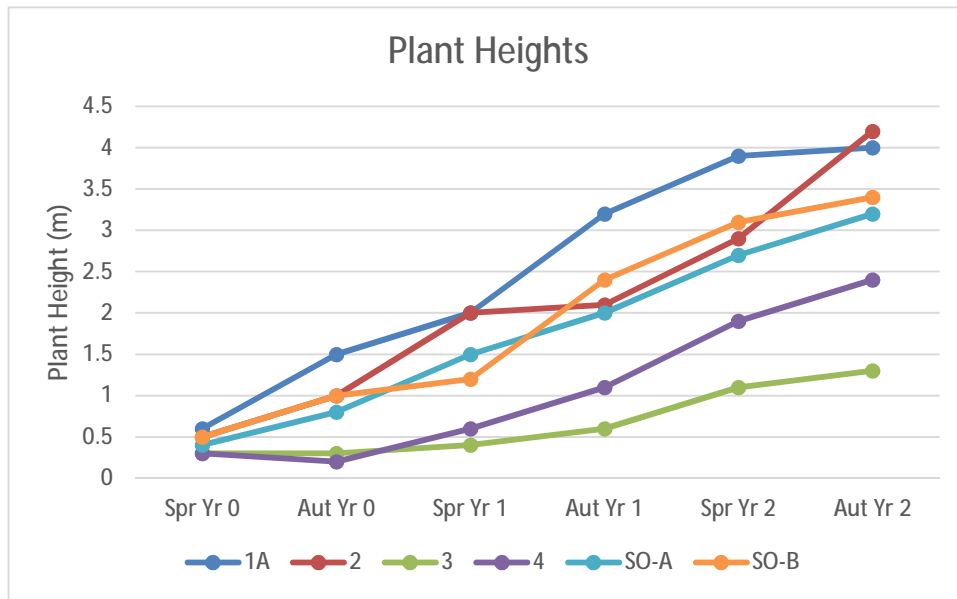


Figure 6 Plant Heights for all Sites for Three Years Since Installation

5.2 Site 2 (Established in 2012)

5.2.1 Survival and Condition of Revegetation

Mean survival rate across the 20 transects at Site 2 was estimated at 140% of the original number of seedlings planted in 2012 (Table 2). Survival was greater than 100% due to extra plants being installed during the infill planting works.

Site 2 has had very high survival rates since the initial planting in 2012, with the last six assessments all showing survival to be higher than the required 90% survival rate (Figure 7).

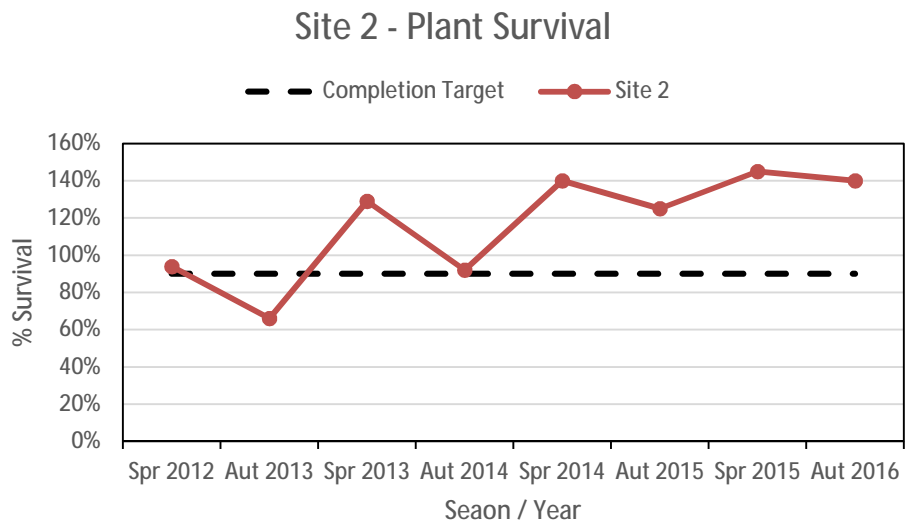


Figure 7 Site 2 – Plant Survival Since Site Establishment

5.2.2 Plant Heights

Maximum plant heights increased by 0.3 m on average since spring 2015. Mean maximum plant height for transects was 4.6 m.

Plant heights have continued to increase at Site 2 since the initial site establishment in 2012 (Figure 8).

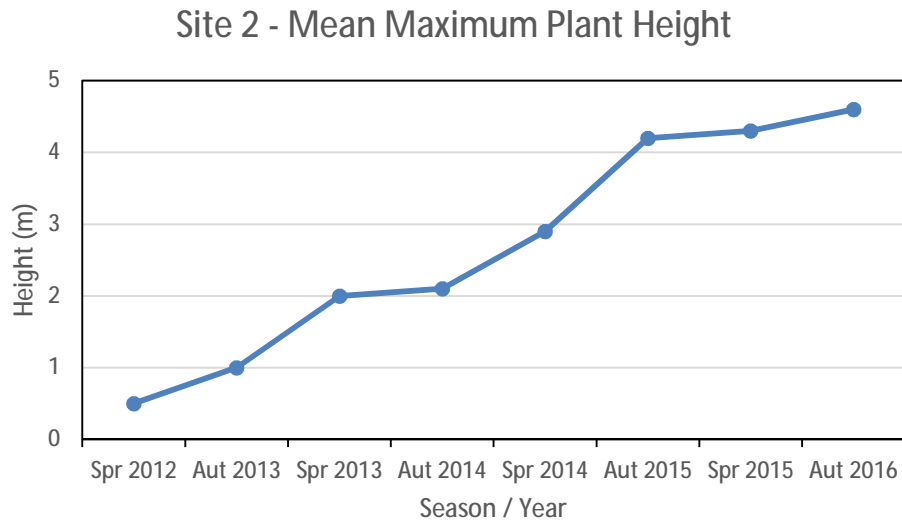


Figure 8 Site 2 – Plant Heights Since Site Establishment

5.2.3 Remnant Vegetation

Site 2 contained several patches of remnant vegetation, with *Corymbia calophylla*, *Eucalyptus rudis* and *Eucalyptus wandoo* trees scattered throughout the site.

Natural recruitment of seedlings of *E. rudis*, *E. wandoo* and *C. calophylla* were observed on site, while the native grass *Austrostipa flavescens* occurred in high densities in some areas, which has been consistent over the last few years.

5.2.4 Weeds

Weed cover was very low across the whole site, with mean weed cover 9%. This meets the completion target at present. Most weeds observed were annuals and not likely to be competing with the older plants on the site.

5.2.5 Species Richness

A total of 27 species were planted at Site 2 over the three planting years. Of these, 19 species were observed either on transects or during a walk-through of the site (70% of the total species). This is a reduction since spring 2015 of

10%, but remains above the completion target of 65% of species present. Species richness has remained above the 65% completion criterion for the duration of the project (Figure 9).

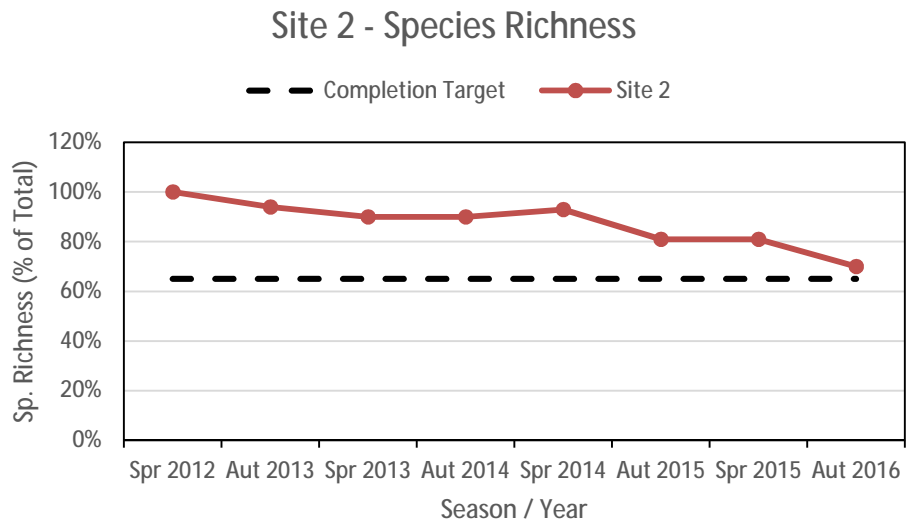


Figure 9 Site 2 – Species Richness Since Site Establishment

5.2.6 Fauna

Some minor signs of grazing of seedlings were noted, most likely from kangaroos that occasionally enter the site through open gates.

5.2.7 Surface Stability and Erosion

The soil surface was stable across the site, with little or no signs of erosion.

5.3 Site 3 (Established in 2013)

5.3.1 Survival and Condition of Revegetation

Mean survival of seedlings relative to the number initially planted into Site 3 was 98% across the nine transects (Table 2). Plant survival has declined slightly from more than 100% in the previous three assessments (Figure 10). Survival was previously above 100% because more seedlings were planted into the site in 2014 than were originally installed in 2013.

Plant condition was excellent, with no herbivory or damage noted.

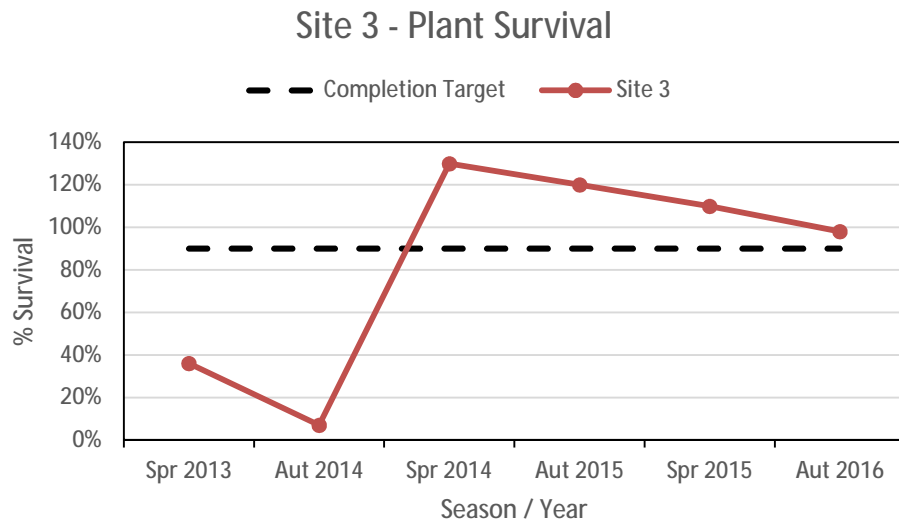


Figure 10 Site 3 – Plant Survival Since Site Establishment

5.3.2 Plant Heights

Maximum plant heights at Site 3 ranged between 0.3 m and 1.7 m, with a mean maximum height of 1.3 m; representing an increase of 0.2 m from spring 2015. (Figure 11).

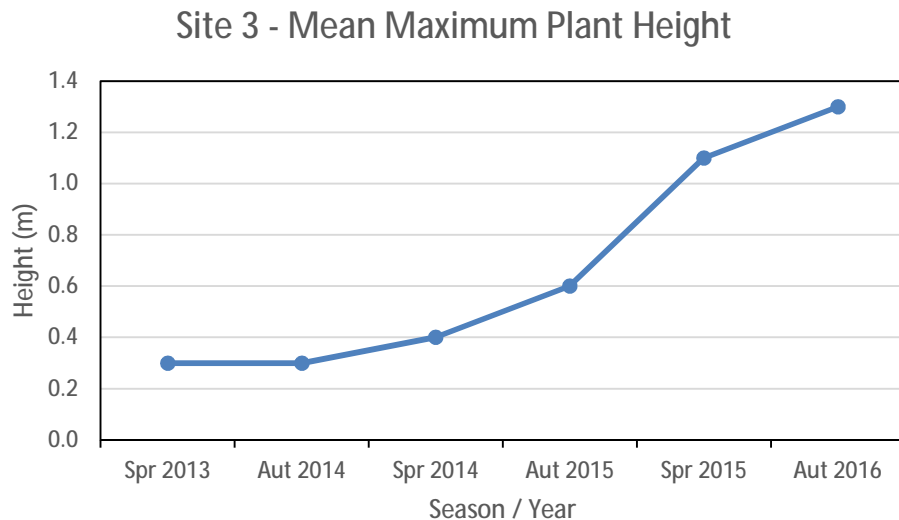


Figure 11 Site 3 – Plant Heights Since Site Establishment

5.3.3 Remnant Vegetation

Site 3 was established within a clearing surrounded by *E. wandoo* and *C. calophylla* trees. The site contains a few seedlings and saplings of *E. wandoo* and remnant vegetation remains in a good condition. *Austrostipa flavescens* has also germinated naturally and grown across portions of the site.

5.3.4 Weeds

Weed cover was very low across the whole site, with mean weed cover 4%.

5.3.5 Species Richness

A total of 24 species were planted at Site 3 over 2013 and 2014. Twenty-one species were observed in autumn 2016 (88% of the total species, which is above the completion target required by the third year; Figure 12).

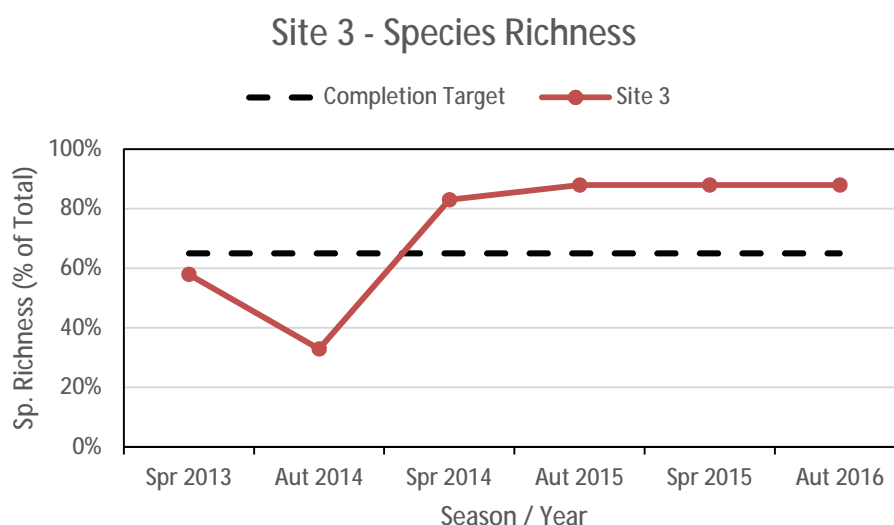


Figure 12 Site 3 – Species Richness Since Site Establishment

5.3.6 Fauna

Prior to the fence being erected, the site was significantly affected by vertebrate herbivores, with kangaroo presence at the site noted through dung and resting sites. Since installation of the fence, there is no evidence of kangaroo or rabbit presence on site.

5.3.7 Surface Stability and Erosion

The site showed only minor evidence of erosion. All rip-lines have been installed across the slope parallel to the contours, which reduces the erosion potential from surface water runoff.

5.4 Site 4 (Established in 2013)

5.4.1 Survival and Condition of Revegetation

Mean survival of seedlings relative to the initial number installed for Site 4 was 85% across the 15 transects (Table 2). This is a reduction since spring 2015 when survival was assessed at 94%. However, it is a significant increase in survival rates compared with autumn 2014 when survival was assessed at 6% (Figure 13).

Plant condition was generally good following the summer drought, though some herbivory was noted from kangaroos gaining recent access to the site.

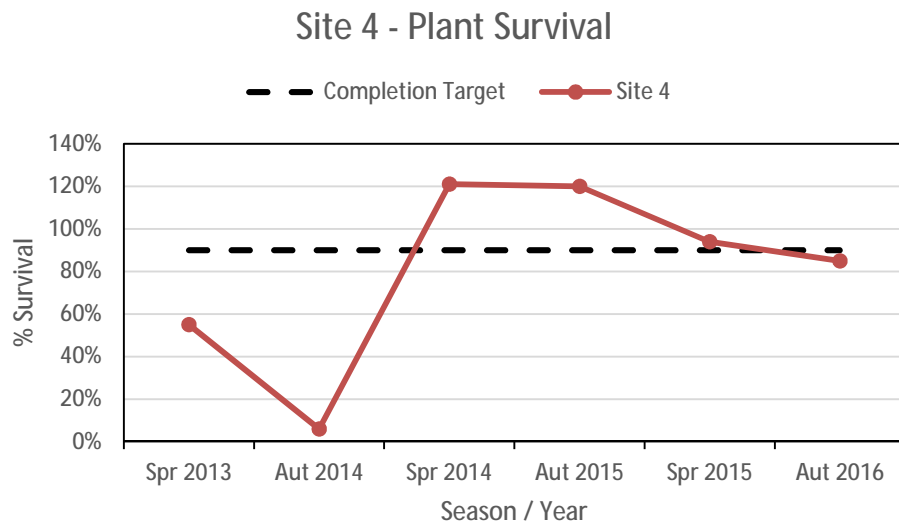


Figure 13 Site 4 – Plant Survival Since Site Establishment

5.4.2 Plant Heights

Maximum plant heights at Site 4 ranged between 0.9 m and 5.0 m, with a mean maximum plant height of 2.4 m. This is an increase of 0.5 m since the previous survey (Figure 14).

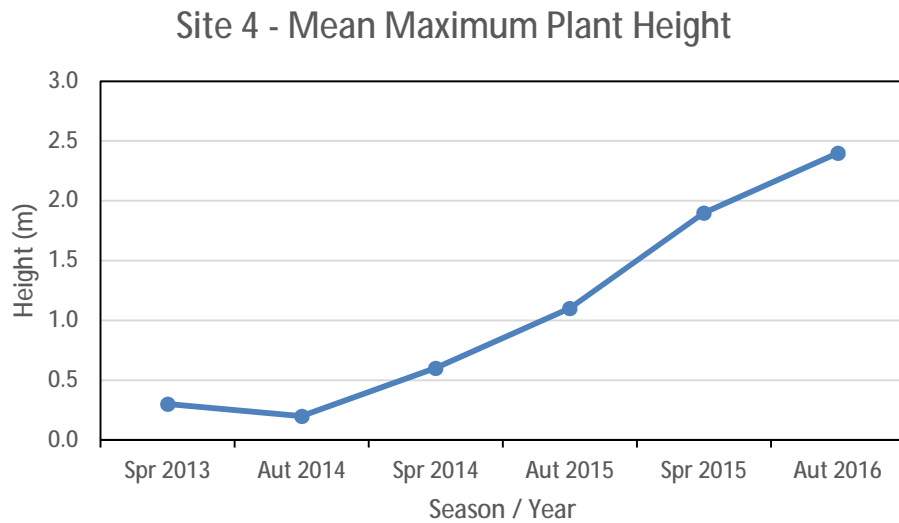


Figure 14 Site 4 – Plant Heights Since Site Establishment

5.4.3 Remnant Vegetation

Site 4 contains patches of remnant vegetation which consist almost entirely of *E. wandoo* mature trees, which are scattered throughout the site, but are only small in area. These trees appear healthy.

5.4.4 Weeds

Weed foliar cover averaged 8% across the site, with a maximum of 20% recorded on two transects. Weeds are unlikely to be competing with the seedlings.

5.4.5 Species Richness

Twenty seven species were planted at Site 4 over two seasons in 2013 or 2014. Of these, 22 were observed during the autumn 2016 assessment, representing 81% of the total number planted (Table 2), which is well above the completion target required after three years (Figure 15).

5.4.6 Fauna

Prior to the fence being altered in autumn 2014, the site was significantly affected by vertebrate herbivores, with kangaroos the most likely cause of poor plant survival and health. Since adding additional fencing on either side of the track so that recreational users of the track cannot leave gates open, the impact from kangaroos has been lessened. However, kangaroos have regularly been observed on the northern part of the site. An inspection of the fence led to a breach being identified where kangaroos were able to go under the fence, which was remedied. However, kangaroos still seem to be accessing the site in small numbers.

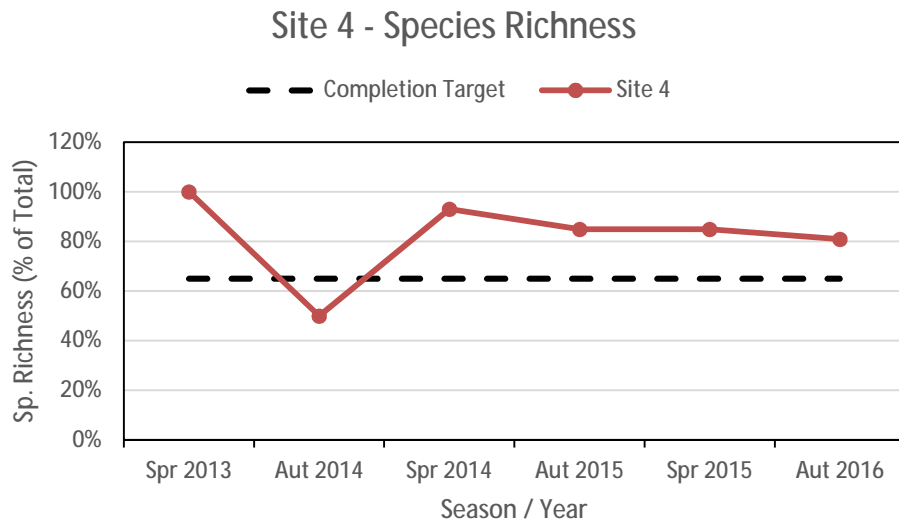


Figure 15 Site 4 – Species Richness Since Site Establishment

5.4.7 Surface Stability and Erosion

The slopes on the eastern side of the site do have some erosion channels forming, some of which may be a result of the direction of ripping that was undertaken on the site.

5.5 Sales Office A (Established in 2013)

5.5.1 Survival and Condition of Revegetation

Mean survival of seedlings relative to the initial number installed at Sales Office A was 23% across the six quadrats (Table 2). This site has not met the completion target after three years (Figure 16). However, it was initially set up to trial unfenced sites, and then upon significant failure due to herbivory, it was decided no fence would be installed due to adverse effects on the aesthetics of the area.

The condition of surviving plants was variable, with most trees being in good condition. However, a few deaths or poor tree health following the summer drought were evident.

5.5.2 Plant Heights

Maximum plant heights at Sales Office A ranged between 1.9 m and 4.0 m, with a mean maximum plant height of 3.2 m, an increase of 0.5 m since the previous assessment (Figure 17).

5.5.3 Remnant Vegetation

There is no remnant vegetation within Sales Office A. This was a bare paddock prior to revegetation works commencing. A naturally recruited seedling of *Acacia pulchella* was observed in one of the quadrats.

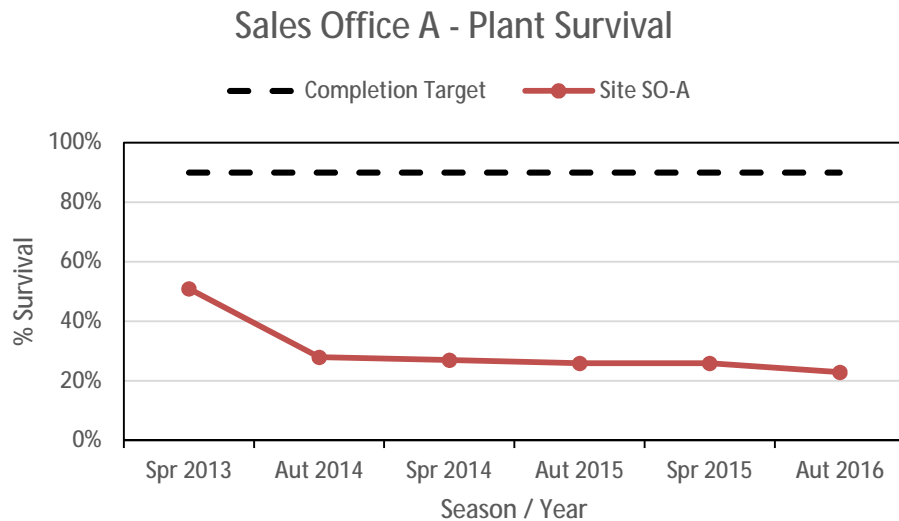


Figure 16 Sales Office A – Plant Survival Since Site Establishment

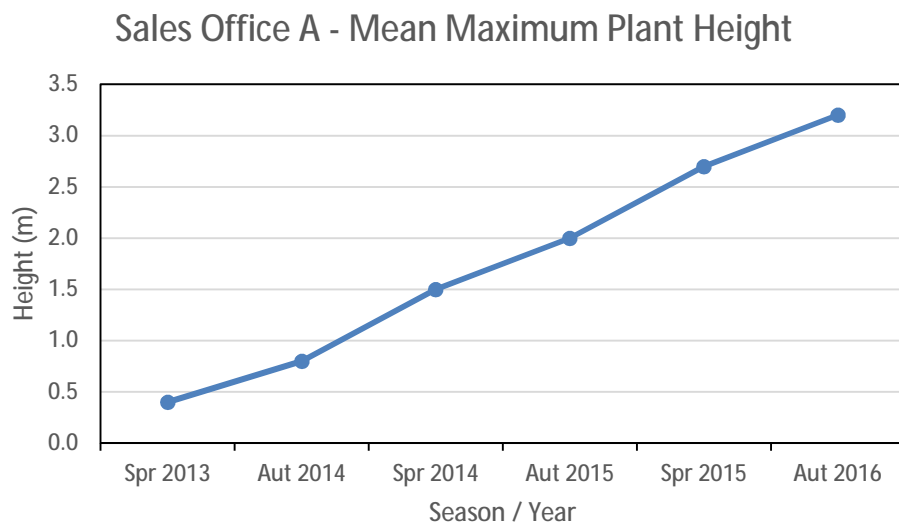


Figure 17 Sales Office A – Plant Heights Since Site Establishment

5.5.4 Weeds

Average weed cover was 20%.

Sales Office A has the potential to be very weedy given the large population of Narrow-leaf Cotton Bush that was previously established on the road verge immediately up-hill of the site (physically removed by Tranen following planting), as well as the latent soil seed bank of the ex-pasture land. However, the above-ground biomass and the root systems of these weeds

can reduce the potential for erosion on steep slopes; hence the need for weed control must be considered against potential for soil erosion. Because the only surviving species at this site are the trees, the annual weeds are unlikely to provide significant competition.

5.5.5 Species Richness

Eleven species were originally planted into Sales Office A in 2013. Three of these species were observed during the survey, plus another native species, *Acacia pulchella*, was observed on site as a natural germinant. Hence, species richness has been recorded as 36% of the total number originally planted; (Figure 18). The shrub species, *Callistemon phoeniceus*, had been severely grazed upon, while *E. wandoo* and *C. calophylla* were largely untouched by vertebrate herbivores.

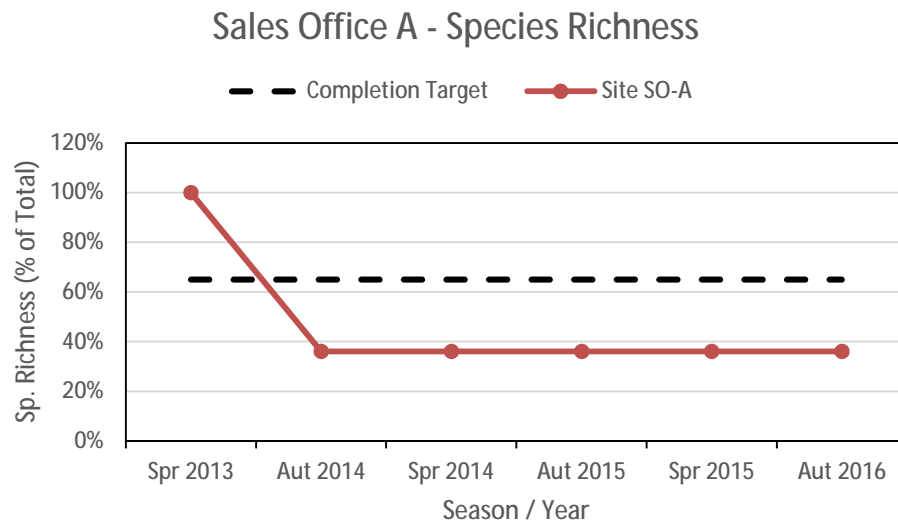


Figure 18 Sales Office A – Species Richness Since Site Establishment

5.5.6 Fauna

The site appears to have been significantly affected by vertebrate herbivores, with kangaroo presence at the site noted through the presence of dung. There was no evidence that rabbits had been on the site, but it is possible. Seedlings of *E. wandoo* and *C. calophylla* appear to have reached a stage where they are no longer being grazed, but *C. phoeniceus* continues to be eaten.

5.5.7 Surface Stability and Erosion

There was some evidence of erosion occurring on this site, though it is fairly minor and has reduced since the trees have grown bigger and weed control of winter annuals has ceased. The site occurs on a relatively steep hillside, and when ripped, some rip-lines were installed perpendicular to the contours rather than parallel (by contractors not organised by Tranen), which channels and increases the speed and volume of surface flows, leading to erosion.

5.6 Sales Office B (Established in 2013)

5.6.1 Survival and Condition of Revegetation

Mean survival of seedlings installed at Sales Office B was 41% across the five quadrats and ten transects (Table 2). This is a slight decrease compared with the previous assessment and below the target survival rate of 90% to be met after three years (Figure 19).

The condition of surviving plants was variable. There were a large number of stressed plants with dead or dying foliage, particularly *Acacia saligna* shrubs, while some plants were in good health.

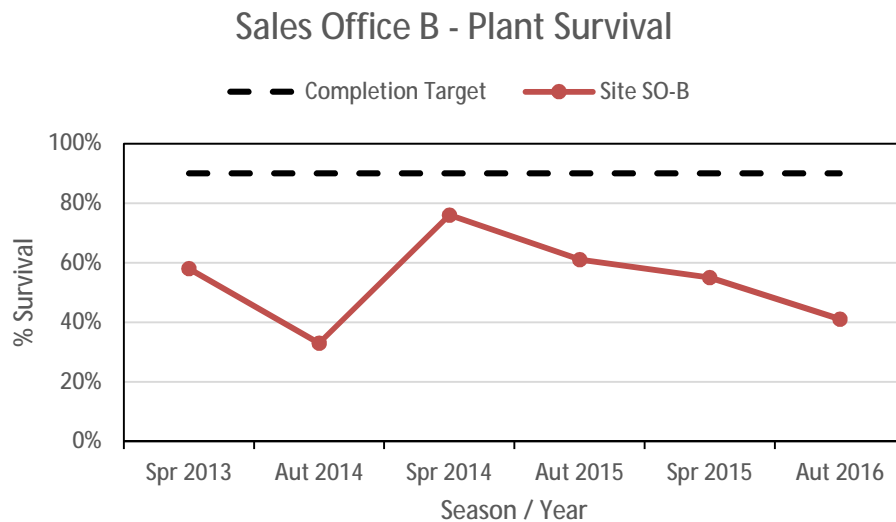


Figure 19 Sales Office B – Plant Survival Since Site Establishment

5.6.2 Plant Heights

Maximum plant heights at Sales Office B ranged between 1.2 m and 5.0 m, with a mean height of 3.4 m. This represents an increase of 0.3 m since the previous assessment (Figure 20).

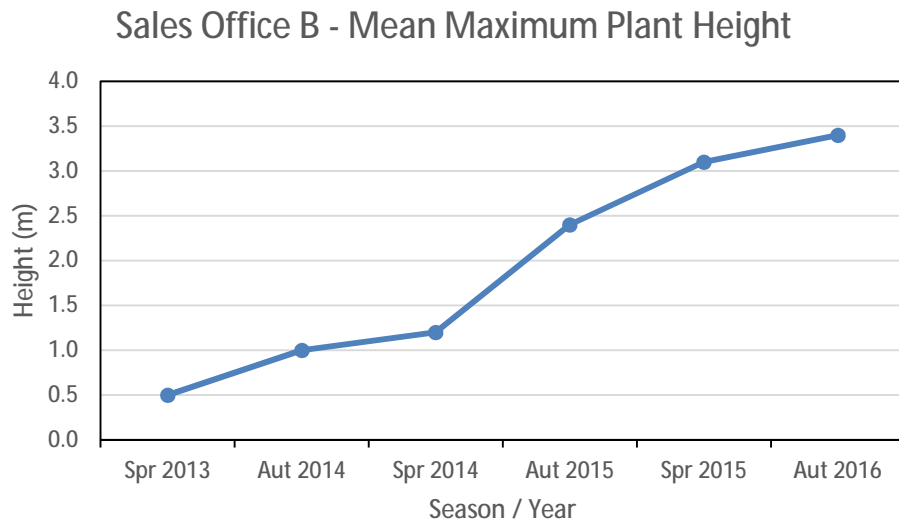


Figure 20 Sales Office B – Plant Heights Since Site Establishment

5.6.3 Remnant Vegetation

Sales Office B contains patches of remnant vegetation which consist almost entirely of mature *E. wandoo* trees. These are scattered throughout the site, but mainly occur on rocky breakaways. All remnant trees are alive, though some appear stressed and several dead branches were observed within the tree canopies.

No natural germination was observed on transects or quadrats.

5.6.4 Weeds

Weed cover ranged between 1% and 5% cover, with an average weed cover of 3%.

5.6.5 Species Richness

A total of twenty-six species were planted in Sales Office B over 2013 and 2014. Seventeen of these were observed during the survey (65% of the total installed; Table 2), which is just meeting the 65% minimum target required (Figure 21).

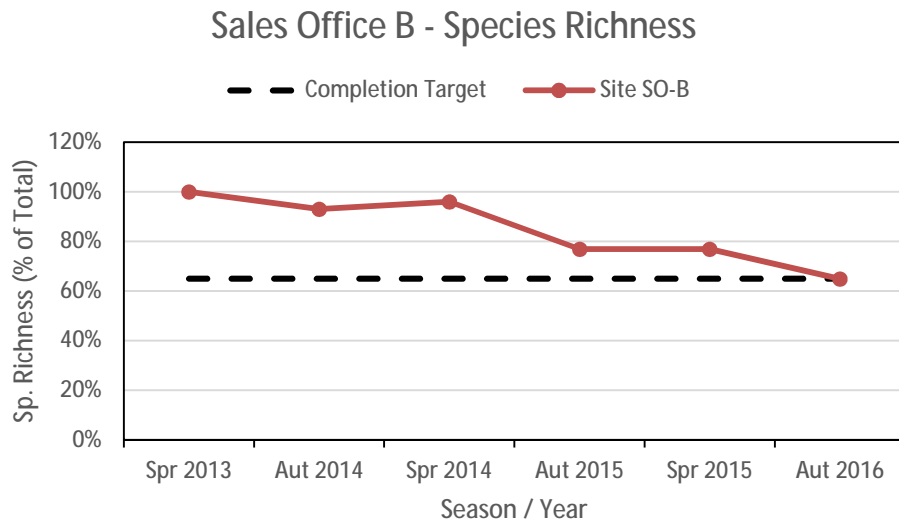


Figure 21 Sales Office B – Species Richness Since Site Establishment

5.6.6 Fauna

It appeared that there was some grazing of plants at Sales Office B, with evidence of kangaroo and rabbit scats. It is believed kangaroos gain access to the site beneath the gates. These gaps were reinforced over spring 2015, though kangaroo activity was still noted in April 2016.

5.6.7 Surface Stability and Erosion

There was minor erosion evident in some of the rip-lines that were installed with a slight downhill orientation, and this erosion may have led to some plant deaths. It is not a great concern across this site.

6 DISCUSSION

The Avon Ridge revegetation project commenced in 2011 with an aim of installing 214,000 seedlings as part of an offset package for the development as per the conditions under the EPBC Act. A total of 88,255 seedlings were installed into six revegetation sites, with planting commencing on the six sites in either 2011, 2012 or 2013. The project has now run for three years since the 2013 sites were planted, which is a critical timeframe in terms of the EPBC approval which required seedling survival to be 90% after three years.

Additional completion criteria for the project were listed in the *Revegetation and Fire Management Plan* (Cardno 2012). The complete list of completion criteria are:

1. Survivorship rate must be at least 90%;
2. Plants are healthy in appearance and diverse in species with no mass losses;
3. At least 65% of the species planted have survived (a measure of species richness);
4. The average seedling height has increased between assessments; and
5. Weed presence is minimal and not inhibiting native plant survival and growth.

1. Survivorship rate must be at least 90%

Across the project as a whole, the survivorship rate has been 92%, which achieves the completion criteria. Some of the individual sites have not met the criteria, with kangaroo herbivory the greatest impacting factor.

Plant survival at Sales Office A has been very poor due to inadequate protection from vertebrate herbivores as a result of trialling a site without a fence for protection. However, this site was not considered for further tubestock planting because kangaroo grazing will substantially affect survival rates. Installation of a fence is not considered an option because the site is in a highly visible area to residents and sits directly below a lookout to the Avon River which is popular with tourists. Therefore, construction of a fence would impact the aesthetic qualities of the area. Instead, plants that would have been installed at this site to account for deaths were installed into Site 2 in winter 2014.

2. Plants are healthy in appearance and diverse in species with no mass losses

This completion criteria is qualitative, meaning no data can be collected to support or reject it. On average across the project, the plants have generally been healthy in appearance, though the assessment in autumn 2016 did observe plants at the two Sales Office sites that were drought-stressed and a number of dead plants were observed. When observed in May, approximately one month after the autumn monitoring was done, plants were looking healthy, green and showing good signs of growth.

3. At least 65% of the species planted have survived (a measure of species richness)

This measure of species richness has been met on a project level. Across all revegetation sites, 33 of the 36 species installed were observed (92% of species). On a site by site basis, this criterion has been met for all sites except Sales Office A, where a fence was not erected as a trial.

In addition to the species richness measure being met, a number of naturally recruited species have also been observed, which increases the species richness on site.

4. The average seedling height has increased between assessments

Average seedling height has increased at all sites between assessments; therefore this criteria has been met.

5. Weed presence is minimal and not inhibiting native plant survival and growth

All revegetation sites are now either more than three years since planting, or approaching three years since planting. Therefore, the plants installed have developed root systems which are unlikely to be competing with the annual weeds. Summer is the time when competition for water is greatest, and these sites have very few summer weeds. Therefore, it is reasonable to assume that this criterion is being met.

7 CONCLUSIONS

Revegetation works commenced at Avon Ridge in 2011, with the most recent sites established in 2013. This report therefore represents the final report for revegetation works across the project, being three years since the last sites were established.

As a whole, the project has met the completion criteria after three years:

- Plant survival has been > 90%;
- Plants are generally healthy in appearance and diverse with no mass losses;
- Species richness is \geq 65% of total species numbers planted;
- Average seedling height has increased between assessments; and
- Weed presence is minimal and not inhibiting native plant survival and growth.

Some sites have performed better than others, with those performing well compensating for those that have not performed well. Kangaroo herbivory is the main factor that has resulted in poor performance at some sites.

Total plant numbers initially installed for the project were 88,255 seedlings, which is less than the 214,000 seedlings required under the offset plan for the development. However, the planting area was constrained by the amount of suitable land for planting.

In conclusion, the revegetation works as a whole have met the 90% seedling survival target required for the EPBC Conditions, and the criteria stipulated in the *Revegetation and Fire Management Plan* (Cardno 2012). It was not possible to plant the full amount of 214,000 seedlings stipulated in the offset package due to lack of space for revegetation. Therefore, while total plant numbers have not been met, the revegetation works to date for this project are considered to be complete.

8 REFERENCES

Cardno (2012) *Avon Ridge Estate, Brigadoon: Revegetation and Fire Management Plan* (Revised 2012). Report prepared for Peet Pty Ltd, June 2012.

Groom, C. (2011) *Plants Used by Carnaby's Black Cockatoo*. List prepared by Christine Groom, Department of Environment and Conservation, 15 April 2011.

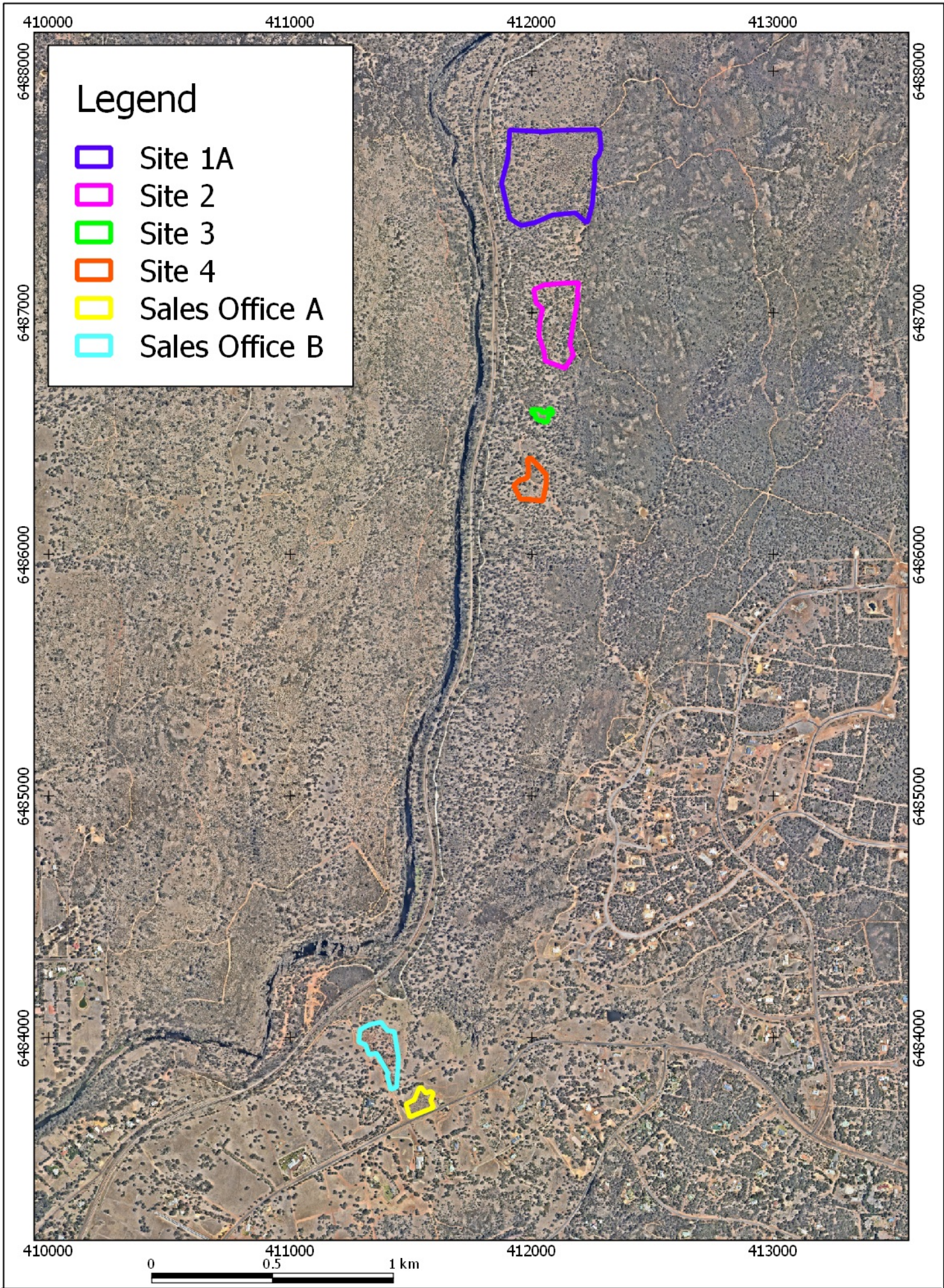
Tranen (2013) *Avon Ridge Estate Bi-annual Monitoring Report – Autumn 2013*. Report prepared for Emerge Associates, August 2013.

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Tranen (2015b) *Avon Ridge Estate Bi-annual Monitoring Report – Autumn 2015*. Report prepared for Emerge Associates, June 2015.

Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnaragara Sustainability Strategy Study Area*. <http://ro.ecu.edu/ecuworks/6147>

Appendix 1 Revegetation Site Locations



Appendix 2 Raw Data

Avon Ridge Site 2

Planted in 2012

Transect No	Est. Total no. planted in 2012	No. alive Aut 2016	% Survival Aut 16	Tallest species observed	Height (m)	Weed cover (%)	Comments
1	68	48	71%	<i>Acacia saligna</i>	5.5	2	
2	9	22	244%	<i>Acacia saligna</i>	3.2	2	
3	8	16	200%	<i>Acacia saligna</i>	5.0	2	
4	36	20	56%	<i>Eucalyptus rudis</i>	6.0	5	
5	36	34	94%	<i>Eucalyptus rudis</i>	6.0	5	
6	18	12	67%	<i>Eucalyptus rudis</i>	4.0	2	
7	23	31	135%	<i>Acacia saligna</i>	3.5	5	Lots of Hibbertia seedlings
8	15	3	20%	<i>Acacia saligna</i>	3.0	2	
9	86	54	63%	<i>Acacia saligna</i>	6.0	5	
10	42	57	136%	<i>Acacia saligna</i>	5.5	10	Includes Hibbertia seedlings from natural recruitment
11	144	73	51%	<i>Acacia saligna</i>	5.7	10	
12	123	100	81%	<i>Acacia saligna</i>	5.0	10	
13	71	105	148%	<i>Acacia saligna</i>	5.5	20	
14	36	38	106%	<i>Eucalyptus rudis</i>	2.0	10	Some dead Hakea undulata ~ 1 to 1.2 m tall
15	12	26	217%	<i>Acacia saligna</i>	5.8	5	
16	9	82	911%	<i>Eucalyptus rudis</i>	2.2	20	Includes Corymbia calophylla seedlings from natural recruitment
17	41	36	88%	<i>Eucalyptus rudis</i>	3.2	10	
18	197	64	32%	<i>Eucalyptus wandoo</i>	2.4	20	
19	117	43	37%	<i>Acacia saligna</i>	6.0	25	Lots of dead Acacia saligna > 3m tall
20	58	26	45%	<i>Acacia saligna</i>	6.2	10	
		Mean	140%		4.6	9	
		st dev	192%		1.5	7	
		min	20%		2.0	2	
		max	911%		6.2	25	

Note: estimated total number planted is based on average survival from autumn 2013 of 66%

Avon Ridge Site 2

2012 planting

Species	Observed?
<i>Acacia pulchella</i>	Y
<i>Acacia saligna</i>	Y
<i>Allocasuarina fraseriana</i>	Y
<i>Allocasuarina humilis</i>	N
<i>Banksia grandis</i>	Y
<i>Banksia menzeisii</i>	Y
<i>Banksia nivea</i>	N
<i>Banksia prionotes</i>	N
<i>Banksia sessilis</i>	N
<i>Callistemon phoeniceus</i>	Y
<i>Calothamnus hirsutus</i>	N
<i>Calothamnus quadrifidus</i>	N
<i>Corymbia calophylla</i>	Y
<i>Eucalyptus marginata</i>	Y
<i>Eucalyptus rudis</i>	Y
<i>Eucalyptus wandoo</i>	Y
<i>Hakea cyclocarpa</i>	Y
<i>Hakea incrassata</i>	N
<i>Hakea lissocarpha</i>	Y
<i>Hakea prostrata</i>	Y
<i>Hakea ruscifolia</i>	Y
<i>Hakea trifurcata</i>	Y
<i>Hakea undulata</i>	Y
<i>Hakea varia</i>	Y
<i>Hibbertia subvaginata</i>	Y
<i>Hypocalymma robustum</i>	Y
<i>Kennedia prostrata</i>	N

Total no. spp planted: 27

No. spp observed: 19

% spp observed: 70%

Avon Ridge Site 3

Planted in 2013

Transect No.	Total No. planted 2013 (Baseline)	No. alive Aut 2016	% Survival Aut 2016	Tallest species observed	Height (m)	Weed cover (%)	Comments
1	23	21	91%	<i>Corymbia calophylla</i>	0.8	2	
2	50	33	66%	<i>Acacia pulchella</i>	1.7	10	
3	56	60	107%	<i>Eucalyptus wandoo</i>	1.5	5	
4	55	46	84%	<i>Eucalyptus rudis</i>	1.4	5	
5	49	51	104%	<i>Acacia pulchella</i>	1.4	5	
6	55	81	147%	<i>Banksia sessilis</i>	1.4	2	
7	66	73	111%	<i>Allocasuarina humilis</i>	1.6	2	
8	40	38	95%	<i>Corymbia calophylla</i>	1.2	2	
9	42	33	79%	<i>Eucalyptus wandoo</i>	1.1	2	
		Mean	98%		1.3	3.9	
		st dev	23%		0.3	2.7	
		min	66%		0.8	2.0	
		max	147%		1.7	10.0	

Avon Ridge Site 3

Species	Observed?
<i>Acacia lasiocarpa</i>	N
<i>Acacia pulchella</i>	Y
<i>Acacia saligna</i>	Y
<i>Allocasuarina humilis</i>	Y
<i>Banksia lindleyana</i>	Y
<i>Banksia nivea</i>	Y
<i>Banksia sessilis</i>	Y
<i>Callistemon phoeniceus</i>	Y
<i>Calothamnus hirsutus</i>	Y
<i>Calothamnus quadrifidus</i>	Y
<i>Corymbia calophylla</i>	Y
<i>Eucalyptus rudis</i>	Y
<i>Eucalyptus wandoo</i>	Y
<i>Gompholobium tomentosum</i>	Y
<i>Grevillea bipinnatifida</i>	Y
<i>Hakea lissocarpha</i>	Y
<i>Hakea prostrata</i>	Y
<i>Hakea ruscifolia</i>	N
<i>Hakea trifurcata</i>	N
<i>Hakea undulata</i>	Y
<i>Hibbertia subvaginata</i>	Y
<i>Hypocalymma robustum</i>	Y
<i>Kennedia coccinea</i>	Y
<i>Kennedia prostrata</i>	Y

Total no. spp planted: 24

No. spp observed: 21

% spp observed: 88%

Avon Ridge Site 4

Planted in 2013

Transect No.	Total No. planted 2013 (Baseline)	No. Alive Aut 2016	% Survival Aut 2016	Tallest species observed	Height (m)	Weed cover (%)	Comments
1	69	60	87%	<i>Corymbia calophylla</i>	1.7	5	
2	125	124	99%	<i>Eucalyptus rudis</i>	3.5	5	
3	50	56	112%	<i>Eucalyptus wandoo</i>	1.7	5	
4	62	73	118%	<i>Acacia pulchella</i>	2.0	5	
5	50	26	52%	<i>Eucalyptus rudis</i>	2.2	10	
6	98	65	66%	<i>Eucalyptus rudis</i>	5.0	5	
7	50	19	38%	<i>Eucalyptus rudis</i>	2.6	10	
8	46	0	0%	n/a	n/a	5	
9	32	23	72%	<i>Corymbia calophylla</i>	0.9	10	
10	44	44	100%	<i>Corymbia calophylla</i>	1.6	20	
11	34	34	100%	<i>Eucalyptus rudis</i>	4.0	20	
12	42	48	114%	<i>Corymbia calophylla</i>	1.8	10	
13	102	111	109%	<i>Eucalyptus rudis</i>	2.5	5	
14	22	22	100%	<i>Acacia pulchella</i>	1.6	5	
15	44	47	107%	<i>Corymbia calophylla</i>	1.8	5	
		Mean	85%		2.4	8.3	
		st dev	33%		1.1	5.2	
		min	0%		0.9	5.0	
		max	118%		5.0	20.0	

Avon Ridge Site 4

Species	Observed?
<i>Acacia lasiocarpa</i>	Y
<i>Acacia pulchella</i>	Y
<i>Acacia saligna</i>	N
<i>Allocasuarina humilis</i>	Y
<i>Banksia grandis</i>	N
<i>Banksia lindleyana</i>	Y
<i>Banksia nivea</i>	Y
<i>Banksia sessilis</i>	Y
<i>Callistemon phoeniceus</i>	Y
<i>Calothamnus hirsutus</i>	Y
<i>Calothamnus quadrifidus</i>	Y
<i>Corymbia calophylla</i>	Y
<i>Eucalyptus marginata</i>	Y
<i>Eucalyptus rudis</i>	Y
<i>Eucalyptus wandoo</i>	Y
<i>Gompholobium tomentosum</i>	Y
<i>Grevillea bipinnatifida</i>	Y
<i>Hakea lissocarpha</i>	Y
<i>Hakea prostrata</i>	Y
<i>Hakea ruscifolia</i>	N
<i>Hakea trifurcata</i>	N
<i>Hakea undulata</i>	Y
<i>Hakea varia</i>	N
<i>Hibbertia subvaginata</i>	Y
<i>Hypocalymma robustum</i>	Y
<i>Kennedia coccinea</i>	Y
<i>Kennedia prostrata</i>	Y

Total no. spp planted: 27

No. spp observed: 22

% spp observed: 81%

Avon Ridge Site Sales Office A

Planted in 2013

Quadrat #	Expected density (plants/m2) (Baseline)	No. Alive Aut 2016	Density Aut 2016 (plants / m2)	% Survival Aut 16	Tallest species observed	Height (m)	Weed cover (%)	Comments
1	0.77	2	0.02	3%	<i>Corymbia calophylla</i>	1.9	20	Marri x 2, no wandoo or <i>Callistemon</i> found this year
2	0.77	18	0.18	23%	<i>Eucalyptus wandoo</i>	2.6	15	marri x 5, wandoo x 12, <i>Callistemon phoeniceus</i> x1
3	0.77	24	0.24	31%	<i>Eucalyptus wandoo</i>	3.7	25	Marri x 2, wandoo x 19, <i>Callistemon phoeniceus</i> x 2, <i>Acacia pulchella</i> x 1
4	0.77	11	0.11	14%	<i>Eucalyptus wandoo</i>	4.0	20	Marri x 1, wandoo x 9, <i>Callistemon phoeniceus</i> x 1
5	0.77	31	0.31	40%	<i>Eucalyptus wandoo</i>	4.0	20	Marri x 7, wandoo x 22, <i>Callistemon phoeniceus</i> x 2
6	0.77	19	0.19	25%	<i>Eucalyptus wandoo</i>	2.8	20	Marri x 1, wandoo x 16, <i>Callistemon phoeniceus</i> x 2
			Mean	23%		3.2	20.0	
			St. dev.	13%		0.9	3.2	
			Min	3%		1.9	15.0	
			Max	40%		4.0	25.0	

Avon Ridge Sales Office A

2013 planting

Species	Observed?
<i>Acacia saligna</i>	N
<i>Banksia grandis</i>	N
<i>Callistemon phoeniceus</i>	Y
<i>Corymbia calophylla</i>	Y
<i>Eucalyptus wandoo</i>	Y
<i>Hakea lissocarpha</i>	N
<i>Hakea prostrata</i>	N
<i>Hakea ruscifolia</i>	N
<i>Hakea trifurcata</i>	N
<i>Hakea undulata</i>	N
<i>Hakea varia</i>	N

Total no. spp planted: 11
No. spp observed: 4 includes the *Acacia pulchella*
% spp observed: 36%

Note:

Acacia pulchella was observed (not planted as tubestock)

Transect / Quadrat #	Total No. planted 2013 (Baseline)	No. Alive Aut 2016	% Survival Aut 16	Tallest species observed	Height (m)	Weed cover (%)	Comments
SOBQ1	112	29	26%	<i>Acacia saligna</i>	3.2	3	Lots of dead plants, esp <i>Acacia saligna</i> , <i>Corymbia calophylla</i>
SOBQ2	116	37	32%	<i>Acacia saligna</i>	4.5	4	Lots of dead plants, esp <i>Acacia saligna</i> , <i>Corymbia calophylla</i>
SOBQ3	168	56	33%	<i>Eucalyptus rudis</i>	3.5	2	Lots of dead plants, esp <i>Acacia saligna</i> , <i>Corymbia calophylla</i>
SOBQ4	114	65	57%	<i>Acacia saligna</i>	3.5	1	Lots of dead plants, esp <i>Acacia saligna</i> , <i>Corymbia calophylla</i>
SOBQ5	123	42	34%	<i>Acacia saligna</i>	3.8	4	Lots of dead plants, esp <i>Acacia saligna</i> .
SOBT6	65	25	38%	<i>Acacia saligna</i>	3.5	1	
SOBT7	71	41	58%	<i>Eucalyptus rudis</i>	5.0	5	
SOBT8	66	27	41%	<i>Eucalyptus rudis</i>	3.5	2	
SOBT9	63	23	37%	<i>Acacia saligna</i>	3.0	1	
SOBT10	22	10	45%	<i>Eucalyptus rudis</i>	1.2	2	
SOBT11	40	7	18%	<i>Eucalyptus rudis</i>	3.0	2	
SOBT12	66	20	30%	<i>Eucalyptus rudis</i>	3.5	2	
SOBT13	39	22	56%	<i>Acacia saligna</i>	3.5	2	
SOBT14	36	28	78%	<i>Acacia saligna</i>	4.0	5	
SOBT15	90	30	33%	<i>Acacia saligna</i>	3.0	5	
		Mean	41%		3.4	2.7	
		St. dev.	15%		0.8	1.5	
		Min	18%		1.2	1.0	
		Max	78%		5.0	5.0	

Avon Ridge Site Sales Office B

2013 planting

Species	Observed?
<i>Acacia lasiocarpa</i>	N
<i>Acacia pulchella</i>	Y
<i>Acacia saligna</i>	Y
<i>Allocasuarina humilis</i>	Y
<i>Banksia grandis</i>	N
<i>Banksia lindleyana</i>	N
<i>Banksia nivea</i>	N
<i>Banksia sessilis</i>	Y
<i>Callistemon phoeniceus</i>	Y
<i>Calothamnus hirsutus</i>	Y
<i>Calothamnus quadrifidus</i>	Y
<i>Corymbia calophylla</i>	Y
<i>Eucalyptus marginata</i>	Y
<i>Eucalyptus rudis</i>	Y
<i>Eucalyptus wandoo</i>	Y
<i>Gompholobium tomentosum</i>	N
<i>Grevillea bipinnatifida</i>	Y
<i>Hakea lissocarpha</i>	Y
<i>Hakea prostrata</i>	Y
<i>Hakea ruscifolia</i>	N
<i>Hakea trifurcata</i>	N
<i>Hakea undulata</i>	Y
<i>Hibbertia subvaginata</i>	Y
<i>Hypocalymma robustum</i>	N
<i>Kennedia coccinea</i>	N
<i>Kennedia prostrata</i>	Y

Total no. spp planted: 26

No. spp observed: 17

% spp observed: 65%


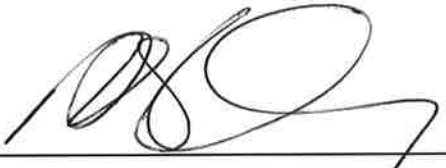
APPENDIX C



DECLARATION OF ACCURACY

Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed		
Full name	TREVOR FINLAYSON	PAUL LAKEY
Position	SENIOR DEVELOPMENT MANAGER	REGIONAL GENERAL MANAGER DEVELOPMENT - WA, SA, NT
Organisation	PEET BRIGADOON PTY LTD	
ABN/AEN	11 103 038 651	
Date	30/9/16	