Australian Walking Company : Kangaroo Island Wilderness Trail Accommodation

Data Report 2

Addendum to Report 1

Clearance under the *Native Vegetation Regulations 2017*

March 1, 2019
Prepared by RMP Environmental Pty Ltd

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1. Application information

Applicant:	Australian Walking Company		
Key contact:	Phil Harris, Troppo Architects, 28 East Tce, Adelaide, SA, 5000. phil.harris@troppo.com.au		
Landowner: *(if the applicant is not the landowner, you must attach written permission)*	Department for Environment and Water		
Site address:	Flinders Chase National Park – Kangaroo Island		
Local Government Area:	DC Kangaroo Island	Hundred:	Sanderson Bay - McDonald Sandy Creek - unincorporated
Certificate of Title:	CR6176/336	Section/Allotment:	D38340AL51 and D38340QP55
Summary of Application			
Proposed clearance area:	Total clearance area - 1.7150 ha. of coastal very low woodland and low mallee		
Purpose of the clearance:	Establish two standing camps for the KI Wilderness Trail with staging posts, walking tracks and light vehicle access tracks.		
Proposed SEB offset:	Options for offsetting are being investigated, however these are limited. Payment of $151,218.11 into the Native Vegetation Fund is the most likely option available.		

2. Background

2.1 Background

The proponent, Australian Walking Company are proposing to establish standing camps for the Kangaroo Island Wilderness Trail (KIWT), at Sandy Creek and Sanderson Bay within Flinders Chase National Park (Figure 1). Initially, the proposal included a new section of walking track at Cape de Couedic. This has subsequently been removed from the proposed development. Upgrade proposals for accommodation facilities at Cape de Couedic will not involve any clearance of native vegetation.

The proposed development areas are within the Flinders Chase National Park and land use is for biodiversity conservation and low-impact recreational activities.

Initial flora and fauna investigations and impact assessments complying with Native Vegetation Regulations 2017 were undertaken Further background is in Section 1 of Report 1 (Haby & Rowley 2018). To account for some design changes and clarification of proposed clearance requirements, this data report provides an update on the original report, and where appropriate, information presented in the previous report has been cross-referenced rather that repeated. The previous report is referred to in this report as Report 1 (Haby and Rowley 2018).

2.2 General location map

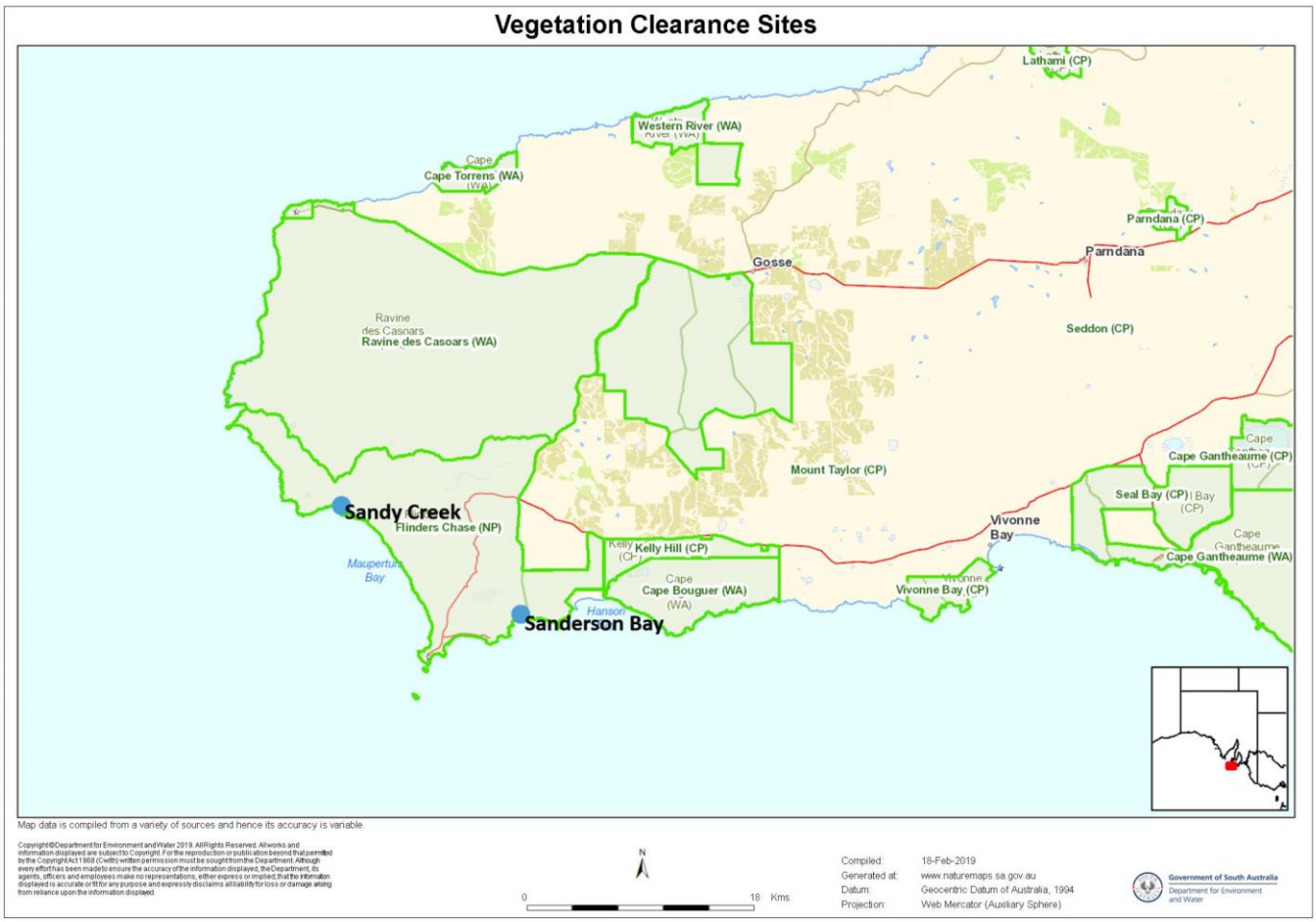


Figure 1 Location of the sites proposed for clearance within Flinders Chase National Park

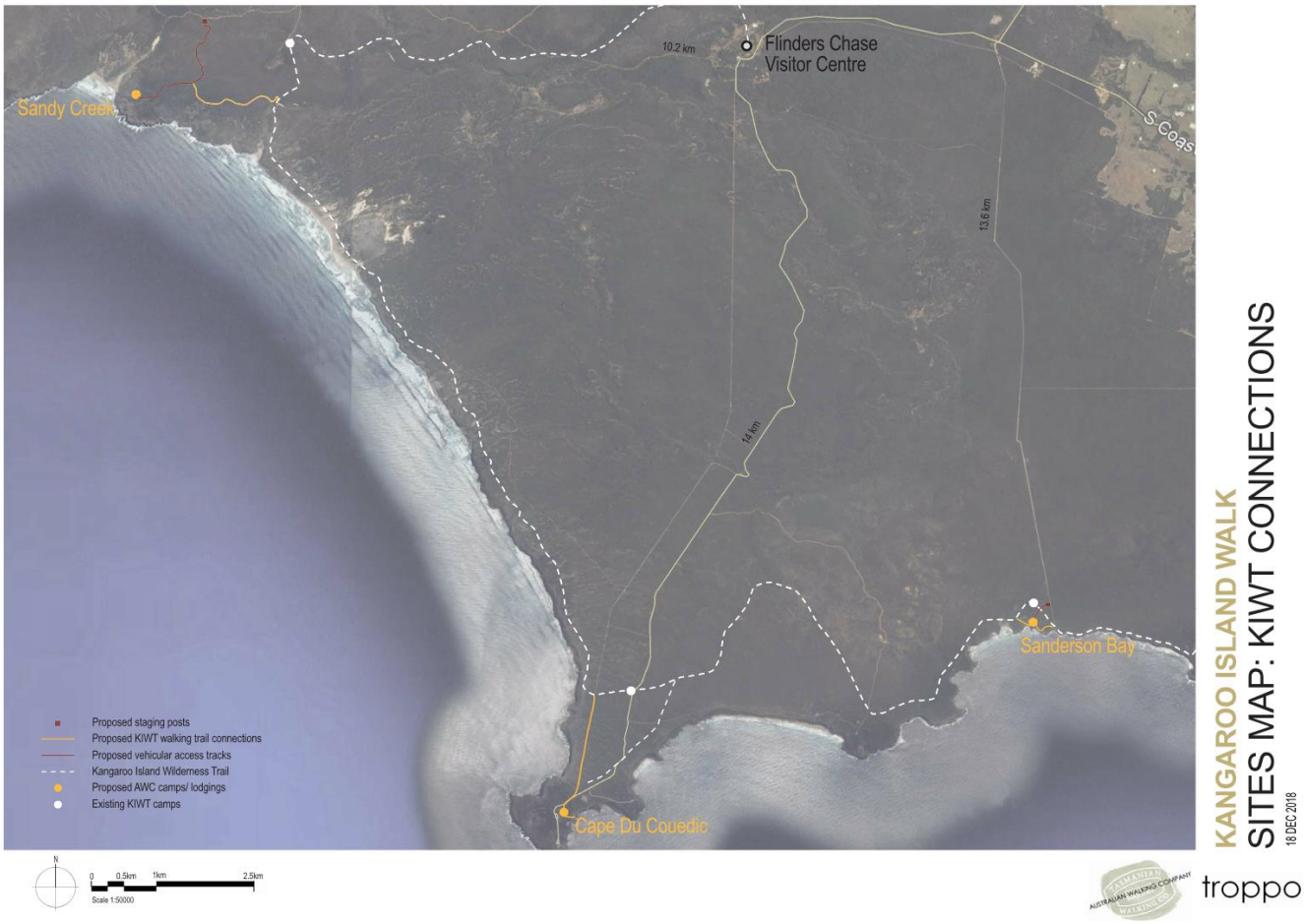


Figure 2 Location of the sites proposed for clearance in relation to KIWT and main transport routes.

2.3 Approvals required or obtained under other legislation (including past clearance approvals)

Native Vegetation Act 1991

This data report forms part of the documentation for a clearance application under Regulation 12(33). There have been no previous vegetation clearance applications over any parts of the proposed clearance areas.

Development Act 1993

Currently, a Development Application for the proposed construction of accommodation facilities at Sanderson Bay and Sandy Creek is under assessment by SCAP.

Environment Protection and Biodiversity Conservation Act 1999, National Parks and Wildlife Act 1972, Natural Resources Management Act 2004

Aspects of the development relating to these statutes are included in this report and Report 1 (Haby & Rowley 2018). A fauna survey and habitat analysis is being undertaken during February, 2019, and will be submitted as soon as it is available in mid-March.

3. Method

3.1 Flora assessment

The proposed development areas were surveyed for:

- remnant and regrowth native vegetation
- introduced plant species
- habitat for all vertebrate faunal groups, especially native threatened species

Representative photographs and bushland scoresheets were compiled and presented in Report 1 (Haby & Rowley 2018). Updated scoresheets and impact information is presented in this report (Data Report 2 – Addendum to Report 1).

3.2 Fauna assessment

All observations, calls and evidence of presence were recorded as field notes. Bird species were recorded when heard calling, when observed within or adjacent to the site and when observed flying over the site. Evidence of bird species presence such as nests was also recorded when observed. This information is contained in Report 1 (Haby & Rowley 2018). Further fauna survey and habitat assessment studies compliant with Level 4 native vegetation clearance were commenced in February and outcomes will be submitted as soon as they are available.

4. Assessment outcomes

4.1 Vegetation Assessment

General description of the vegetation, the site and matters of significance

Presented here is a summary of the vegetation associations affected by this proposal. More detail is contained in Report 1, Section 2 and Appendix 1 (Haby and Rowley 2018).

Subsequent to the initial vegetation assessment (Haby and Rowley 2018), the walking trail and access track locations have been refined. Assessment site 5 is in a vegetation association no longer relevant to the proposed clearance areas, and has not been included in the updated assessment.

Details of the vegetation associations/scattered trees proposed to be impacted

Six vegetation associations cover the proposed clearance areas. These are represented by 9 assessment sites. Below are descriptions of these vegetation associations using the national vegetation information system (NVIS 2017) nomenclature and accessed from NatureMaps (DEW 2019). Benchmark communities appropriate to the species densities at the individual sites are from Milne & McCallum (2012). Vegetation Association mapping in NatureMaps is at quite coarse resolution and there is significant variability within the mapped boundaries. Association boundaries shown in Figures 4 and 9 give rough indications of structural and compositional vegetation changes. Actual vegetation associations at assessment sites have been used for assessment and may differ slightly from the mapping.

KI0208 – Site 1 Benchmark KI 8.6

Eucalyptus diversifolia ssp. *diversifolia, +/-E. albopurpurea, E. rugosa* mid mallee woodland over *Melaleuca lanceolata, Acacia uncifolia, +/-Hakea mitchellii, +/-Banksia marginata, +/-Acacia myrtifolia, +/-Xanthorrhoea semiplana* ssp. *tateana shrubs over Lasiopetalum schulzenii, +/-Hakea vittata, +/-Pultenaea rigida, +/-Correa eburnea, +/-Pomaderris obcordata*

Photo 1 representative photo Vegetation Association KI0208 at Site 1

KI1302 - Site 2 Benchmark KI 8.2

Melaleuca lanceolata, +/-Eucalyptus diversifolia ssp. *diversifolia* mid open shrubland over *Melaleuca gibbosa, Spyridium phylicoides, Spyridium halmaturinum* var. *halmaturinum* over *Correa eburnea, Pultenaea acerosa, Beyeria lechenaultii, Eutaxia microphylla* shrubs

Photo 2 representative photo Vegetation Association KI 1302 at Site 2

KI0504 – Site 3 Benchmark KI 1.1

Eucalyptus cladocalyx, E. fasciculosa mid woodland over *Allocasuarina verticillata* over *Acacia paradoxa* shrubs over *Prostanthera spinosa* shrubs

Photo 3 representative photo Vegetation Association KI 0504 at Site 3

KI1301 – Site 4 Benchmark KI 8.4

Melaleuca lanceolata, +/-Eucalyptus diversifolia ssp. *diversifolia* mid open shrubland over *Leucopogon parviflorus, Olearia axillaris, Acacia longifolia* ssp. *sophorae, A. uncifolia, Melaleuca gibbosa* over *Correa eburnea, Pomaderris paniculosa* ssp. *paniculosa shrubs*

Photo 4 representative photo Vegetation Association KI 1301 at Site 4

KI0206 – Site 6 Benchmark KI 8.6, Site 8 Benchmark KI 8.6, Site 9 Benchmark KI 4

Eucalyptus diversifolia ssp. *diversifolia, Melaleuca lanceolata, E. rugosa* mid open mallee woodland over *Acacia uncifolia, +/-Leucopogon parviflorus, +/-Myoporum insulare, +/-Melaleuca gibbosa, +/-A. longifolia* ssp. *sophorae* shrubs over *+/-Correa eburnea, +/-Pomaderris paniculosa* ssp. *paniculosa*

Photo 5 representative photo Vegetation Association KI 0206 at Site 6

KI0202 – Site 7 Benchmark KI 8.6, Site 10 Benchmark KI 4

Eucalyptus diversifolia ssp. *diversifolia, +/-E. albopurpurea, E. rugosa* mid open mallee forest over *Melaleuca lanceolata, Lasiopetalum schulzenii, Acacia uncifolia, +/-Hakea vittata, +/-Hakea mitchellii, +/-Banksia marginata, +/-Acacia myrtifolia, +/-Xanthorrhoea semiplana* ssp. *tateana* shrubs over *+/-Pultenaea rigida, +/-Correa reflexa, +/-Pomaderris obcordata*

Photo 6 representative photo Vegetation Association KI 0202 at Site 7

Sanderson Bay Impact Areas

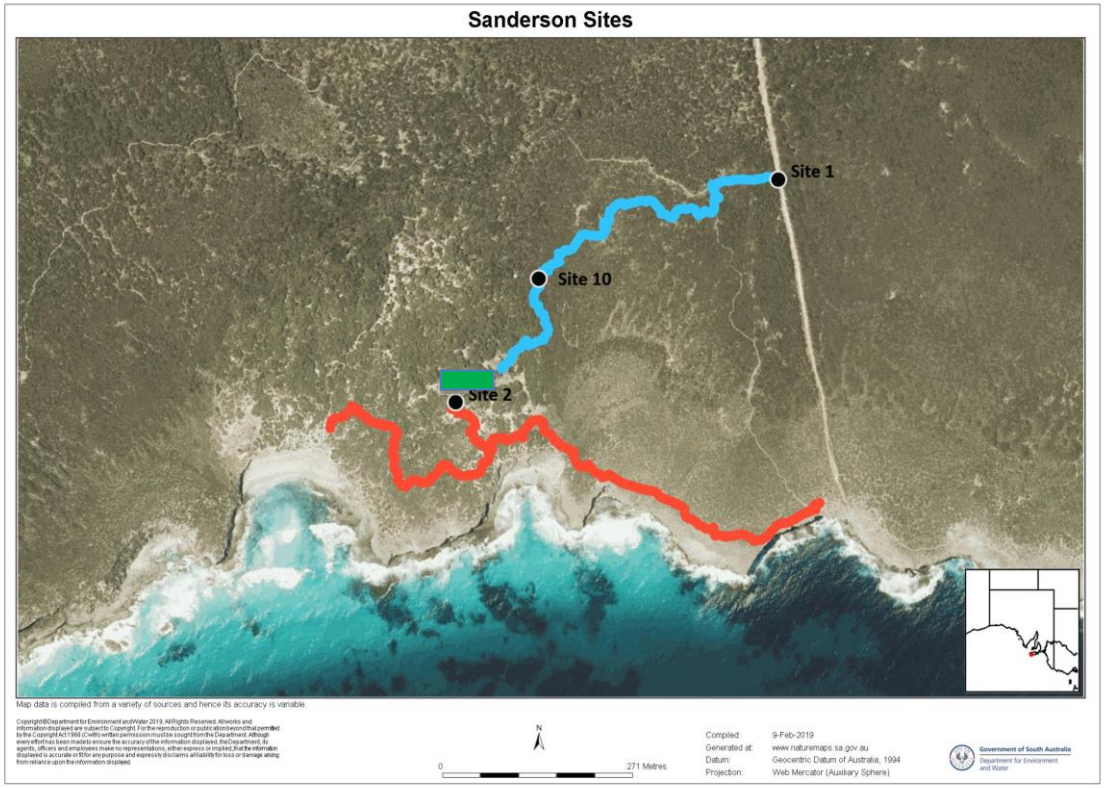


Figure 3 Location of the sites assessed for the proposed clearance (Vehicle access – blue, walking trails – red, accommodation - green)

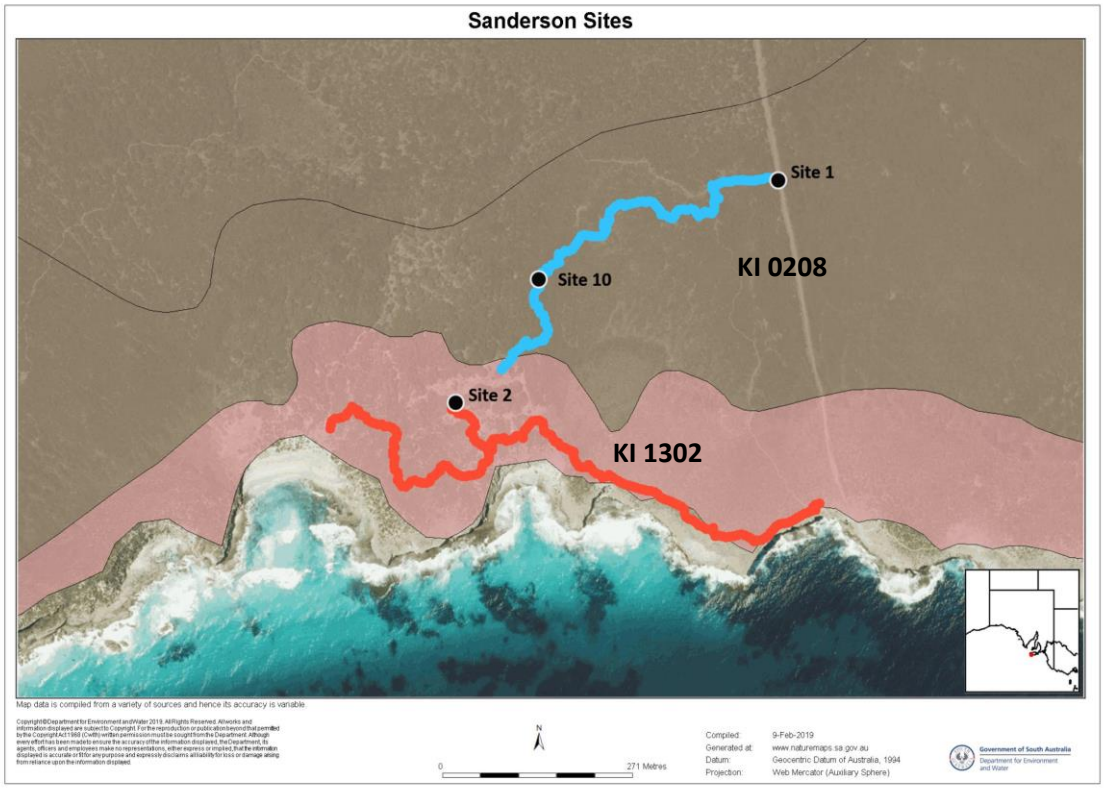


Figure 4 Location of the sites assessed for the proposed clearance showing vegetation associations (as mapped in NatureMaps 2019). Actual vegetation associations at assessment sites have been used for assessment.

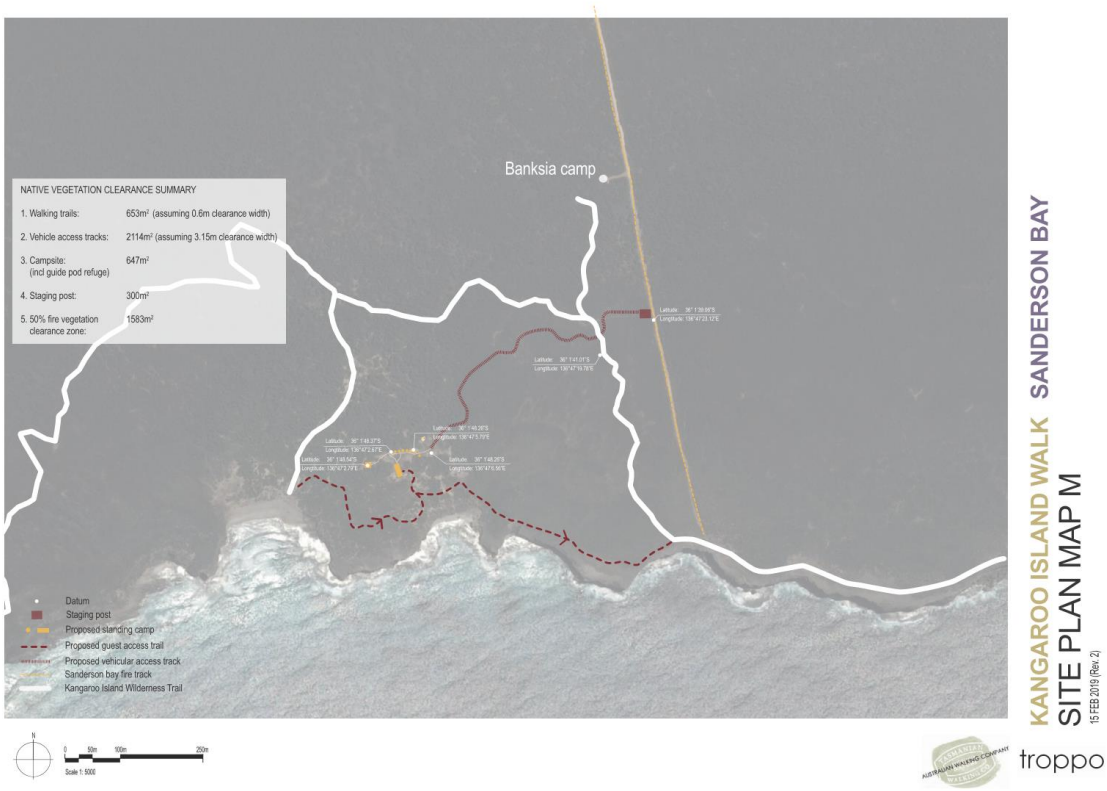


Figure 5 Clearance areas Sanderson Bay Walking Trails and Vehicle Access Tracks (higher resolution graphics are in Attachment 7)

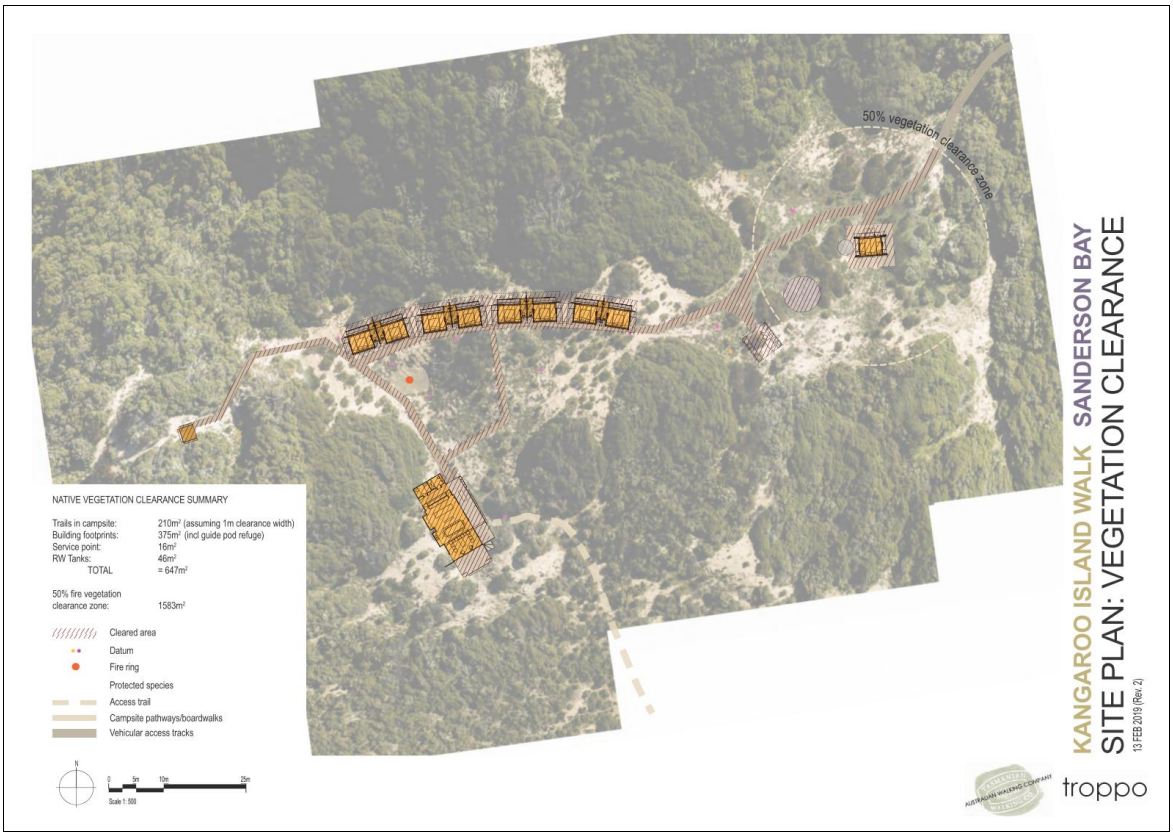


Figure 6 Clearance areas Sanderson Bay (hatched areas for boardwalks and building footprints, higher resolution graphics are in Attachment 7)

Table 1 Summary of proposed clearance areas – Sanderson Bay

	Area (ha.)	Description	Site	Veg Assoc
Walking Tracks – 0.6m wide	0.0653	1,088 m X 0.6 m selected route using existing bare areas and animal tracks	10	KI 0202
Vehicle Track - 3.15m wide (50% of 671 m in partially clear areas)	0.1057	335.5 m X 3.15 m selected route using existing bare areas and animal tracks	1	KI 0208
Vehicle Track - 3.15m wide (50% of 671 m in uncleared areas)	0.1057	335.5 m X 3.15 m selected route through thick vegetation	1	KI 0208
Campsite	0.0646	374 m^2 building footprints, 210 m^2 boardwalks, 16 m^2 service pt, 46 m^2 RW tank	2	KI 1302
Staging Post	0.0300	Permanently cleared, required for operational use, deliveries, maintenance etc.	1	KI 0208
Fire Protection Zone	0.1583	50% clearance for fuel reduction, exc. Guide Pod and tank footprint	1	KI 0208
Subtotal	**0.5296**			

Figure 7 Aerial View showing local topography of proposed development located in open areas

Sandy Creek Impact Areas

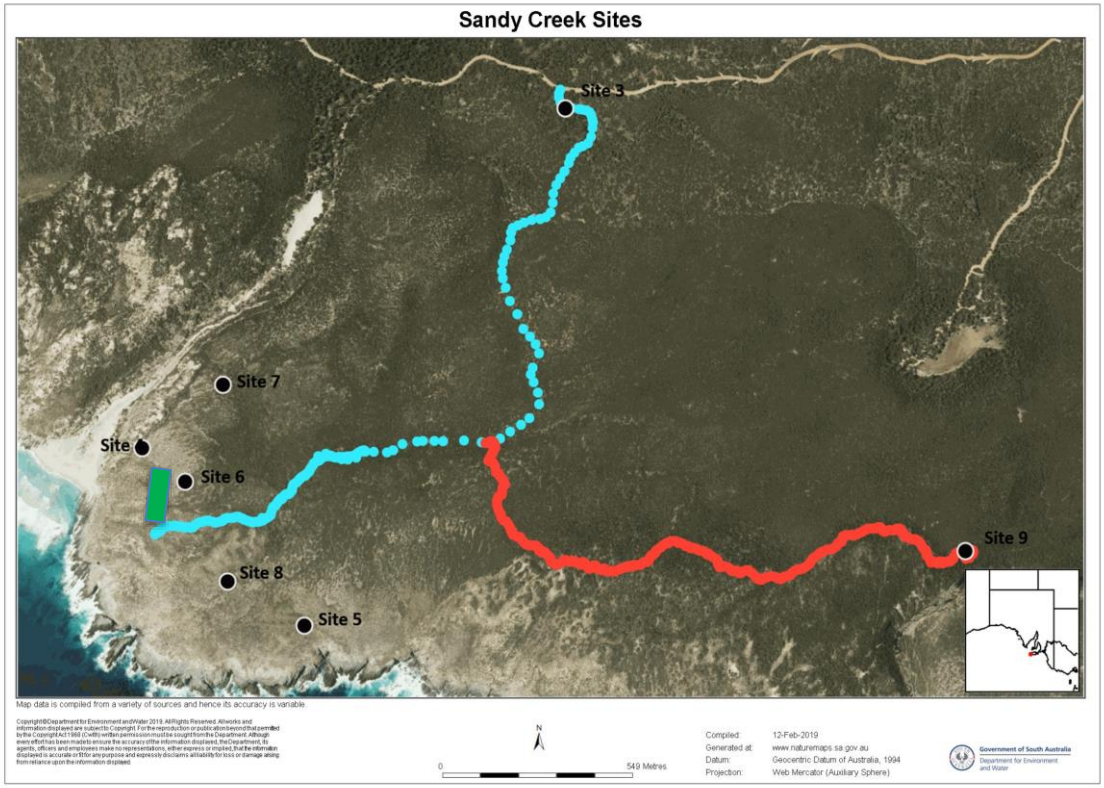


Figure 8 Location of the sites assessed for the proposed clearance (Vehicle access – blue, walking trails red, accommodation - green)

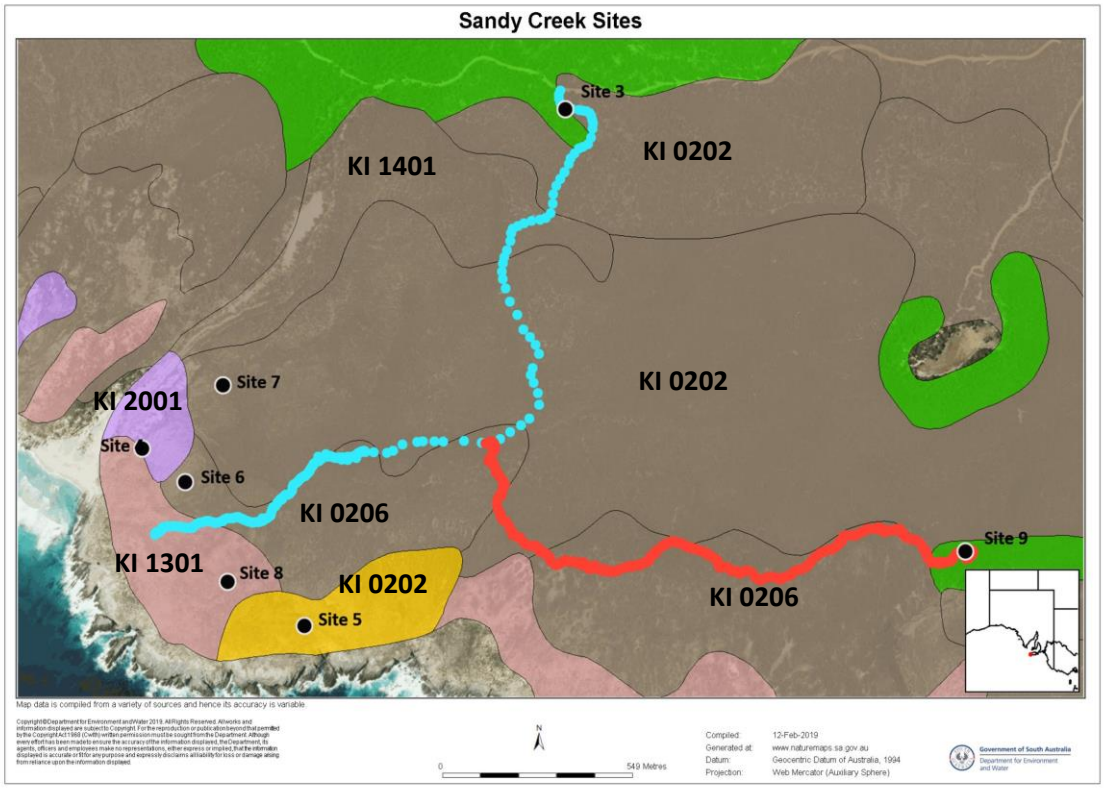


Figure 9 Location of the sites assessed for the proposed clearance showing vegetation associations (as mapped in NatureMaps 2019). Actual vegetation associations at assessment sites have been used for assessment.

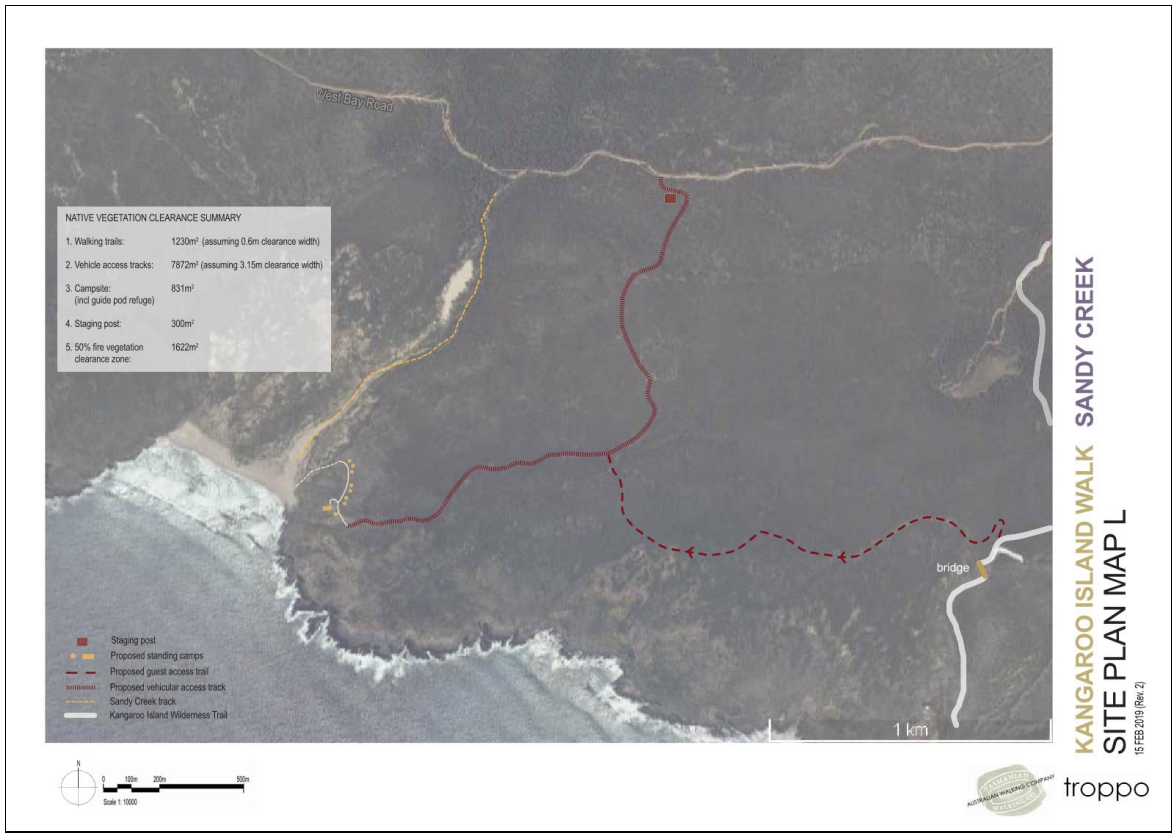


Figure 10 Clearance areas Sandy Creek Walking Trails and Vehicle Access Tracks (higher resolution graphics are in Attachment 8)

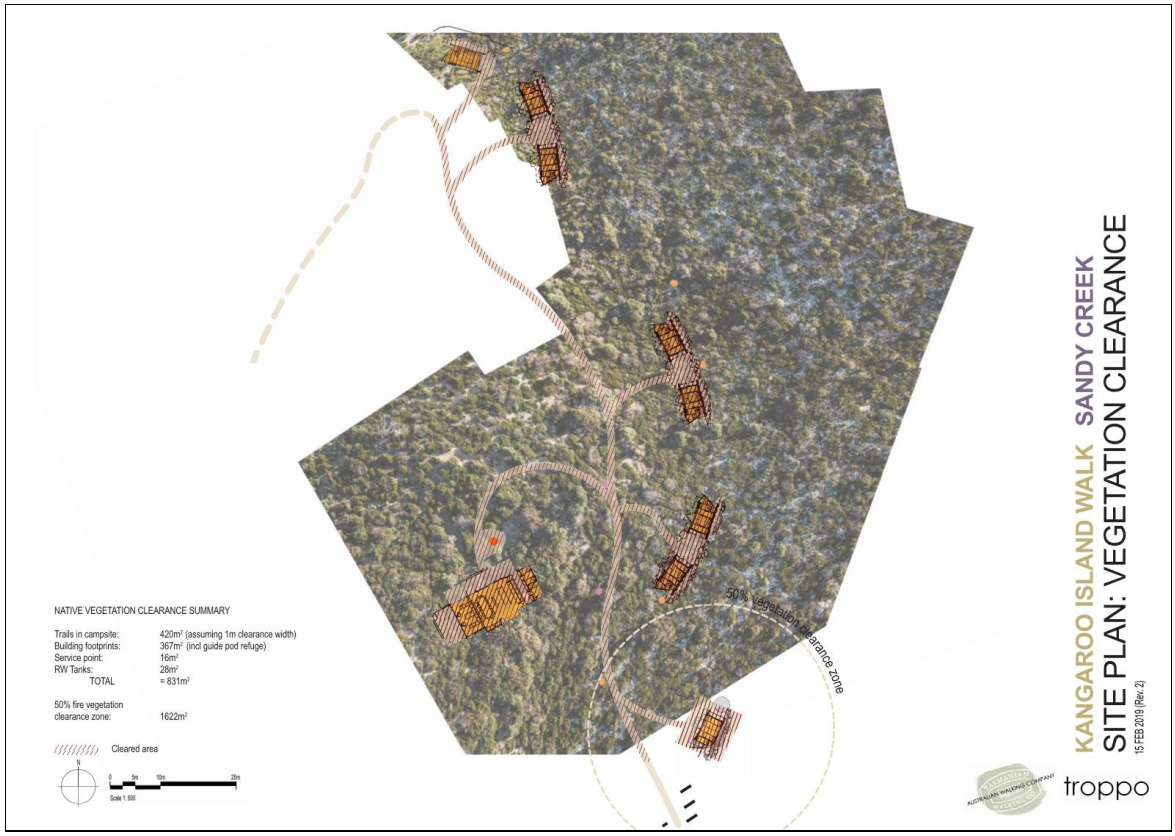


Figure 11 Clearance areas Sandy Creek (hatched areas for boardwalks and building footprints, higher resolution graphics are in Attachment 8)

Table 2 Summary of proposed clearance areas – Sandy Creek

	Area (ha.)	Description	Site	Veg Assoc
Walking Tracks – 2,050 m X 0.6 m wide	0.1230	2,050 m X 0.6 m selected route using existing bare areas and animal tracks	9	KI 0202
Vehicle Track - 3.15m wide (60% of 2,499 m in partially clear areas)	0.4723	1,499.4 m X 3.15 m selected route using existing bare areas and animal tracks	3 (10%), 7 (70%), 6&8 (20%)	KI 0504, KI 0202, KI 0206
Vehicle Track - 3.15 m wide (40% of 2,499 m in uncleared areas)	0.3149	999.6 m X 3.15 m selected route through thick vegetation	3 (10%), 7 (70%), 6&8 (20%)	KI 0504, KI 0202, KI 0206
Campsite	0.0831	367 m^2 building footprints, 420 m^2 boardwalks, 16 m^2 service pt, 28 m^2 RW tank	4	KI 1301
Staging Post	0.0300	Permanently cleared, required for operational use, deliveries, maintenance etc.	3	KI 0504
Fire Protection Zone	0.1622	50% clearance for fuel reduction, exc. Guide Pod and tank footprint	4	KI 1301
Subtotal	**1.1855**			

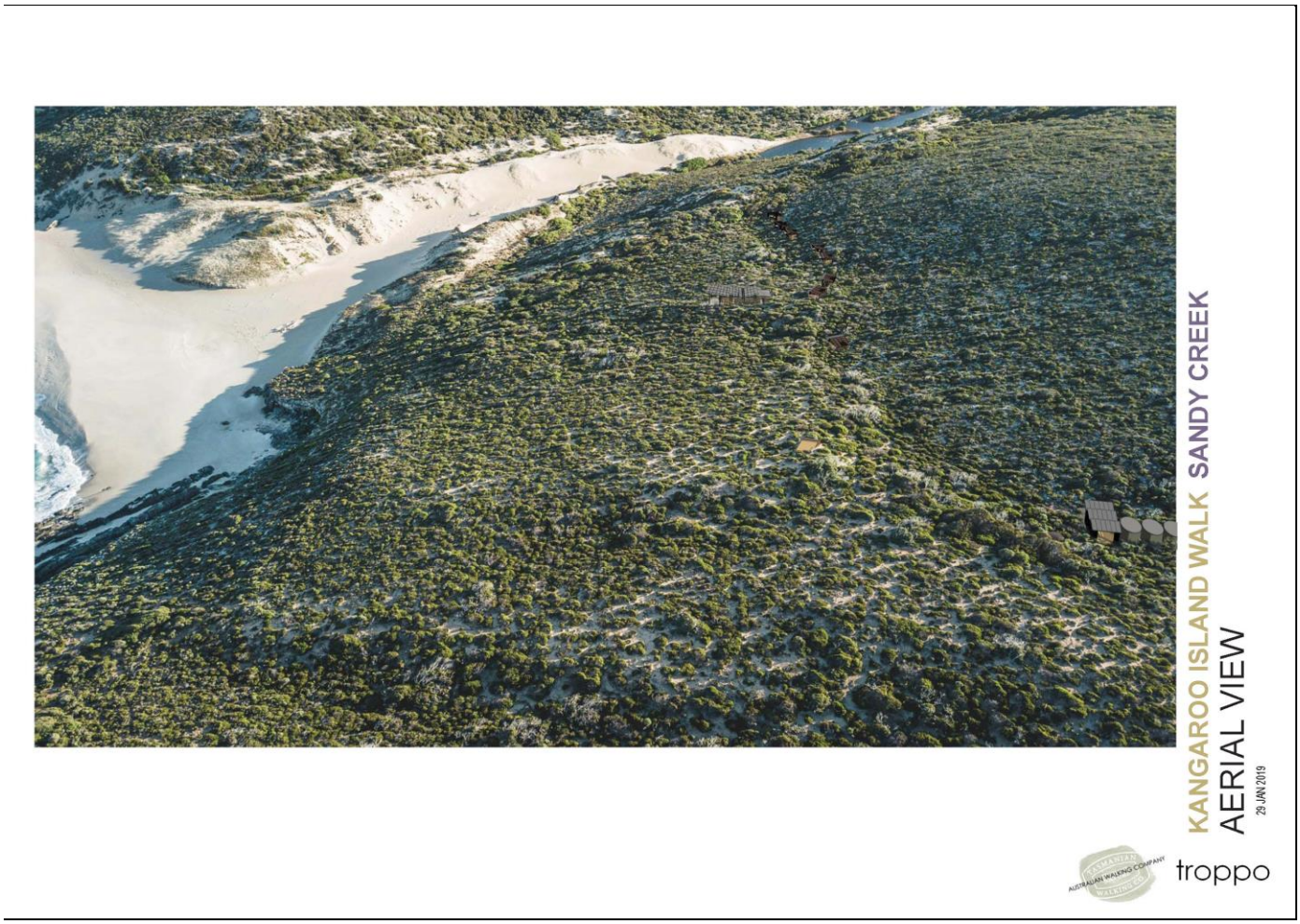


Figure 12 Aerial View showing local topography of proposed development located in open areas

4.2 Requirements of the Regulation

Provide information on how the proposed clearance meets the requirements of the regulation.

i. Identify the regulation under which the proposed clearance is applicable and demonstrate that it meets all the criteria of the regulation contained in Division 5 and Schedule 1

The proposed clearance is covered under Regulation 12(33) – New Dwelling or Building.
The clearance is for new buildings, dwellings or ancillary development sited to avoid and minimise loss of native vegetation, provided that any relevant consent has been provided under the Development Act 1993.
The proposed clearance is for the construction of overnight accommodation for walkers on the Kangaroo Island Wilderness Trail and associated walking trails, light vehicle access tracks and water storage tanks.

ii. Risk Assessment - determine the level of risk and provide information to support the risk assessment

The proposed clearance may cover up to a maximum of approximately 1.715 hectares.
Guidelines determine that this risk assessment should be Level 3 with respect to fauna survey requirements.
Specifically designed and targeted surveys will be conducted where the database search and/or observations indicate the presence of a threatened species listed under the EPBC Act or NP&W Act.
The "Escalating Factors" discussed below suggest that fauna assessment at Level 4 is appropriate due to the records of Southern Brown Bandicoots within 5 km of the Sanderson Bay development site. Initial desktop analysis suggests that habitat for any National or State listed fauna species is unlikely to be negatively affected by the proposed clearance. Outcomes from the fauna survey will provide a better understanding of the likelihood of negative impacts and any appropriate mitigation measures will be recommended.

Escalating Factors - Variance with Principles (b), (c) or (d)

Principle b) it has significance as a habitat for wildlife.

The areas proposed for clearance comprise a range of coastal mallee and low woodland and shrubland vegetation associations in good condition. Threatened species recorded within 5 km and habitats potentially present are listed in Table 2.

Table 3 Significant fauna species recorded at assessment sites

Species	EPBC	SA	KI
Little Wattlebird			RA
Bush Stonecurlew		R	
Shy Heathwren		R	RA
Yellow-tailed Black Cockatoo		V	RA
Latham's Snipe		R	CR
Osprey		E	CR
Western Whipbird (KI ssp)		R	RA
Beautiful Firetail		R	
Southern Emu-wren (KI ssp)		R	RA
Common Brushtail Possum		R	
Southern Brown Bandicoot	EN	V	
Tawny Dragon			RA

SA = NPW Act 1972 **U** = Uncommon; **R** = Rare; **V** = Vulnerable; **E** = Endangered; **X** = Extinct
EPBC = EPBC Act 1999 **V** = Vulnerable; **E** = Endangered; **CE** = Critically Endangered; **X** = Extinct
KI = Gillam & Urban 2014 **RE** = Regionally Extinct; **CR** = Critically Endangered; **EN** = Endangered; **VU** = Vulnerable; **RA** = Rare; **NT** = Near Threatened

More detail is in Report 1 (Haby & Rowley 2018), section 2.2, p 12.

Sites will be low visitation, and clearance very low impact, and threatened species that may inhabit or visit the clearance area are unlikely to be adversely affected by the vegetation removal. Due to the records of Southern Brown Bandicoot within 5 km of some sites, the proposed clearance **is considered to be seriously at variance with Principle (b) and should be escalated to Level 4 fauna survey requirements.**

Principle c) it includes plants of a rare, vulnerable or endangered species.
Species of particular conservation significance (NPW Act, EPBC Act) were recorded in or adjacent to the area proposed for clearance at the site (Table 3). Their locations are shown on Figures 13 and 14 in relation to access tracks and assessment site locations.
More detail is in Report 1 (Haby & Rowley 2018), section 2.3, pp 13-15.

Table 4 Significant plant species recorded at assessment sites

Species	SA	KI
Correa backhouseana var. *orbicularis*	R	
Gahnia hystrix	R	RA
Grevillea lavandulacea ssp *rogersii*	R	RA
Hibbertia platyphylla ssp. *halmaturina*		VU
Podolepis jaceoides	R	VU
Poranthera triandra		RA
Pultenaea densifolia		RA
Pultenaea rigida		RA
Xanthorrhoea semiplana ssp. *tateana*	R	

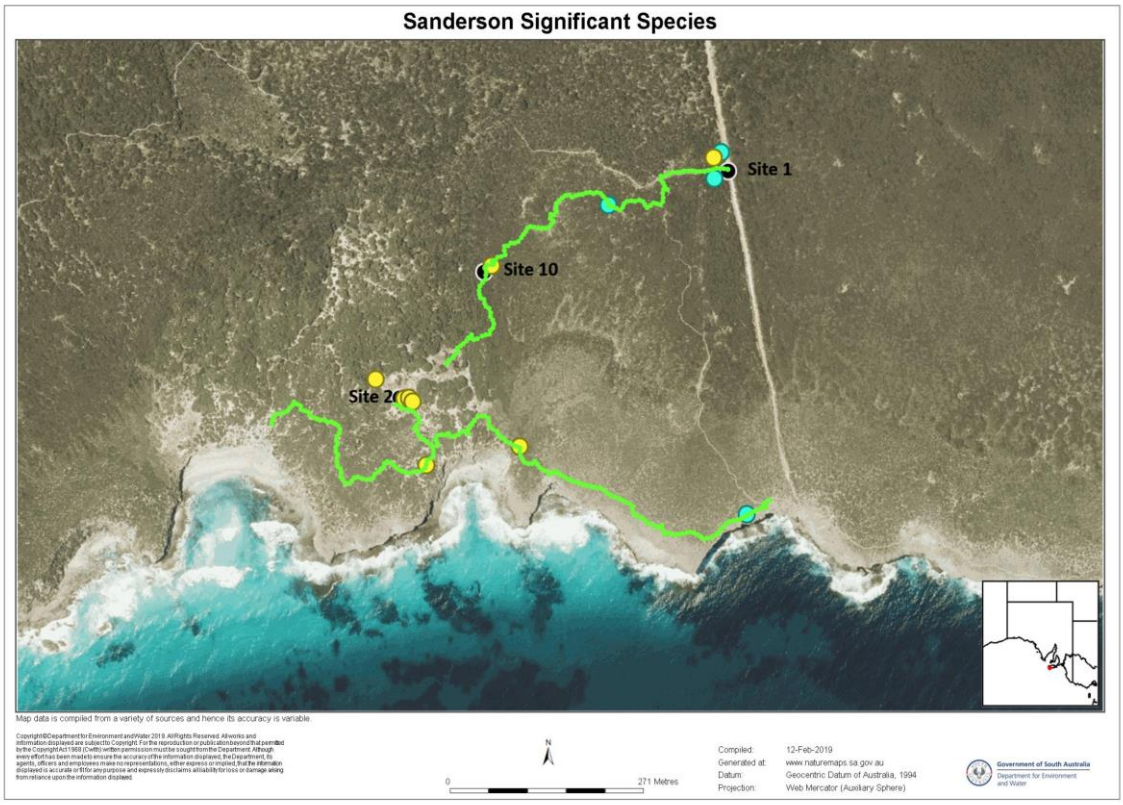


Figure 13 Location of significant plant species at Sanderson Bay sites (listed SA blue, listed KI yellow)

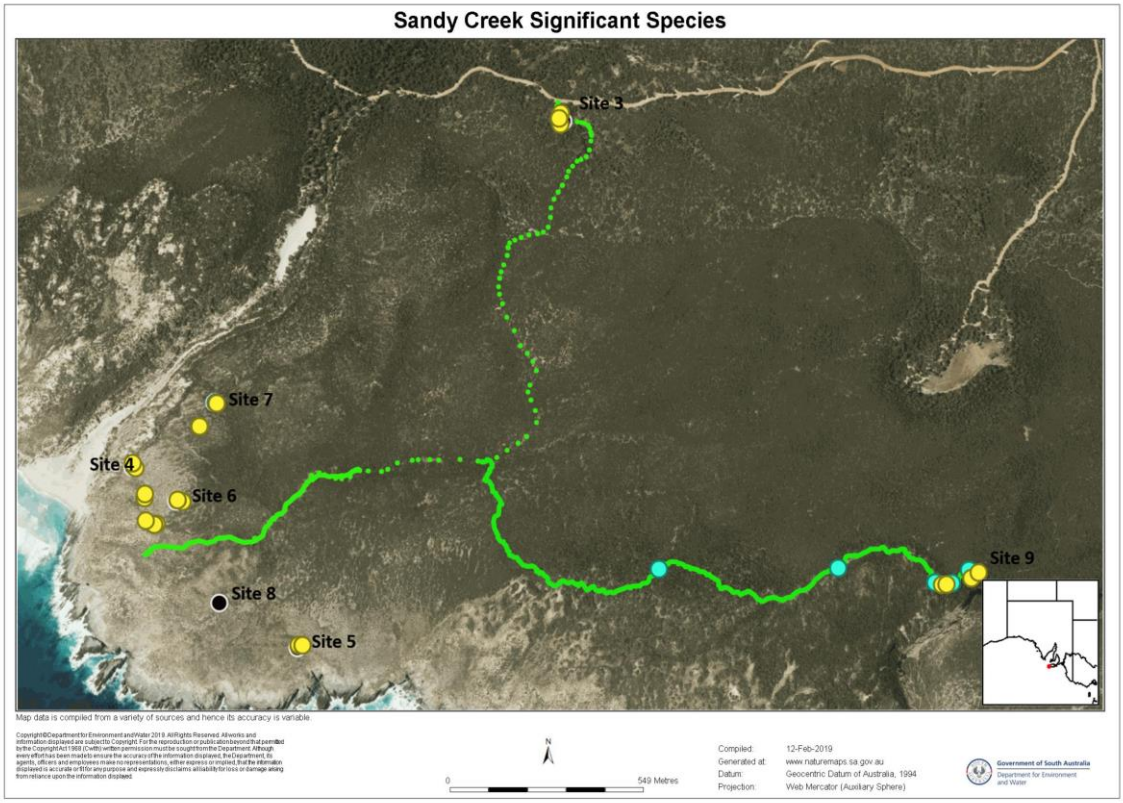


Figure 14 Location of significant plant species at Sandy Creek sites (listed SA blue, listed KI yellow)

Throughout the design process, consideration has been given to the locations of threatened plant species. Their locations will be marked and their disturbance will be avoided. The proposed clearance of vegetation at this site is therefore not considered to be seriously at variance with Principle (c).

Principle d) the vegetation comprises the whole, or a part, of a plant community that is rare, vulnerable or endangered (patches of vegetation only).
More detail is in Report 1 (Haby & Rowley 2018), section 2.4, p 16.

The described vegetation associations in the areas proposed for clearance are not listed as rare, vulnerable or endangered at National, State or regional level (Neagle 1995, NPW Act, EPBC Act, DEH in progress).
Therefore, the vegetation clearance is not considered to be at variance with Principle (d).

4.3 Mitigation Hierarchy

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must have regard to the mitigation hierarchy

The NVC will assess the measures taken to avoid and minimize impacts on biodiversity and rare or threatened species or ecological communities within the property or immediate vicinity of the development.

Demonstrate how the clearance proposal addresses the following:

a) Avoidance – outline measures taken to avoid clearance of native vegetation such as making adjustments to the location, design, size or scale of the activity in order to reduce the impact.

From project inception, National Parks SA and KIWT staff have been involved in the design processes and advice has been taken regarding sensitive vegetation, logistics and operational matters.

This project is directed at providing an alternative visitor experience for walkers on the Kangaroo Island Wilderness Trail. To that end, the location and design of the overnight accommodation is central to the overall experience. Architecture and operation of the facilities follows the guiding principles of:

- Minimisation of environmental impact
- Optimisation of social impact through positive interaction between people and a wilderness environment
- Optimisation of a unique visitor experience
- Cost-effectiveness

They are nestled into the contours, and built from low maintenance materials using low impact construction methods.

Provision of these accommodation facilities will not add to the overall number of people walking the KIWT. There will be groups of up to 16 people at a time undertaking guided walking tours over the entire length of the KIWT, accompanied by two trained, experienced guides. Walking the KIWT is a popular recreational activity and this project provides another choice to broaden the available visitor experience.

Site location and building positioning has favoured sites that are either already cleared of vegetation or have sparse or patchy vegetation cover, and areas of high quality intact and sensitive native vegetation have been avoided.

A major factor driving building design was the need to minimise impacts during construction as well as for durability in ongoing use. Prefabrication and concrete-free footing techniques will minimise site time and peripheral construction damage to the site.

b) Minimization – if clearance cannot be avoided, outline measures taken to minimize the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent.

CAMPSITE LOCATION SELECTION

Alternative sites at both Sanderson Bay and Sandy Creek were considered, including some requiring shorter access tracks. Refer to drawings in Attachments 3 and 4.

The drawings detail positives and negatives for all sites. Alternative sites were primarily discarded for reasons of:

- Excessive vegetation clearance
- Lack of compelling outlooks from campsites
- Lack of shelter against weather
- Adequate space to group site components cohesively within the topographical setting
- Excessive benching (site cut and fill) requirements
- Issues of erosion control
- Visibility from KIWT and other areas of public visitation

VEHICLE ACCESS TRACK DESIGN AND ROUTE SELECTION

The proposed light vehicle access tracks have been carefully sited to utilise existing animal trails and their width kept to 3.15 m, the bare minimum to provide for construction access by ATV quad bike or narrow track tractors towing purpose-built narrow trailers. Tracks will be stabilised by laying down mulched vegetation without the need for compacting imported fill. Trafficked width will be approximately 1.95 m and allowance

made for 0.6 m on each side for drainage control. After construction these tracks will be maintained for service provision including food delivery, waste disposal and maintenance. They follow natural contours to minimise erosion.
At Sandy Creek, the route was also selected with a view to minimising impacts on other trail users, and to provide discreet servicing by vehicle without crossing the main trail. Vehicle access was considered to provide better operational access and less general disturbance than using helicopters, without vehicle track. The selected approach will have no impact on public amenity.

At Sanderson Bay, the route initially utilises a disused construction track (pictured below). This track then angles to discreetly cross the walking trail with minimum visual disturbance. Beyond that crossing, the route is again sited to avoid visibility from the walking trail.

WALKING TRACK ROUTE SELECTION

Proposed new walking trails have been carefully sited to generally use existing animal trails and their width kept to 0.6 m, the bare minimum to provide for single file walkers. Drones were used to help determine the path requiring the least clearance.

CONSTRUCTION TRAFFIC AND IMPACT AREA
Off-site prefabrication and modular building techniques will be employed to minimise the overall construction envelope and minimise the need to use any large machinery on site. The overarching design and construction approach is to preserve as much of the site immediately adjacent to the building pods as possible. Refer to drawings in Attachments 3 and 4.
Buildings are sited on open and bare ground where possible. Large stands of vegetation are avoided where possible. It will be concrete-free with above-ground decks rather than solid pads being used on site to minimise the overall construction footprint. Footings for the decking and boardwalks are to be "pin pile foundation" style. Pin pile foundations are small precast concrete blocks with galvanized steel pipes inserted at opposing angles. The precast concrete head is installed at the ground surface, and steel bearing pins are driven through the head and into the ground. They act as a simple and effective building foundation that does not require excavation or soil compaction.

Construction sequence will be staged and managed to minimise storage area at staging posts and access tracks made as narrow as possible to enable construction components to be transported with the minimum disturbance.
Significant plants have been located and their disturbance avoided as much as possible. Those individual plants near construction activities will be marked and protected.

DESTABILISATION, SOIL EROSION AND CHANGES TO SURFACE WATER FLOW
A primary site selection criterion has been to identify sites and locations within sites that reduce opportunity for destabilisation and soil erosion. Existing animal trails (that pursue natural contours) will be used for access tracks and walking trails.
Raised buildings, positioned along the contour with minimal cut and fill and minimal vegetation removal, will help maintain the natural drainage patterns, and paths will feature swales/hardening at regular intervals to prevent scouring and manage overland water flows during rainfall events.

FIRE PROTECTION MEASURES
Rather than designing all buildings to provide bushfire protection, a single building, the "Guide Pod" at each location, has been designed as a fire refuge, with enhanced design specifications to minimise the vegetated setback distance, whilst maintaining an acceptable level of fire protection. Some vegetation will need to be selectively cleared to remove taller more flammable species to achieve a fuel reduction of 50 % within 20 m of the building. Ground cover and low shrub species not considered to pose a combustibility threat will not be removed.

WEED MANAGEMENT PRACTICES AND HYGIENE PROCEDURES AS PART OF CONSTRUCTION
Management of the construction process will be subject to adherence to a strict CEMP which will include:

- Phytophthora management strategy,
- Clean down of equipment prior to entering site,
- Leave No Trace principles and training for contractors and on-site staff,
- soil and vegetation protection measures,
- on site construction waste management.

More background on design features and construction methods is in Attachment 2 - Background on KI Walk Accommodation – Concept and Architectural Features.

c) Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimized, such as allowing for the re-establishment of the vegetation.

Users of the accommodation facilities will predominantly be walkers accompanied by guides, and are expected to adhere to "Leave No Trace" behavioural guidelines. This will minimise ongoing degradation and enable recovery of any remnant native vegetation within the sites. In areas where disturbance from construction activities has occurred, infill planting of appropriate native species of local provenance will be undertaken to enhance soil stabilisation functions and support local biodiversity. Local revegetation contractors have already begun propagating some suitable species so that they will be ready for planting at the earliest appropriate time. The existing seed sources on site will enable the natural regeneration processes after completion of construction and removal of any ongoing disturbance factors.

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimized should be offset by the achievement of a significant environmental benefit that outweighs that impact.

Options for offsetting are being investigated, however these are limited. Payment into the Native Vegetation Fund is the most likely option available.

5. Significant Environmental Benefit

A Significant Environmental Benefit (SEB) is required for approval to clear under Division 5 of the *Native Vegetation Regulations 2017*. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that an SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

DETERMINATION OF THE SEB OBLIGATION
The calculated SEB obligation presented below is based on NVC guidelines.

- Walking trails have been carefully routed to utilise existing cleared areas and kangaroo trails
    - reduction factor 0.6
    - no rehabilitation factor
- Vehicle Access Tracks been carefully routed to utilise existing cleared areas and kangaroo trails. This was possible for approximately 50% of the Sanderson Bay track route and 60% of the Sandy Creek route.
    - No reduction factor has been applied for new clearance through thicker vegetation.
    - Reduction factor of 0.6 has been applied for 50% of the Sanderson Bay route and 60% of the Sandy Creek route
    - no rehabilitation factor
- The Fire Protection Zones around the Guide Pods will be selectively cleared to reduce the fuel loading to 50%. This will be mainly larger shrubs, and ground covers and low shrubs of low flammability will not be removed. With advice from CFS, some careful plantings of species not considered to pose a combustibility threat such as *Carpobrotus rossii, Threlkeldia diffusa* or *Dichondra repens* may used to infill parts where larger shrubs have been removed.
    - Reduction factor of 0.8
    - no rehabilitation factor

The rest of the proposed clearance has been treated as "complete" clearance in these calculations. Much of it will not be physically cleared during construction or operation, though shading effects in some parts may bring about botanical composition changes in the longer term.
No allowance has been made for any infill revegetation which will be undertaken throughout both sites.

The proponent would like NVC to consider the option of applying some further reduction factors due to the minimal clearance levels and sensitive nature of the development, the concept of which is founded on maintaining as much of the native "wilderness" character as possible.

Sanderson Bay Clearance Areas

	Area (ha.)	SEB Points	$ SEB	Representative Site
Walking tracks – 0.6m	0.0653	5.97	$4,940.04	10
Vehicle Tracks – thick veg	0.1057	16.69	$13,824.23	1
Vehicle Tracks - clearings	0.1057	10.02	$8,294.54	1
Campsite	0.0646	5.69	$4,715.74	2
Staging Post	0.0300	4.74	$3,924.27	1
Fire Protection Zone	0.1583	20.00	$16,565.66	1
Subtotal	**0.5296**	**63.11**	**$52,264.47**	

Sandy Creek Clearance Areas

	Area (ha.)	SEB Points	$ SEB	Representative Site
Walking tracks – 0.6m	0.1230	14.67	$12,416.25	9
Vehicle Tracks – thick veg	0.4723	31.46	$26,621.19	3,7,6/8
Vehicle Tracks - clearings	0.3149	34.95	$29,579.10	3,7,6/8
Campsite	0.0831	12.51	$10,591.66	4
Staging Post	0.0300	2.64	$3,206.64	3
Fire Protection Zone	0.1622	19.53	$16,538.80	4
Subtotal	**1.1855**	**115.76**	**$98,953.64**	
Total	**1.7150**	**178.87**	**$151,218.11**	

ACHIEVING AN SEB

☐ Establish a new SEB Area on land owned by the proponent.

☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____

☐ Apply to have SEB Credit assigned from another person or body. The application form needs to be submitted with this Data Report.

☐ Apply to have an SEB to be delivered by a Third Party. The application form needs to be submitted with this Data Report.

☒ Pay into the Native Vegetation Fund

Options for offsetting are being investigated, however these are limited. Payment into the Native Vegetation Fund is the most likely option available.

References

DEH (in progress) unpublished and provisional list of Threatened Ecosystems of South Australia

DEW (2019) NatureMaps 3.0 on-line environmental mapping https://data.environment.sa.gov.au/NatureMaps

Gillam, S. and Urban, R. (2014) Regional Species Conservation Assessment Project, Phase 1 Report: Regional Species Status Assessments, Kangaroo island NRM Region. Department of Environment, Water and Natural Resources South Australia

Haby, M and Rowley, D.J. (2018) Native Vegetation Assessment- KI Walk- Report 1, Internal report to Australian Walking Company.

Laut P., P.C. Heyligers, G. Keig, E. Loffler, C. Margules, R.M. Scott, and M.E. Sullivan (1977) *Environments of South Australia*. CSIRO Publishing, Canberra.

Neagle, N. (1995) An update of the conservation status of the major plant associations of South Australia. Native Vegetation Conservation Section, Department of Environment and Natural Resources, Adelaide.

Milne, T. and McCallum, B. (2012) Bushland Condition Monitoring Manual: Benchmark Communities of Kangaroo Island. Nature Conservation Society of South Australia Inc., Adelaide.

NVIS Technical Working Group (2017) Australian Vegetation Attribute Manual: National Vegetation Information System, Version 7.0. Department of the Environment and Energy, Canberra. Prep by Bolton, M.P., deLacey, C. and Bossard, K.B. (Eds)

6. Appendices and Attachments

Appendix 1. Bushland Vegetation Assessment Scoresheet Summary Pages – 9 Assessment Sites

Attachments

1. Haby, M and Rowley, D.J. (2018) Native Vegetation Assessment - KI Walk - Report 1
2. Troppo Architects / AWC (2019) Background on KI Walk Accommodation – Concept and Architectural Features – graphic presentation
3. Sanderson Bay - Site Selection Parameters and Construction Details - graphics
4. Sandy Creek - Site Selection Parameters and Construction Details - graphics
5. Bushland Vegetation Assessment Scoresheets associated with the proposed clearance (attached in Excel format)
6. SA Bushfire Solutions (2019) Australian Walking Company KI Development Application - site recommendations
7. Sanderson Bay - Proposed Clearance Areas – graphics
8. Sandy Creek - Proposed Clearance Areas – graphics

Appendix 1

Total Scores for the Site	Score
LANDSCAPE CONTEXT SCORE	1.11
VEGETATION CONDITION SCORE	60.50
CONSERVATION SIGNIFICANCE SCORE	1.12

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	75.21
Total Biodiversity Score (Biodiversity Score x hectares)	75.21

Photo Point and Vegetation Survey Location	Direction of the Photo
	136
	GPS Reference
	Datum
	Zone (52, 53 or 54)
	Easting (6 digits) 36 1 38
	Northing (7 digits) 136 47 22
	Description

What is the purpose of Assessment? Clearance | SEB Area | Other

Assessment for Clearance			
Loss Factor	1.0	SEB Points required	157.95
Loadings for clearance of protected areas	1	Hectares required	19.74
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	628
SEB Points of loss	150.43	Payment into the fund (GST Exclusive)	$123,989.62
		Administration fee (GST Inclusive)	$6,819.43

Site 1 Sanderson Bay Score Summary for 1.0 ha

Total Scores for the Site	Score
LANDSCAPE CONTEXT SCORE	1.11
VEGETATION CONDITION SCORE	33.76
CONSERVATION SIGNIFICANCE SCORE	1.12

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	41.97
Total Biodiversity Score (Biodiversity Score x hectares)	41.97

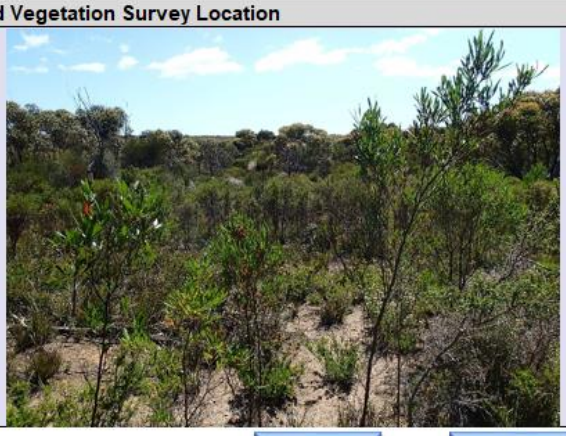
Photo Point and Vegetation Survey Location	Direction of the Photo
	140
	GPS Reference
	Datum
	Zone (52, 53 or 54)
	Easting (6 digits) 36 1 48
	Northing (7 digits) 136 47 5
	Description

What is the purpose of Assessment? Clearance | SEB Area | Other

Assessment for Clearance			
Loss Factor	1.0	SEB Points required	88.14
Loadings for clearance of protected areas	1	Hectares required	11.02
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	628
SEB Points of loss	83.95	Payment into the fund (GST Exclusive)	$69,193.38
		Administration fee (GST Inclusive)	$3,805.64

Site 2 Sanderson Bay Score Summary for 1.0 ha

Total Scores for the Site	Score	Vegetation Condition x Landscape Context x Conservation Significance =	
LANDSCAPE CONTEXT SCORE	1.11	UNIT BIODIVERSITY SCORE	60.12
VEGETATION CONDITION SCORE	49.24	Total Biodiversity Score (Biodiversity Score x hectares)	60.12
CONSERVATION SIGNIFICANCE SCORE	1.10		

Photo Point and Vegetation Survey Location	Direction of the Photo	
	45	
	GPS Reference	
	Datum	
	Zone (52, 53 or 54)	
	Easting (6 digits)	35 56 46
	Northing (7 digits)	136 38 39
	Description	

What is the purpose of Assessment? Clearance SEB Area Other

Assessment for Clearance			
Loss Factor	1.0	SEB Points required	126.25
Loadings for clearance of protected areas	1	Hectares required	15.78
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	642
SEB Points of loss	120.24	Payment into the fund (GST Exclusive)	$101,315.52
		Administration fee (GST Inclusive)	$5,572.35

Site 3 Sandy Creek Score Summary for 1.0 ha

Total Scores for the Site	Score	Vegetation Condition x Landscape Context x Conservation Significance =	
LANDSCAPE CONTEXT SCORE	1.11	UNIT BIODIVERSITY SCORE	71.69
VEGETATION CONDITION SCORE	58.71	Total Biodiversity Score (Biodiversity Score x hectares)	71.69
CONSERVATION SIGNIFICANCE SCORE	1.10		

Photo Point and Vegetation Survey Location	Direction of the Photo	
	324	
	GPS Reference	
	Datum	
	Zone (52, 53 or 54)	
	Easting (6 digits)	35 57 19
	Northing (7 digits)	136 37 51
	Description	

What is the purpose of Assessment? Clearance SEB Area Other

Assessment for Clearance			
Loss Factor	1.0	SEB Points required	150.54
Loadings for clearance of protected areas	1	Hectares required	18.82
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	642
SEB Points of loss	143.38	Payment into the fund (GST Exclusive)	$120,812.14
		Administration fee (GST Inclusive)	$6,644.67

Site 4 Sandy Creek Score Summary for 1.0 ha

Total Scores for the Site	Score	Vegetation Condition x Landscape Context x Conservation Significance =	
LANDSCAPE CONTEXT SCORE	1.11	UNIT BIODIVERSITY SCORE	53.66
VEGETATION CONDITION SCORE	43.94	Total Biodiversity Score (Biodiversity Score x hectares)	53.66
CONSERVATION SIGNIFICANCE SCORE	1.10		

Photo Point and Vegetation Survey Location	Direction of the Photo	
	150	
	GPS Reference	
	Datum	
	Zone (52, 53 or 54)	
	Easting (6 digits)	35 57 21.306
	Northing (7 digits)	136 37 55.440
	Description	

What is the purpose of Assessment? Clearance | SEB Area | Other

Assessment for Clearance			
Loss Factor	1.0	SEB Points required	112.68
Loadings for clearance of protected areas	1	Hectares required	14.08
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	642
SEB Points of loss	107.31	Payment into the fund (GST Exclusive)	$90,422.63
		Administration fee (GST Inclusive)	$4,973.24

Site 6 Sandy Creek Score Summary for 1.0 ha

Total Scores for the Site	Score	Vegetation Condition x Landscape Context x Conservation Significance =	
LANDSCAPE CONTEXT SCORE	1.11	UNIT BIODIVERSITY SCORE	51.79
VEGETATION CONDITION SCORE	42.41	Total Biodiversity Score (Biodiversity Score x hectares)	51.79
CONSERVATION SIGNIFICANCE SCORE	1.10		

Photo Point and Vegetation Survey Location	Direction of the Photo	
	64	
	GPS Reference	
	Datum	
	Zone (52, 53 or 54)	
	Easting (6 digits)	
	Northing (7 digits)	
	Description	

What is the purpose of Assessment? Clearance | SEB Area | Other

Assessment for Clearance			
Loss Factor	1.0	SEB Points required	108.75
Loadings for clearance of protected areas	1	Hectares required	13.59
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	642
SEB Points of loss	103.57	Payment into the fund (GST Exclusive)	$87,271.79
		Administration fee (GST Inclusive)	$4,799.95

Site 7 Sandy Creek Score Summary for 1.0 ha

Total Scores for the Site	Score
LANDSCAPE CONTEXT SCORE	1.11
VEGETATION CONDITION SCORE	43.45
CONSERVATION SIGNIFICANCE SCORE	1.08

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	52.09
Total Biodiversity Score (Biodiversity Score x hectares)	52.09

Photo Point and Vegetation Survey Location	Direction of the Photo
	268

GPS Reference	
Datum	
Zone (52, 53 or 54)	
Easting (6 digits)	35 57 21.306
Northing (7 digits)	136 38 1.440
Description	

What is the purpose of Assessment? Clearance SEB Area Other

Assessment for Clearance	
Loss Factor	1.0
Loadings for clearance of protected areas	1
Reductions for rehabilitation of impact site	
SEB Points of loss	104.18

SEB Points required	109.38
Hectares required	13.67
Mean Annual rainfall for the site (mm)	642
Payment into the fund (GST Exclusive)	$87,781.07
Administration fee (GST Inclusive)	$4,827.96

Site 8 Sandy Creek Score Summary for 1.0 ha

Total Scores for the Site	Score
LANDSCAPE CONTEXT SCORE	1.11
VEGETATION CONDITION SCORE	46.50
CONSERVATION SIGNIFICANCE SCORE	1.10

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	56.78
Total Biodiversity Score (Biodiversity Score x hectares)	56.78

Photo Point and Vegetation Survey Location	Direction of the Photo
	351

GPS Reference	
Datum	
Zone (52, 53 or 54)	
Easting (6 digits)	35 57 27.28
Northing (7 digits)	136 39 24.67
Description	

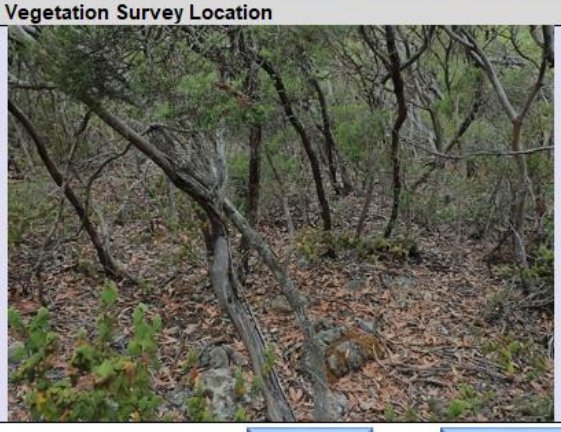
What is the purpose of Assessment? Clearance SEB Area Other

Assessment for Clearance	
Loss Factor	1.0
Loadings for clearance of protected areas	1
Reductions for rehabilitation of impact site	
SEB Points of loss	113.55

SEB Points required	119.23
Hectares required	14.90
Mean Annual rainfall for the site (mm)	642
Payment into the fund (GST Exclusive)	$95,682.60
Administration fee (GST Inclusive)	$5,262.54

Site 9 Sandy Creek Score Summary for 1.0 ha

Total Scores for the Site	Score	Vegetation Condition x Landscape Context x Conservation Significance =	
LANDSCAPE CONTEXT SCORE	1.11	UNIT BIODIVERSITY SCORE	43.51
VEGETATION CONDITION SCORE	35.00	Total Biodiversity Score (Biodiversity Score x hectares)	43.51
CONSERVATION SIGNIFICANCE SCORE	1.12		

Photo Point and Vegetation Survey Location	Direction of the Photo
	105
	GPS Reference
	Datum
	Zone (52, 53 or 54)
	Easting (6 digits) 36 1 43.58 S
	Northing (7 digits) 136 47 9.56 E
	Description

What is the purpose of Assessment? Clearance SEB Area Other

Assessment for Clearance			
Loss Factor	1.0	SEB Points required	91.38
Loadings for clearance of protected areas	1	Hectares required	11.42
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	628
SEB Points of loss	87.02	Payment into the fund (GST Exclusive)	$71,729.53
		Administration fee (GST Inclusive)	$3,945.12

Site 10 Sanderson Bay Score Summary for 1.0 ha