Strike West Pty Ltd

West Erregulla Field Development Program

Exploration Permit 469
Rehabilitation Management Plan

5 April 2022

WER-HSE-PLN-010

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Document Control

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Document Approval

Approvals	Responsibility	Signed
Custodian	To review document and ensure it is consistent with the planned operation.	HSEC Operations Manager – Amanda Emery
Approvals	**Responsibility**	**Signed**
Approver	As the ultimate owner of the Project, accepts the content of this document.	Chief Operating Officer – Kevin Craig

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1. Introduction

Strike West Pty Ltd, a wholly-owned subsidiary of Strike Energy Limited (Strike Energy; the Proponent) is developing the West Erregulla Field Development Program (FDP), located in the Shire of Three Springs, Western Australia (WA) (the Proposal). The Proposal is to install and operate a gathering system to connect the West Erregulla Gas Field and convey the extracted natural gas to an upstream separating facility (this facility is subject to separate approvals).

The Proposal has been referred to the Environmental Protection Authority (EPA) under Part IV Section 38 for a decision as to whether it requires formal assessment under the *Environmental Protection Act 1986* (WA) (EP Act). The EPA has determined the Proposal would be assessed on 'Referral Information with Additional Information' with a two-week public review period.

Given potential impacts to Matters of National Significance (MNES), the Proposal will undergo an accredited assessment under the bilateral agreement to satisfy the requirements of the *Environmental Protection and Biodiversity Conservation Act 1999* (Commonwealth).

As part of the referral information, this Rehabilitation Management Plan (RMP; the document) details management actions to be implemented as a part of the post-installation rehabilitation within the West Erregulla FDP Development Envelope. Strike Energy will maintain responsibility for the implementation of the RMP until completion criteria are met.

1.1 Purpose & Scope

The purpose of the document is to detail the reinstatement and rehabilitation work that will be undertaken during the post-installation stage of the Proposal, based on the potential impacts identified in the Assessment Referral Information (ARI) with Additional Information supporting document (WER-HSE-REP-006). It outlines rehabilitation management actions and any associated monitoring to be implemented post-installation.

1.2 Background

The Development Envelope of the Proposal occupies a total of 93.97 ha, of which a maximum of 38.46 ha will be cleared for the purpose of the Proposal (the Clearing Footprint) (Figure 1.1). Following construction, 30.00 ha within the Rehabilitation Area shown in Figure 1.2 will be rehabilitated. The remaining 8.46 ha comprises permanent clearing for operational purposes throughout the life of the Proposal.

Effective rehabilitation will manage the following potential impacts:

- Direct loss via clearing of remnant native vegetation; and
- The loss of conservation-significant flora and/or habitat via clearing; and
- The spread of weeds and/or plant disease; and
- The proliferation of introduced (predatory) fauna.

The potential impacts above have been determined by an extensive suite of technical studies and investigations which are described in the ARI supporting document (WER-HSE-REP-006).

1.2.1 Key Environmental Factors

Key environmental factors relevant to this RMP are provided in Table 1.1.

Table 1.1: Relevant Key Environmental Factors & Objectives

Factor	Objective
Flora and Vegetation	*Protect flora and vegetation so that biological diversity and ecological integrity are maintained.*
Terrestrial Fauna	*Protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*

Legend

- Development Envelope
- Clearing Footprint
- Disturbance Footprint
- Minor road
- Track

Scale 1:26,000 at A4

0 250 500
metres

Coord. Sys. GDA 1994 MGA Zone 50

Job No: 60738

Client: Strike Energy

Version: A

Date: 21-Oct-2021

Drawn By: cthatcher

Checked By: LT

WEST ERREGULLA FIELD DEVELOPMENT PROGRAM

FIGURE 1.1

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File Name: \\008pmpmr004v001.jbsg.aust\JBS Perth\Projects\1)Open\Strike West\60738 Field Development Program\GIS\Maps\R01_Rev_A\60738_0x_ProjectArea.mxd
Image Reference: Client imagery 2020.

Legend

- Development Envelope
- Rehabilitation area
- Minor road
- Track

Scale 1:26,000 at A4

0 250 500
metres

Coord. Sys. GDA 1994 MGA Zone 50

Job No: 60738

Client: Strike Energy

Version: A

Date: 30-Nov-2021

Drawn By: cthatcher

Checked By: LT

REHABILITATION AREA

FIGURE 1.2

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Image Reference: Client imagery 2020.

2. Statutory, Planning & Policy Context

2.1 Compliance with Guidelines, Policy & Legislation

Relevant legislation to the implementation of this RMP are outlined in Table 2.1.

Table 2.1: Relevant Legislation

Legislation	Description	Authority	Relevance
EP Act	The EP Act provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the foregoing.	DWER	Applies to Strike Energy's ARI with additional Information supporting document.
BC Act	The BC Act provides greater coverage for biodiversity conservation matters that were not recognised in the Wildlife Conservation Act 1950, such as threatened ecological communities, threatening processes and critical habitats.	DBCA	Applies to the conservation of remnant native vegetation and conservation-significant flora and/or fauna.
EPBC Act	The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places defined in the EPBC Act as MNES.	DAWE	Applies to the conservation of remnant native vegetation and conservation-significant flora and/or fauna.
BAM Act	The BAM Act regulates mechanisms, programs and activities to prevent and minimise the impact of pests and diseases upon agriculture and environment.	DPIRD	Applies to Strike Energy's Dieback and Weed Management Plan.

In addition to the above legislation, this RMP has also been developed in accordance with the following guidance documents outlined in Table 2.2.

Table 2.2: Guidance Documents

Guidance Document	Authority	Description
Guidance Statement 6: ***Rehabilitation of Terrestrial Ecosystems***	EPA	This guidance applies to land clearing where natural ecosystems will be reinstated in terrestrial habitats and wetlands and how to effectively use completion criteria to measure biodiversity in rehabilitation projects.

2.2 Approvals

The Proposal has been referred to the EPA under Part IV Section 38 for a decision as to whether it requires formal assessment under the EP Act. The EPA has determined the Proposal would be assessed on 'Referral Information with Additional Information' with a two-week public review period.

3. Existing Environment

3.1 Interim Biogeographic Regionalisation for Australia

The Interim Biogeographic Regionalisation for Australia (IBRA) by Thackway and Cresswell (1995) divides WA into 26 biogeographic regions and 53 subregions based on dominant the landscape characteristics of climate, geology, landform and vegetation.

The Proposal is situated within the Lesueur Sandplain subregion of the Geraldton Sandplains bioregion. The Lesueur Sandplains is composed mainly of proteaceous scrub-heaths, rich in endemics, on the sandy earths of an extensive, undulating, lateritic sandplain (Desmond and Chant 2001). The Lesueur Sandplain subregion comprises Aeolian and limestones, Jurassic siltstones and sandstones of central Perth Basin. Alluvials are associated with drainage systems and there are extensive yellow sandplains in south-eastern parts. Shrub-heaths rich in endemics occur on a mosaic of lateritic mesas, sandplains, coastal sands, and limestones and heath on lateritised sandplains along the subregions north-eastern margins (Desmond and Chant 2001).

3.2 Land Systems

The Department of Primary Industries and Regional Development (DPIRD) has mapped and described the land systems of the Western Australian rangelands, providing comprehensive description of biophysical resources, including soil and vegetation condition. One (1) land system, Mount Adams, occurs within the Development Envelope.

3.3 Vegetation & Flora

3.3.1 Vegetation Types

A total of eight (8) Vegetation Types (VT) have previously been mapped within the Development Envelope, which are outlined in Table 3.1. Vegetation mapping has been validated through more recent surveys undertaken within the Development Envelope and the surrounding area.

Table 3.1: Vegetation Types within the Development Envelope & Clearing Footprint

VT	Description	Development Envelope (ha)	Clearing Footprint (ha)
7A	Mid mallee woodland to isolated mallees of *Eucalyptus conveniens* or mid open shrubland of *Allocasuarina campestris* over low shrubland and sedgeland of mixed species frequently dominated by *Ecdeiocolea monostachya* and *Melaleuca aspalathoides*, or occasionally *M. tinkeri*, *Hakea auriculata* or *Hakea lissocarpha*, on gravelly grey or brown clay loams or sands, usually with laterite on or near the surface, on slopes and crests.	4.62	2.04
7B	Mid mallee woodland to isolated mallees of *Eucalyptus conveniens* or mid open shrubland of *Allocasuarina campestris* over low shrubland and sedgeland of mixed species dominated *by Banksia carlinoides*, *Ecdeiocolea monostachya*, *Hakea incrassata*, *Hibbertia hypericoides* and *Melaleuca aspalathoides* on gravelly grey or brown clay loams or sands, usually with laterite on or near the surface, on slopes and crests.	12.30	7.48
8	Mid mallee woodland to isolated mallees of *Eucalyptus conveniens* over mid shrubland to open shrubland dominated by *Allocasuarina campestris* over low shrubland and sedgeland of mixed species dominated by *Ecdeiocolea monostachya*, *Hakea auriculata*, *Melaleuca radula*, *M. aspalathoides* and *Banksia fraseri* var. *fraseri* on gravelly grey or brown clay loams usually over massive laterite on breakaway tops, ridges, and lateritic rises.	1.68	0.77

VT	Description	Development Envelope (ha)	Clearing Footprint (ha)
10	Mid sparse to open shrubland of mixed species including *Calothamnus quadrifidus* subsp. *angustifolius, Grevillea biformis* subsp. *biformis* and *Banksia attenuate* over low shrubland and sedgeland of mixed species dominated by *Ecdeiocolea monostachya, Melaleuca leuropoma, Daviesia divaricata* subsp. *divaricata* ms,*Mesomelaena pseudostygia* and *Banksia shuttleworthiana* on yellow-brown or occasionally grey sand on slopes and valley floors	7.98	6.43
11	Mid sparse to open shrubland of *Allocasuarina campestris* and *Grevillea biformis* subsp. *biformis* over low shrubland and sedgeland dominated by *Hakea circumalata, Lepidobolus preissianus* subsp. *preissianus, Mesomelaena pseudostygia* and *M. stygia* subsp. *deflexa* (P3) on yellow or yellow-brown sand or sandy loam on mid to upper slopes.	17.33	10.28
13A	Low open woodland of *Eucalyptus todtiana* over mid to low shrubland of mixed species dominated by *Allocasuarina humilis*, *Banksia scabrella* (P4), *Calothamnus sanguineus*, *Eremaea beaufortioides* var. *microphylla*, *Melaleuca aff. leuropoma* and *Hibbertia hypericoides* over low shrubland and sedgeland of mixed species including *Banksia dallanneyi* subsp. *media*, *Conostylis canteriata*, *Mesomelaena pseudostygia* and *Caustis dioica* on grey or brown sand on lower and mid slopes.	1.99	0.87
13B	Low open woodland of *Eucalyptus todtiana* over mid to low shrubland of mixed species dominated by *Allocasuarina humilis, Calothamnus sanguineus, Hakea trifurcata, Hibbertia hypericoides* and *Melaleuca leuropoma* over low shrubland and rushland of mixed species including *Banksia dallanneyi* subsp. *media, Conostylis aculeata* subsp. *breviflora* and *Conostylis canteriata* on grey, brown or yellow sand on flats, in depressions and on slopes.	20.03	10.15
14	Low open shrubland dominated by *Calothamnus quadrifidus* subsp. *angustifolius*, *Banksia carlinoides*, *Hakea lissocarpha* and *Verticordia densiflora* over low open shrubland, sedgeland and forbland dominated by *Dampiera teres* (broad-leaf variant), *Jacksonia angulata*, *Harperia lateriflora*, *Opercularia vaginata* and *Melaleuca trichophylla* on grey-brown sands, sandy loams, and clay loams in minor drainage lines and on flats.	0.77	0.44
	Cleared	27.27	0.07
	Total	93.97	38.46

3.3.2 Vegetation Condition

Vegetation condition across the Development Envelope was mostly in 'Excellent to Pristine' condition excluding areas previously cleared for developments associated with the West Erregulla Gas Field.

3.3.3 Conservation Significant Ecological Communities

No 'Threatened' or 'Priority' ecological communities occur within the Development Envelope.

3.3.4 Conservation Significant Flora

A total of seventy (70) conservation-significant flora taxa are known to occur or are considered likely to occur within the Development Envelope; however, only thirteen (13) conservation-significant taxa were recorded within the clearing footprint and therefore will be impacted by the Proposal (Woodman 2020).

3.3.5 Fauna Habitat

Fauna habitat across the Development Envelope was mostly 'Moderate to Low' quality foraging habitat for the Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*), an EPBC Act listed MNES.

3.4 Threatening Processes

Threatening processes that represent a potential risk to the success of rehabilitation efforts have been identified as outlined below in Table 3.2.

Table 3.2: Current and Potential Threatening Process to Rehabilitation

Threat	Potential Impacts
Bushfire	Bushfires, particularly unusually hot or out-of-control fires, have the potential to burn new growth, thereby preventing successful rehabilitation
Erosional processes	Inadequate soil stabilisation and/or preventative measures against mechanical erosion (e.g., wind, rain, trampling, unauthorised access, etc.) may cause soils to erode away and remove rootstock, the seedbank and/or uproot any young vegetation.
Extreme weather	Extreme or unexpected weather events, such as flooding or drought, could wash away topsoil, modify landforms through erosion, or prevent seedling germination due to lack of rainfall. These negative impacts could prevent successful rehabilitation from occurring.
Introduced fauna	Introduced grazing species, such as European Rabbits (*Oryctolagus cuniculus*) and/or domestic livestock, can also degrade habitats and deplete vegetation that may be a food source for native species (Bamford 2021). Changes in the abundance of fauna species can occur due to the provision of fresh watering points and domestic wastes.
Weed infestation	Weeds are often able to rapidly invade locations due to disturbance, land clearing and/or altered hydrological regimes. A total of four (4) weed species have been recorded within the Development Envelope: • *Asparagus asparagoides* (Bridal Creeper); • *Echium plantagineum* (Paterson's Curse); • *Lycium ferocissimum* (African Boxthorn); and • *Tamarix aphylla* (Athel Pine).

4. Objectives, Targets & Completion Criteria

Completion criteria have been developed based on objectives, targets and key performance indicators presented in the ARI with Additional Information supporting document.

The overarching management approach adopted by this RMP is consistent with the EPA's key environmental factors **Flora and Vegetation** and **Terrestrial Fauna**. Furthermore, the objectives, targets, key performance indicators and completion criteria were developed in accordance with the EPA's guidance statement GS 6 as presented in Table 4.1.

Table 4.1: Objectives, Targets, Key Performance Indicators and Completion Criteria

Objective	Target	Key Performance Indicator	Completion Criteria
Full Revegetation			
Revegetate cleared areas within the Development Envelope no longer required post-installation.	Within three (3) years from the commencement of rehabilitation, vegetation is representative of adjacent reference site(s) including: • Density and species richness; and • The presence of weed species.	Rehabilitated vegetation comprises a degree of density and species richness representative of adjacent reference site(s).	• A minimum four (4) plants per m^2 or 70% foliage cover (compared to reference sites); • Rehabilitation achieves 80% representation of native species recorded within reference sites; • Return of three most dominant (keystone) species present at reference sites; and • Weed presence across rehabilitation sites are no greater than reference sites.
		Minor or no evidence of the following: • Grazing on seedlings; and/or • Decline in native vegetation resulting from weed presence.	

5. Rehabilitation Approach

This section includes a summary of the approaches for rehabilitation.

5.1 Installation Management Actions

The clearing of 38.46 ha of native vegetation will be required prior to the installation of the gathering system. Management actions to be undertaken during the installation of the gathering system are designed to support passive rehabilitation post-installation.

Management actions during installation will consist of the following key activities:

- Vegetation will be cleared using a grader;
- Cleared vegetative material will be windrowed;
- Topsoil will be stripped using a grader to a nominal depth of 100 mm and will be windrowed;
- Trench excavation will occur within the cleared easement where all excavated spoil will be stockpiled alongside the trench;
- Stockpiles will be separated into a stockpile for topsoil and a stockpile for sub-surface soil;
- Vegetative material, topsoil and subsurface soil will be stockpiled separately at nearby locations;
- Backfilled spoil will be adequately compacted; and
- Stockpiled vegetative material will be spread over rehabilitation areas.

5.2 Post-Installation Management Actions

A total area of 30 ha will be rehabilitated. Post-Installation management actions will consist of the following key activities:

- Site preparation;
- Awareness training;
- Erosion control;
- Weed control; and
- Hygiene management.

Table 5.1 identifies the general management actions to be implemented for areas requiring full revegetation. Further detail on these management actions and the proposed revegetation timeframe is provided in Section 6.

Table 5.1: Management Actions

Item	Management Action	Timing	Responsibility
Site Preparation			
1	Demarcate rehabilitation and/or clearing boundaries to identify the extent of works, which may include temporary fencing, flagging and signage.	Pre-rehabilitation	Construction Manager
2	Restrict access to unwanted tracks in the Development Envelope as appropriate.	Pre-rehabilitation	Project Manager
3	Install temporary and/or permeant signage to identify rehabilitation sites and educate passers-by regarding rehabilitation (e.g., erosion, weeds, etc.).	Pre-rehabilitation	Project Manager

Item	Management Action	Timing	Responsibility
Awareness Training			
4	Induct all personnel working within the revegetation site in relation to: • Permitted work and non-access areas; including provision of maps identifying the rehabilitation site(s) and surrounds; • Protection of rehabilitation areas and penalties for unauthorised native vegetation removal; • Weed species and disease (e.g., Dieback, etc.) information and the importance of the implementation of strict hygiene measures; • Waste management to promote management of pest species; and • Bushfire risks.	At all times	Project Manager
Erosion Control			
5	Undertake erosion control measures during rehabilitation as deemed appropriate, such as the bedding (where applicable) and padding of trenches will be undertaken with clean sand.	Post-installation	Project Manager
Weed Control			
6	Undertake weed control based on the results of the site inspection on advice of the qualified botanist(s), prior to commencing rehabilitation activities.	Pre-rehabilitation	Qualified botanist(s)
7	Undertake ongoing maintenance for weed control as required, based on recommendations from the qualified botanist(s).	At all times	Project Manager
8	Inspect area surrounding the Disturbance Footprint and Development Envelope for weed infestations and undertake control as required on advice from the qualified botanist(s).	Opportunistically	Project Manager
Hygiene Management			
9	Ensure all vegetative material and other materials used in revegetation are weed and/or Dieback-free.	At all times	Project Manager
10	Ensure vehicles, machinery, and equipment are washed, therefore free of soil when entering rehabilitation (and reference) areas.	At all times	Project Manager

6. Management Methodology

6.1 Passive Regeneration

It is anticipated, through the installation and post-installation management actions summarised in Sections 5.1 and 5.2, native vegetation will passively regenerate, and will be monitored until the completion criteria outlined in Table 4.1 are achieved. In the event that completion criteria are not achieved within three years, the contingency management measures outlined in Section 8 will be implemented.

6.2 Weed Spread and Plant Disease Control

Weed control will be undertaken prior to rehabilitation and as required during rehabilitation. As identified in Table 3.2, a total of four (4) weed species were identified within the Development Envelope. Different weed species may require different weed control actions at different times of year.

6.2.1 Hygiene Measures

Strike Energy has an established Dieback and Weed Management Plan relating to all exploration and development activities (WER-HSE-PLN-007) to reduce the risk of introduction or spread of weeds and/or *Phytophthora* Dieback. An overview of these measures is provided in Table 6.1.

Table 6.1: Hygiene Management and Mitigation Measures

Dieback Hygiene Management and Mitigation Measures	
General Hygiene	Signage consistent with the Western Australian Standard Dieback Signage System will be erected at the entry to the Development Envelope and access points between each dieback management area.
	Employee, contractor and sub-contractor inductions will include a component on *Phytophthora* Dieback. The component will include information on hygiene control points and facilities, restrictions on movement throughout the Development Envelope and the obligations and expectations that are placed on all employees, contractors and sub- contractors working on the proposal with regards to *Phytophthora* Dieback.
	Toolbox meetings will include information on the location of the hygiene control points in relation to the day's activities.
	All machinery, vehicles and equipment and personnel will be clean and free from dirt and plant material upon arrival at the Development Envelope. Records of hygiene inspections will be maintained within the Hygiene Register.
	All machinery, vehicles and equipment and personnel will be clean prior to moving from the unmappable area into the Protectable area, and when moving between private properties. Records of hygiene inspections will be maintained within the Hygiene Register.
	Soil and plant material should not be brought into the proposal area unless it is certified as Dieback free.
	Soil and plant material will not be moved from one dieback management area to another unless it is verified as dieback free or private landowner consent has been granted.
Hygiene Facilities	Mobile hygiene facilities will be installed at strategic hygiene control points, prior to site activities in that area.
Hygiene Kits	Vehicle movement will be limited within the dieback categories (i.e., within the protectable UCL) during and immediately after heavy rainfall events. Soil conditions are considered to be dry if less than 5 mm of rain has fallen in the previous 24-hour period.
	Except where machinery, vehicles and equipment will have to pass through a hygiene station prior to entry to a Protectable area, they will carry a hygiene kit, which includes as a minimum: a stiff brush; sterilising solution (i.e., methylated spirits or sodium hypochlorite solution); a thick-walled plastic bag

Dieback Hygiene Management and Mitigation Measures	
	to dispose of contaminated soil/plant material; a small amount of water (less than 3 L); and Hygiene Inspection Forms.
	Hygiene kits to be used on encountering wet soils (as determined by a soil moisture test) or when unavoidable movement between the unmappable and protectable areas occurs outside of the designated hygiene control points. All soil and plant material will be collected and disposed of at the hygiene control points.
	Each time the hygiene kits are used a Hygiene Inspection Form will be filled in, the forms will be retained for reporting purposes and a database will be maintained.
Monitoring	*Phytophthora* Dieback monitoring will be undertaken annually (between August and September) for two years following completion of proposal activities in conjunction with the proposal rehabilitation monitoring.
Weed Hygiene Management and Mitigation Measures	
Weed Monitoring	Monitoring of weeds will be undertaken annually following completion of proposal activities and until monitoring demonstrates the weed rehabilitation criteria have been met
	A qualified botanist or an appropriately skilled environmental officer will undertake the weed monitoring.
	Weed records will be maintained. Records will detail the identification and location of weed species, the date of the record and management measures that have been implemented, including follow-up monitoring.
Weed Control	Weed control will be undertaken on an as needs basis (in accordance with recommendations made in the annual monitoring reports) by an appropriately qualified, certified and experienced contractor, at the discretion of the Strike Energy Asset and HSE Manager.
	Weed control will continue until completion of the rehabilitation activities.
	Weed control will be undertaken in accordance with guidelines available from DPIRD.
	Any weed control measures and timing within freehold land will be negotiated between property owners, the Strike Energy Asset and HSE Manager and the Stakeholder Liaison Group, considering landholder requirements.

7. Monitoring & Reporting

7.1 Monitoring Locations

Based on the existing information available for vegetation and fauna habitats, preliminary monitoring sites for each rehabilitation zone will be selected from which an assessment against the management targets can occur. Each monitoring site will comprise one rehabilitation site and one corresponding control site.

Eight (8) monitoring sites (one (1) site includes a 'Rehabilitation' transect and a 'Control' transect) will be selected (one (1) monitoring site per Vegetation Type).

Monitoring sites will be located within the 'core' of rehabilitation zones to minimise the impacts of edge effects and to avoid transitional vegetation/habitats. Paired control sites will be located on undisturbed land within 300 m of the Clearing Footprint. They will be established in the same native vegetation communities as the rehabilitation sites, to assist comparisons between rehabilitation and control area sites.

If required, alternative monitoring sites will be established to ensure optimal siting within habitats and within the Clearing Footprint.

7.2 Monitoring Duration

Monitoring will be undertaken by a qualified botanist(s) once per year post-installation, until completion criteria are achieved (Table 4.1), or as otherwise determined in consultation with the relevant stakeholders (e.g., DMIRS, DPIRD, DWER, private landholders, etc.).

7.3 Monitoring Methodology

Monitoring will be undertaken using representative analogue and rehabilitation transects.

The transect design will enable comparison of vegetation recovery with undisturbed vegetation. A photo monitoring point will be established along each transect. Each transect will have a minimum of five (5) 2.00 m × 2.00 m quadrats with 10.00 m intervals (Figure 7.1).

The attributes that will be assessed in each quadrat are summarised in Table 7.1.

To ensure vegetation types are consistent with pre-disturbance vegetation, an assessment of the transect will also be undertaken for keystone species. The keystone species assessment will compare the densities of the three (3) most dominant taxa in the control transect with their densities in the rehabilitation transect.

Table 7.1: Data Collected per Quadrat

Parameter	Field Information Type
Quadrat ID	Transect No. / Analogue site – labelled A; or Rehabilitation site – labelled R / Quadrat number options: 1, 2, 3, 4, 5.
Date	Day / Month / Year of monitoring.
Easting	Easting (m) of midpoint set in Zone 50; waypoint recorded on a GPS.
Northing	Northing (m) of midpoint set in Zone 50; waypoint recorded on a GPS.
Notes	Any notes not specified in prescribed fields, such as disturbances.
Species richness	Name of each species present in the quadrat.
Number of individuals	Count of individuals (if too abundant, estimate to nearest round tens).
Introduced/weed species	Name of each species present in the quadrat and count of individuals.

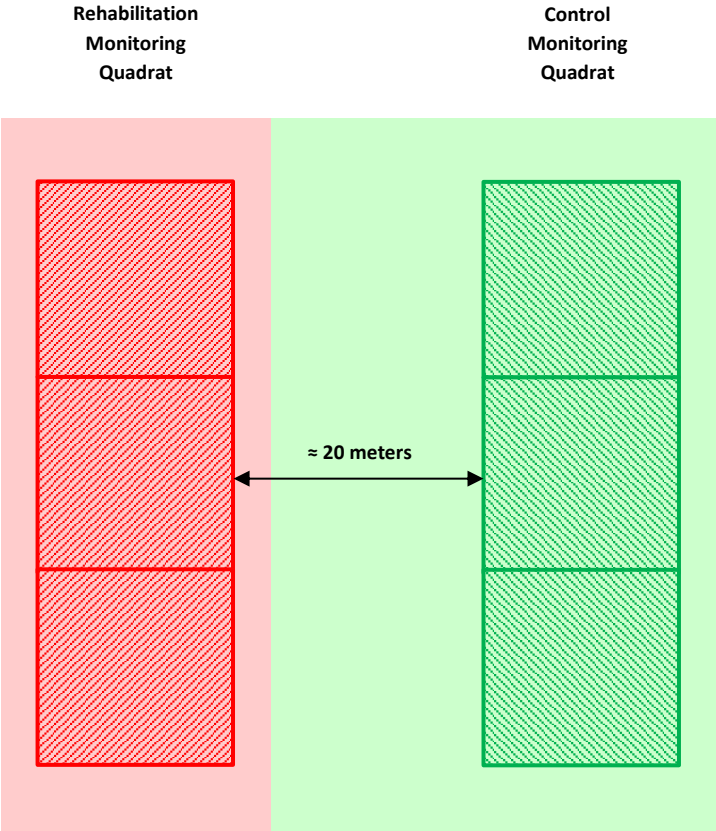

Figure 7.1: Transect Design (Not to Scale)

Table 7.2 provides a summary of monitoring actions to enable an assessment of the effectiveness of the rehabilitation management and mitigation measures.

Table 7.2: Monitoring Actions for Revegetation Management

Parameter	Purpose	Location	Frequency	Responsibility
Revegetate cleared areas within the Development Envelope no longer required to be cleared post-installation.				
Rehabilitation monitoring will include the establishment of baseline monitoring transects. Revegetation monitoring will include a review of: • Species density; • Species richness; • Survival rate; and • Weed presence;	To determine: • Native species composition of remnant native vegetation within revegetation areas to determine suitable species for use in revegetation • Baseline levels of weeds including species within revegetation areas • Overstorey and mid/understorey species (number and species type)	Disturbance Footprint	Annually	Project Manager; and Qualified botanist(s)

The results of monitoring will be assessed against the completion criteria outlined in Section 4. Monitoring will continue until completion criteria are achieved, or as otherwise agreed with relevant stakeholders.

Reports will be prepared after each annual (spring) monitoring event and be submitted by 31 January for the duration of the maintenance period, which is three (3) years post-installation.

Strike Energy will maintain accurate records of all rehabilitation activities undertaken for the duration of the monitoring program until completion criteria are met.

7.3.1 Fauna Habitat

Fauna usage of the rehabilitated area will be monitored in tandem with vegetation monitoring. Observation surveys, including timed bird surveys and active searching, would be completed in line with *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA, 2020).

8. Contingencies for Rehabilitation

Contingency actions will be initiated if monitoring indicates that management actions have not been successful or effective and/or completion criteria are not being achieved within three years. Contingency actions for revegetation management are detailed in Table 8.1 below.

Table 8.1: Contingency Actions

Trigger	Action
Revegetation monitoring shows that the number and type of species, including overstorey and mid/understorey species are not representative of reference sites.	1. Investigate cause (e.g., presence of pests, plant stress, weeds, erosion, etc.). 2. Implement measures (such as seeding or planting) to achieve comparable species diversity to control sites. 3. Continue monitoring as required by this RMP. 4. Monitor success of contingency measure(s).
Evidence of erosion in rehabilitation areas	1. Investigate cause (e.g., insufficient erosion control measures, etc.). 2. Implement measures to prevent further erosion (e.g., consider the application of mulch as an erosion control measure, etc.).
New infestation of weed(s) identified in the Development Envelope.	1. Investigate source of weed infestation. 2. Undertake weed control immediately and follow up weed control as advised by the revegetation contractor. 3. Review weed management processes.
Increase in the distribution, abundance or density of a significant weed species within rehabilitation sites.	1. Map the revised extent of the significant weed species within the site. 2. Identify activities that may have potentially increased the abundance, distribution or density/cover of significant weed species. 3. Plan and implement a weed control program (may involve seeking advice from relevant authorities). 4. Apply addition hygiene control and education measures.
Increase in abundance and/or distribution of pest grazing animals within revegetation areas.	1. Investigate cause. 2. Review control measures and procedures. 3. Re-inform all personnel of any changes to control measures. 4. Implement a pest animal control program. 5. Monitor outcome.
Unauthorised access into the Development Envelope.	1. Implement measures to prevent further unauthorised access (e.g., installation of temporary fencing and signage, etc.). 2. Monitor success of contingency measures. 3. Restrict access to controlled areas already disturbed or degraded.

9. Implementation Strategy

The indicative implementation schedule for the revegetation works is provided below in Table 9.1.

Table 9.1: Indicative Implementation Schedule

Year	2022				2023												2024												2025	
Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Quarter	Q3	Q4			Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4			Q1	
Season	*Spring*			*Summer*			*Autumn*			*Winter*			*Spring*			*Summer*			*Autumn*			*Winter*			*Spring*			*Summer*	
Baseline Survey(s)	×																													
Vegetation Clearing						×																								
Construction							×	×	×																					
Rehabilitation Action										×																				
Management Plan						O												O												O
Analogue Transects													×																	
Reference Transects													×																	
Rehab Monitoring													×												×					
Weed Monitoring													×												×					
Weed Control														O												O				
Annual Report																		×												×

× = To be completed; and

O = To be updated/undertaken as required.

10. Limitations

Scope of Services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

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Environmental Conclusions

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

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11. References

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