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Table of contents

Acro	nyms ar	nd abbreviationsiv
Defir	nitions	iv
1.	Introdu	ction1
1.1	Backgro	bund1
1.2	The Pro	ject1
1.3	Environ	mental Management Strategic Framework1
2.	Purpos	e and Objectives2
2.1	Purpose	2
2.2	Objectiv	es and Scope2
2.3	Targets	
3.	Environ	mental Requirements3
3.1	Relevan	t Legislation and Guidelines3
	3.1.1	Legislation3
	3.1.2	Guidelines and Standards
	3.1.3	Development Consent Environmental Conditions
	3.1.4	Statement of Commitments5
4.	Consult	tation7
4.1	During A	Assessment7
4.2	Post Ap	provals7
5.	Existing	g Environment9
5.1	General	Environment9
	5.1.1	Soils9
	5.1.2	Vegetation9
	5.1.3	Weeds10
5.2	Visual Ir	npact Assessment
6.	Landsc	ape Management Protocols12
6.1	Propose	ed Landscape Treatments12
	6.1.2	Retention of Existing Vegetation12
	6.1.3	Native Vegetation Buffers12
	6.1.4	Groundcover
6.2	Other Vi	isual Amenity Mitigation Works15
7.	Complia	ance Management16
7.1	Impleme	entation16

7.2	Roles and Responsibilities	. 16
7.3	Training	. 17
7.4	Monitoring and Inspection	. 17
7.5	Weather Monitoring	. 18
7.6	Incident Management	. 18
7.7	Complaints	. 18
7.8	Auditing	. 18
7.9	Reporting	. 18
8.	Review and Improvement	. 19
8.1	Continuous Improvement	. 19
8.2	LP Update and Amendment	. 19
8.3	Document Controls	. 19
9.	References	. 20

Figures

Figure 1-1	Walla Walla SF site constraints and layout	. 1
Figure 5-1	Visual impact assessment locations	11
Figure 6-1	Indicative site boundary to solar infrastructure cross section	13

Tables

Table 3-1 Environmental consent relevant to landscaping	3
Table 4-1 Environmental consent relevant to landscaping	7
Table 6-1 Vegetation Screen Plantings	. 12
Table 6-2 Landscape management protocols.	. 15
Table 7-1 Construction team roles and responsibilities.	. 16
Table 9-1 Suitable species list	C-III
Table 9-2 Planting density	C-I

Appendices

Appendix A Landscaping Locations (Vegetation Screening)	A-I
Appendix B Walla Walla Solar Farm Revegetation Guidance	B-I
Appendix C Perimeter Planting Schedule	C-II

Landscaping Plan

Walla Walla Solar Farm SSD SSD-9874

Appendix D Consultation Records	D-I
Appendix E Washdown protocols	E-II

Acronyms and abbreviations

(
AC	Alternating Current
AHD	Australian Height Datum
BC Act	Biodiversity Conservation Act 2016 (NSW)
BS Act	Biosecurity Act 2015 (NSW)
CEMP	Construction environmental management plan
CIV	Capital Investment Value
DCEC	The Development Consent Environmental Conditions
EIS	Environmental impact statement
EMS	Environmental Management Strategy
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cwth)
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
ha	hectares
HSEQ	Health Safety and Environment and Quality
km	kilometres
kV	kilovolt
LP	Landscape Plan
m	metres
MW	Megawatt
NPW Act	National Parks and Wildlife Act 1974 (NSW)
PCT	Plant Community Type
PV	Photovoltaic
SoCs	Statement of Commitments
TEC	Threatened Ecological Community
VIA	Visual Impact Assessment
· · · · · · · · · · · · · · · · · · ·	

Definitions

Pre-construction Anything prior to construction (as defined below) Construction The construction of the development, including but not limited to the carrying out of any earthworks on site and the construction of solar panels and any ancillary infrastructure (but excludes road upgrades or maintenance works to the public road network, building/road dilapidation surveys, installation of fencing, artefact survey and/or salvage, overhead line safety marking and geotechnical drilling and/or surveying)

Operations	The operation of the development, but does not include commissioning, trials of equipment or the use of temporary
	facilities
Decommissioning	The removal of solar panels and ancillary infrastructure and/or
	rehabilitation of the site

1. Introduction

1.1 Background

FRV Services Australia (herein 'the proponent' or 'FRV') received Development Consent under Section 4.38 of the *Planning and Environment Act 1979 (*EP&A Act) for the Walla Walla Solar Farm from the Independent Planning Commission of NSW on November 27, 2020 (Application Number: SSD 9874), and modified on 3 March 2022 (Mod 1).

The Development Consent permits the construction and operation of a 300 megawatt (MW) alternating current (AC) photovoltaic (PV) solar farm, located withing the Greater Hume Local Government Area (LGA). The Walla Walla Solar Farm ('the Project') is a State Significant Development (SSD 9874) and represents an important contribution to renewable energy generation in New South Wales.

This Landscape Plan (LP) has been prepared to address the requirements of final Statement of Commitments (SoCs) listed in the Walla Walla Solar Farm Response to Submissions Report and the Conditions. Additionally, it considers guidelines applicable to visual impact management. This plan was prepared in consultation with Holbrook Landcare, local plant suppliers, landowners and receivers.

1.2 The Project

FRV is in the process of appointing contractors to construct the Project. The scope of works under the contract includes all works necessary to design, construct, test, commission, energise, operate, decommission, and train staff in the operation of an approximate 300 MW solar farm (Figure 1-1).

The development consists of but is not limited to:

- Single axis tracker PV solar panels mounted on steel frames over most of the site
- Electrical conduits and transformers.
- On site substation within a subdivided lot.
- Site office, parking access tracks and perimeter fencing.
- Electrical transmission infrastructure and overhead transmission line to connect the proposal to the existing 330 kilovolt (kV) transmission line.
- Internal access roads.
- Upgrade to existing roads.
- On-site vegetative screening.

During construction, the development site will be accessed from the Primary Access point and the Substation Access point, both off Benambra Road. Two access crossings are proposed on the Schneiders Road.

The construction period of the Project will last approximately between 16 and 20 months.

The estimated capital investment value (CIV) of the Project is \$399 million.

1.3 Environmental Management Strategic Framework

The LP is part of the environmental management framework for the Project, as described in the Environmental Management Strategy (EMS).

Used together, the EMS, LP and other sub-plans and procedures, form management guides that clearly identify required environmental management actions for reference by Project personnel and contractors.

The review and document control processes for this plan are described in the EMS.

1 km



2. Purpose and Objectives

2.1 Purpose

The purpose of this report is to ensure that landscaping is planned, established and maintained to mitigate the visual impact for nearby receivers and road users of the operational solar farm infrastructure.

2.2 Objectives and Scope

Specifically, the LP aims to:

- Ensure appropriate planning, controls and procedures are implemented during construction and prior to operations to facilitate the preparation and completion of landscape areas to be maintained during operation.
- Ensure appropriate measures are implemented to address the Conditions and SoCs.
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements.

2.3 Targets

The following targets have been established for the management of the visual amenity impacts during operation of the Project:

- Full compliance with the relevant legislative requirements, including the Conditions and SoCs.
- Minimising views of solar farm infrastructure from surrounding residences R1a, R1b, R2 and R5a within 3 years of commencement of construction.

Effectiveness of the screening will be measured through ongoing consultation (outlined in Section 4.2) with adjacent receivers and visual inspection (as outlined in Section 7.4) at each residence after the commencement of construction. Performance and Completion Criteria for the Conditions and SoCs is further outlined in Sections 3.1.3 and 3.1.4.

3. Environmental Requirements

3.1 Relevant Legislation and Guidelines

3.1.1 Legislation

Legislation relevant to landscape management includes:

- NSW Biosecurity Act 2015 (BS Act).
- NSW Pesticides Regulation 2017.
- NSW Biodiversity Conservation Act 2016 (NPW Act).

3.1.2 Guidelines and Standards

The main guidelines, specifications and policy documents relevant to this Plan include:

- AS 4419-2003 Soils for landscaping and garden use.
- AS 2303:2015 Tree stock for landscape use.

Other document used:

a) McMahon Earth Science (2019) Soil Survey Report, Walla Walla Solar Farm

3.1.3 Development Consent Environmental Conditions

Conditions 11, 12, 13, and 22 of Schedule 3 of the Development Consent Environmental Conditions (DCEC) detail the requirements of the LP

Table 3-1 Environmental consent relevant to landscaping

Condition of Consent	Condition requirement	Location in the LP
Vegetation	Buffer	
Schedule 3 DCEC 11	The Applicant must establish and maintain a mature vegetation buffer (landscape screening) at the locations outlined in the figure in Appendix 1 [of the Conditions] (Figure 1-1 and Appendix A of this plan) to the satisfaction of the Secretary. This landscape screening must:	
	 a) be planted prior to the commencement of construction or by 31 July 2022, whichever is the latter; 	Section 6 Appendix C.1 Appendix C4.3
	b) be comprised of species that are endemic to the area;	Section 6 Appendix C.3
	 c) minimise views from receivers R1a, R1b, R2 and R5a within 3 years of commencing operations; 	Section 2.3 Section 0 Appendix 0
	d) be designed and maintained in accordance with RFS's <i>Planning for Bushfire Protection 2019</i> (or equivalent)	Section 6

Condition of Consent	Condition requirement	Location in the LP
	e) be properly maintained with appropriate weed management.	Section 5.1.3 Appendix C4.5 BMP
Landscapin	g Plan	
Schedule 3 DCEC 12.	Prior to the commencement of construction, the Applicant must prepare a detailed Landscaping Plan for the development in consultation with receivers R1a, R1b, R2 and R5a, to the satisfaction of the Secretary. This plan must include:	This Plan
	 a) A description of measures that would be implemented to ensure that the vegetated buffer achieves the objectives of conditions 7 (a) – (e) of this consent; 	As above
	b) a program to monitor and report on the effectiveness of these measures; and	Appendix A1.1 Appendix C4.5
	c) details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.	Section 7.2 EMS
	Following the Secretary's approval, the Applicant must implement the landscaping plan.	Section 7.1
Land Manag	gement	
Schedule 3 DCEC 13	The Applicant must maintain the agricultural land capability of the site, including;	Section 6.1.4 BMP Appendix E
	a) establishing the ground cover of the site within 3 months following completion of any construction or upgrading;	Section 6.1.4
	 b) properly maintaining the groundcover with appropriate perennial species and weed management; 	Section 6.1.4
	 maintaining grazing within the development footprint following construction were possible; unless the Secretary agrees otherwise 	
Visual		
Schedule 3	The Applicant must:	
DCEC 22	a) minimise the off-site visual impacts of the development, including the potential for any glare or reflection;	Section 6
	b) ensure the visual appearance of all ancillary infrastructure	

Condition of Consent	Condition requirement	Location in the LP
	(including paint colours) blends in as far as possible with the surrounding landscape; and	
	 c) not mount any advertising signs or logos on site, except where this is required for identification or safety purposes. 	

3.1.4 Statement of Commitments

Commitmen t reference	Commitment requirement	Location in the LP
VA1	Plantings would be more than one row deep and where practical, planted on specific sections outside of the permitter fence, to break up views of infrastructure including the fencing. Screening within the vicinity of Residences 1a&b and 2 and 5a would be at least six rows deep to allow for maximum screening.	Section 5.2 Section 6.1.3 Appendix A
VA1	The plant species to be used in the screen would be native and derived from the naturally occurring vegetation community in the area. They should be fast growing and comprise a mixture of trees and shrubs capable of reaching a height of 3 to 4 m within 10 years. Species selection is being undertaken in consultation with affected near neighbours, Holbrook Landcare and local plant suppliers.	Section 6.1.3 Appendix A
VA1	Planting would be 2 months of completion of construction, so actual views of infrastructure are known or during winter/spring to increase the chance of plant survival.	Appendix C.1
VA1	The screen would be maintained for the operational life of the solar farm. Dead plants would be replaced. Pruning and weeding would be undertaken as required to maintain the screen's visual amenity and effectiveness in breaking up views.	Appendix A1.1
VA2	 Prior to the commencement of construction, a detailed landscape plan would be prepared including: Screening location. Species type. Planting density and spacing. Method for planting. Descriptive measures that would be implemented to ensure vegetative screening is successful (i.e. irrigation or other watering method). A program to manage, monitor and report on the effectiveness of implemented measures. 	Appendix A Appendix C

Commitmen t reference	Commitment requirement	Location in the LP
VA3	The materials and colour of onsite infrastructure would, where practical, be non-reflective and in keeping with the materials and colouring of existing infrastructure to blend with the landscape.	Section 6
VA8	Fast growing Acacia species would be planted within vegetation screening areas approximately 8 months prior to the commencement of construction to enhance the effectiveness of visual impact mitigation.	Appendix C.3
LU13	Screening vegetation would maintain clearance zones for the gas pipeline and water pipeline easements of 3 m and 5 m respectively including overhanging vegetation.	Section 6.1.3
BD15	Screening and landscaping plantings (up to 50 m where practicable) to be comprised of local indigenous species representative of the vegetation in the development site.	Appendix C.3

4. Consultation

4.1 During Assessment

Pre-approval community consultation in relation to landscaping was undertaken as part of the impact assessment phase:

Proposed screening options, developed in consultation with adjoining landholders, are presented in the Walla Walla Solar Farm Landscape Concept Design (Appendix A). Screening will interact with the existing vegetation already providing a level of screening on site. FRV have also consulted Holbrook Landcare regarding plant species, spacing and optimising landscaping and biodiversity enhancement. Plants will be sourced from Jayfields Nursery located 30km north of Holbrook.

4.2 Post Approvals

The following further consultation was undertaken during preparation of the Landscaping Plan.

Entity	Consultation details	Discussion Points
Holbrook Landcare	Virtual Meeting Email and phone communication	 Discussed draft LP including: Timing of planting Appropriate site preparation prior to planting Proposed planting densities to achieve desired outcome of visual screening, whilst maximising benefits to biodiversity. Appropriate species selection given local area constraints, such as soil quality and waterlogging.
Jayfields Nursery	Email and phone communication	Discussion regarding species selection and availability, as well as preparation for tubestock. Consultation led to a revision of the nominated species.
Receivers R1, R2 and R5a	Email	An email sent to receivers with a draft copy of the Landscaping Plan, requesting comment on, particularly with respect to: timing, species selection, management and mitigation measures. No response was received from neighbouring landowners regarding the draft Landscaping Plan.
Landowners	Email and phone communication	Landowner 1 Indicated a preference for lucerne species to be planted with area footprint
MOIR Landscape	Commissioned Review of	A review of the Landscaping Plan and its mitigation measures was commissioned by FRV to ascertain if the

Table 4-1 Environmental consent relevant to landscaping

Entity	Consultation details	Discussion Points
Architects	Landscaping Plan	proposed landscaping plan would be effective at screening views of the development within 3 years of operation.
		The review concluded that with appropriate management, the Landscaping Plan would be successful at minimising views of the development within three years of operation.

5. Existing Environment

5.1 General Environment

5.1.1 Soils

Full details of the soil characteristics are contained in the Soil Survey Report (McMahon Earth Science , 2019). Details below are relevant to this LP.

The topography of the Project site is Located over the Walbundrie and Howlong 1:50,000 Topographic Maps (Sheets 8226-N and 8226-S respectively) with an elevation range between approximately 205m and 225m Australian Height Datum (AHD). The site includes the following topographic features:

- Extremely low relief
- Shallow alluvial streams forming an alluvial plain
- One large open drainage line known as Back Creek running East to North West through the Project site
- Smaller open depressions and drainage lines feed into the creek along its extent
- Back Creek runs into the moderately deep and partly perennial Billabong Creek which lies approximately 7 km north of the site

One soil characteristic occurs within the Project site, Chromosols, classified using the Australian Soil Classification System (Isbell, 1996). Potential limitations are listed below:

- Low erosion hazard
- Low salinity risk
- Low waterlogging risk
- Low infrastructure risk
- No acid sulphate soils
- Acidic soils

5.1.2 Vegetation

The site is dominated by cleared areas totalling approximately 605ha that are primarily used for cropping and grazing. There is approximately 69.4ha of native woodland, 29.4 ha of native grassland and 63 native paddock trees within the development site.

The Project has been designed to minimise clearing of native vegetation. In this regard, the development footprint is around 495 ha, the majority of which is comprised of exotic vegetation. The proponent has ensured the retention of the majority of grassy woodland vegetation which will retain vegetative screening for parts of the Project.

Four Plant Community Types (PCT) were identified within the development site including:

 PCT 5 – River Red Gum herbaceous – grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the Eastern Riverina Bioregion. PCT 5 is not listed under the BC Act or the EPBC Act.

- PCT 76 Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions (Forms part of the Threatened Ecological Community (TEC) - Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregion listed as Endangered under the NSW BC Act).
- PCT 277 Blakely's Red Gum Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion (Forms part of the TEC - White Box - Yellow Box - Blakely's Red Gum Woodland listed as endangered under the BC Act).
- PCT 278 Riparian Blakely's Red Gum box sedge grass tall open forest of the central NSW South Western Slopes Bioregion (Forms part of the White Box - Yellow Box - Blakely's Red Gum Woodland listed as endangered under the BC Act.

5.1.3 Weeds

43 species of weed were recorded in the Project area during site surveys in 2019. None of these species are listed under either the BS Act and/or are weeds of national significance. However, community concerns have been raised in regard to the prevalence of Hairy panic (*Panicum effusum*), which will be appropriately controlled during construction.

Weeds within the vegetation screening will be managed as per the methodology outlined in Appendix C. A wash down protocol has been developed by FRV in recognition of the spread of noxious weeds and pathogens. The protocol is included in Appendix E.

5.2 Visual Impact Assessment

A Visual Impact Assessment (VIA) was prepared as part of the Environmental Impact Statement (EIS) for the Project. The VIA concluded that there are no high impact view locations for the Project.

A map of sensitive receivers near the project site is provided in Figure 5-1.

Mitigation to soften views of infrastructure on the solar farm site was recommended in the VIA.

The screen will be maintained for the operational life of the solar farm. Dead plants will be replaced. Pruning and weeding will be undertaken as required to maintain the screen's visual amenity and effectiveness in breaking up views

It is noted that the aim of plant screens is to break up the view and not eliminate it entirely. Partial views will occur, particularly while vegetation is developing to maturity.



Figure 5-1 Visual impact assessment locations

6. Landscape Management Protocols

6.1 **Proposed Landscape Treatments**

Proposed landscape treatments include:

- Retention of existing vegetation
- Native vegetation buffers
- Establishing groundcover

6.1.2 Retention of Existing Vegetation

Approximately 101ha of existing vegetation will be retained as shown on Figure 1-1 and Appendix A including:

- Along Benambra Road and Schneiders Road
- Along Back Creek
- In the south east corner of the project site

A 10m asset protection zone will be maintained between retained native vegetation and security fencing where vegetation is located outside of the solar farm.

6.1.3 Native Vegetation Buffers

Four vegetation screens will be established by installation of native vegetation buffers as outlined in Table 6-1 and shown on Figure 1-1 and in Appendix A.

Table 6-1 Vegetation Screen Plantings

Vegetative Screening	Screened Receiver	Dimensions	Area (ha)
North-west Vegetation	R2	Buffer I = 50m width by 244m	1.2
Buffer		Buffer II = 10m width by 465m	0.5
		Buffer III	
		- Eastern block = 5m width by 310m	0.2
		- Western block = 5m width by 514m	0.3
Northern Vegetation Buffer	R1a and R1b	50m by 560m	2.3
Eastern Vegetation Buffer		5m by 1000m	0.4
Southern Vegetation Buffer	R5a	50m by 1000m	3.6
		Total	8.5

Plantings will be up to six rows deep and planted on the outside of the perimeter fence. Planted vegetation would maintain clearance zones for the gas pipeline and water pipeline easements of 24 m and 10 m respectively including overhanging vegetation (Appendix A).

A ten-metre minimum bushfire protection setback from solar farm infrastructure would be applied to any woody vegetation plantings undertaken around the perimeter of the solar farm, as well as remnant woodland vegetation, in accordance with Planning for Bushfire Protection guidelines (NSW Rural Fire Service, 2019) (Figure 6-1).



SECTION 1:500 @ A3 Section graphical illustration indicative growth 5 – 8 years

Figure 6-1 Indicative site boundary to solar infrastructure cross section

Vegetation will be selected and planted in accordance with the local native vegetation community. The planting specification provided in Appendix C details:

- A strategy to obtain an effective screen within 3 years.
- Locations for planting.
- Species selection.
- Planting establishment and monitoring requirements.
- Roles and responsibilities.

The ground beneath the plantings will be covered with mulch.

The perimeter plantings will be planted prior to commencing operations of the Walla Walla SF. Plantings will ideally be planted in winter/spring prior to operations. A proposed timeline for plantings is outlined in Appendix C.

6.1.4 Groundcover

Areas disturbed during the vegetative screening construction phase would be stabilised and revegetated with suitable perennial grass species immediately following construction to reduce potential dust and erosion impacts. Measures to rehabilitate groundcover include:

- restoring the ground cover of the site within 3 months
- restoring and maintain the ground cover with appropriate perennial species.
- managing weeds within this ground cover.

Performance targets and mitigation measures are detailed in Appendix C.

A program for weed and pest control is incorporated into the planting schedule in Appendix C.

6.1.5 Managed Grazing

FRV has entered into agreements with landowners to facilitate the grazing of sheep within the site, where reasonable and feasible, and where there is low risk of damage to solar farm infrastructure.

Once groundcover has been established, the landowner will deliver sheep to the site in consultation with FRV, to assist with vegetation control on and around the Solar Farm.

Stock will be excluded from Landscaping Areas within the development site. All Landscaping will be outside of the perimeter security fencing surrounding the site.

In the event that landowners are not able to supply livestock to graze the site and subject to landowner's consent, FRV will liaise with interested members of the local community to source livestock to maintain managed grazing within the site.

6.2 Other Visual Amenity Mitigation Works

Other actions which will be implemented to minimise views of infrastructure are included in Table 6-2.

Table 6-2 Landscape management protocols.

Stage of Project	Objective	Management protocol	Resources	Responsibility
Design	Allow room for vegetation screen in detailed design	Areas will be designated for the landscape screening as displayed in Appendix A	Appendix A Detailed planting locations of this LP	Project Manager
Construction and Operation	Establish vegetation screening on the solar farm site, to minimise views to residential receivers	 Planting will be undertaken as set out in Appendix C <i>Perimeter Planting Schedule</i> of this LP. Including: A strategy to obtain an effective screen within 3 years. Locations for planting 	Appendix C Planting Specification of this LP	Health Safety and Environment and Quality (HSEQ) Manager/ Site Manager/ Contractors
	Protect plants	 The landscaping area will be protected during construction as set out in 0 <i>Planting Method</i> of this LP, including: Watering Tree guards Replacement of plants to maintain 90% success rate for plantings. 	Appendix C4.2 Planting Specification of this LP.	HSEQ Manager/ Site Manager/ Contractors
Operation	Monitor the planting	The plantings will be monitored and maintained for the life of the Project. Monitoring requirements for the Project are included in Appendix A1.1	Appendix A1.1 Planting Specification of this LP.	HSEQ Manager/ Site Manager/ Contractors

7. Compliance Management

7.1 Implementation

Following the secretary's approval of this plan and any subsequent versions, the approved LP will be implemented.

7.2 Roles and Responsibilities

Below is a table outlining the Project Team's responsibilities during construction of the landscape treatments.

Table 7-1 Const	truction team roles	s and responsibilities.
-----------------	---------------------	-------------------------

Role	Responsibility	Authority
EPC Contractor Project Manager	 Ensure resources are made available to enable works to comply with EMS and other environmental management requirements. Ensure that all procedures are followed adequately. Ensure appropriate approvals and licences are held. Ensure all staff and contractors are aware of environmental compliance requirements and environmental controls. Responsible for reporting incidents and non-compliance with the conditions of consent 	 Order 'stop work' for an activity that may cause material or environmental harm. Release of environmental hold points, if required.
EPC Contractor HSEQ Advisor	 Maintain all environmental management documents. Identify where environmental measures are not meeting the targets and where improvements can be achieved. Monitor and report environmental compliance. Review Project environmental documents. Report pollution incidents. 	 Recommend 'stop work' for an activity that may cause material or environmental harm. Release of environmental hold points, if required.
EPC Contractor Site Manager	 Responsible for the implementation of environmental management plans. Responsible for the induction of staff and contractors. Responsible for all aspects of the worksite including the coordination and management of all staff and subcontractors. 	 Order 'stop work' if any items in the CEMP are in danger of breach. Approve and accept waste disposal methods requested by staff or subcontractors. Approve minor changes to environmental sub-

Role	Responsibility	Authority
	 Undertake routine environmental site inspection. Maintain environmental records. Receiving plant, materials and chemicals and ensuring all items are appropriately stored. Responsible for addressing corrective actions arising from environmental inspections. 	plans, including Erosion and Sediment Control Plans (ESCP).
All proponent staff: • Project Manager/Site Superintendent • Steering Committee • Technical Team	 Ensure contractors are working in accordance with the requirements of the EMS, as required under the EPC contract. Undertake site visits during construction to monitor compliance with EMS requirements. Report and raise any issues that arise that may have an environmental impact. Report and raise the discovery of any artefacts, Aboriginal relics or places and cease work until the matter has been addressed. 	 may have the potential to cause material or environmental harm. Report any incidents or near-misses that may impact on the environment or breach

Specific to this plan,

- The *Perimeter planting* establishment is set out in Appendix C with reference to persons and it includes:
 - Planting will be undertaken by an experienced landscape contractor.
 - Planting will be undertaken as soon as practicable in the construction process, as it will take time for the plants to establish and become effective as a screen.
 - o Planting should occur in mid-July September following sufficient rainfall.
 - The *Perimeter planting* monitoring program in Appendix C sets out persons responsible for these actions and the timing required for each action. It extends from the first 12 months of planting through to decommissioning. It includes roles for the EPC Contractor and Operator, dependant on the stage of the project.

7.3 Training

All employees, contractors and utility staff working on Site will undergo Site induction training. If appropriate, targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in landscape management.

7.4 Monitoring and Inspection

Monitoring requirements for perimeter plantings are detailed in Appendix C4.3 of this document.

7.5 Weather Monitoring

Weather monitoring requirements for perimeter plantings is detailed in Appendix C4.3 of this document.

7.6 Incident Management

All incidents will be managed in accordance with the incident response procedures contained in the EMS.

7.7 Complaints

Complaints received will be dealt with as per the Complaints Procedure in the EMS.

7.8 Auditing

Audit requirements are detailed in the EMS.

7.9 Reporting

Reporting requirements and responsibilities are outlined in the EMS. Specific to this plan, monitoring and reporting requirements for perimeter plantings are detailed in Appendix C of this document.

In summary, they will include:

- Establishment (first 12 months after planting) Monthly; Report on success of watering, weeding, mortalities, visual screening, supplementary. Corrective actions as required.
- **Two years post planting** Quarterly; Report on success of watering, weeding, mortalities, visual screening, supplementary. Corrective actions as required.
- Three years post construction Annually; Report on success of watering, weeding, mortalities, visual screening, supplementary. Corrective actions as required.
- **Six years post construction to decommissioning** Annually; Report on success of watering, weeding, mortalities, supplementary. Corrective as required.

8. Review and Improvement

8.1 Continuous Improvement

Continuous improvement of this LP plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets to identify opportunities for improvement.

8.2 LP Update and Amendment

This LP will be revised:

- whenever the construction program, scope of work, or work methods change;
- if the development consent is modified
- whenever the work methods and control structures are found to be ineffective; or
- if directed by the Department.

This will occur as needed and in accordance with the process outlined in the EMS.

A copy of the updated LP and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure identified in the EMS.

The Department may request revision, and all revisions are required to be submitted for approval. The LP and any subsequent versions approved by the Department will be required to be implemented.

8.3 Document Controls

Document control procedures are outlined in the EMS.

9. References

Isbell, R. F. (1996). *Australian Soil and Land Survey Handbook-The Australian Soil Classification.* Collingwood, Vic, Australia : CSIRO Publishing.

McMahon Earth Science . (2019). Soil Survey Report: Proposed Walla Walla Solar Farm .

- NSW Department of Planning . (2010). *Discussion Paper On Planning For Renewable Energy Generation Solar Energy.*
- NSW Rural Fire Service. (2019, November). *Planning for Bushfire Protection A guide for councils, planners, fire authrities and developers.* Retrieved from https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0005/174272/Planning-for-Bush-Fire-Protection-2019.pdf
- Spaven Consulting . (2011). Solar photovoltaic energy facilities: assessment of potential impact on aviation.

Appendix A Landscaping Locations (Vegetation Screening)



Appendix B Walla Walla Solar Farm Revegetation Guidance



Appendix C Perimeter Planting Schedule

C.1 Planting Strategy

In most cases, the aim of the plant screening is to fragment views of infrastructure and not eliminate them. Less dense vegetation plantings, rather than formal 'hedge' plantings, are considered more appropriate to the existing environment. These will provide a more natural structure to the vegetation, akin to small remnants.

In order to achieve effective screening within 3 years, this Strategy relies on:

- Planting will be undertaken by an experienced landscape contractor in consultation with local nurseries.
- Planting as soon as possible in the construction process when conditions suit.
- Use of quality seasoned tube stock / long stem tube stock.
- Maintenance (watering and protection from stock and other herbivores) during establishment.
- Inclusion of 'pioneer species'. The species list includes pioneer species that grow rapidly and will be replaced by slower growing longer lived species over time.

Planting is to be undertaken prior to the commencement of operations. Planting should occur mid-July to September following sufficient rainfall.

C.2 Planting Areas

Screen planting will be undertaken as shown in Appendix A.

Plantings will:

- Be within rip lines/rows 4m apart.
- Be planted approximately 4 x 4 m apart for large trees/Eucalypts with the rows spaced out and/or staggered to allow for crown dispersal.
- Be located within the Development Footprint.
- Be located outside of and adjacent to perimeter fencing, allowing sufficient space for plants to mature.

C.3 Plant Selection and Plant Numbers

Plantings will:

- Be native species that are a part of the existing plant community types in the area. List of suitable species are in Table 9-1.
- Be shrubs and trees (no forbs) and will therefore be most effective screening views.
- Be mixed to produce a heterogeneous mix of plantings.
- Provide a successional planting strategy whereby:
 - Fast growing pioneer species are planted closest to receivers.
 - Slower growing species are planted in the second and third row.
 - Pioneer species are replaced by the slower growing species either as they senesce or as the slower growing species become effective in screening infrastructure.
 - Plantings won't be more than 4 m apart.

• Long stem tube stock will be sourced from locally collected endemic seed where feasible (using a local nursery).

The following species list in Table 9-1 has been derived from the *General Native Vegetation Profile: Walla Walla District published in the South West Slopes Revegetation Guide (DLWC 1998)* and in consultation with Holbrook Landcare Network and Jayfields Nursery.

Table 9-1 Suitable species list

Large evergreen trees	Medium evergreen trees	Shrubs and groundcovers
 Eucalyptus microcarpa (Grey Box) Eucalyptus blakelyi (Blakely's Red Gum) Eucalyptus melliodora (Yellow Box) 	 Acacia dealbata (Silver Wattle) Acacia implexa (Lightwood) Allocasuarina luehmannii (Bulloak) 	 Acacia acinacea (Gold- dust Wattle) Acacia rubida (Red- stemmed Wattle) Acacia verniciflua (Varnish Wattle) Bursaria spinosa (Sweet Bursaria) Dodonea viscosa subsp. Angustissima (Narrow-leaf Hop-bush)

The proposed planting density has been derived from the Holbrook Landcare Network advice for a planting density of 600 plants per hectare with a ratio of 30% trees to 70% shrubs and groundcovers. Table 9-2 shows the planting density proposed for vegetative screening.

Vegetative Screen Receiver Dimensions Medium trees Area ha Plants Large trees Shrubs/GC (600/ha) 15% 15% 70% North-west R2 1.2 720 108 NW Veg Buffer I = 50m width by 108 504 Vegetation Screen 244m NW Veg Buffer II = 10m width by 0.5 45 300 45 210 465m NW eg Buffer III 0 0 0 Eastern block = 5m width by 310m 0.2 18 84 120 18 Western block = 5m width by 0.3 180 27 27 126 514m Northern Vegetation R1a and R1b 50m by 560m 2.3 1380 207 207 966 Screen Eastern Vegetation 5m by 1000m 0.4 240 36 36 168 Buffer Southern Vegetation 3.6 2160 R5a 50m by 1000m 324 324 1512 Buffer Total 8.5 5100 765 765 3570

Table 9-2 Planting density

C.4 Planting Method

The plantings will be a heterogenous mix of species that are locally available at the time of planting. Based on the Appendix A locations of perimeter plantings, the plant numbers detailed within Section BC.3 will be required.

C4.1 Establishment

- Planting will be undertaken by an experienced landscape contractor.
- Planting would be completed prior to September 2022
- Plants will be approximately 4 m apart from each other (horizontal separation).
- Planting will be undertaken as soon as practicable prior to commencement of construction (first Autumn prior to commencement of construction, or when climatic conditions are favourable) as it will take time for the plants to establish and become effective as a screen. While planting in autumn is generally the best time, if sufficient rainfall has not occurred or Autumn is not suitable, irrigation will be installed, or weekly hand watering is to be undertaken to achieve the consent conditions.
- Tube stock should be sourced as early as possible, refer to C4.2 below.
- The method of planting will be guided by the landscaping contractor and nursery. However, typical methods to consider include:
 - Addition of gypsum may assist to alleviate dispersion risk.
 - Increasing organic matter content with composted organics may improve fertility, assist nutrient retention and improve moisture holding capacity of this type of soil.
 - Regular, small amounts of fertiliser additions can be beneficial over single large quantities.
 - Using mulch to protect surfaces assists to reduce raindrop induced crusted or hard setting surface.
 - Relieve any compaction present and ensure adequate fertility for quick establishment.
- Weed control will be undertaken in the sites proposed for each planting.
 - If mechanical, manually clear an area 1m buffer from the planting to minimise encroachment during establishment.
 - For more intensive infestations of weeds, the use of selective herbicides may be warranted to prevent seed set and promote weed control. The advice of an ecologist and agronomist will be sought to advise on the control of weed infestations. Any weed control must have regard to the broader biodiversity objectives contained in the Biodiversity Management Plan.
- Monitoring of weed infestations will occur as part of the routine environmental inspections to determine effectiveness of management controls. The presence of any weeds and the necessary management actions will be noted on the Environmental Inspection Checklist.
- Pesticide application, if required, will only be administered by authorised personnel with AQF 3 in accordance with chemical handling.
- Pesticides will only be applied in accordance with label instructions for that product.
- A Pesticide Application Record will be completed, and public notifications made in accordance with relevant legislation, where pesticides are to be used in areas that could be accessed by members of the public.
- Only pesticides registered for use near water may be used near any waterways.

- These soils will require frequent, low volume watering due to the dense subsoils.
- Tree guards will be used to protect plants (creating a microclimate to reduce water loss and making follow up maintenance easier).

Planting timing and need for irrigation

Planting should occur in the Autumn before commencement of operations following sufficient rainfall. While planting in Autumn is generally the best time, if sufficient rainfall has not occurred irrigation will be installed, or weekly hand watering is to be undertaken to achieve the consent condition of 'effective screening in 3 years'.

Irrigation may improve the success of the plantings, reducing replacement of mortalities. Where irrigation is used, temporary polypipe, moveable water tanks and moveable pumps will be used to irrigate the plantings during establishment. This will allow more frequent lower intensity watering. No additional water sources or quantities are required.

C4.2 Planting maintenance

- Weed control will be undertaken around plantings, as required to ensure they are not outcompeted by surrounding vegetation.
- Only pesticides registered for use near water may be used near any waterways.
- Replace tree guards as required and remove once plants have outgrown them.
- Replace dead plants to achieve an overall 90% success rate for the life of the Project.

C4.3 Works schedule

This schedule of work guides the timing and outcomes of landscaping work. This table will be modified based on alterations to Project phases and climatic conditions. It is intended to commence in Spring 2021.

Project Phase	Landscaping Work	Indicative timing / Preferred Season	Performance Target	Measure and Monitor	Variation
Preconstruction	Source / order tube stock	Summer 2021 (complete)	Sufficient numbers ordered	Shattering of soil	Second control session if required
Preconstruction	Ripping	Autumn 2022	4m apart greater than 400mm	Grass cover dead by autumn	Second control session if required
Preconstruction	Control exotic pasture – herbicide application	Winter 2022	Before frosts, 10 days after rain 1 month prior to planting	Grass cover dying	Second control session if required
Preconstruction	Planting	Winter – Mid July to September 2022 Planting will occur prior to the commencement of construction.	Sufficient numbers planted – 600 plants / ha	Climatic conditions, rainfall, area covered, watering, ensure the plant location and spacing are aligned with the planting schedule above.is as per this LP.	Install irrigation or hand water if rainfall is not sufficient
Construction	Maintain plantings (watering, follow up weed control)	Weekly for first 12 months, then reduced as required	Plants alive	Mortality, weeds, rainfall and watering and soil moisture	Reduce watering if heavy substantial rainfall or irrigated

Project Phase	Landscaping Work	Indicative timing / Preferred Season	Performance Target	Measure and Monitor	Variation
Construction and life of Project	Replace dead plants	As required (note as substantial lead time is required, order surplus quantities)	90% success	Mortality and soil moisture	

C4.4 Planting monitoring program

Monitor	Establishment (first 12 months after planting)			Two years post planting			Three years' post construction			Six years post construction to decommissioning		
	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity
Watering	Weekly	Regular hand weekly watering where <30mm of rain has occurred in that month, unless irrigated	EPC Contractor personnel or the landscaping contractor	Monthly	Water when rainfall less than 10mm/month unless irrigated	Operator – landscape / maintenance contractor	Monthly	Water when rainfall less than 10mm/month or as advised by landscape contractor	Operator – landscape / maintenance contractor	Monthly	Water when rainfall less than 10mm/ month	HSEQ Manager/ Site Manager/ Contractors
	Weekly	For sections with temporary irrigation, check all drippers operational and water once per week	EPC Contractor personnel or the landscaping contractor	Monthly	For sections with temporary irrigation, check all drippers operational and water once per month	Operator – landscape / maintenance contractor	Monthly	For sections with temporary irrigation, check all drippers operational and water once per month	Operator – landscape / maintenance contractor	Remove	drippers once esta	ablished.
Weeds	Monthly	Spot spray or manually remove weeds within 1.5 m of planting	EPC Contractor – landscape / maintenance contractor	Monthly	Spot spray or manually remove weeds within 1.5 m of planting	Operator – landscape / maintenance contractor	Quarter ly	Spot spray or manually remove weeds within 1.5 m of planting	Operator – landscape / maintenance contractor	Every six months	Spot spray or manually remove weeds within 1.5 m of planting	HSE Advisor/ Site Manager/ Contractors

Landscaping Plan

Walla Walla Solar Farm SSD SSD-9874

Monitor	Establishment (first 12 months after planting)			Two years post planting			Three years' post construction			Six years post construction to decommissioning		
	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity
Mortality	Quarter ly	Replacemen t planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	EPC Contractor – landscape / maintenance contractor	Quarter ly	Replacement planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	Operator – landscape / maintenance contractor	Annuall y	Replacement planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	Operator – landscape / maintenance contractor	Annuall y	Replacement planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	HSE Advisor/ Site Manager/ Contractors
Visual screenin g	Annuall y	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors	Annuall y	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors	Annuall y	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors	Annuall y	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors
Reportin g	Monthly	Report on success of watering, weeding, mortalities, replacement plantings and visual screening (as implemented above).	EPC Contractor – landscape / maintenance contractor	Quarter ly	Report on success of watering, weeding, mortalities, supplementary , plantings and visual screening (as implemented above).	Operator – landscape / maintenance contractor	Annuall y	Report on success of watering, weeding, mortalities, supplementary , plantings and visual screening (as implemented above).	Operator – landscape / maintenance contractor	Annuall y	Report on success of watering, weeding, mortalities, supplementary , plantings and visual screening (as implemented above).	HSEQ Manager/ Site Manager/ Contractors

Monitor	Establishment (first 12 months after planting)			Two years post planting			Three years' post construction			Six years post construction to decommissioning		
	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity	Timing	Action	Responsibil ity
		Corrective actions as required			Corrective actions as required			Corrective actions as required			Corrective actions as required	

C4.5 Effectiveness of screening

Effectiveness of the screening will be measured through ongoing consultation with receivers R1a, R1b, R2 and R5a with the aim to minimise views of solar farm infrastructure within 3 years if commencement of construction. FRV will undertake internal review of vegetation screening condition throughout the duration of the project.

Consultation and results of the visual inspection will be recorded. If it is found that the screening is not compliant, the Department will be notified within 7 days with corrective actions as per Schedule 4 CoC 5.

• minimising views of solar farm infrastructure from surrounding residences R1a, R1b, R2 and R5a within 3 years of commencement of construction.

Appendix D Consultation Records

Appendix E Washdown protocols

FRV recognise that the spread of noxious weeds and pathogens is of real concern to residents, landowners and businesses in the locality of the Solar farm site in particular 'Hairy Panic' (*Panicum effusum*) is of significant concern.

To mitigate this, and to re-assure the local community, FRV have adopted and instigated a strict weed control protocol for all vehicles, plant and surveying equipment that may need to enter the site during the development stage which follows the principle of '**Arrive Clean – Leave Clean'** with detailed advice provided by the Australian Govt in their guidance note: *Arrive Clean, Leave Clean, Commonwealth of Australia 2015*

https://www.environment.gov.au/system/files/resources/773abcad-39a8-469f-8d97-23e359576db6/files/arrive-clean-leave-clean.pdf



FRV will provide on-site Washdown facilities for vehicles identified as requiring a washdown procedure. Although contractors may utilise other Washdown facilities for example; Council owned facilities provided they are local to the area.

Once a wash down is complete it will be evidenced by certificate or receipt / proof of washdown and sent to FRV Development / Project Management team <u>prior to entering</u> the site OR handed to the RRV representative and / or Landowner <u>prior to entering</u> the site





Protocol adopted as from July 2019 – FRV ownership of project:

- 1. All vehicles to be inspected for obvious signs of Mud and debris. Pay Close attention to wheels & arches, Chassis rails and mud flaps & tyre treads.
- 2. Extra precaution during wet periods
- 3. Encourage / consider use of clean Hire vehicles.
- 4. If moving from one site to another within the region or arriving from outside the local area or if arriving from a 'known' area of weed infestation concern vehicles and plant / equipment <u>must</u> undergo a wash down procedure.

- 5. Washdown to be certificated / proof or completion
- 6. Evidence to be handed to FRV or Landowner prior to entry and / or sent to FRV Development / Management team
- 7. Direct Plant and Drill rig vehicles to carry Biosecurity Hygiene Kit
- 8. Ensure personal equipment is clean and that organic matter is removed from boots clothing & hats prior to entering site.
- 9. Ensure any surveying equipment, pegs, tools etc are free of debris, Soil or any other organic matter.
- 10. Ensure tools and equipment are cleaned prior to entering site particularly if arriving from previous secondment.
- Ensure contractors & staff are aware and comply with above directions through the issue of fact sheets and guidance notes compiled by respected agencies:

 <u>http://www.planthealthaustralia.com.au/wp-content/uploads/2014/09/Effective-farm-wash-down-facilities.pdf</u>
 - b. https://www.farmbiosecurity.com.au/
- 12. Encourage reporting of unusual plants



Example of simple Biosecurity Hygiene kit

If you see anything unusual, call the Exotic Plant Pest Hotline
EXOTIC PLANT PEST HOTLINE 1800 084 881

During the Construction phase this is strengthened further under a Pest management plan within the Construction Management Plan which is compiled in conjunction with the EPC who will construct the project.