LANDSCAPING PLAN

Sebastopol Solar Farm SSD 9098

December 2020

Project Number: 20-495

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ACRONYMS AND ABBREVIATIONS

CoC	Conditions of Consent
CEMP	Construction Environmental Management Plan
DPIE	Department of Planning Industry and Environment (NSW) (Formally known as Department of Planning and Infrastructure (DPI))
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EPC Contractor	Engineering Procurement and Construction
EWMS	Environmental work method statement
HSEQ	Health Safety and Environment and Quality
JSC	*Junee Shire Council*
km	Kilometres
LGA	Local Government Area
LP	Landscaping Plan (this document)
m	Metres
NSW	New South Wales
PCT	Plant community type
sp/spp	Species/multiple species
TSC	Temora Shire Council
The proponent	Sebastopol Solar Farm Pty Ltd
The Project	Sebastopol Solar Farm

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

Sebastopol Solar Farm Pty Ltd (the proponent) received approval on 27 February 2019 and consolidated Conditions of Consent (CoC), following modification in July 2020, for the construction and operation of a 108 megawatt (MW) direct current (AC) photovoltaic (PV) solar farm, located around 17 km south-of Temora. The Sebastopol Solar Farm ('the Project') is a State Significant Development (SSD 9098) 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 amended Statements of Commitment (SoCs) listed in the Sebastopol Solar Farm Response to Submissions Report and the Conditions of Consent (CoC) from the New South Wales Minister for Planning. Additionally, it considers guidelines applicable to visual impact management. This plan was prepared in consultation with Council.

1.2. THE PROJECT

Sebastopol Solar Farm Pty Ltd has engaged Beon Energy Solutions (Beon) 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 108 MW solar farm (Figure 1-1).

The scope of works consists of but is not limited to:

- Single axis tracker PV solar panels mounted on steel frames over most of the site (up to approximately 308,000 PV solar panels).
- Battery storage, allowing energy to be stored on-site during periods of low demand and released to the network during periods of higher demand.
- Electrical conduits and transformers.
- On site substation.
- Site office, parking access tracks and perimeter fencing.
- Electrical transmission infrastructure and overhead transmission line to connect the proposal to the existing 132 kilovolt (kV) transmission line.
- Internal access roads.
- Upgrade to existing roads.
- On-site vegetative screening.

During construction, the development site will be accessed from as single access point on Eurolee Road which intersects with Goldfields Way. This intersection will be upgraded for access to the Project.

The construction period of the Project will last approximately between 10 and 12 months.

The estimated capital investment value of the Project is $120.4 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.

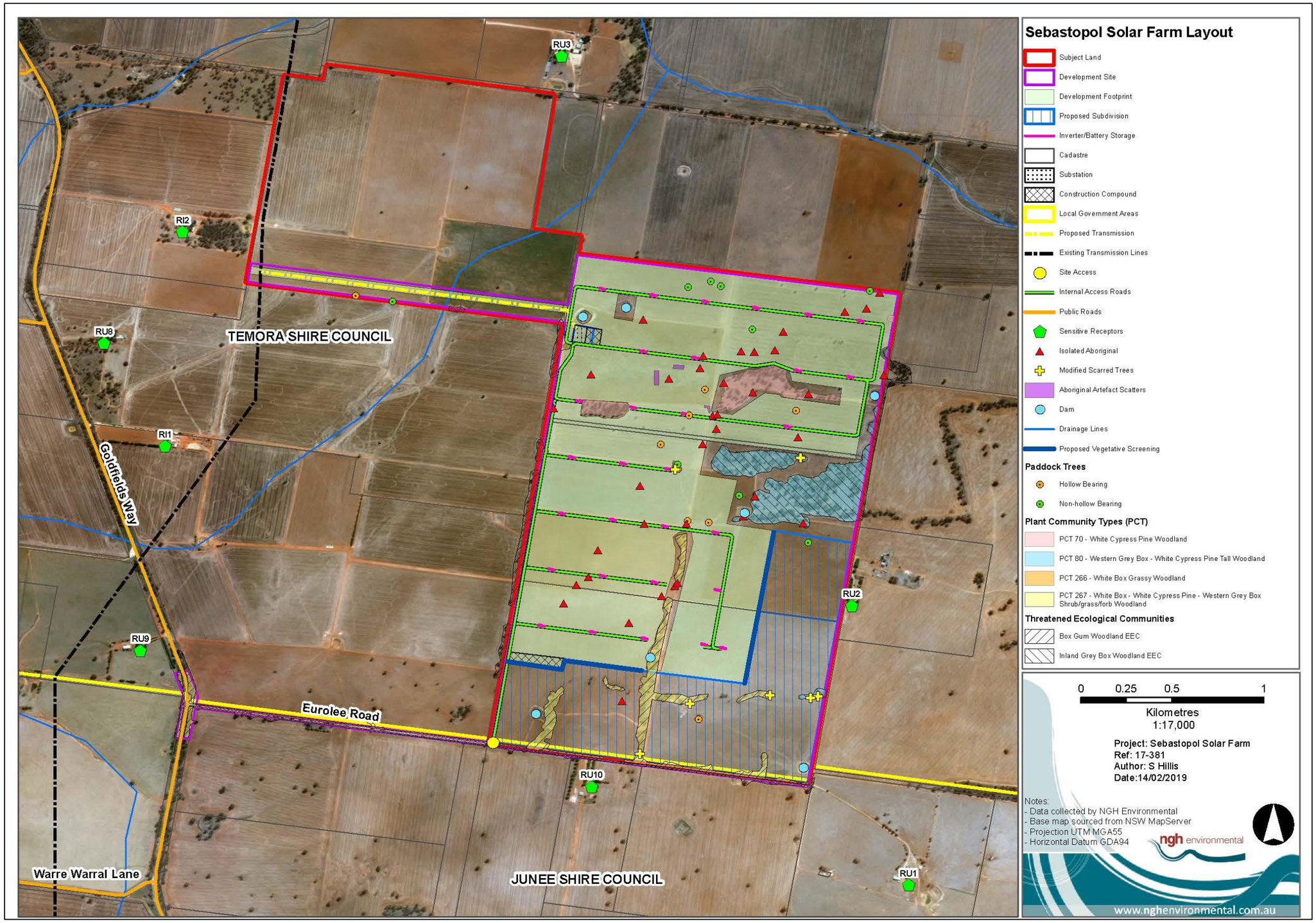


Figure 1-1 Sebastopol site constraints and layout

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 CoC and SoC.
- 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:

- Ensure full compliance with the relevant legislative requirements, including the CoC and SoC.
- Effective screening of solar farm infrastructure from surrounding residences within 3 years of commencement of construction.

Effectiveness of the screening will be measured through yearly consultation with Receivers 10 and 2 and visual inspection at each residence after the commencement of construction. The CoC and SoC will be considered compliant with the satisfaction of Receiver 10 and 2.

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.

3. ENVIRONMENTAL REQUIREMENTS

3.1. RELEVANT LEGISLATION AND GUIDELINES

3.1.1. Legislation

Legislation relevant to landscaping 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 (2018) Soil Survey Report, Sebastopol Solar Farm

3.1.3. Conditions of Consent (CoC)

Conditions 7, 8, 9, and 15 of Schedule 3 of the CoCs detail the requirements of the LP (Table 3-1).

Table 3-1 Conditions of consent relevant to landscaping

Condition of Consent	Condition requirement	Location in the LP
Vegetation Buffer		
Schedule 3 CoC 7.	The Applicant must establish and maintain a mature vegetation buffer (landscape screening) at the locations outlined in the figure in Appendix 1 [of the CoC] (Figure 1-1 and Appendix A of this plan) to the satisfaction of the Secretary. This vegetation buffer must:	
	a) be planted prior to the commencement of operations;	Section 6.1.1 Appendix B.1 Appendix B.4
	b) be comprised of species that are endemic to the area;	Section 6.1.1 Appendix B.3
	c) within 3 years of the commencement of construction be effective at screening view of the solar panels and ancillary infrastructure on site from surrounding residences; and	Section 2.3 Section 6.1.1 Section 6.2 Appendix B.4
	d) be properly maintained with appropriate weed management.	Section 5.1.3 Appendix B4.6 BMP

Condition of Consent	Condition requirement	Location in the LP
Landscaping Plan		
Schedule 3 CoC 8.	Prior to the commencement of construction, the Applicant must prepare a detailed Landscaping Plan for the development in consultation with Council 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) – (d) of this consent;	As above
	b) a program to monitor and report on the effectiveness of these measures; and	Appendix B4.5 Appendix B4.6
	c) Include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.	Section 7.2
	d) Following the Secretary's approval, the Applicant must implement the landscaping plan.	Section 7.1
Land Management		
Schedule 3 CoC 9.	Following any construction or upgrading on the site, the Applicant must: • restore the ground cover of the site as soon as practicable. • maintain the ground cover with appropriate perennial species; and • manage weeds within this ground cover.	Section 6.1.3 BMP Appendix E
Visual		
Schedule 3 CoC 15	The Applicant must:	
	a) minimise the off-site visual impacts of the development, including the potential for any glare or reflection;	Section 6.1.4
	a) ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape; and	
	b) 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

Table 3-2 Statement of Commitments from the Response to Submissions report

Commitment 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 perimeter fence, to break up views of infrastructure including the fencing. Screening within the vicinity of Receivers 10 and 2 would be at least 3 rows deep to allow for maximum screening.	Section 5.2 Section 6.1 Appendix A Appendix B.2 Appendix B4.1 Appendix B4.4
VA1	The plant species to be used in the screen are recommended to be native, derived from the naturally occurring vegetation community in this area. They	Appendix B4.3 Section 5.2

Commitment reference	Commitment requirement	Location in the LP
	should be fast growing, with spreading habitat and having a mature height of 3-4 m. Species selection could be undertaken in consultation with affected near neighbours and a botanist or landscape architect.	
VA1	The timing of planting is recommended to be within 2 months of completion of construction so that actual views of infrastructure can be more certain. The timing of planting should also be chosen to ensure the best chance of survival.	Section 6.1.1 Appendix B4.1 Appendix B4.2 Appendix B4.5
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	Section 6 Appendix B
VA2	The materials and colour of onsite infrastructure will, where practical, be nonreflective and in keeping with the materials and colouring of existing infrastructure or of a colour that will blend with the landscape.	Section 6.2

4. CONSULTATION

4.1. DURING ASSESSMENT

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

- During January 2018 ib vogt staff made phone calls to near neighbours to the site (where phone numbers were available) to notify residents of the solar farm proposal and offer to meet and/or answer questions about the solar farm.
- On 23 January 2018 ib vogt staff door knocked those nearest neighbours (who were not able to be contacted by phone) to advise of the proposal. A letter was left at the residences with some info about the proposal and ib vogt staff contact details.
- In early February 2018 ib vogt mailed out letters to addresses in the Sebastopol and northern Erin Vale localities (38 addresses) to notify residents of the solar farm proposal and offer to meet and/or answer questions about the solar farm. http://sebastopolsolarfarm.com.au/. The website went live in February 2018 and is updated regularly. An online feedback form can be filled in to submit suggestions.
- Establishment of a dedicated email address for feedback to info@sebastopolsolarfarm.com.au.
- A community open day was held by the proponent in Temora on 9 March 2018 to provide proposal information, to gain feedback from the local community regarding the proposal and to answer questions.
- A private information session was held ahead of the 9 March 2018 Open Day for Temora Shire Councillors and staff.
- In mid May 2018 a newsletter was mailed out to residences in the broader vicinity of the site (including residences in the Combaning, Dirnaseer, Erin Vale and Sebastopol localities and part of the Temora locality).
- The proponent held a second Community Open Day in Temora on 22 May 2018.
- Between January and July 2018 ib vogt staff met with several of the near neighbours to the proposal site to discuss their concerns about impacts of the solar farm.
- In late July 2018 the size of the development footprint for the proposal was reduced (reduction in capacity from 140MW to 108MW), which allowed a larger setback between the solar farm infrastructure and the two nearest residences. The photomontages of the solar farm from the nearest residences to the site were updated in line with the revised layout with proposed vegetative screening; these were provided to the nearest neighbours in early September 2018.
- In early September 2018 a second newsletter was mailed out to residences in the Combaning, Dirnaseer, Erin Vale and Sebastopol localities and part of the Temora locality. This newsletter included an update on the proposal and reduced development footprint (reduction in capacity from 140MW to 108MW), proposed landscape planting and proposed passing places on Eurolee Road.

4.2. POST APPROVALS

Temora Shire Council

On 11 November 2020, the proponent provided Temora Shire Council (TSC) a copy of the draft LP to provide TSC with the opportunity to review and provide comment on further issues to be addressed. TSC provided a response via email on 13 November 2020 (Appendix C). The email noted that TSC was satisfied with the LP and had no further comments on the plan.

Department of Planning, Institute and Environment

In December 2020, NGH uploaded a copy of the draft LP to the major projects portal to provide DPIE with the opportunity to review and provide comment on further issues to be addressed. DPIE provided a response via the portal on 9 December 2020 (Appendix C.2). The plan was updated per these comments, and additional comments were received from DPIE on 21 December 2020. These issues are summarised in Table 4-1 below with the location of information in this Plan addressing the requirements of DPIE.

Table 4-1 DPIE consultation

Issue raised	Location where addressed in this plan
Comments received 9 December 2020	
Landscape plan does not match Appendix 1 of CoC. Definition of permitter planting needs to be defined.	Figure 1-1 added and Section 6.1.1 amended.
Clearly specify plating timing and define “as soon as practicable”	Section 6.1.1, and Appendix B.1 and B4.1 amended.
Plan needs to identify how effective screening within 3 years will be achieved, and detail monitoring and compliance.	Section 2.3, 7.7 and Appendix B4.6 amended.
Revise plan in relation to weeds and groundcover to ensure compliance against CoC.	Section 5.1.3 amended.
Revise to ensure CoC has been addressed.	Section 3.1.3, Table 3-1 and Appendix B.5 amended.
Include a monitoring and reporting program against effectiveness of targets.	Section 7.4, Section 7.7 and Appendix B4.6 amended.
Detail how ongoing evaluation of performance will be undertaken and include details around revision.	Section 8.2 amended.
Include details around the implementation of the plan	Section 7.1 added.
Include details around complaints procedure.	Section 6.1.4 and Section 7.7 amended.
Detail mitigation measures to address visual impacts.	Section 6.1.4 amended.

Issue raised	Location where addressed in this plan
Detail requirements around planting consistency with landscape design.	Appendix A, Appendix B.2, Appendix B4.1, Appendix B4.4 amended.
Confirm timing for planting.	Appendix B4.2 and Appendix B4.5 amended.
Confirm if landscape management includes the retained native vegetation (vegetation exclusion zone).	Figure 1-1 added and Appendix A amended.
Comments received 21 December 2020	
Section 6.1.2 – Provides some generic information in relation to groundcover. It is unclear whether the plan is referring to the management groundcover across the site or whether it is in relation to the vegetation screening areas. This needs to be further clarified. *Revise to clearly indicate whether the information on groundcover is referencing actions across the whole site or the vegetation screen.* Confirm requirement has been adequately addressed in BMP and what section. No response has been provided regarding this requirement and/or why this condition has been removed from the revised landscaping plan. Details are required on how Groundcover along the vegetation screen will be managed.	Groundcover has been removed from this plan as it is adequately addressed in the approved BMP. In accordance with Shcedule 3 Condition 9 of the CoCs, the BMP states: *Following any construction or upgrading on the site, the Applicant must:* • *Restore the ground cover of the site as soon as practicable, (baseline is 70% over 90% of a disturbed area).* • *Restore and maintain the ground cover with appropriate perennial species.* • *Manage weeds within this ground cover.* This information had been duplicated in this LP. It has since been added back in for redundancy.
Section 6.1.2 – states "Restore the ground cover of the site as soon as practicable, (baseline is 70% over 90% of a disturbed area)" *Definition is to be provided in relation to the term "as soon as practicable" and what this means regarding the management and restoration of groundcover. Also, how will the targets be met.* Define what the intentions/ meaning of "as soon as practicable" in terms of restoring groundcover What monitoring will be undertaken to ensure targets are met	The BMP includes a Groundcover Management Plan (Appendix E of the BMP). It provides details on how groundcover will be established and maintained. It includes details of monitoring programs and targets.

Issue raised	Location where addressed in this plan
Section 6.1.2 – states "Restore and maintain the ground cover with appropriate perennial species" Does not provide information regarding how groundcover will be maintained with appropriate perennial species and what are the appropriate perennial species See previous comments in relation to requiring further information on weed management Information on what appropriate perennial species will be used	The BMP includes a Groundcover Management Plan (Appendix E of the BMP). It provides details on how groundcover will be established and maintained. It includes details of monitoring programs and targets.
In relation to the requirement "Screening within the vicinity of Receivers RU10 and RU2 will be at least 3 rows deep to allow for maximum screening" provide a figure and explain the location where this type of planting will be undertaken. *Will this type of planting occur along the whole section of vegetation screening identified in the Green Area of Appendix 1 or does it occur in part of it just in the vicinity of receivers RU10 & 2?* Identify where the additional 3 row deep screen planting will occur for RU10 and RU2. This question does not appear to have been addressed – how long and/or location of screening 3 rows deep	Appendix A has been updated to show screen planting. The inset second figure in Appendix A) shows a close-up view of the Vegetative Screening in the figure identifying the whole area (first figure in Appendix A). The entirety of the Vegetative Screening identified in Appendix A will be 3 rows deep. Section 6.1.1 has been updated to clarify this.
B.3 – Revise and amend the formatting of the list level	Addressed, formatting revised.

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 2018) and the Soil and Water Management Plan (SWMP) (separate document). Details below are relevant to this LP.

The topography of the Project site is relatively flat with an elevation range between approximately 310m and 340m Australian Height Datum (AHD). The site includes the following topographic features:

- The north of the property is a drainage plain with a slope class of level to very gently inclined.
- Toward the southern end of the property, running from east to west, there is a crest formation with an associated simple slope.

Two soil landscapes occur within the Project site: Mimosa and Mount View soil landscape and Narraburra soil. Potential limitations are listed below:

- Mimosa and Mount View landscape: Chromosols:
    - Low erosion hazard
    - Low salinity risk
    - Low waterlogging risk
    - Low infrastructure
    - No acid sulphate soils
    - Acidic
- Narraburra: Sodosols:
    - Low erosion hazard
    - Low salinity risk
    - Low waterlogging risk
    - Low infrastructure
    - No acid sulphate soils
    - Not acidic

The vegetative screening will only occur on Mimosa and Mount View landscapes.

5.1.2. Vegetation

The site is dominated by cleared areas that are primarily used for cropping and grazing (around 364 ha or 88.41% within the development site). There is approximately 38.5ha of native vegetation within the development site.

The Project has been designed to minimise clearing of native vegetation. In this regard, the development footprint is around 249 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 were identified within the development site (Figure 6-2 and Figure 6-3) including:

- PCT 70 White Cypress Pine woodland on sandy loams in central NSW wheatbelt.
- PCT 80 Western Grey Box – White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion. This community forms part of the Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain,

Nandewar and Brigalow Belt South Bioregion Endangered Ecological Community (EEC) listed under the BC Act.

- PCT 267 White Box - White Cypress Pine - Western Grey Box shrub/grass/forb woodland in the NSW South Western Slopes Bioregion. This community forms part of the White Box Yellow Box Blakely's Red Gum Woodland EEC under the BC Act.
- PCT 266 White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion. This community forms part of the White Box Yellow Box Blakely's Red Gum Woodland EEC under the BC Act.

5.1.3. Weeds

Fifty-four species of weed were recorded in the Project area. None of these species are listed under either the BS Act and/or are weeds of national significance. However, *Conyza sp*. (Fleabane), *Xanthium spinosum* (Bathurst Burr), *Echium Plantagineum* (Patterson's Curse) and *Marrubium vulgare* (White Horehound) are listed on NSW WeedWise with the control options and any minor use permits that must be complied with.

Weeds within the vegetation screening will be managed as per the Weed and Pest Management Plan, Vehicle Hygiene Procedure, and performance criteria, triggers and responses, as detailed within Section 7.3, Section 7.4 and Section 11 (Table 11-1) of the Biodiversity Management Plan.

5.2. VISUAL IMPACT ASSESSMENT

A Visual Impact Assessment (VIA) was prepared as part of the 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 including:

- Plantings will be more than one row deep and where practical, planted on the outside of the permitter fence, to break up views of infrastructure including the fencing. Screening within the vicinity of Receivers RU10 and RU2 will be at least 3 rows deep to allow for maximum screening.
- The plant species to be used in the screen are recommended to be native, derived from the naturally occurring vegetation communities in this area. Species selection could be undertaken in consultation with affected near neighbours and a botanist, horticulturalist or landscape architect. Species most suitable for planting based on existing plant community types in the area include:
    - White Box (*Eucalyptus albens*) - dominant.
    - Yellow box (*Eucalyptus melliodora*) - occasional.
    - Grey box (*Eucalyptus microcarpa)*- occasional.
    - Western Silver wattle (*Acacia decora*).
    - Box leaf wattle (*Acacia buxifolia*).
    - Hickory Wattle (*Acacia implexa*).
    - Wedge leaf Hop-bush (*Dodonea viscosa subsp cuneata*).
    - White Cypress Pine (*Callitris glaucophylla*)
    - Hakea Wattle (*Acacia hakeoides*)
    - Dogwood (*Cassinia aculeata*)
    - Varnish Wattle (*Acacia verniciflua*)
    - Kangaroo Thorn (*Acacia paradoxa*)
- The timing is recommended to be within 2 months of completion of construction so that actual impacts of infrastructure are mitigated. The timing of planting should also be chosen to ensure the best chance of survival.
- 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.

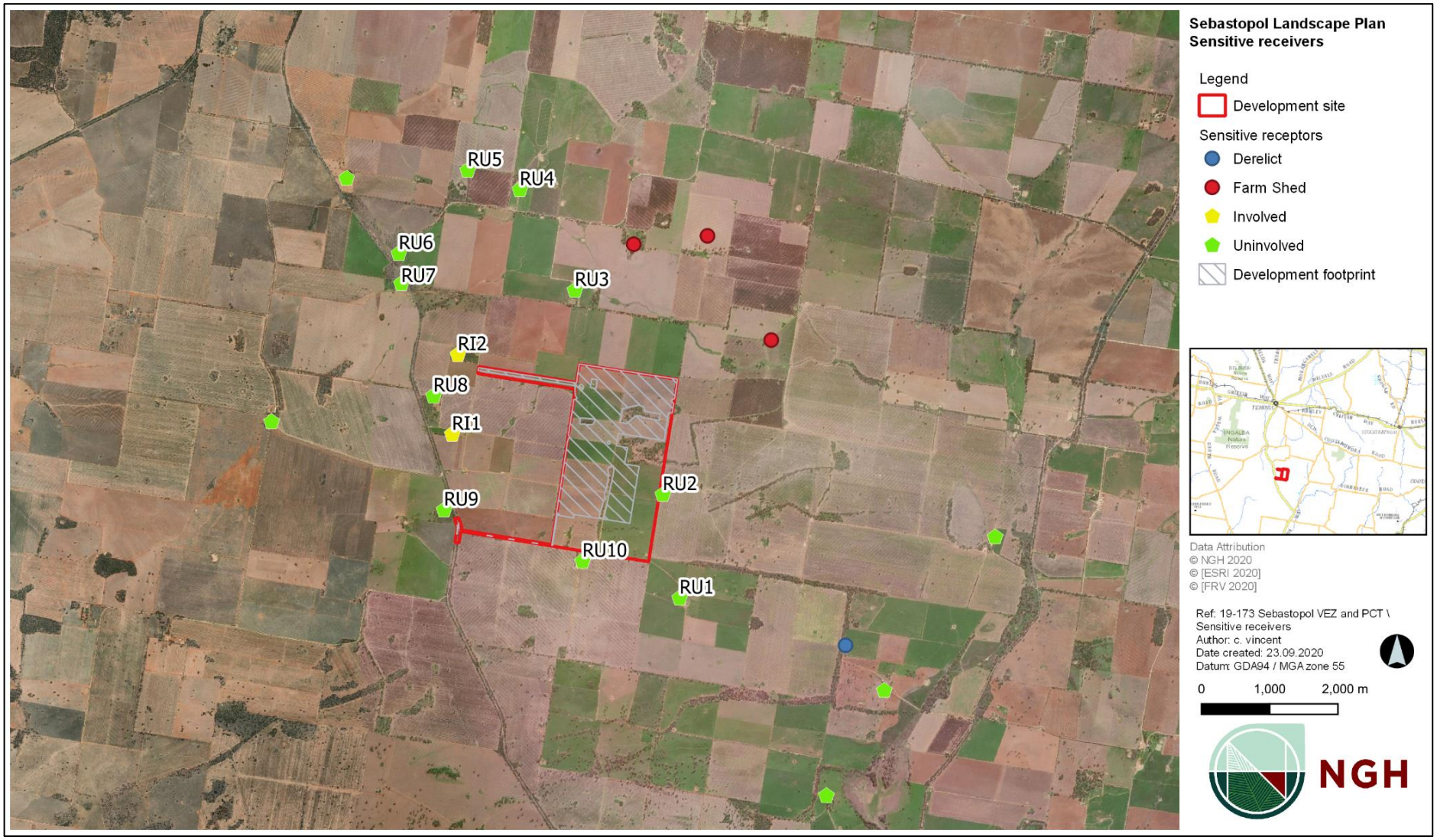


Figure 5-1 Sensitive receivers near the project site.

6. LANDSCAPE MANAGEMENT PROTOCOLS

6.1. PROPOSED LANDSCAPE TREATMENTS

6.1.1. Perimeter plantings

Sections of perimeter plantings will be established along the development site boundary as shown in Figure 1-1 and Appendix A, as per the CoC (Appendix 1 of CoC).

Plantings will be three rows deep and planted on the outside of the perimeter fence, to break up views of infrastructure including the fencing.

Three rows of sparse (up to 5 m width in total), native plantings, in keeping with the local native vegetation community, will be established. This will include sections along the southern and eastern boundary (Appendix A). The planting specification provided in Appendix B 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 perimeter plantings will be planted prior to commencing operations of the SSF. Plantings will ideally be planted in the Autumn prior to operations, or when climatic conditions suit.

6.1.2. Dust

During construction and operation dust will be monitored and managed and include:

- Daily visual monitoring of dust generated by construction and operation activities.
- Construction will cease if dust observed being blown from site until control measures were implemented.
- All activities relating to the proposal will be undertaken with the objective of preventing visible dust emissions from the development site.
- Areas of soil disturbed by the project will be rehabilitated progressively or as soon as practicable post-construction, reducing views of bare soil.

6.1.3. Groundcover

During the revegetation phase, any groundcover lost during construction will be rehabilitated. Measures to rehabilitate groundcover are detailed in the biodiversity Management Plan (BMP) and include:

- Restore the ground cover of the site as soon as practicable, (baseline is 70% over 90% of a disturbed area).
- Restore and maintain the ground cover with appropriate perennial species.
- Manage weeds within this ground cover.

Performance targets and mitigation measures are detailed in the BMP (Appendix E).

6.1.4. Glare and reflection

The materials and colour of onsite infrastructure will, where practical, be non-reflective and in keeping with the materials and colouring of existing infrastructure or of a colour that will blend with the landscape to reduce any potential for glare and reflection. Where practical:

- Buildings will be non-reflective and in eucalypt green, beige or muted brown.
- Pole mounts/piles will be non-reflective.
- Security fencing posts and wire will be non-reflective.
- Avoidance of unnecessary lighting, signage and logos (unless required for identification or safety purposes).
- Retain and protect existing and planted boundary landscaping.
- Vegetative screening will be placed on the outside of security fencing.

PV solar panels are designed to reflect as little sunlight as possible (generally around 2% of the light received; Spaven Consulting 2011), resulting in negligible glare or reflection. The reason for this is that PV panels are designed to absorb as much solar energy as possible in order to generate the maximum amount of electricity or heat. The panels will not generally create noticeable glare compared with an existing roof or building surface (NSW Department of Planning 2010). Seen from above (such as from an aircraft) they appear dark grey and do not cause a glare or reflectivity hazard.

Compliance will be measured against the number of complaints received in relation to glare and reflection. Complaints received will be dealt with as per the Complaints Procedure in Appendix D of the EMS. No further monitoring is proposed.

6.2. OTHER VISUAL AMENITY MITIGATION WORKS

Other actions which will be implemented to minimise views of infrastructure are included in Table 6-1.

Table 6-1 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 set out 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 B *Planting Specification* of this LP. Including: • A strategy to obtain an effective screen within 3 years. • Locations for planting	Appendix A Appendix B Planting Specification of this LP	HSEQ Manager/ Site Manager/ Contractors
	Protect plants	The landscaping area will be protected during construction as set out in 0 *Planting Specification* of this LP, including: • Watering • Tree guards • Replacement of plants to maintain 90% success rate for plantings.	Appendix B4.3 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 B.	Appendix B 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

The Project Team's organisational structure and overall roles and responsibilities are outlined in Section 4 of the EMS.

Below is a table outlining the teams responsible for the construction of the Project.

Table 7-1 Construction team roles 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 Health Safety and Environment and Quality (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. • Undertake routine environmental site inspection.	• 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-plans, including Erosion and

Role	Responsibility	Authority
	• Maintain environmental records. • Receiving plant, materials and chemicals and ensuring all items are appropriately stored. • Responsible for addressing corrective actions arising from environmental inspections.	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.	• Report any issues that may have the potential to cause material or environmental harm. • Report any incidents or near-misses that may impact on the environment or breach conditions set-out in this EMS.

Specific to this plan,

- The *Perimeter planting* establishment is set out in 0. 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.
  - Planting should occur in Autumn *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.
  - The *Perimeter planting* monitoring program in 0 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 B4.6 of this document.

7.5. WEATHER MONITORING

Weather monitoring requirements for perimeter plantings is detailed in Appendix B4.5 of this document.

7.6. INCIDENT MANAGEMENT

All incidents will be managed in accordance with the incident response procedures contained in Section 10 and Appendix E of the EMS.

7.7. COMPLAINTS

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

7.8. AUDITING

Audit requirements are detailed in Section 11 of the EMS.

7.9. REPORTING

Reporting requirements and responsibilities are outlined in Sections 4 and 11.2 the EMS. Specific to this plan, monitoring and reporting requirements for perimeter plantings are detailed in 0 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 need to be revised whenever the construction program, scope of work, or work methods change, whenever the work methods and control structures are found to be ineffective, or if directed by the proponent. 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 Sections 7.3 and 9 of 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 Section 9 of the EMS.

9. REFERENCES

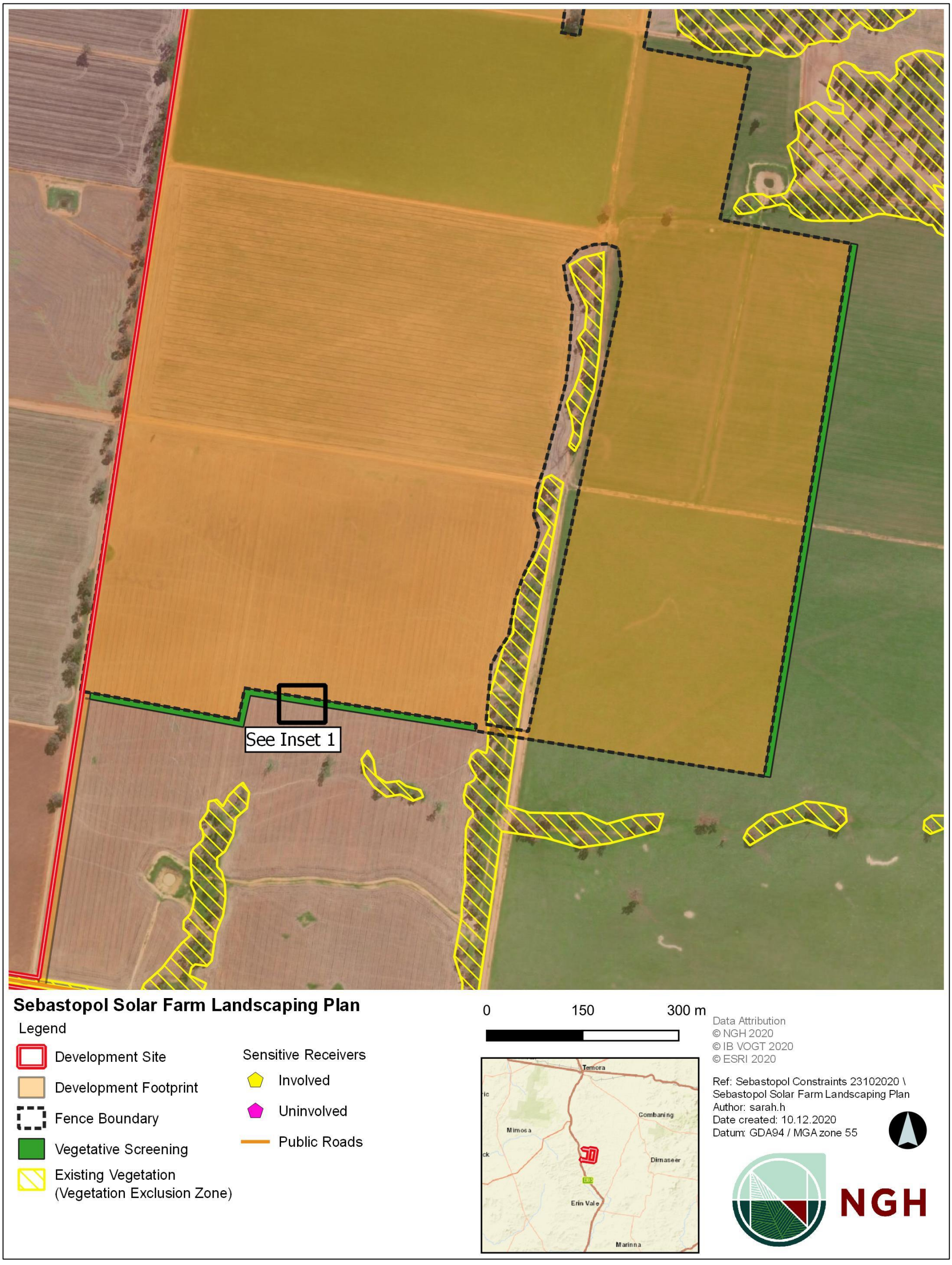
NGH Environmental (2018). *Environmental Impact Statement Sebastopol Solar Farm*.

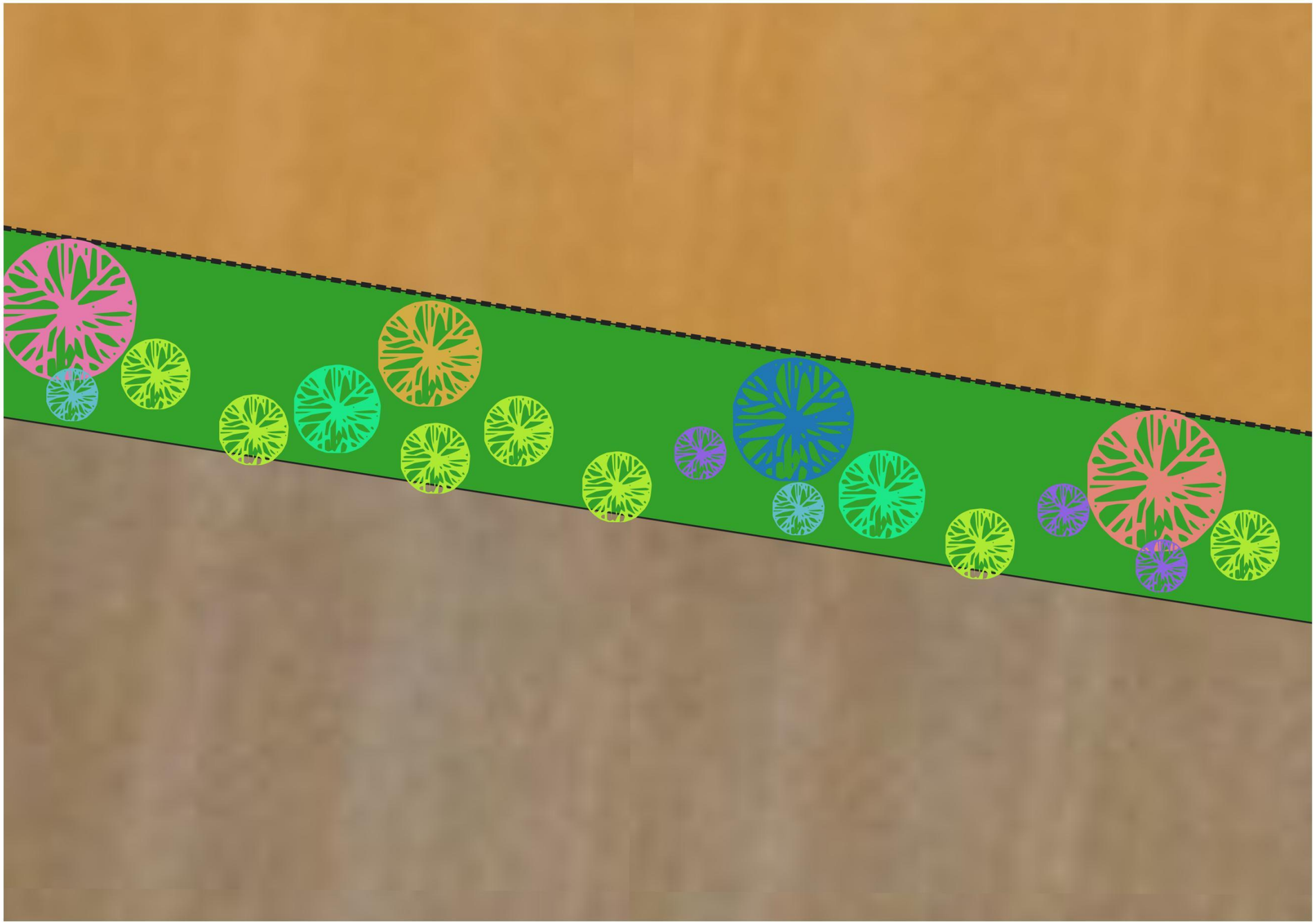
NGH Environmental (2018). *Submissions Report Sebastopol Solar Farm*.

NSW Department of Planning (2010). Discussion Paper On Planning For Renewable Energy Generation - Solar Energy, prepared April, 2010.

Spaven Consulting (2011). Solar Photovoltaic Energy Facilities: Assessment of potential for impact on aviation. Report prepared January 2011, for RPS Planning and Development.

APPENDIX A LANDSCAPING LOCATIONS





Sebastopol Solar Farm
Landscaping Plan - Map 1

Legend

- Development Footprint
- Fence
- Vegetation Screening

Tree Planting Schedule - Inset 1

- Acacia
- Cassinia
- Dodonaea
- Grey Box
- Hakea
- Pine
- White Box
- Yellow Box

Ref: Sebastopol Constraints 23102020 \ Sebastopol Solar Farm Landscaping Plan - Map 1
Author: sarah.h
Date created: 10.11.2020
Datum: GDA94 / MGA zone 55

0 5 10 m

NGH

APPENDIX B PERIMETER PLANTING SPECIFICATION

B.1 PLANTING STRATEGY

In all cases, the aim of the plant screening is to break up the views of infrastructure and not eliminate them. Relatively sparse plantings, rather than a formal 'hedge' effect, is 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 in the Autumn prior to operations following sufficient rainfall. 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.

B.2 PLANTING AREAS

Screen planting will be undertaken as shown in Appendix A.

Plantings will:

- Be located three rows, with a total width of up to 15 m for all three rows, for perimeter plantings. Seedlings will be planted up to 15 m from the perimeter fence.
- Be planted approximately 10 m apart for large trees/Eucalypts, and 5 m apart for shrubs (alternating species), 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.

B.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 2 and 10.
    - 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 10 m apart.
- Long stem tube stock will be sourced from locally collected endemic seed where feasible (using a local nursery).

Table 9-1 Suitable species list and appropriate abundance guidance

Species and mature height	Minimum horizontal separation between plantings (metres)	Associated PCTs
Third row (against security fence)		
Eucalyptus microcarpa (to 25m high)	10	70, 80, 267
Eucalyptus melliodora (to 30 m high)	10	80, 266, 267
Eucalyptus albens (to 25m high)	10	266, 267
Callitris glaucophylla (to 25m high)	10	70, 80, 267
Acacia hakeoides (1-6m high moderate growth rate)	5	80, 267
Acacia implexa (5-12m high)	5	266, 267
Front and second row		
Acacia buxifolia (1-4m high, colonising)	5	80
Acacia decora (1-4m high)	5	70, 266, 267
Cassinia aculeata (1-2.6m high, fast growing)	5	266, 267
Acacia paradoxa (1-4m fast growing)	5	267
Acacia verniciflua (1-4m high)	5	80, 267
Dodonaea viscosa subsp cuneata (1 to 3m, possible coloniser)	5	70, 266, 267

B.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 B4.4 will be required.

B4.1 Establishment

- Planting will be undertaken by an experienced landscape contractor.
- Trees will be approximately 10 m apart from each other (horizontal separation), shrubs will be planted approximately 5 m from each other (horizontal separation).
- Planting will be undertaken as soon as practicable prior to commencement of operations (first Autumn prior to commencement of operations, 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 04.2 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).

B4.2 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.

B4.3 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.

B4.4 Planting Schedule

The following table details the plant species, their number, which site they will be at, how they shall be spaced and what height they are expected to reach at maturity. Not all the species may be procured subject to availability, and therefore the numbers are also subject to change.

Common Name	Scientific Name	Approx. Quantity	Spacing between plantings (m)	Expected mature height (m)	Expected mature crown width (m)
Grey Box	*Eucalyptus microcarpa*	40	10	10-25	15
White Box	*Eucalyptus albens*	40	10	15-25	20
Yellow Box	*Eucalyptus melliodora*	40	10	30	25
White Cypress Pine	*Callitris glaucophylla*	25	10	25	15
Dogwood	*Cassinia aculeata*	100	5	1-2.6	5
Wedge-leaf Hop-bush	*Dodonaea viscosa subsp cuneata*	100	5	1-3	5
Wattles	*Acacia sp*	380	5	1-12	5-15
TOTAL		725			

B4.5 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.

Project Phase	Landscaping Work	Preferred Season	Performance Target	Measure and Monitor	Variation
Preconstruction or construction	Source / order tube stock	As soon as possible, noting the planting timing predicted	Sufficient numbers ordered	Check in to ensure order is on track	
Preconstruction or construction	Weed control (e.g. herbicide, mulch)	End of summer	1m buffer around planting sites targeted	Grass cover dead by autumn	Second control session if required
Preconstruction or construction	Plant tube stock	Autumn	Sufficient numbers planted	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
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	

B4.6 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	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility
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 established.		
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	Quarterly	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

Monitor	Establishment (first 12 months after planting)			Two years post planting			Three years' post construction			Six years post construction to decommissioning		
	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility
Mortality	Quarterly	Replacement 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	Quarterly	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	Annually	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	Annually	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 screening	Annually	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors	Annually	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors	Annually	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors	Annually	Visual inspection from residence and consult with Receivers 10 and 2.	HSEQ Manager/ Site Manager/ Contractors
Reporting	Monthly	Report on success of watering, weeding, mortalities, replacement plantings and visual screening (as	EPC Contractor – landscape / maintenance contractor	Quarterly	Report on success of watering, weeding, mortalities, supplementary, plantings and visual screening (as	Operator – landscape / maintenance contractor	Annually	Report on success of watering, weeding, mortalities, supplementary, plantings and visual screening (as	Operator – landscape / maintenance contractor	Annually	Report on success of watering, weeding, mortalities, supplementary, plantings and visual screening (as	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	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility
		implemented above). Corrective actions as required			implemented above). Corrective actions as required			implemented above). Corrective actions as required			implemented above). Corrective actions as required	

B.5 EFFECTIVENESS OF SCREENING

Effectiveness of the screening will be measured through yearly consultation with Receivers 10 and 2 and visual inspection at each residence after the commencement of construction. The CoC and SoC will be considered compliant with the satisfaction of Receiver 10 and 2.

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.

APPENDIX C CONSULTATION RECORDS

C.1 TEMORA SHIRE COUNCIL

From: Claire Golder <cgolder@temora.nsw.gov.au>
Sent: Friday, 13 November 2020 16:03
To: Paula Cordeiro <paula.cordeiro@frv.com>
Subject: RE: Sebastopol Solar Farm - Landscaping Plan

Hi Paula,

Temora Shire Council is satisfied with the landscaping plan and have no further comments.

Regards,
Claire

Claire Golder
Town Planner/Strategic Projects Officer
Temora Shire Council
p: 02 6980 1108
a: 105 Loftus Street (PO Box 262) Temora NSW 2666
w: www.temora.nsw.gov.au e: cgolder@temora.nsw.gov.au

C.2 DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT APPROVAL