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Burrundulla Mini Sustainable Energy Park

3B Sydney Road, Burrundulla, IT Power (Australia) Pty Ltd

Landscape Concept

July 2022

Image 1 - Existing trees along the western boundary of the site

Image 2 - Native screen planting on adjacent property, viewed from the site

Image 3 - Callistemon sp. forming a dense hedge on neighbouring property

EXISTING CONDITIONS:

The site includes a few scattered trees but is otherwise cleared and has historically been used for grazing and cropping. There is a single row of mature trees along part of the western boundary of the site (image 1).

There is also some native vegetation on the adjoining site to the south which is forming a visual screen (image 2). There are ornamental trees and gardens along the surrounding driveways and around the residential dwellings (image 3).

LANDSCAPE STRATEGY:

A landscape concept plan has been developed based on consideration of the potential visibility of the site. The objectives of this landscape plan are to:

- Reduce the visibility of the site from adjacent sensitive recievers (including neighbouring residences and views from the Castlereagh Highway)
- Improve the character of the landscape through the restoration of native vegetation
- Provide habitat and increase local biodiversity through the use of local plant species.

The landscape plan identifies three landscape treatments for the site. These are:

1. Native screen planting (10 metres wide)
2. Mounding with scattered trees in pasture
3. Scattered trees in pasture

These landscape treatments are shown on the landscape plan on Figure 2.

To ensure the suitability of planting for the local conditions, the plant species proposed for these landscape treatments have been selected from the:

- *Native Species Revegetation, A Guide for the Mid Western Regional Council Area,* Watershed Landcare Incorporated (in association with the Australian Government National Landcare Program)
- *Native Plants for Mudgee Gardens, Australian Plant Society,* Central West Group, 2010
- *Planting your patch, A guide to revegetation on your property,* State of New South Wales Local Land Services, 2016.

Further consultation with Council Officers and local land care groups would be undertaken during detail design.

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FIGURE 1: EXISTING CONDITIONS & LANDSCAPE STRATEGY

Date: July 2022
Job Number: 2021-223
Drawn: SR
Issue: Rev2

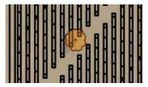
Key:

1. Native screen planting (10 metres wide)

2. Mounding (max. 1:5 slope to 3 metres tall) with scattered trees in pasture

3. Scattered trees in pasture

Existing trees to be retained



Existing trees to be removed

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FIGURE 2: LANDSCAPE PLAN

Date: 1 July 2022
Job Number: 2021-223
Drawn: SR
Issue: Rev3

1. NATIVE SCREEN PLANTING

A mix of native trees and shrubs with a dense and compact habit have been selected to provide a maximum screening effect.

The following plant list includes a number of 'pioneer species' which should establish quickly and form an effective visual screen in the short term. While some of these species are relatively short lived (7-12 years), they will disperse seed and new plants will regenerate so that a self-sustaining vegetation screen is maintained in the long term.

Plant list:

Species name, Common name	Mature height
Native trees	
*Acacia falciformis, Broad-leaved hickory**	*2-10m*
*Acacia implexa, Black wattle**	*5-12m*
*Allocasuarina verticalla, Drooping she-oak**	*3-7m*
*Callistemon salignus, Willow bottlebrush**	*3-10m*
Callistemon viminalis, Weeping bottlebrush+	*6-9m*
*Eucalyptus albens, White box**	*25m*
*Eucalypt dealbata, Tumble-down red gum**	*15m*
Native shrubs	
Acacia decora, Western silver wattle-*	*2-4m*
*Acacia difformis, Drooping wattle**	*1-6m*
*Acacia hakeoides, Hakea wattle**	*1-6m*
Acacia spectabilis, Mudgee wattle-*	*1-4m*
Callistemon citrinus, Crimson bottlebrush+*	*1-3m*
*Dodonaea viscosa 'angustifolia', Sticky hop bush**	*1-5m*
*Dodonea viscosa 'cuneata' Wedge-leaf hop bush**	*1-3m*
*Melicytus dentatus, Tree violet/Gruggly bush**	*1-3m*

Source:

** Native species revegetation, A Guide for the Mid Western Regional Council Area, Watershed Landcare Incorporated*
+ from Australian Plants Society, Central West Group, Native plants for Mudgee Gardens
- Pioneer species, fast growing, relatively short lived (up to 12 years)

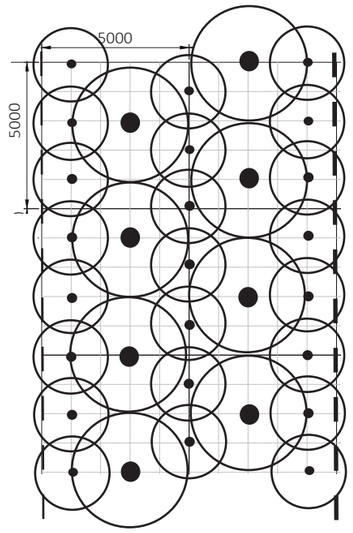
Plant set-out matrix

Trees and shrubs will be staggered to maximise the screening effect.

Specification notes

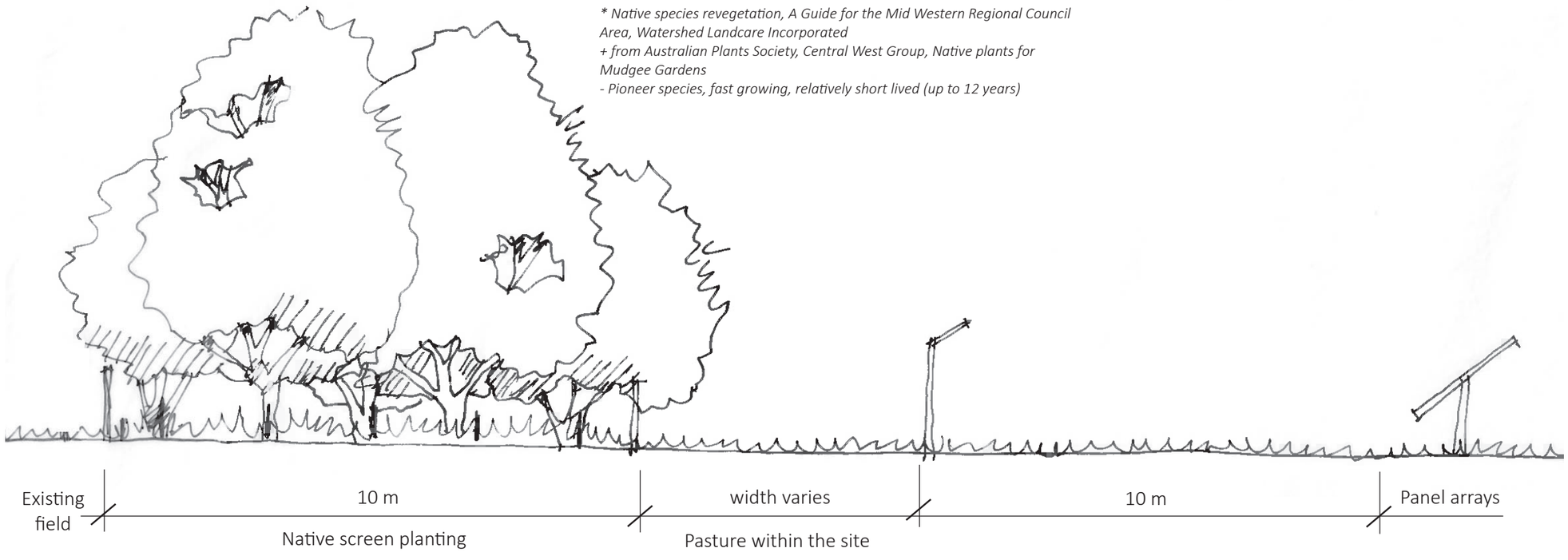
- Five offset rows of trees and shrubs as per the set out matrix.
- Ripped lines to a depth of 500mm and cultivated to a depth of 150mm. Ripping to follow the contours
- 3 month (13 week) establishment followed by a 21 month monitoring period (total 24 months). Ongoing maintenance would be managed by the operator for the life of the project.
- Refer to the Vegetation Management Plan for further details.

10 metre wide screening matrix



KEY

- Small trees
- Shrubs
- Solar farm security fence
- Site boundary fence



A - A Indicative cross section, Native screen planting

Scale: 0m 1 2 5m

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FIGURE 3: NATIVE SCREEN PLANTING

Date: July 2022 Drawn: SR
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3. SCATTERED TREES IN PASTURE

Areas within the solar farm fence will be sown with pasture grasses to allow for grazing of the property during operation.

Groups and scattered individual trees will be located through the centre of the site within the pasture grass. These trees will be local native species with a single trunk and open canopy. These will provide some filtering of views where the solar farm can be seen from elevated areas, provide tree canopy cover and habitat.

Plant list:

Species name, Common name	Mature height
Large native trees	
*Angophora floribunda, Rough barked apple**	*30m*
*Eucalyptus albens, White box**	*25m*
*Eualyptus blakelyi, Blakelys red gum**	*20m*
*Eucalyptus bridgesiana, Apple box**	*20m*
*Eucalyptus microcarpa, Western grey box**	*25m*
*Eucalyptus melliodora, Yellow box**	*30m*

Source:

** Native species revegetation, A Guide for the Mid Western Regional Council Area, Watershed Landcare Incorporated*

Plant set-out

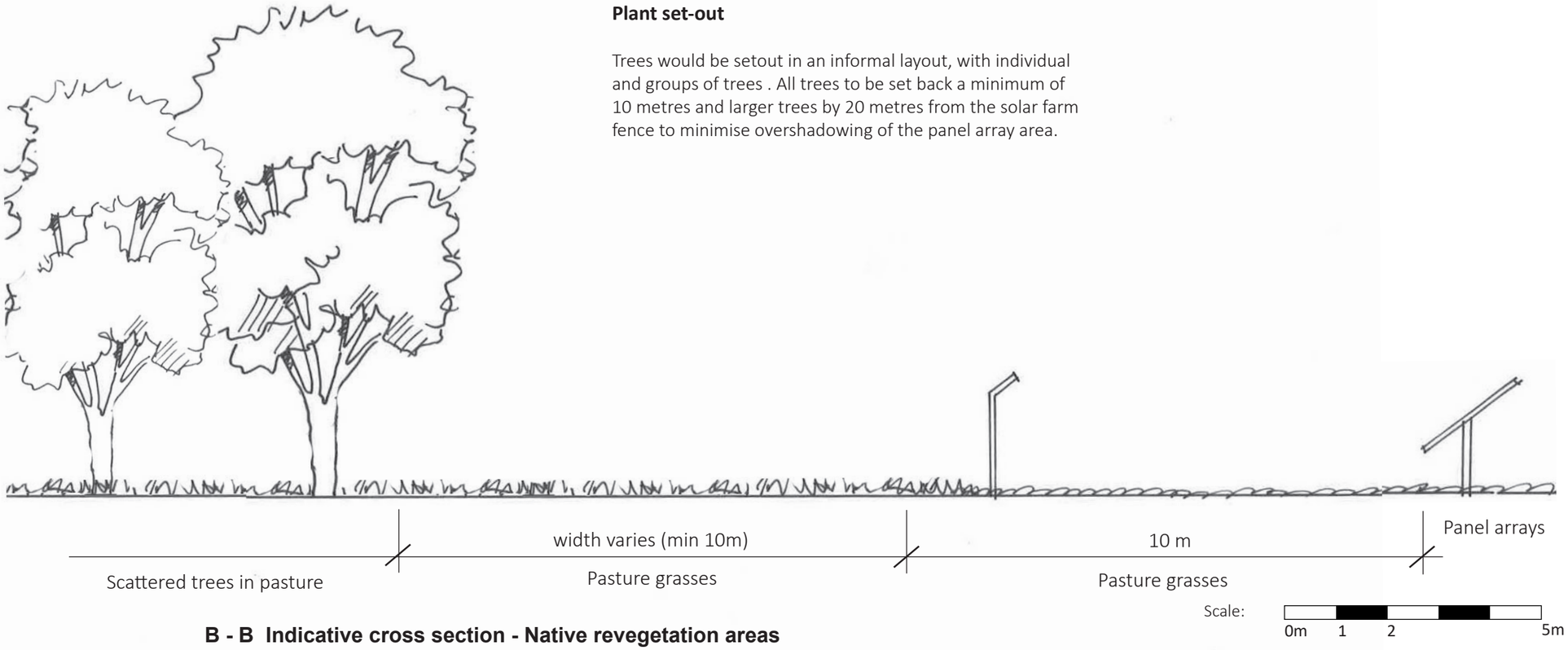
Trees would be setout in an informal layout, with individual and groups of trees . All trees to be set back a minimum of 10 metres and larger trees by 20 metres from the solar farm fence to minimise overshadowing of the panel array area.

Specification notes

- Individual planting holes to be excavated, backfilled with ameliorated site soil and mulch to be applied across disturbed area.
- 3 month (13 week) establishment followed by a 21 month monitoring period (total 24 months). Ongoing maintenance would be managed by the operator for the life of the project.
- Refer to the Vegetation Management Plan for further details.

Eucalyptus mellidora, Yellow box

Eucalyptus albens, White box



B - B Indicative cross section - Native revegetation areas

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FIGURE 4: SCATTERED TREES IN PASTURE

Date: June 2022
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Issue: Rev3

2. MOUNDING WITH SCATTERED TREES IN PASTURE

Mounds would be located to provide an immediate screening effect in views from the Castlereagh Highway and residences within 500 metres of the panel arrays. The mounding would be gently sloping (to a maximum gradient of 1:5) to fit within the character of the surrounding undulating landform. Mounding has been located on higher ground, where possible, to maximise their effectiveness. These areas would be sown with pasture grasses and suitable for grazing during operation.

Scattered individual trees will be located across the mounds to improve the amenity of views from surrounding areas. These trees will be local native species with a single trunk and open canopy. These trees will provide some filtering of views where the solar farm can be seen from elevated areas, provide tree canopy cover and habitat.

Plant list:

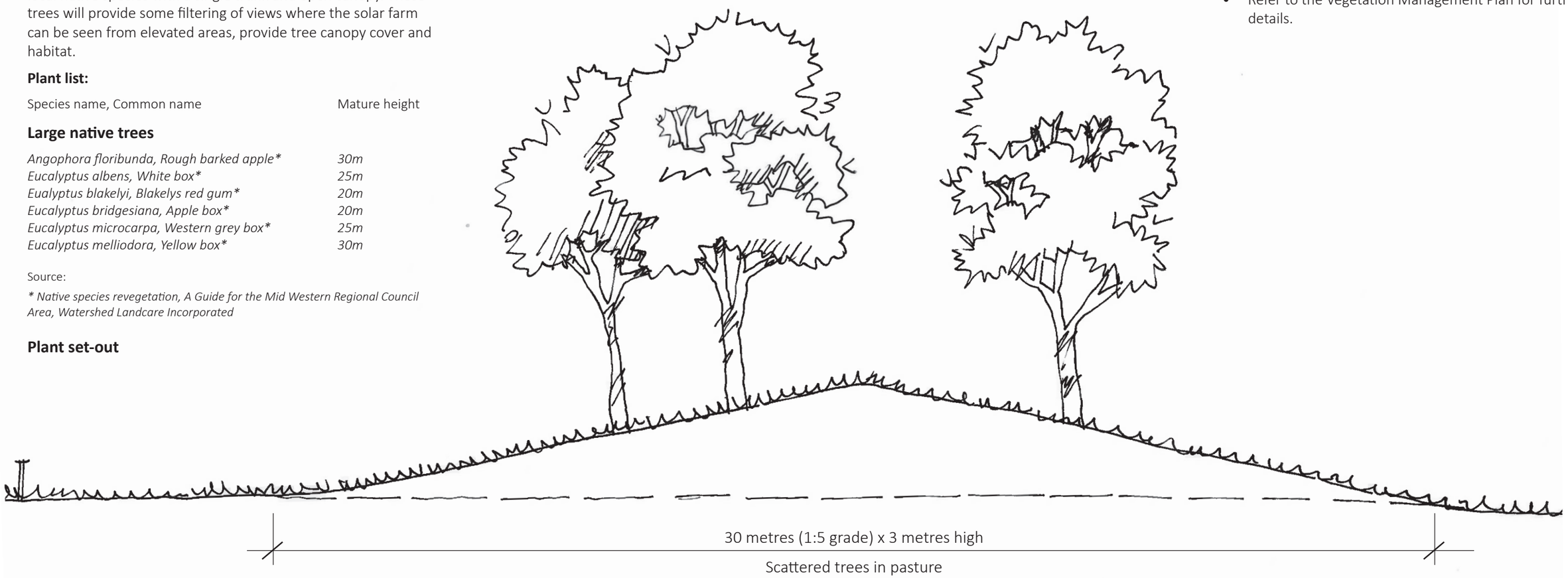
Species name, Common name	Mature height
Large native trees	
*Angophora floribunda, Rough barked apple**	*30m*
*Eucalyptus albens, White box**	*25m*
*Eualyptus blakelyi, Blakelys red gum**	*20m*
*Eucalyptus bridgesiana, Apple box**	*20m*
*Eucalyptus microcarpa, Western grey box**	*25m*
*Eucalyptus melliodora, Yellow box**	*30m*

Source:

** Native species revegetation, A Guide for the Mid Western Regional Council Area, Watershed Landcare Incorporated*

Plant set-out

Trees would be setout in an informal layout, with individual and groups of trees . All trees to be set back a minimum of 10 metres and larger trees by 20 metres from the solar farm fence to minimise overshadowing of the panel array area.



C - C Indicative cross section, mounding with scattered trees in pasture areas

Scale: 0m 1 2 5m

Specification notes

- Individual planting holes to be excavated, backfilled with ameliorated site soil and mulch to be applied across disturbed area.
- 3 month (13 week) establishment followed by a 21 month monitoring period (total 24 months). Ongoing maintenance would be managed by the operator for the life of the project.
- Temporary fences and / or tree guard sleeves and stakes to be installed and maintained untill trees would not be impacted by grazing livestock.
- Refer to the Vegetation Management Plan for further details.

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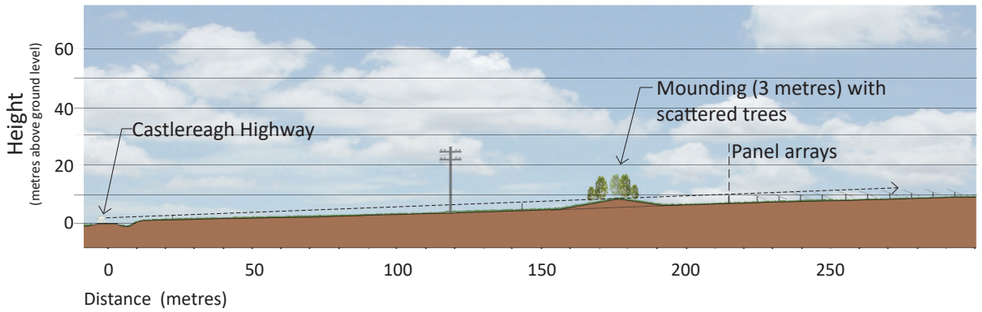
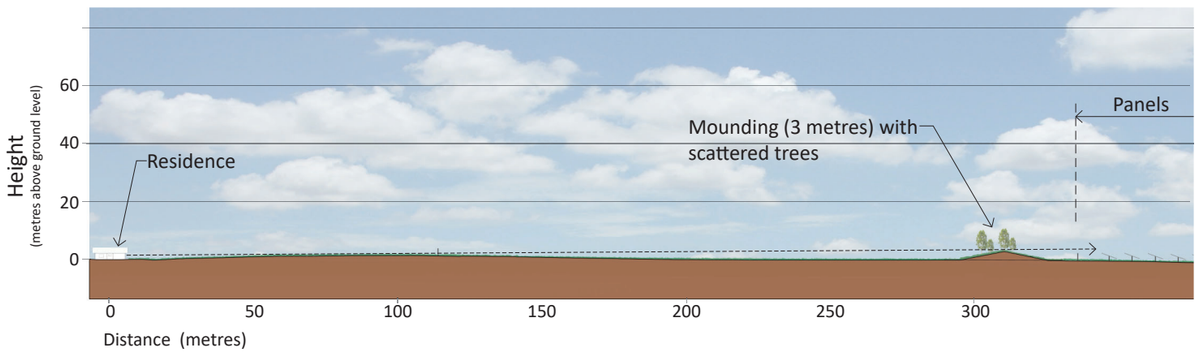
FIGURE 5: SCATTERED TREES IN PASTURE AREAS

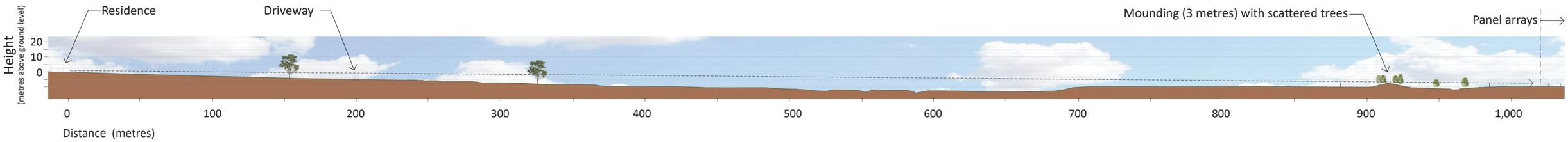
Date: July 2022 Drawn: SR
Job Number: 2021-223 Issue: Rev1



D - D Long section showing screening effect of mounding on views from the Castlereagh Highway



E - E Long section showing screening effect of mounding on view from dwelling at 312 Castlereagh Highway



F - F Long section showing screening effect of mounding on views from short term holiday let at 433 Castlereagh Highway

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FIGURE 6: LONG SECTIONS

Date: July 2022
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Issue: Rev1