



METZ SOLAR FARM LANDSCAPING PLAN-V4



Armidale Tree Group

Prepared by: Alicia Cooper

Armidale Tree Group

80 Mann St, Armidale NSW 2350

P: 02 6771 1620

E: manager@armidaletreegroup.org.au

Version Completed On: 05/06/2019

Client: Clenergy

While reasonable care has been taken in preparing this report to ensure the information is true and correct, the author gives no assurance as to the accuracy of any information in this report. The author expressly disclaims, to the maximum extent permitted by law, all responsibility and liability to any person, arising directly or indirectly from any act or omission, or for any consequences of any such act or omission, made in reliance on the contents of this publication, whether or not caused by any negligence on the part of the author.

Contents

Summary	4
Background	4
Purpose	5
Objectives.....	5
Consultation	5
Onsite Planting	5
Location.....	5
Species	6
Density and Planting Methods	6
Establishment and Monitoring.....	7
Fencing	7
Environmental Control Measures	7
Compliance Management	8
Training	8
Monitoring and Inspection.....	8
Ongoing Management	10
Appendix A – Original Site Map.....	10
Appendix B – Consultation	11
Appendix C – Letters from OEH.....	13
Appendix D – Letter/email from RMS	15
Appendix E – Addendum to Site Design and Management Plan.....	17
Appendix F – Email from Council	19

Friday, February 22, 2019 at 9:56:57 AM Australian Eastern Daylight Time

Subject: RE: Metz Solar Farm - Landscaping Plan
Date: Friday, 22 February 2019 at 9:06:24 am Australian Eastern Daylight Time
From: Sonia Broun
To: Richard Single, Shane Melotte
Attachments: image001.png, image002.png, image003.png, image004.png, image005.jpg, image006.jpg, image007.jpg, image008.jpg

Hi Shane and Richard,

Thanks for you input Richard and for making the changes Shane to address Council’s concerns.

All the best with the next stage of the development Shane.

Many thanks,

Regards

Sonia Broun
Town Planner

P 02 6770 3823 F 02 6772 9275
E sbroun@armidale.nsw.gov.au W armidaleregional.nsw.gov.au
135 Rusden Street | PO Box 75A Armidale NSW 2350



From: Richard Single
Sent: Friday, 22 February 2019 9:02 AM
To: 'Shane Melotte'
Cc: Sonia Broun
Subject: RE: Metz Solar Farm - Landscaping Plan

Hi Shane

The changes look good and I am happy with the updated Landscape Plan (Version 3).

Regards

Richard Single
Project Officer - Parks and Gardens

P (02) 6770 3983 F 02 6772 9275
E rsingle@armidale.nsw.gov.au W armidaleregional.nsw.gov.au
135 Rusden Street | PO Box 75A Armidale NSW 2350

..... 19

Appendix G – Updated Vegetation Layout..... 0

Summary

This Landscape Management Plan (LMP) has been prepared for the Metz Solar Farm and addresses the requirements set out in the DA Conditions of Consent (CoC) 7 & 8 in Schedule 3.

Background

The following Conditions of Consent were issued in the DA and detail the requirements of the LMP.

Vegetated Buffer

7. The Applicant must establish and maintain a mature vegetation buffer around the site at the locations outlined in the figure in Appendix 1, to the satisfaction of the Secretary. This buffer must:

- (a) be planted prior to the commencement of operations;*
- (b) include planting that is additional to existing vegetation within the curtilage of the site;*
- (c) consist of vegetation species that facilitate the best possible outcome in terms of visual screening;*
- (d) be effective at screening views of the solar panels and ancillary infrastructure on site from surrounding residences within 3 years of the commencement of construction;*
- (e) minimise the glare from the solar panels on road users;*
- (f) be properly maintained and kept free of weeds; and*
- (g) be fenced in the event that stock are kept on the site.*

Landscaping Plan

8. Prior to the commencement of construction, the Applicant must prepare a detailed Landscaping Plan for the site in consultation with RMS, OEH, Council and the owners of Residence 1 (shown in Appendix 1), to the satisfaction of the Secretary. The plan must:

- (a) include a description of measures that would be implemented to ensure that the vegetated buffer achieves the objectives of condition 7(b)-(g) of this consent;*
- (b) include a program to monitor and report on the effectiveness of these measures; and*
- (c) include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.*

Purpose

The purpose of this plan is to describe how the Armidale Tree Group proposes to manage the landscaping and ongoing management of the vegetation buffer.

Objectives

The key objective of this LMP is to ensure that the vegetative buffers are planned and completed as required.

To achieve this objective, the Armidale Tree Group Inc. will:

- Ensure appropriate planning and procedures are implemented during preparation, establishment and maintenance of the buffer area.
- Facilitate consultation with Council, Office of Environment and Heritage regarding establishment of the buffer.
- Ensure appropriate measures are implemented to address the CoC.

Consultation

Consultations for the preparation of this plan was carried out with Armidale Regional Council and OEH. During a meeting with council on the 14th of September 2017, concerns were raised over a particular species listed for consideration. Species recommendations were considered and addressed in the plan. The draft plan was forwarded to OEH for comment on the 13th of October 2017. (Appendix B)

Onsite Planting

Planting will be as required by the CoC in the form of vegetative buffers on the southern side of the solar farm.

Location

Planting areas will be a minimum 20 metres wide and maximum 25 metres (Appendix A). A 10-metre exclusion zone will be applied to areas identified as possible indigenous heritage.

The vegetation layout was updated in late 2018 by Clenergy. The eastern section of planting was moved farther up the hill to be 15m south of the southern boundary of the solar field (Appendix G).

Species

The species for use in the vegetation belt were selected for their growth characteristics, such as density and height at maturity, their tolerance of local conditions and for their contribution to the biodiversity of the area. The Armidale Tree Group sources local provenance seed that will be acclimated to the project area.

Representative species include:

Trees	Shrubs/Small Trees
<ul style="list-style-type: none"> • <i>Eucalyptus acaciiformis</i> • <i>Eucalyptus blakelyi</i> • <i>Eucalyptus michaeliana</i> • <i>Eucalyptus dalrympleana</i> • <i>Eucalyptus camphora</i> • <i>Eucalyptus nova anglica</i> • <i>Casuarina cunninghamiana</i> • <i>Acacia melanoxylon</i> 	<ul style="list-style-type: none"> • <i>Acacia rubida</i> • <i>Acacia dealbata</i> • <i>Acacia fimbriata</i> • <i>Acacia floribunda</i> • <i>Banksia integrifolia</i> • <i>Callistemon pungens</i> • <i>Callistemon sieberi</i>

Density and Planting Methods

Weeds are to be controlled by spraying with Glyphosate 1.5-2m wide along each row. Rows should be a minimum of 2m between centres and 1.5m from fences. This should be completed as early as possible so moisture can start accumulating. The rows may need to be sprayed several times, depending on weed growth.

To ameliorate the local soil conditions, extra deep ripping to a depth of 750mm will be employed. This will fracture the hard pan, allowing for greater root penetration and reducing the energy output required for root growth. This will increase the seedling growth rate (as opposed to growth rate without extra deep ripping) and will enable greater access to water and nutrients. Following up the deep rip with mounding will concentrate the topsoil, thus increasing the nutrient and soil water holding capacity. The increase in topsoil depth will also contribute to easier establishment of seedling roots in the aerated soil.

The vegetation screening will consist of a northern section near the border of the solar farm and a southern section running east-west parallel to the Waterfall Way road. The belt will be approximately 1.25km long and will be a minimum of 20m wide. It should consist of 5 rows, including an inner row of trees and 4 outer rows of shrubs/small trees. The original vegetation map can be found in Appendix A. As the screening has been moved northwards to the crest of the hill, the Armidale Tree Group recommends that it is no longer necessary to install a 25m wide section of vegetation screening. This was required for the original plan with Infinergy Pacific, when the vegetation belt was midway down the hill and did not provide adequate screening. Further details can be found in the Site Design and Management Plan.

Following spraying and ripping of the site, hardened hiko stock will be planted out in autumn. Native formulated slow release fertiliser should be applied to each plant at time of planting. This will

provide nutrients for an average of 9 months. All plants should be watered in at planting with at least 2 litres of water per plant.

Plants should be protected with a Corflute tree guard. Corflute guards are UV stabilised and have been shown to provide the optimal protection for young trees. Corflute guards create a microclimate around the immature plant, increasing the growth rate. Protection during their first two seasons of growth will be critical to their long-term success rate. Corflute guards will also protect from climatic extremes, browsing pests and spray drift from follow up weed control.

Establishment and Monitoring

Hardened hiko stock will be planted in autumn with slow release native formulated fertiliser. Water crystals may be used depending on local weather forecasts for the season. Corflute tree guards will be applied at time of planting. Seedlings will be monitored for two years with follow up watering and weed control as necessary. Trees will be monitored for mortality during establishment. Mortalities greater than 10% or gaps greater than 5m will be replaced within the first 5 years.

Any stock on site must be excluded from the Landscaped areas.

Fencing

Stock proof fencing will be placed around the entire perimeter of vegetation screening to protect it during the establishment period and adequately maintained for a minimum period of 3 years or a longer period as required to ensure the vegetation screen is established.

Environmental Control Measures

Requirement	When implemented	Responsibility
General		
Training will be provided to all ATG staff and sub-contractors working onsite.	Pre-preparation/planting of site.	Armidale Tree Group
Landscaping		
Spray drift from weed control will be minimised through the use of a low drift nozzle and spraying during suitable weather conditions.	Pre-planting and during follow up spraying.	Armidale Tree Group
Compliance with Aboriginal Cultural Heritage Management Plan. (10m exclusion zone around heritage sites.)	During site preparation and all follow up management of Landscape areas.	Armidale Tree Group and sub-contractors

Compliance Management

Specific roles and responsibilities are detailed under Environmental Control Measures.

Training

All Armidale Tree Group employees and contractors working onsite will undergo site induction training relating to landscape management issues. This induction will address:

- Existence and requirements of this plan
- Location of indigenous heritage sites
- Site Design and Management Plan

Monitoring and Inspection

Armidale Tree Group will be responsible for the management schedule. To ensure optimum survival, the site should be maintained for 3 years. (Minimum of 12 months for basic survival.) Dates provided for follow up inspections, including watering and weeding requirements, are estimates only and actual dates will depend on seasonal conditions and recommendations based on visual inspections. All scheduled inspections will assess multiple conditions at the site, including weed growth, subsurface moisture, plant losses and tree guard integrity.

The following table provides an indicative implementation program for the project. The implementation program needs to be flexible to accommodate for seasonal variations and unforeseen changes over the life of the project. Ideally, a site should be prepared 12 months in advance of planting.

Management Schedule	
Date	Activity
Year: 2019	
January	Spray out rows with Glyphosate
January 2 weeks post weed spray	Extra deep ripping of rows
February	Follow up spray of rows if needed
February	Light post planting rip
March	Planting works
March 2 weeks post-works	Follow up inspection including watering if necessary
April-May	Follow up inspection, including watering/weed control if necessary
August	Site inspection, including watering/weed control if necessary
Year: 2020	
February	Site inspection, reapplication of fertiliser, watering/weed control if necessary
April-May	Site inspection, including watering/weed control if necessary
September	Site inspections, including watering/weed control if necessary
Year 2021	
March	Site inspection including watering/weed control if necessary
September-October	Site inspection including watering/weed control if necessary. Removal of tree guards. (Guards should be left in place if seedlings are <1m)

Ongoing Management

Following the three – year maintenance schedule for initial establishment, the vegetation buffers will need to be maintained for the lifetime of the Metz Solar Farm. Weed control and replacement planting will be a priority to ensure the ongoing health and screening properties of the vegetated buffer. Following the conclusion of the initial maintenance schedule, twice – yearly inspections should be carried out by an experienced operator for a further six years, which will inform necessary weed control and replacement planting. Concluding this period, site inspections should be carried out once a year for the lifetime of the project, again with weed control and replacement planting being informed by the results of the site inspection.

The progression of the vegetation screen should be assessed from various vantage points along Waterfall Way road. (See Appendix A)

Appendix A – Original Site Map

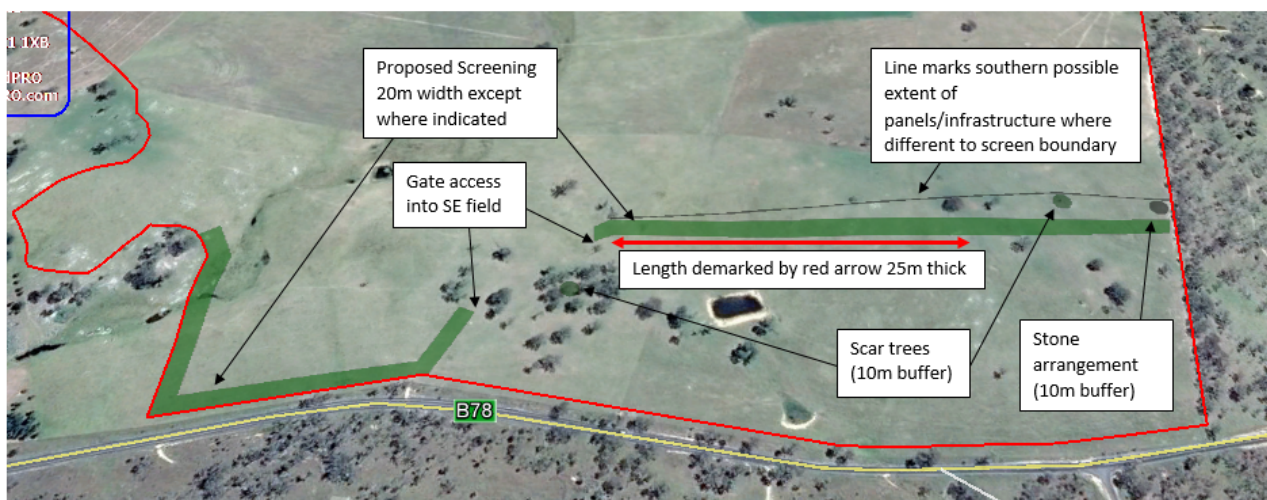


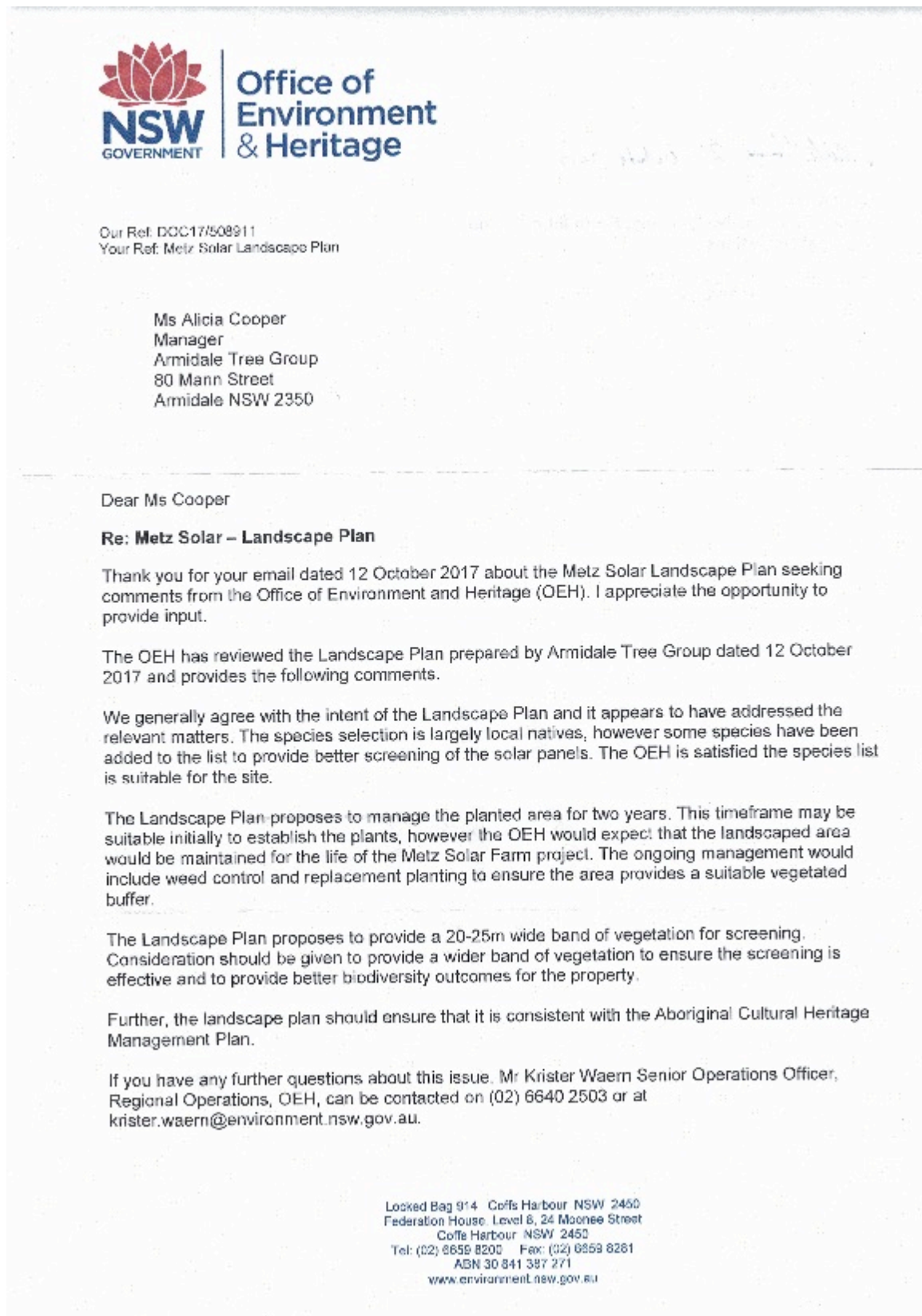
Image supplied by Google Earth.

Appendix B – Consultation

Council Response			
Date	Action	Comments	Response
14/09/2017	Meeting with Council, Infinergy Pacific and ATG.	The species list should be amended to remove the inclusion of Melaleucas.	The species mentioned were removed from the plan.
12/10/2017	Plan sent to Council	-	-
OEH Response			
Date	Action	Comments	Response
12/10/2017	Phone call with Dimitri Young.	-	Draft LMP plan emailed for OEH consideration.
06/11/2017	Meeting at project site with OEH, R1, Infinergy Pacific and ATG.	Management plan should extend for three years in keeping with EIS recommendations. Include provisions for replacement of losses.	Maintenance schedule updated. Replacement of losses already demonstrated in plan.
06/11/2017	Letter received. (See Appendix C)	Landscaped area should be maintained for the lifetime of the project. Consideration should be given to provide a wider band of vegetation. LMP should ensure that it is consistent with the Aboriginal Cultural Heritage Management Plan.	Management timeframe updated. Infinergy Pacific reviewing width of vegetation buffer.
RMS Response			
Date	Action	Comments	Response
16/10/2017	Draft Plan sent to RMS.	-	-
7/11/2017	Letter received. (See Appendix D)	Consultation section should include all parties.	Consultation section updated.
R1 Response			
Date	Action	Comments	Response
18/09/2017	Site meeting with R1, Infinergy Pacific and ATG.	A number of concerns were raised on the day.	ATG prepared an addendum to the Site Design & Management Plan. (See Appendix E)
Clenergy			
24/01/2019	Site Meeting	Site meeting to discuss proposed updated location of vegetation screen with landowners.	ATG
07/02/2019	Site Meeting	Follow up site meeting to discuss proposed updated location of vegetation screen with landowners and landowner of Residence 1.	
15/02/2019	Updated draft plan sent via email OEH, Council and RMS	Follow up phone conversations and emails held with all parties, Council requested some minor changes to the species (add in Eucalyptus Nova Anglica and remove Eucalyptus Prava). OEH requested retention of same approx. overall length of landscaping in the original plan. RMS raised no initial concerns regarding the proposed amendments.	Species have been updated as per Councils request Length of landscaping now reflect that of the original approval (1.25km)
19/02/2019	Updated draft Plan sent to owner of	Follow up phone conversation from landowner who advised he would not be able to look at it for a few days.	

	Residence 1 for Comment		
21/02/2019	Version 3 of the plan incorporating feedback on Version 2 provided to Council, OEH, RMS and Sensitive Receiver 1.		<p>OEH confirmed their preliminary advice on 21/02/2019 – see appendix C</p> <p>Council confirmed their comfort with latest version of the plan via email on 22/02/2019 –</p> <p>RMS confirmed their comfort with the latest version of the plan via email subject to conditions on 22/02/2019 – Appendix D</p>
05/06/2019	Version 4		Addition of requirements for fencing around the vegetation screen areas

Appendix C – Letters from OEH





Office of
Environment
& Heritage

Our Ref: DOC19/133461
Your Ref: SSD 7931

Mr Shane Melotte
Via email to
shane.melotte@clenergy.com>

Dear Mr Melotte

Re: Pre-Lodgement Advice - Metz Solar Farm - Landscaping Plan (SSD 7931)

Thank you for your email dated 15 February 2019 about the proposed modification to the Metz Solar Farm major project seeking pre-lodgement advice from the Office of Environment and Heritage (OEH). I appreciate the opportunity to provide early input.

Further to your above email, the OEH has reviewed the proposed amendments to the Landscape Plan attached to your email of 21 February 2019. The Landscape Plan is a requirement of the existing development consent conditions (condition 7 of Schedule 3 SSD 7931).

We understand that the proposed modification relates to the location of the vegetated buffer/screening area and that the updated location for the landscaping will provide a better buffer/screening of the solar farm.

The OEH has reviewed the proposed amendments and recommends that an equal or greater area of landscaping should be provided. The modification information to be provided to the Department of Planning and Environment should describe the area differences between the approved landscaping and that proposed to demonstrate that there is a 'no net loss' associated with the modification.

If you have any further questions about this issue, Mr Krister Waern, Senior Operations Officer, Conservation and Regional Delivery, OEH, can be contacted on 6640 2503 or at krister.waern@environment.nsw.gov.au.

Yours sincerely

Dimitri Young 21 February 2019

DIMITRI YOUNG
Senior Team Leader Planning, North East Branch
Conservation and Regional Delivery

cc: Mr Tim Stuckey, Department of Planning and Environment

Locked Bag 914 Coffs Harbour NSW 2450
Federation House, Level 8, 24 Moonsee Street
Coffs Harbour NSW 2450
Tel: (02) 6659 6200 Fax: (02) 6659 6281
ADN 30 641 387 271
www.environment.nsw.gov.au

Appendix D – Letter/email from RMS



File No: NTH16/00100/05

Armidale Tree Group
80 Mann Street
ARMIDALE NSW 2350

Attention: Alicia Cooper

Dear Ms Cooper,

Metz Solar Farm (SSD 7931) – Draft Landscaping Plan

I refer to your email of 16 October 2017 requesting comment from Roads and Maritime Services in relation to the abovementioned Draft Landscaping Plan.

Roles and Responsibilities

The key interests for Roads and Maritime are the safety and efficiency of the road network, traffic management, the integrity of infrastructure and the integration of land use and transport.

Waterfall Way (MR76) is a classified (State) road (a main road) under the *Roads Act 1993* (Roads Act). Armidale Regional Council (Council) is the roads authority for all public roads (other than freeways or Crown roads) in the local government area pursuant to Section 7 of the Roads Act. Roads and Maritime is the roads authority for freeways and can exercise roads authority functions for classified roads in accordance with the Roads Act. Any proposed works on a classified (State) road will require the consent of Roads and Maritime. Consent is provided under the terms of a Works Authorisation Deed (WAD).

Roads and Maritime Response

Roads and Maritime has reviewed the referred information and provides the following comments;

- Roads and Maritime supports vegetation screening to address glare/reflection impacts on Waterfall Way.
- Roads and Maritime reserves the right under Section 104 of the *Roads Act 1993* to direct the owner or occupier of the land to screen, modify or remove any work or structure if it is deemed a traffic hazard.

If you have any further enquiries regarding the above comments please do not hesitate to contact Liz Smith, Manager Land Use Assessment on (02) 6640 1362 or via email at: development.northern@rms.nsw.gov.au

Yours faithfully

A handwritten signature in blue ink, appearing to read 'Liz Smith'.

For Monica Sirol
Network & Safety Manager, Northern Region
7/11/2017

Roads and Maritime Services

76 Victoria Street, Grafton NSW 2460 |
PO Box 576, Grafton NSW 2460 |

www.rms.nsw.gov.au | 13 22 13

Friday, February 22, 2019 at 2:41:20 PM Australian Eastern Daylight Time

Subject: RE: Metz Solar Farm - Landscape Plan V3
Date: Friday, 22 February 2019 at 12:04:52 pm Australian Eastern Daylight Time
From: SCIFFER Greg
To: Shane Melotte
Attachments: image005.jpg, image007.jpg, image009.jpg, image011.jpg

Shane

Reference is made to discussions today concerning the proposed Landscape Management Plan V3. Roads and Maritime Services has reviewed the information and the following comments are provided;

- Roads and Maritime would support the proposed plan to address glare/reflection impacts on the Waterfall Way.
- Roads and Maritime reserves the right under Section 104 of the Roads Act 1993 to direct the owner or occupier of the land to screen, modify or remove any work or structure if it is deemed a traffic hazard.

If you have any further enquiries regarding the above comments please do not hesitate to contact Greg Sciffer, Development Assessment Officer on (02) 6640 1362 or via email at: development.northern@rms.nsw.gov.au

Regards
Greg Sciffer

From: Shane Melotte [mailto:shane.melotte@clenergy.com]
Sent: Thursday, 21 February 2019 3:50 PM
To: SCIFFER Greg
Cc: charlie.cao@clenergy.com.au
Subject: Metz Solar Farm - Landscape Plan

Hi Greg,

Thank you for your time on the phone earlier today.

As discussed please find attached Version 3 of the plan which now has the same length of landscaping as proposed under the original plan.

Don't hesitate to contact me anytime if you have any further questions

Best Regards,

Shane

Shane Melotte
Land and Permitting Manager – Global Project Business

M: 0429 778 080
www.clenergy.com.au



Offices: Germany, Australia, China, Hong Kong, Japan, Malaysia, USA, UK

Page 1 of 2

Appendix E – Addendum to Site Design and Management Plan

Armidale Tree Group



Armidale Tree Group
80 Mann St, Armidale, NSW 2350
Ph: 02 6771 1620
E: manager@armidaletreegroup.org.au

Date: 29/09/17

Re: Concerns raised over the Metz Solar Farm Site Design and Management Plan Vegetation Belt Design

As mentioned in the Site Design and Management Plan, the entire screening belt will consist of inner rows of trees and two outer rows of dense shrubs. The majority of the belt will be a minimum of 20m wide, consisting of 5 rows in total-one inner row of trees and four outer rows of shrubs. The belt will increase to 24m wide along the northern edge to provide the main visual screen for R1. This section will extend for approximately 350m and will consist of 6 rows in total-two inner rows of trees and four outer rows of shrubs. Shrubs will be planted at 1.5m. Higher density planting has been shown to assist in shading out competing weeds and will result in quicker screening. The Armidale Tree Group has had excellent success with *Acacia rubida* on local clay soils. It is a fast growing, dense, long lived shrub. *A. rubida* and other will be mixed with other dense, quick growing shrubs. We believe any concerns over *Eucalyptus* trunks not providing a screening effect should be allayed as the shrub rows will provide dense, lower screening.

Planting design for northern edge screening belt.



 Tree Row
 Shrub Row

Armidale Tree Group

Soil Amelioration

To ameliorate the local soil conditions, extra deep ripping to a depth of 750mm will be employed. This will fracture the hard pan, allowing for greater root penetration and reducing the energy output required for root growth. This will increase the seedling growth rate (as opposed to growth rate without extra deep ripping) and will enable greater access to water and nutrients.

Following up the deep rip with mounding will concentrate the topsoil, thus increasing the nutrient and soil water holding capacity. The increase in topsoil depth will also contribute to easier establishment of seedling roots in the aerated soil.

A dedicated management regime involving weed control and follow up watering for two years will significantly contribute to the success of the vegetation barriers. Additionally, the use of large corflute guards will provide superior seedling protection, (as opposed to the milk cartons commonly employed on private properties) with greater protection from frost and wind damage, enhanced microclimate and more effective protection from browsing pests such as rabbits.

Soil Tests

Dispersion tests were conducted on several soil samples gathered from the site. A highly dispersive soil inhibits the water and air movement and slows down the intake of water to the root zone. The average dispersion index was 2.5 out of a possible 16, indicating a stable soil that should resist dispersal quite well. Slaking was scored at 1, further indicating that the soil is stable to wetting.

Establishment of Vegetation Buffers

It is the opinion of the Armidale Tree Group that if our recommendations regarding site preparation and management are followed, there will be successful establishment of the vegetation buffer at the Metz Solar farm site.

The Armidale Tree Group cannot comment on the success rate of plantings undertaken by the owners of R1, as we were not responsible for the planting or management of these shelterbelts.

Appendix F – Email from Council

Friday, February 22, 2019 at 9:56:57 AM Australian Eastern Daylight Time

Subject: RE: Metz Solar Farm - Landscaping Plan
Date: Friday, 22 February 2019 at 9:06:24 am Australian Eastern Daylight Time
From: Sonia Broun
To: Richard Single, Shane Melotte
Attachments: image001.png, image002.png, image003.png, image004.png, image005.jpg, image006.jpg, image007.jpg, image008.jpg

Hi Shane and Richard,

Thanks for your input Richard and for making the changes Shane to address Council's concerns.

All the best with the next stage of the development Shane.

Many thanks,

Regards

Sonia Broun

Town Planner

P 02 6770 3823 F 02 6772 9275

E sbroun@armidale.nsw.gov.au W armidaleregional.nsw.gov.au

135 Rusden Street | PO Box 75A Armidale NSW 2350



From: Richard Single
Sent: Friday, 22 February 2019 9:02 AM
To: 'Shane Melotte'
Cc: Sonia Broun
Subject: RE: Metz Solar Farm - Landscaping Plan

Hi Shane

The changes look good and I am happy with the updated Landscape Plan (Version 3).

Regards

Richard Single

Project Officer - Parks and Gardens

P (02) 6770 3983 F 02 6772 9275

E rsingle@armidale.nsw.gov.au W armidaleregional.nsw.gov.au

135 Rusden Street | PO Box 75A Armidale NSW 2350

Appendix G – Updated Vegetation Layout

