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ADDENDUM LAND MANAGEMENT PLAN

936 Bacchus Marsh Road Bullengarook VIC



Prepared for: CADDICK DESIGNS ON BEHALF OF ATHANASI INVESTMENT PTY LTD
Level 1, Office 2 – 50 Aitken Street
Gisborne VIC 3437

Site: 936 Bacchus Marsh Road
Bullengarook VIC

Prepared by: R H Krainz – Eco Vision Australia

Reference No. 76HO19 LMP ADD

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TABLE OF CONTENTS

1. Executive Summary
2. Introduction
3. Description of the Development
4. Site Key Features
5. Proposed LMZ4 Site Activity Discussion
6. Site Photos

1. Executive Summary

The purpose of this report is to provide an amended Land Management Plan (LMP) for Caddick Designs on behalf of Athanasi Investment Pty Ltd who are proposing to have stock within the back paddock which is designated LMZ4 which covers an approximate 2.4ha area.

LMZ4 is a mix of existing vegetation, existing shed and grassed areas. Areas for protection and revegetation including the existing shed covers an area of approximately 0.9ha with balance of 1.5ha being available for grazing of stock. Other areas of the 8.1ha (LMZ1 to LMZ3) site has been managed well and consistent with existing planning permit conditions and consistent with the outcomes within the Land Management Plan completed by Coliban Ecology in 2017.

LMZ4 will attain a balance of grazed areas towards the rear of the paddock with revegetation within the creek line area providing protection for the watercourse. Existing paddock trees and groups of trees will be protected by suitable fencing. Diagram 3, p. 10 depicts proposed areas for protection and proposed grazing areas.

The 1.5ha grazing area has a Land Capability Grazing class between 1 and 2, which has been used to determine stocking rates in terms of Dry Sheep Equivalents (DSE).

The DSE for the site has been calculated at 8DSE/ha based on the site being an equal mix of classes 1 and 2. The 1.5ha can carry a maximum 12DSE.

LMZ 4 can carry a range of stock based on the DSE ratio. A combination of stock species is available to graze the land. For example, the area could carry the following combination of species:

- 12 Sheep
- 6 Sheep & 10 Goats
- 20 Goats
- 1 Cow & 2 Sheep
- 1 Cow and 2 calves

The methods used for this report include soil profile inspection, site survey and vegetation assessments undertaken by Eco Vision Australia (August 8th, 2019). A desktop study was undertaken and included obtaining relevant information and climate data.

Diagram 1 – Existing Site Plan and Land Management Zones from Coliban Ecology LMP



2. Introduction

Eco Vision Australia has been engaged to undertake an Addendum Land Management Plan (LMP) for a site at 936 Bacchus Marsh Road, Bullengarook. The field investigation and report have been undertaken and prepared by suitably experienced staff. Eco Vision Australia has appropriate professional indemnity insurance for this type of work. Our professional indemnity insurance certificate is available on request.

The report will accompany an amended planning application submitted to the Macedon Ranges Shire Council for the use of the rear paddock sized at approximately 2.4ha (Land Management Zone 4 (LMZ4) for use as a stock area in conjunction with a complementary revegetation strategy. Coliban Ecology prepared a Land Management Plan in 2017. The Land Management Plan zoned the 8.1ha site into four land management zones. The addendum report focuses on Land Management Zone 4 located to the rear of the property. The original planning permit dated March 10, 2017 as part of the original conditions noted that no livestock or horticultural activities occur with LMZ4.

The LMP prepared by Coliban Ecology notes that LMZ 4 be revegetated. LMZ4 is approximately 2.4ha in size and located towards the north west boundary. This area has a mix of retained indigenous vegetation, the watercourse towards the south east boundary of LMZ4, existing shedding, two metre high cyclone fencing and grassed areas. LMZ4 has gentle slopes to the south east with property elevation being approximately 530 metres. This document provides information about the site in regard to environmental management, vegetation protection and a suitable stocking rate (Dry Sheep Equivalent – DSE) based on the Grazing Land Capability Classes as described in the *Guidelines For Land Capability Assessment In Victoria* (1981) published by Soil Conservation Authority. , weed eradication and ongoing management plan.

LMZ is sized at 2.4ha rectangular in shape with the area boundaries being approximately 185 meters along the north west and south east boundaries with the north east and south west boundaries being approximately 130 metres in length.

Rainfall data obtained from Bullengarook Climate Station 087075.

Methods used to assess the site include the following:

- Desktop analysis and literature review considering existing past and present land use, topographical data and landform data.
- Site walkover and fieldwork including site photographs
- Use of NF-198 Land Meter and Nikon Farm Forestry Pro for GPS coordinates and distance measurements.

Site survey was undertaken by Eco Vision Australia in August 2019.

3. Description of the Development

Table 1 LMZ 4 Site Description

Site Address:	936 Bacchus Marsh Road Bullengarook
Owner/Developer:	Athanasia Investment Pty Ltd (Lorry Athanasia)
Postal Address:	Level 1 – Office 2, 50 Aitken Street Gisborne VIC 3437
Contact:	Caddick Designs – (03) 5428 1853
Water Catchment Area:	Port Phillip & Westernport
Declared Catchment:	Rosslynne Reservoir (Jackson Creek) Water Supply Catchment
Council Area:	Macedon Ranges Shire Council
Zoning:	Planning Zone – Rural Conservation Zone – Schedule 3 (RCZ3), Planning Overlays – Bushfire Management Overlay (BMO), Environmental Significance Overlay – Schedule 5 (ESO5).
Current Land Use:	LMZ4 is a fenced area, containing a mix of grassed areas, remnant vegetation, existing sheds and Wanin Creek located near the south east boundary of LMZ4.
LMZ4 Size:	2.4ha (24,000m ²)
Domestic Water Supply:	Dam and Tank
Site Geology	Quaternary Basalt
Site Soils	Yellow Brown Chromosols
Landform Element	The site is contained within an undulating plain with some consistency with the Monegeetta Land System.

4. Site Key Features

Table 2 LMZ4 Site Key Features

LMZ4 Area:	2.4ha
Building area and shedding :	0.02ha (200m ²) - approximately
Remnant and Regrowth Vegetation:	0.88ha (8,800m ²) - approximately
Paddock Trees:	10
Dams:	Located in LMZ3
Waterways:	One major – Warim Creek also small tributary with seasonal flow to Warim Creek.
Land Capability Class:	Predominately a mix of Grazing Land Class 1 & Land Class 2. Slopes less than 10% Rainfall Zone Greater than 750mm, Soil profiles deeper than 1m, moderately drained texture contrast soils moderately drained.
Landform Element:	The site is contained within a gently undulating basalt plain with higher hills containing sedimentary rock to the north west.
Site Geology:	Quaternary basalts
Soil Type:	Yellow Brown Chromosols. Typical Onsite soils - Yellow brown moderately structured loam to a maximum depth of 400mm. Between 400mm to a maximum depth of 700mm a strongly structured yellow brown light medium clay is encountered (moderate textural change between loam horizon and light clay horizon).
Soil Analysis	Organic matter: moderate (visual inspection) Dispersibility: Moderate The site is not impacted by salinity.
Annual Rainfall	779.8mm (Bullengarook East, Climate Station- No. 086374).
Bioregion	Central Victorian Uplands
Site Remnant Ecological Vegetation Class (EVC)	Varied depending upon topographical position and exposure Shrubby Foothill Forest (EVC – 40) Grassy Woodland (EVC -175) Sedgy Riparian Woodland (EVC 195) & mosaic of Grassy Woodland/Sedgy Riparian Woodland

5. Proposed LMZ4 Site Activity Discussion

The proposed activity for LMZ4 is to introduce some managed access for stock while undertaking complementary Land Management activities. Existing areas of indigenous vegetation will be fenced off along with the creek areas as defined in the Land Management Plan completed by Coliban Ecology and utilising revegetation strategies outlined in the Revegetation Plan completed by Practical Ecology.

It is recommended that all single paddock trees be fenced to provide protection from stock access.

Stocking rates have been based on the grazing sites Land Capability Class as described in the Guidelines For Land Capability Assessment In Victoria. The site is a mix of Land Capability Classes 1 and 2 as shown below:

LAND CAPABILITY RATING FOR GRAZING (Rainfall Zone more than 750 mm p.a.)

Grazing cattle (including dairy cattle) and sheep, on largely unimproved pastures which may include volunteer improved grass and clover species, both annuals and perennials*; occasional topdressing with superphosphate; fencing for stock control; control of rabbits by 1080 poisoning.

LAND FEATURES AFFECTING USE	CAPABILITY CLASS				
	1	2	3	4	5
SLOPE	Less than 10%	10% to 20%	20% to 35%	35% to 50%	More than 50%
ASPECT	E, NE	SE, NW, W	N, SW, S	-	-
SOIL GROUP (Northcote ppf)	Gradational soils; Um soils	Duplex soils with A-horizon thickness 15 to 60 cm	Other duplex soils; Uf, Ug, soils; Uc soils with impeding layer within 100 cm	Uc soils with no impeding layer within 100 cm	-
AVERAGE SOIL DEPTH	More than 1.0 m	0.6 m to 1.0 m	0.3 m to 0.6 m	0.1 m to 0.3 m	More than 0.1 m
SITE DRAINAGE	Well drained	Moderately or excessively well drained	Imperfectly or poorly drained	Very poorly drained	-
SURFACE ROCK	Less than 2%	2% to 15%	15% to 25%	25% to 40%	More than 40%

CAPABILITY CLASS	AVERAGE CARRYING CAPACITY DSE/ha	CONSERVATION MANAGEMENT REQUIREMENTS
1	9	No general conservation management
2	7	
3	4½	
4	2½	
5	½	Strict grazing control, opportunity grazing to seasonal conditions

The DSE for the site has been calculated at 8DSE/ha based on the site being an equal mix of classes 1 and 2. The 1.5ha can carry a maximum 12DSE.

LMZ 4 can carry a range of stock based on the DSE ratio. A combination of stock species is available to graze the land. For example, the area could carry the following combination of species:

- 12 Sheep
- 6 Sheep & 10 Goats
- 20 Goats
- 1 Cow & 2 Sheep
- 1 Cow and 2 calves

Sheep and Alpacas have DSE ratio of 1 while goats being lighter having DSE ratio 0.6. Cattle have a DSE equivalent of 10.

Protection of the watercourse will be enhanced through the revegetation strategy outlined by Practical Ecology. Grazing of smaller stock species allow a greater number of animals to be grazed, whereas heavier stock animal species are to be grazed at lower stock numbers.

Diagram 2 – Caddick Designs Site Plan

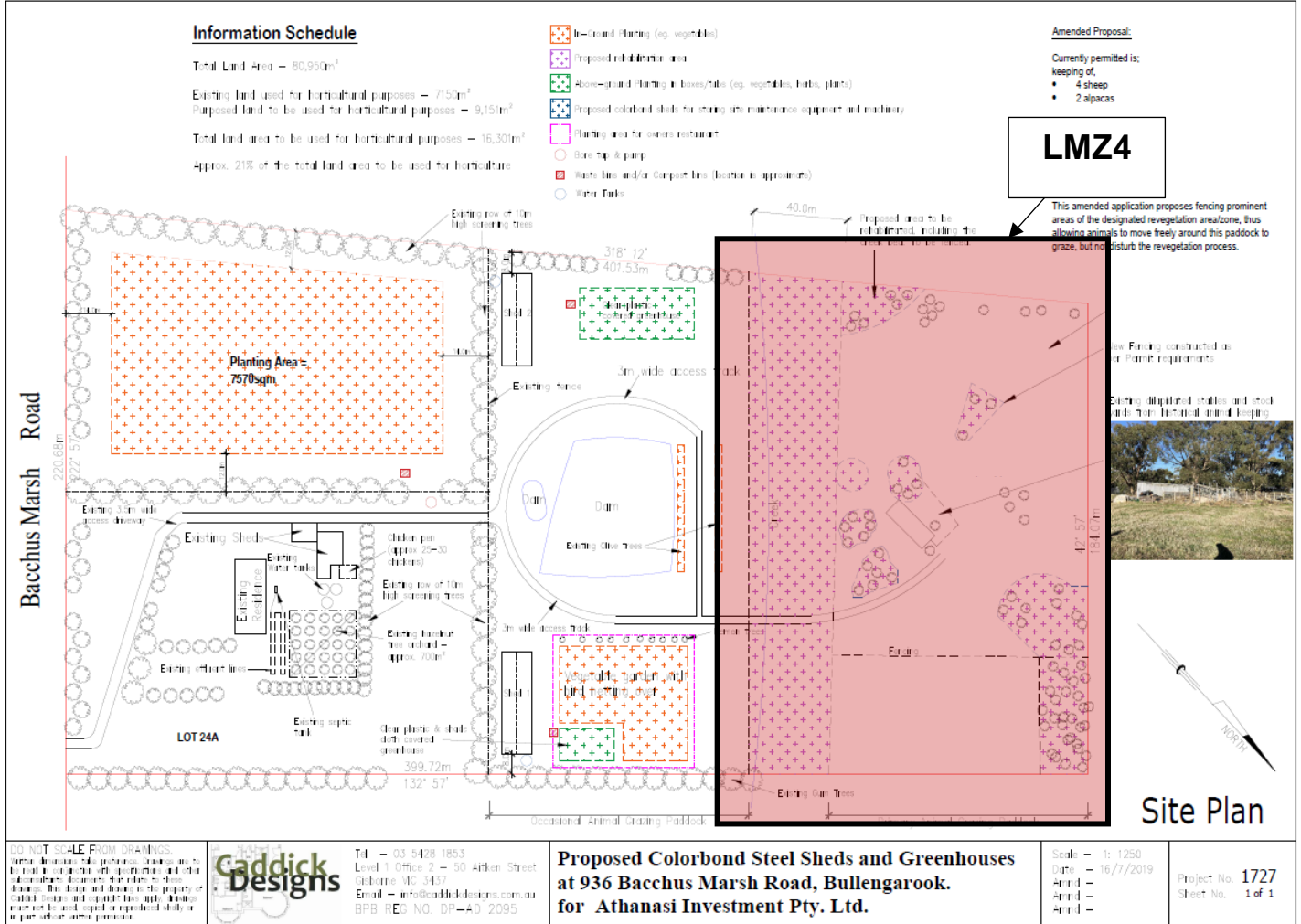
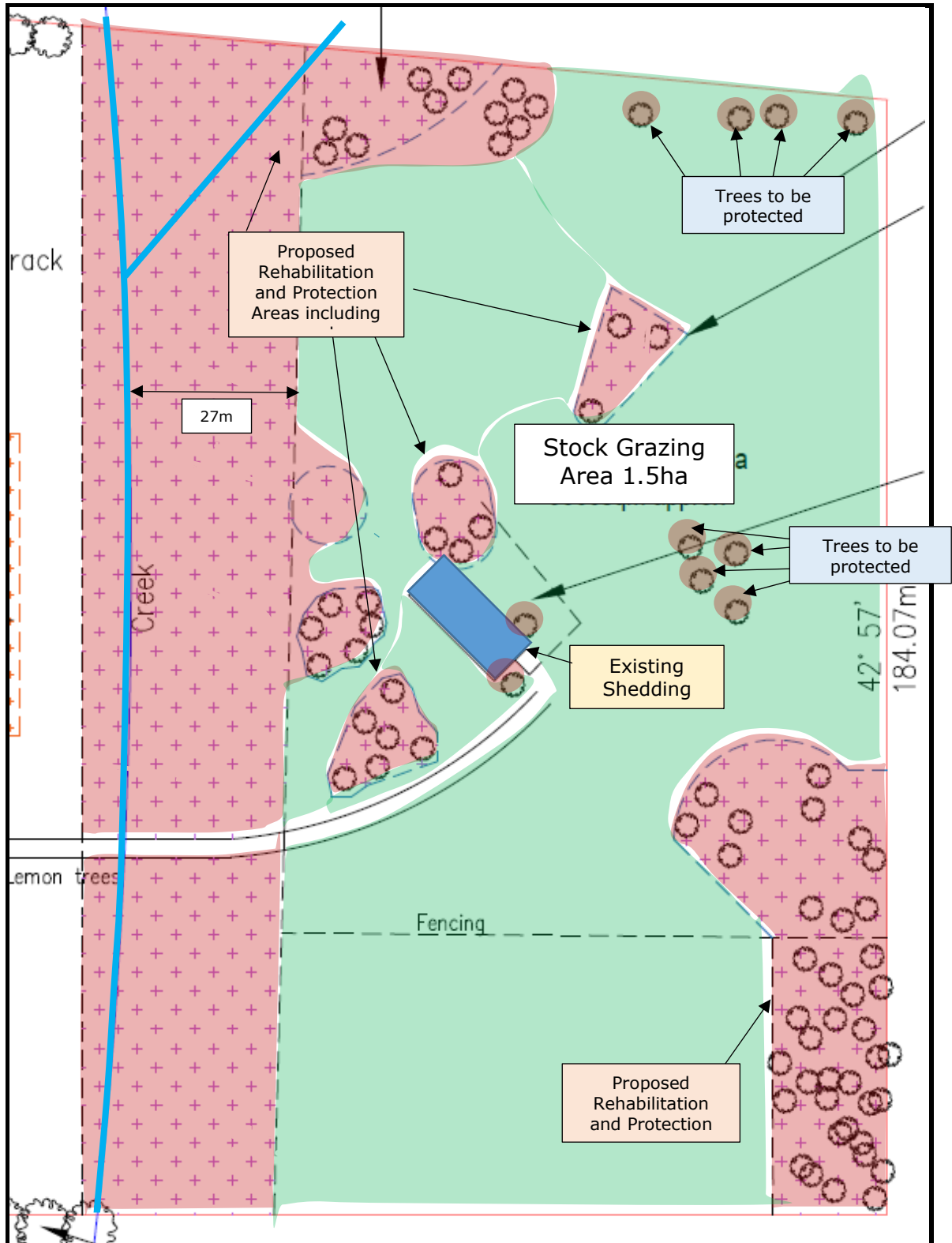


Diagram 3 – LMZ4 – Rehabilitation, Revegetation Protection area and proposed 1.5ha grazing area



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6. Site Photos



Plate 1 – View to the east depicting grassed areas for the proposed grazing area existing shedding, retained vegetation and creek line revegetation on lower slopes.



Plate 2 – View to the north west boundary depicting grassed areas for proposed grazing and cyclone fence to the rear.



Plate 3 – View to the south east depicting grassed areas for proposed grazing and proposed creek line revegetation on lower areas in the background.



Plate 4 – View to the west to the north west depicting grassed areas for proposed grazing and excellent 2-metre-high fencing.



Plate 5 – View to the west depicting existing watercourse to be revegetated along lower areas of LMZ4.



Plate 6 – View to the west depicting creek line areas to be revegetated within LMZ4.