



Approved Development Plan  
Planning and Environment Act 1987  
East Gippsland Planning Scheme  
**Development Plan Overlay Schedule 9  
(100 Nicholson-Sarsfield Road, Nicholson)**

Signed:



Director, East Gippsland Shire  
Date: .....16 November 2017...

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## Development Plan

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100 Nicholson-Sarsfield Road, Nicholson  
Lots 1 and 2 on TP335075L

Our reference: 17311

May 2017



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East Gippsland Planning Scheme

**Report Register**

**Development Plan Overlay Schedule 9  
(100 Nicholson-Sarsfield Road, Nicholson)**

This register documents the development and issue of report entitled Development Plan – 100 Nicholson, Nicholson prepared by Crowther & Sadler Pty Ltd in accordance with internal quality management systems. *Kate Nelson*

Director, East Gippsland Shire  
Date: 16 November 2017

Issue date	Version No.	Description	Issued to
31/05/2017	1	Development Plan	EGSC

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Appendix A: Geotechnical Risk Assessment - Simon Anderson Consultants

## 1. Introduction

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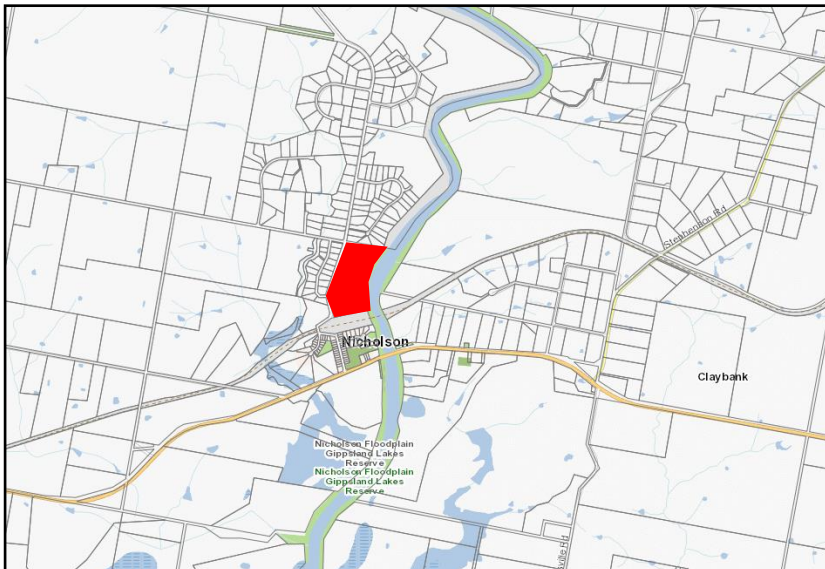
This Development Plan is prepared in accordance with Clause 4.0 of Schedule 9 to the Development Plan Overlay as contained within the *East Gippsland Planning Scheme*. This document applies to the property located at 100 Nicholson-Sarsfield Road, Nicholson, described as Lots 1 and 2 on Title Plan 335075L.

Kate Nelson

Clause 4 to Schedule 9 of the Development Plan Overlay details specific components for any Development Plan. This document provides a response to those requirements as appropriate.

## 2. Site Analysis

The subject land is formally described as Lots 1 and 2 on TP335075L having an area of approximately 13.4ha. The site is located on the northern periphery of the township area of Nicholson



Locality plan. Source: LASSI SPEAR

The subject land has historically been utilised grazing purposes and is predominately cleared grassland.



View north across the subject land

The land is slightly undulating characterised by two drainage lines. The southern drainage line is the longer of the two and includes a modest dam. A shorter but nonetheless steep drainage line is also located in the north east of the property rising to approximately 9m AHD. The two drainage lines commence at approximately 10m AHD and channel runoff low lying ground at the eastern boundary adjacent to the

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Kate Nelson

The south-east corner and north-east of the property offer two elevated terraces providing an outlook over the Nicholson River and land to the east.

Director, East Gippsland Shire  
Date: .....16 November 2017...



*View south from north-east corner of the subject land*

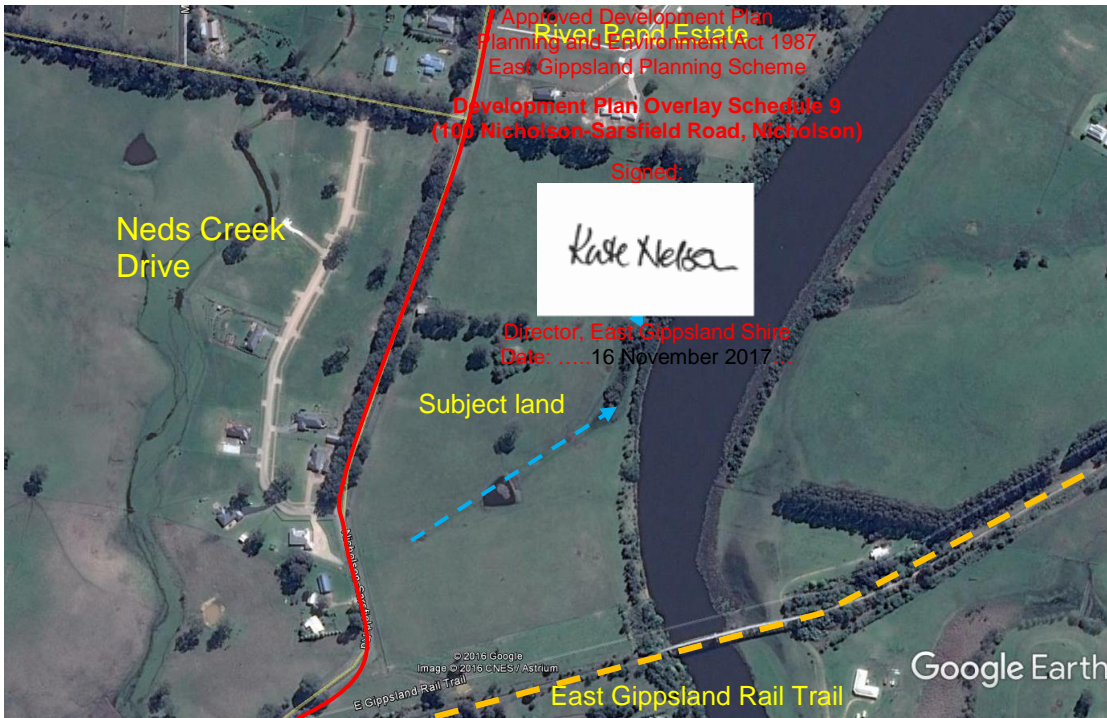


*View north from south-east corner of the subject land*

The property is substantially cleared of vegetation. A row of planted trees is situated in the northern portion of the property extending from the western boundary through the centre of the property to the abandoned dwelling. The former dwelling is surrounded in a variety of planted native trees and shrubs. Only three remnant eucalyptus trees remain on the property.

A small patch of wetland vegetation is situated on the lower flat and traverses the eastern boundary to the Nicholson River.

Roadside vegetation within the Nicholson-Sarsfield Road is recognised as locally significant forming part of a wildlife corridor. While vegetation is more prominent on the west side of Nicholson-Sarsfield Road a row of trees is also located on the east side of the road adjacent to the subject land for a distance of approximately 250m near the north-west corner of the property.



*Aerial image of subject land and surrounds*

To the south of the subject land is the East Gippsland Rail Trail. The Rail Trail is a significant recreation asset that provides an almost continuous dedicated cycling and pedestrian trail between Bairnsdale and Orbost. The *Michael Oxer Reserve* is located at a cross road with the Rail Trail another trail that provides access south to the Nicholson River and Princes Highway.



*View of Michael Oxer Reserve and southern shared trail at the junction of the Rail Trail*



*View of subject land and Crown Land from north end of Michael Reserve*

An opportunity exists to extend the gravel trail from the *Michael Ozer Reserve* north within the area of Crown Land adjoining the eastern boundary of the subject land and connecting with the footpath network within the development site.

An existing electricity supply easement dissects the western portion of the site in a north south direction and an existing water supply easement runs part way along the western property boundary.

An unnamed Government Road abuts the northern boundary of the property. The road reserve separates the subject land from a recent low density residential subdivision to the north known as *River Bend*. The road reserve contains several mature native trees.



*View east of un-named Government Road*



INSERT FIGURE 1 SITE ANALYSIS PLAN – DO NOT PRINT THIS PAGE

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**3. Urban Design Master Plan** Approved Development Plan  
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A Urban Design Master Plan (refer **Figure 2**) has been prepared for the subject land which nominates the creation of 74 lots for future residential development. Development Plan Overlay Schedule 1  
(100 Nicholson Sarsfield Road, Nicholson)

Signed:

The proposed residential allotments with approximate areas ranging between 919m<sup>2</sup> and 2,130m<sup>2</sup> are generous and larger than average which is considered the location providing a transition from residential properties to the south and low density residential developments to the west and north. Director, East Gippsland Shire  
Date: .....16 November 2017...



Lots have been designed with varying dimensions to ensure appropriate solar access and to maximise easterly views across the Nicholson River. The scheme of subdivision also proposes variation in the width and depth of allotments responsive to the varying levels in the topography of the site. All lots are provided with wide frontages to adjoining streets.

The subdivision layout will result in the removal of some established planted trees as well as the removal of a minimal number of remnant native trees within the subject land. Importantly the subdivision layout avoids the removal of any native roadside vegetation and does not impact any vegetation on the low-lying land straddling the eastern boundary or any vegetation within the unnamed Government Road adjoining the northern boundary.

The subdivision layout avoids any development within 30m of declared waterways. A stormwater drainage scheme has been prepared for the entire site. The design includes proposed water treatment areas and outfall locations.

A pedestrian network is proposed offering permeability for pedestrians throughout the site with a combination of footpaths and shared trails.

A shared trail is proposed within a 5m wide reserve to be created adjacent to the western boundary of the subject land for the entire length of the abuttal to Nicholson-Sarsfield Road. The proposed shared trail provides a connection to the East Gippsland Rail Trail to the south and an existing shared trail located at the north-east corner of the *Peppercorn Rise* estate. This Reserve also provides a corridor for services in order to avoid impact to native vegetation within Nicholson-Sarsfield Road.

A further connection to the internal footpath network is provided by a short reserve proposed between Lot 50 and Lot 51.

The footpath network also includes a connection with the East Gippsland Rail Trail at the south-east corner of the site by extending the existing footpath located in the *Michael Oxer Reserve*.

The internal road network will serve only to benefit the subdivision within the subject land. The property does not have any other land with potential for further development. Without any opportunity for connection to residential land outside the subject land the internal road network is limited to a series of Access Streets. The level of traffic anticipated to be generated by the subdivision layout is anticipated to be less than 1000 vehicle movements per day avoiding the need for road categories.

The proposed road network includes a 1.5m wide concrete path to be constructed on each side other than adjacent to the large open space reserves.

Two locations to access Nicholson-Sarsfield Road are provided near the south-west and north-west corners of the site. The selected access points provide appropriate sight distances and avoid the removal of significant roadside vegetation. Direct access from lots to Nicholson-Sarsfield Road is avoided.

#### 4. Staging of the Development

A Staging Plan (Figure 4) has been prepared which anticipates the residential development proceeding in four stages.

The first stage of development will begin at the southern end of the property with access from Nicholson-Sarsfield Road, creating 21 allotments with frontage to the internal road together with a reserve designed to protect waterway and accommodate WSUD drainage infrastructure.

Stages 2, 3 and 4 will progress north through the subject land with the sequencing of infrastructure works facilitating an orderly and efficient progression of the development through the site. The second access from Nicholson-Sarsfield Road is to be constructed in Stage 3.

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INSERT Figure 2 Urban Design Master Plan signed:



Director, East Gippsland Shire  
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INSERT Figure 3 Staging Plan

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**(100 Nicholson-Sarsfield Road, Nicholson)**

Signed:

A handwritten signature in black ink that reads "Kate Nelson". The signature is written in a cursive style and is centered within a light gray rectangular box.

Director, East Gippsland Shire  
Date: .....16 November 2017...

8. **Landscape and Open Space Master Plan**

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Landscaping of the proposed development will consist of the following:

- Street tree planting at a rate of one tree per vacant lot proposed;
- A 6m wide landscape buffer in the lot that have an abuttal to the Nicholson River.
- Plantings associated with WSUD drainage infrastructure
- Retention and enhancement of remnant vegetation located within Nicholson-Sarsfield Road and the proposed Reserve.
- Fencing of allotment boundaries adjoining proposed Reserves to prevent backyard creep from adjoining allotments.

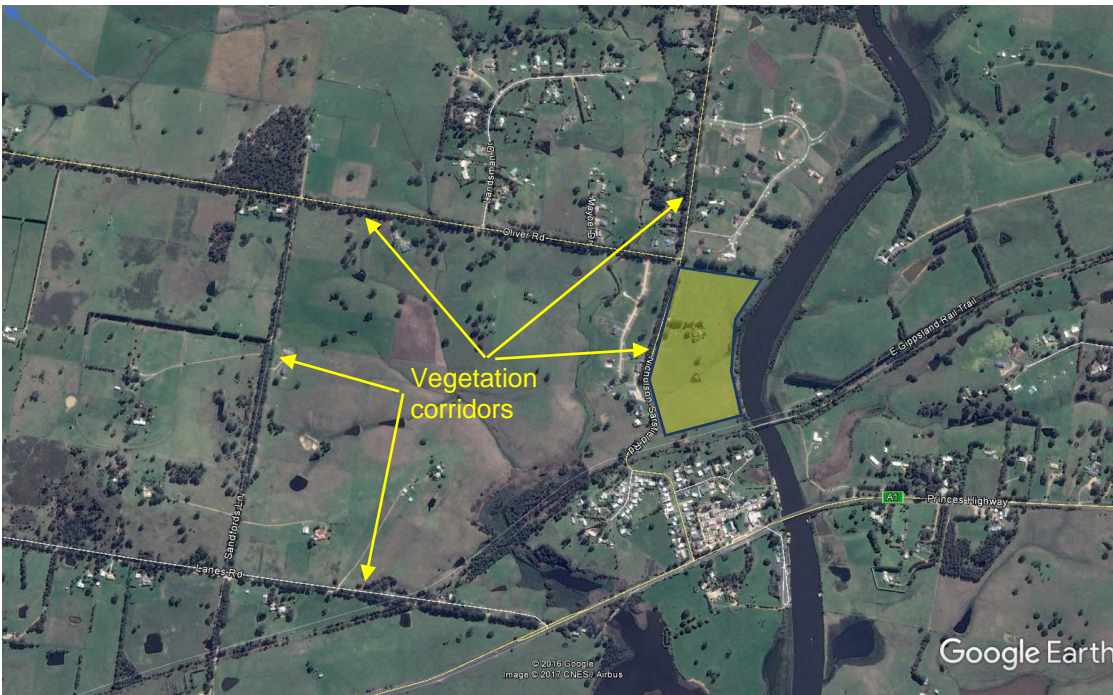
Signed: ..

Kate Nelson

Director, East Gippsland Shire

Date: ..... 16 November 2017...

The subject land is substantially clear of vegetation which is characteristic of the historic use of the land for grazing. The property contains limited vegetation with an obvious planted vegetation surrounding the dilapidated dwelling. Remnant vegetation is limited to just a few scattered trees and a small patch of riparian vegetation of the low-lying land at the eastern boundary.



Aerial image of subject and wider environs.

Local community groups have also recently undertaken enhancement planting of the East Gippsland Rail Trail immediately adjoining the southern boundary of the land.

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*View of recent planting within the East Gippsland Rail Trail adjoining southern boundary of the subject land*

The landscape character of the subject land is representative of the wider landscape. Overall the vegetation character is quite sparse both in established residential neighbourhoods to the south as well as across low density residential areas and the wider rural landscape. Corridors of remnant vegetation are most prevalent along roads and Crown Land.

The landscape theme will enhance the local landscape pattern. Street tree plantings will soften the hard edge associated with wide concrete footpaths adjoining both sides of the proposed road network.

Infill plantings on the east side of Nicholson-Sarsfield Road will be provided to establish a continuous vegetation corridor to mirror existing roadside vegetation on the west side of the road.

Landscaping within the proposed Reserves will be minimal and limited to waterways planting typical for stormwater and some scattered trees representative of the broadacre landscape.

A 6m wide vegetation buffer at the rear of lots adjacent to the Nicholson River will offer enhancement of the river corridor and define the boundary between private land and public realm.

It is expected that a condition on Planning Permit will require the preparation of a Detailed Landscape Plan to the satisfaction of the Responsible Authority.

Native vegetation has been a key consideration in designing the proposed subdivision. The proposed road network seeks to preserve the integrity of significant roadside vegetation. The proposed connections at Nicholson-Sarsfield Road have been selected to avoid the removal of any significant roadside vegetation.

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Lineal reserves are proposed adjoining eastern and western boundaries. The proposed reserves will provide permanent vegetation from the pressures of residential development. The lineal reserves remove the opportunity for future residents to otherwise obtain direct vehicle access from the adjoining road reserves.

Kate Nelson  
Director, East Gippsland Shire  
Date: 10 October 2018

It is well accepted that many eucalyptus species are generally not compatible with residential properties in township or urban locations. Residents are often concerned with falling limb posing a risk to the use of private open space and potential damage to houses and outbuildings. The proposed lineal reserves will offer increased separation between mature remnant trees and the rear yards of allotments.

The removal of some scattered remnant trees is unavoidable within the site given the style of residential subdivision proposed. Given the residential context of the subject land, third party offsets will need to be established offsite.

A review of the DELWP Interactive Maps indicates the subject land is located within *EVC 151: Plains Grassy Forest* of the Gippsland Plain Bioregion. The following species list outlines benchmark species for EVC 151 but is by no means exhaustive. Final selection and mix of species to be utilised will be dependent upon availability and suitability.

Life form	Scientific Name	Common Name
Trees	<i>Allocasuarina littoralis</i>	Black Sheoak
	<i>Acacia mearnsii</i>	Black Wattle
	<i>Acacia implexa</i>	Lightwood
	<i>Eucalyptus baueriana</i>	Blue Box
	<i>Eucalyptus bosistoana</i>	Coast Grey Box
	<i>Eucalyptus botryoides</i>	Southern Mahogany
	<i>Eucalyptus bridgesiana</i>	Apple Box or But But
	<i>Eucalyptus cypellocarpa</i>	Mountain Grey Gum
	<i>Eucalyptus globoidea</i>	White Stringybark
	<i>Eucalyptus globulus</i> ssp.	Gippsland Blue Gum
	<i>Pseudogobulus</i>	
	<i>Eucalyptus macrorhyncha</i>	Red Stringybark
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus muelleriana</i>	Yellow Stringybark
	<i>Eucalyptus obliqua</i>	Messmate
	<i>Eucalyptus ovata</i>	Swamp Gum
	<i>Eucalyptus polyanthemos</i>	Red Box
	<i>Eucalyptus radiata s.l.</i>	Narrow-leaf Peppermint



Life form	Scientific Name	Common Name
Shrubs	<i>Eucalyptus sieberi</i>	Silvertop Ash
	<i>Eucalyptus tereticornis</i> ssp. <i>Mediana</i>	Gippsland Red Gum
	<i>Exocarpos cupressiformis</i>	Cherry Ballart
	<i>Acacia melanoxylon</i>	Blackwood
	<i>Acacia mucronata</i>	Narrow-leaf Wattle
	<i>Acacia paradoxa</i>	Bidge Wattle
	<i>Acacia pycnantha</i>	Golden Wattle
	<i>Acacia stricta</i>	Hop Wattle
	<i>Acrotriche serrulata</i>	Honey-pots
	<i>Allocasuarina littoralis</i>	Black She-oak
	<i>Allocasuarina verticillata</i>	Drooping She-oak
	<i>Astroloma humifusum</i>	Cranberry Heath
	<i>Banksia marginata</i>	Silver Banksia
	<i>Bossiaea prostrata</i>	Creeping Bossiaea
	<i>Cassinia aculeata</i>	Common Cassinia
	<i>Cassinia longifolia</i>	Shiny Cassinia
	<i>Epacris impressa</i>	Common Heath
	<i>Hibbertia aspera</i>	Guinea Flower
	<i>Hibbertia obtusifolia</i>	Grey-leaf Guinea Flower
	<i>Hibbertia riparia</i>	Erect Guinea Flower
	<i>Indigofera australis</i>	Austral Indigo
	<i>Kunzea ericoides</i>	Burgan
	<i>Leptospermum continentale</i>	Prickly Tea-tree
	<i>Melaleuca ericifolia</i>	Swamp Paperbark
	<i>Melaleuca parvistaminea</i>	Rough-barked Honey-myrtle
	<i>Melicytus dentatus</i>	Tree Violet
	<i>Olearia lirata</i>	Showy Daisy-busy
	<i>Olearia phylogopappa</i>	Dusty Daisy-bush
	<i>Ozothamnus ferrugineus</i>	Tree Everlasting
	<i>Phyllanthus hirtellus</i>	Thyme Spurge
<i>Pimelea axiflora</i>	Bootlace Bush	
<i>Pimelea humilis</i>	Common Rice-flower	
<i>Platylobium obtusangulum</i>	Common Flat-pea	
<i>Pomaderris aspera</i>	Hazel Pomaderris	
Herbs	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
	<i>Dichondra repens</i>	Kidney-weed
	<i>Drosera peltata</i> ssp. <i>auriculata</i>	Tall sundew
	<i>Gonocarpus tetragynus</i>	Common Raspwort
	<i>Hydrocotyle hirta</i>	Hairy Pennywort
	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
	<i>Hypericum gramineum</i>	Small St John's Wort
	<i>Lagenophora</i> sp.	Bottle-daisy
	<i>Opercularia varia</i>	Variable Stinkweed
	<i>Oxalis corniculata</i> s.l.	Yellow Wood-sorrel
	<i>Poranthera microphylla</i>	Small Poranthera
	<i>Senecio hispidulus</i>	Rough Fireweed
	<i>Tricoryne elatior</i>	Yellow Rush-lily

Life form	Scientific Name	Common Name
	<i>Viola hederacea</i>	Jay leaf Violet
	<i>Wahlenbergia gracilis</i> s.l.	Sprawling Bluebell
Other*	<i>Austrodanthonia</i> spp.	Wallaby-grasses
	<i>Austrostipa</i> spp.	ear-grasses
	<i>Billardiera scandens</i> var. <i>scandens</i>	Common Apple-berry
	<i>Bossiaea prostrata</i>	weeping Bossiaea
	<i>Bulbine bulbosa</i>	Bulbine Lily
	<i>Clematis aristata</i>	Mountain Clematis
	<i>Clematis glycinoides</i>	Forest Clematis
	<i>Deyeuxia quadriseta</i>	Reed Bent-grass
	<i>Dianella admixta</i>	Black-anther Flax-lily
	<i>Dichelachne micrantha</i>	Short-hair Plume-grass
	<i>Echninopogon ovatus</i>	Common Hedgehog-grass
	<i>Entolasia marginate</i>	Bordered Panic
	<i>Epacris impressa</i>	Common Heath
	<i>Gahnia radula</i>	Thatch Saw-sedge
	<i>Glycine clandestina</i>	Twining Glycine
	<i>Hardenbergia violacea</i>	Purple Coral-pea
	<i>Lagenophora gracilis</i>	Slender Bottel-daisy
	<i>Lepidosperma laterale</i>	Variable Sword-sedge
	<i>Lomandra filiformis</i>	Wattle Mat-rush
	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
	<i>Phyllanthus hirtellus</i>	Thyme Spurge
	<i>Pimelea humilis</i>	Common Rice-Flower
	<i>Poa australis</i> spp. <i>agg.</i>	Tussock Grass
	<i>Pteridium esculentum</i>	Austral Bracken
	<i>Tetrarrhena juncea</i>	Forest Wire-grass
	<i>Tricoryne elatior</i>	Yellow Rush-lily
	<i>Xanthorrhoea minor</i> ssp. <i>lutea</i>	Small Grass-tree

\* Includes all remaining lifeforms (grasses, groundcovers, graminoids, ferns, etc.)

Source material:

*Gippsland Vegetation Types: Ecological Vegetation Classes derived from Ecological Vegetation Class Mapping at 1:25,000 in Gippsland, Davies et.al (2001)*

*Indigenous Flora Species Selection Guide for Bairnsdale & surrounds, Greening Australia (2008)*

*Ecological Vegetation Class bioregion benchmark, Gippsland Plain bioregion, EVC 151: Plains Grassy Forest, Department of Sustainability & Environment (2004)*

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Street Tree Planting schedule

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Street trees will be established throughout the site to deliver a cohesive streetscape theme, at a rate of one tree per residential lot proposed. Appropriate planting techniques will be used to assist the trees to establish, including installing tree guards and/or mulching of disturbed soils.

*Kate Nelson*

The following species list is taken from Council's Preferred Tree Species document but is by no means exhaustive. Final selection and mix of species to be utilised within the streetscape will be dependent upon availability and suitability.

Scientific Name	Common Name	Height	Width
<i>Acacia boormanii</i>	Snowy River Wattle	4	3
<i>Acacia caerulescens</i>	Limestone Blue Wattle	-	-
<i>Acacia cognate</i>	Narrow-leaf Bower	5	3
<i>Acacia floribunda</i>	Gossamer	3	3
<i>Acacia howittii</i>	Sticky Wattle	5	5
<i>Acacia implexa</i> #	Lightwood	10	5
<i>Acacia longifolia</i>	Sallow Wattle	5	4
<i>Acacia melanoxylon</i>	Blackwood	6-30	3-15
<i>Acacia pycnantha</i>	Golden Wattle	3-8	2-4
<i>Acmena smittii</i>	Lilly-pilly	8-30	
<i>Allocasuarina littoralis</i> #	Black She-oak	9	5
<i>Allocasuarina strict</i>	Drooping She-oak	8	4
<i>Angophora floridunda</i>	Rough-barked Angophora	20	10
<i>Banksia ericifolia</i>	Heath Banksia	4	3
<i>Banksia marginate</i>	Silver Banksia	5	3
<i>Banksia integrifolia</i>	Coast Banksia	4-20	
<i>Banksia serrata</i>	Saw Banksia	8	5
<i>Banksia spinulosa</i>	Hairpin Banksia	4	3
<i>Brachychiton populeneus</i>	Kurrajong	5-10	
<i>Callistemon citrinus</i>	Crimson Bottlebrush	3	3
<i>Callistemon pallidus</i>	Lemon Bottlebrush	4	3
<i>Callistemon subulatus</i>	Dwarf Bottlebrush	1.5	
<i>Callistemon sieberi</i>	Alpine Bottlebrush	1-3	
<i>Callitris columellaris</i>	White Cypress-pine	7-25	
<i>Callitris endlicheri</i>	Black Cypress-pine	5-15	
<i>Callitris rhomboidea</i>	Port Jackson Pine	2-6	
<i>Corymbia maculate</i>	Spotted Gum	40	20
<i>Eucalyptus bosistoana</i> #	Coast Grey Box	25-45	
<i>Eucalyptus elata</i>	River Peppermint	20-45	
<i>Eucalyptus mellidora</i> #	Yellow Box	12-30	
<i>Eucalyptus neglecta</i>	Omeo Gum	5-9	
<i>Eucalyptus polyanthemus</i> #	Red Box	7-25	
<i>Eucalyptus albens</i>	White Box	8-24	
<i>Eucalyptus tricarpa</i>	Ironbark	10-30	

Scientific Name	Common Name	Height	Width
<i>Hakea eriantha</i>	Tree Hakea	3-8	
<i>Hakea sericea</i>	Silky Hakea	3	2
<i>Leptospermum laevigatum</i>	Coast Tea-tree	2-8	
<i>Lomatia fraseri</i>	Tree Lom	7	4
<i>Melaleuca armillaris</i>	Giant Hor	2-14	
<i>Melaleuca ericifolia</i>	Swamp P	2-9	
<i>Melaleuca squarrosa</i>	Scented Paperbark	3-6	4
<i>Melaleuca stypheloides</i>	Prickly Paperbark	8-10	5
<i>Myporum insulare</i>	Boobiolla	5	3
<i>Pittosporum undulatum</i>	Sweet Pittosporum	4-14	
<i>Tristania laurina</i>	Kanooka	5-20	

# Denotes those species which coincide with EVC151 benchmark species

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Insert Figure 5 – Landscape Master Plan

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**6. Building and Landscape Guidelines**  
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**(100 Nicholson-Sarsfield Road, Nicholson)**

The following Building and Landscape Guidelines apply to lots 7-11 and 60-65 (inclusive) that adjoining the Nicholson Reserve.

*Kate Nelson*

**6.1 Building Guidelines**

Director, East Gippsland Shire  
Date: .....16 November 2017...

- All structures, including rainwater tanks are to be contained within the nominated Building Envelope (refer Figure 6).
- Garages can be built to the side boundary within the nominated Building Envelope. Generally garages that are at or behind the front wall of your house are preferred and should be integrated with the design of the house and not dominate the appearance from the street.
- Buildings are to be designed to be low scale and set back a sufficient distance to allow for the establishment of a vegetation buffer at the rear.
- Buildings and structures are designed to follow the natural contours or step down the site and avoid excessive excavations of natural ground.
- Materials and colours are to complement the natural environment, low-reflective and reduce contrast with the landscape and distant visibility.
- The installation of rainwater tanks is encouraged. They should be Colorbond (or similar) or have a painted finish so that they are integrated with the house and preferably should be out of public view as much as possible.
- Retaining walls are to be constructed from natural materials and textures (for instance coloured masonry, rocks, durable timber) are preferred. Small, stepped terraces have visual and landscaping advantages over bigger walls. Retaining walls and batters should be a maximum of 1.2 metres high and must be stepped for higher rises and include planting.
- Outbuildings, carports and verandahs should be constructed with colours, materials and pitch of decking and posts that complement the style of the house. Galvanised iron or zincalume finishes are discouraged.
- Air conditioners should be below the eaves and out of public view. Evaporative air conditioners should be below the top of the roof and have a low profile. They should be either neutral or match the roof colour.

**6.2 Landscape Guidelines**

- Landscape planting within the 6m wide buffer should complement the presence of native and indigenous vegetation throughout the landscape, particularly adjacent to the river and riparian strips.
- To manage the impact of new development on the sense of space and openness in the rural landscape.
- To minimise the visual impact of buildings when viewed from the river corridor
- To ensure that new development is visually and physically integrated with the site and surrounding landscape.

- Define the boundary between allotments and Nicholson River Crown Reserve with transparent fencing or such as post and wire or post and wire mesh fences.

Approved Development Plan  
Planning and Environment Act 1987  
Development Plan Overlay Schedule 9  
(100 Nicholson-Sarsfield Road, Nicholson)

Signed:

### 6.3 Geotechnical Risk Assessment

A Geotechnical Risk Assessment has been conducted for the subject land by Simon Anderson Consultants and is attached at Appendix A. The Assessment was informed by a field investigation which included taking a series of soil investigation bores for further analysis.

Analysis of soils found highly permeable topsoils with dense gravely silts overlaying stiff heavy clays sub-soils. This soil profile provides for rapidly draining surfaces with minimal run-off, with sub-soil characteristics demonstrating adequate strength and stability for residential slabs, footings and retaining walls.

The Assessment concluded the risk of landslide, sheet/rill erosion and tunnel erosion for the subject land to be low, and found the site suitable for the development as proposed. No further intensive investigation was deemed necessary. The Assessment raised no concerns regarding the subdivision of the land.

In the event that future construction of dwellings included slab on ground design with cut/fill batters and retaining walls, the Assessment suggested that an Erosion Management Plan may need to be implemented during and after construction, dependent upon the degree of fall over an allotment and the amount of excavation undertaken for construction of a dwelling. Seven possible mitigation measures were outlined at page 8 of the Assessment, which would be considered as part of the Building Permit requirements and represent normal construction techniques. These measures include appropriate erosion control measures during construction, sub-soil drainage, inspection and maintenance of erosion and sediment control measures.

### 6.4 Acid Sulphate Soils

It is understood the greatest risk of acid sulphate soils being present is between the shoreline and 2m AHD. Low-lying land within the central eastern portion of the site is situated as low as 0.5m AHD. The proposed subdivision layout is considered to minimise the risk of disturbance to acid sulphate soils by containing the low-lying areas within the proposed Reserve. All proposed allotments are situated on elevated slopes and terraces and not below the level of 4m AHD. Numerous soil samples were taken throughout the site as part of the Geotechnical Risk Assessment to a depth of 800-900mm below surface level where possible. The shallowest sample was extracted in the north east of the site (Bore B7) at a depth of 300-400mm where the augur was unable to penetrate hard sub-surface material. The numerous soil samples taken failed to identify any acid sulphate soil deposits.

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INSERT Figure 6 Building Envelope Plans

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INSERT Figure 6 Building Envelope Plans Signed:



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## 7. Stormwater Drainage Master Plan


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East Gippsland Planning Scheme

Development Plan Overlay Schedule 9

(100 Nicholson-Sarsfield Road, Nicholson)

A *Conceptual Stormwater Layout Plan* (refer Figure 7) has been prepared for the entire development.

Signed:

The land consists of two drainage catchments generally in the northern and central-southern portions of the property. 

Director, East Gippsland Shire

The existing dam located within the southern drainage line will be removed, restoring the natural land form of the ephemeral waterway. A series of vegetated swales located within proposed Reserves are designed to improve water quality and reduce contaminants before eventually discharging into the adjoining waterway. The drainage scheme has been prepared in consultation with the *East Gippsland Catchment Management Authority* to achieve best practice water sensitive urban design.

The drainage scheme has been designed having regard to the need to provide appropriate drainage infrastructure at each stage of development. A temporary retarding basin or other similar facility may be required as part of Stage 3 before the north-south aligned swale drain is constructed as part of Stage 4.

## 8. Road Network and Traffic Management

The subdivision layout incorporates a circular internal road network and avoids the use of cul-de-sacs. With a proposed yield of 74 lots traffic volumes throughout the development are expected to be relatively low, generating just 750 vehicle movements per day based on the accepted average of 10 vehicle movements per dwelling (lot) per day. Recent traffic surveys of townships have found vehicle movements to in fact be less than the accepted average.

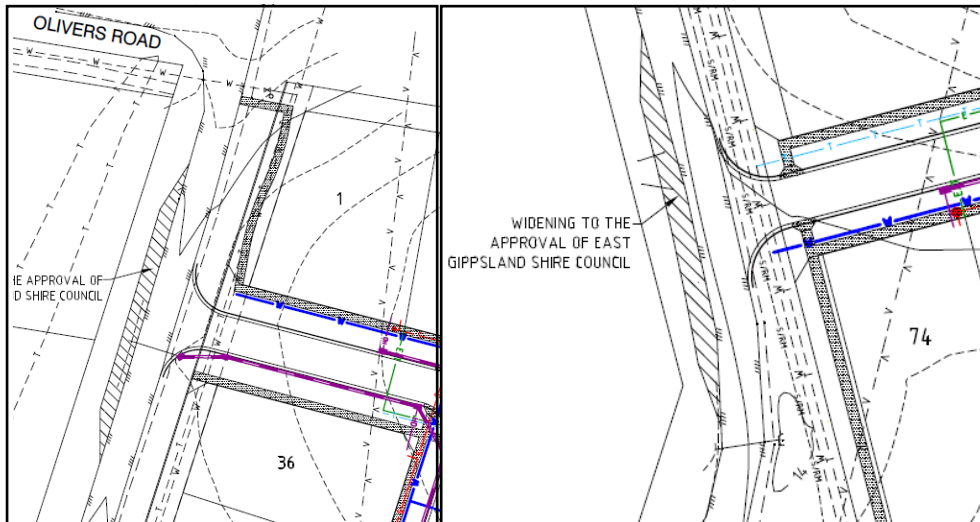
The estimated traffic movements mean the internal roads will need to be categorised as an *Access Street* in accordance with the Infrastructure Design manual adopted by *East Gippsland Shire Council*. The width of road reserves are 18m and 20m, exceeding the minimum width for an *Access Street*.

Typical cross sections for the internal road have been prepared (refer Figure 8). Together with cross sections depicting road reserve widths at 20m (Section A and Section B) and 18m (Section C). The roads comprise a 7.3m wide carriageway measured to the invert of the kerb, with 4.5m and at 3.5m wide nature strips and footpaths on each side. The eastern road adjoining the proposed Reserve includes a footpath on just one side adjacent to proposed lots (refer Section B).

Access from Nicholson-Sarsfield Road is proposed at the southern and northern ends of the subject land. The two access points have been selected on the basis they provide appropriate sight distances for traffic and avoid the removal of any native vegetation. Standard T-intersections are proposed to be provided.

Signed:

The current traffic volumes are relatively low and this is not expected to change substantially as a result of development meaning channelised intersections are not warranted. Minor widening of the pavement in Nicholson-Sarsfield Road opposite the proposed intersections can be undertaken if considered necessary.



Proposed northern and southern intersections at Nicholson-Sarsfield Road

The upgrade of the intersection of the Princes Highway and Nicholson Sarsfield Road has recently been completed. The upgrade of the intersection was a shared funding arrangement between the developers of *Peppercorn Rise*, *Riverbend* and the owner of 100 Nicholson-Sarsfield Road land in anticipation of the subject land being developed. No further improvements to this intersection are considered necessary.



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INSERT Figure 7 Conceptual Stormwater Layout Plan (Grossco)

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East Gippsland Planning Scheme  
Development Plan Overlay Schedule 9  
(100 Nicholson-Sarsfield Road, Nicholson)

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Director, East Gippsland Shire  
Date: .....16 November 2017...

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(100 Nicholson-Sarsfield Road, Nicholson)**

INSERT Figure 8 Access and Servicing Strategy Plan (Crossco)



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Planning and Environment Act 1987  
East Gippsland Planning Scheme

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(100 Nicholson-Sarsfield Road, Nicholson)**

INSERT Figure 9 Typical Sections (Cross-sections) signed:



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Date: .....16 November 2017...

### Aboriginal Cultural Heritage

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East Gippsland Planning Scheme

Development Plan Overlay Schedule 9

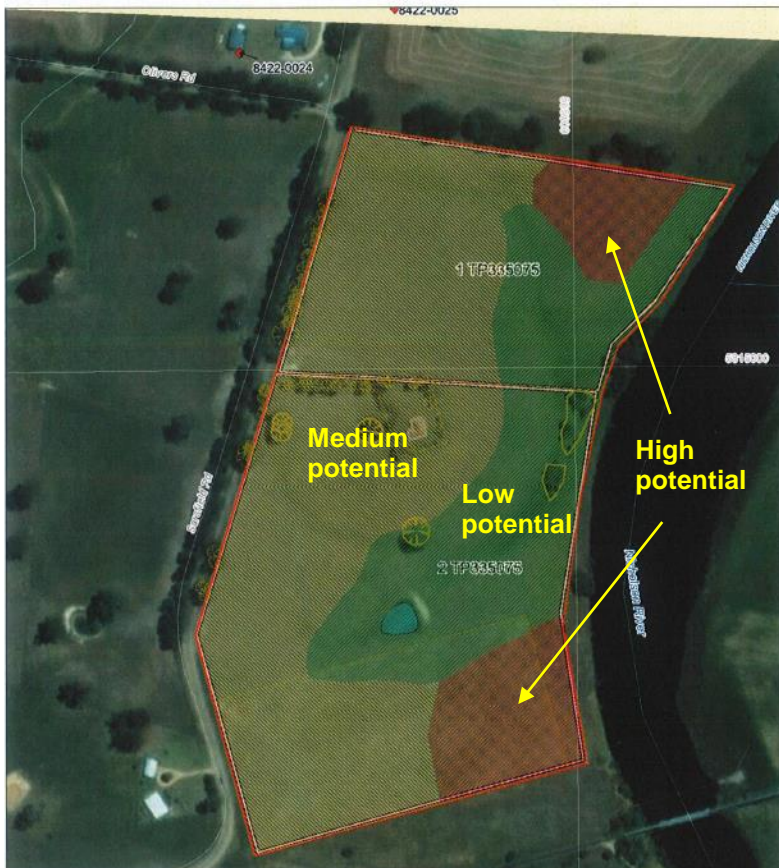
(100 Nicholson-Sarsfield Road, Nicholson)

A Cultural Heritage Management Plan (CHMP) was undertaken on the land associated with a previous subdivision when the land was within the Low Density Residential Zone. The recent rezoning of the land to Township Zone provides the opportunity for more intensive development and greater lot yield and as a result a new CHMP will be prepared before any development proceeds in accordance with the Development Plan. Cultural Heritage Management Plan Number: 10993 is considered to provide a preliminary cultural heritage assessment.

*Kate Nelson*

Director, East Gippsland Shire  
Date: 14/04/2010

The *Desktop Review* determined the site contained moderate to high potential to contain Aboriginal cultural heritage. Areas of high potential were identified in the north-east corner and south-east corner of the site due to the elevation location overlooking the Nicholson River. The area of moderate potential comprised the remainder of the higher land with low potential expected along gullies and low-lying areas.



Areas of potential sensitivity for Aboriginal cultural heritage.  
Source: Cultural Heritage Management Plan Number 10993 (Grist Archaeology 14/04/2010)

The previous CHMP included subsurface test pits across the entire site. The assessment recorded just three Aboriginal places comprising of artefact scatter sites across the southern portion of the property, central western section and in the north-east corner. Artefacts were absent in the gullies and along lower

slopes. The three Aboriginal places were determined to be of low scientific significance with a representative sample of artefacts salvaged during the *Complex Assessment*.

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(100 Nicholson-Sarsfield Road, Nicholson)**



*Extent of subsurface testing*  
Source: Cultural Heritage Management Plan Number 10993  
(Grist Archaeology 14/04/2010)

The *Complex Assessment* that was undertaken is considered to have provided a thorough investigation to determine the extent and significance of Aboriginal places throughout the site. The *Complex Assessment* did not identify any Aboriginal places of medium or high scientific significance that could give cause to be avoided with development of the subject land.

The low-lying land adjacent to the Nicholson River was proposed to be set aside for a Reserve and not proposed to be impacted and therefore was not assessed. The current subdivision scheme has adopted a similar approach by including the low-lying land within a Reserve.



APPENDIX 1:

Erosion Management Plan

Approved Development Plan  
Planning and Environment Act 1987  
East Gippsland Planning Scheme

**Development Plan Overlay Schedule 9  
(100 Nicholson-Sarsfield Road, Nicholson)**

Signed:

A handwritten signature in black ink that reads "Kate Nelson". The signature is written in a cursive style and is centered within a light grey rectangular box.

Director, East Gippsland Shire  
Date: .....16 November 2017...

MGA94, ZONE 55



Approved Development Plan  
 Planning and Environment Act 1987  
 East Gippsland Planning Scheme  
 Development Plan Overlay Schedule 9  
 (Rural) Nicholson-Sarsfield Road, Nicholson  
 Signed:  
 Kate Nelson  
 Director East Gippsland Shire  
 Date: 14 November 2017

VIC PROPERTIES  
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FILENAME: N:\Jobs\17000-17999\17300-17399\17311 Vic Properties\17311 Site Analysis V1.pro

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SCALE (SHEET SIZE A3)	1 : 2500

SURVEYORS REF.  
 17311  
 VERSION 1 - DRAWN 25/05/2017

NOTATIONS	
	- DENOTES NATIVE TREE
	- DENOTES PLANTED TREE

**SITE ANALYSIS PLAN**

PARISH OF BROADLANDS  
 SECTION A  
 CROWN ALLOTMENTS 4A & 4B (PARTS)

C/T VOL 8101 FOL 452  
 LOTS 1 & 2 ON TP335075L

*Kate Nelson*

Director, East Gippsland Shire  
 Date: 16 November 2017

MG94, ZONE 55

EXISTING VEGETATION TO BE RETAINED TO REINFORCE THE PRESENCE OF LARGE INDIGENOUS CANOPY TREES AS A DOMINANT ELEMENT OF THE STREETSCAPE & VIEW CORRIDORS

**LEGEND**

- EXISTING VEGETATION TO BE RETAINED
- EXISTING VEGETATION EARMARKED FOR FUTURE REMOVAL
- CONCRETE PATHWAY NETWORK
- STREET TREES
- SHARED PATHWAY (GRAVEL)
- SWALE TO BE VEGETATED WITH SUITABLE WETLAND / DRYLAND SPECIES
- INDIGENOUS LANDSCAPE BUFFER (6m WIDE)
- PUBLIC RESERVES & OPEN SPACE
- VEHICLE ACCESS
- ROADS
- RESIDENTIAL ALLOTMENTS
- PROPOSED INFILL PLANTING

5m WIDE RESERVE

17725

NICHOLSON SARSFIELD ROAD  
 418.01

STAGE 2

STAGE 3

STAGE 4

STAGE 1

251.91

EAST GIPPSLAND RAIL TRAIL

PEDESTRIAN LINK

EXISTING WATER STATION

PEDESTRIAN LINK

EXISTING FOOTPATH

POSSIBLE FUTURE ACCESS TO RIVER

NICHOLSON RIVER

GOVERNMENT ROAD (UNMADE)  
 281.05

OLIVERS ROAD

PEDESTRIAN LINK

**URBAN DESIGN MASTER PLAN**

**NOTATIONS**

AREAS ARE APPROXIMATE ONLY  
 DIMENSIONS ARE SUBJECT TO SURVEY

PARISH OF BROADLANDS  
 SECTION A  
 CROWN ALLOTMENTS 4A & 4B (PARTS)  
 C/T VOL 8101 FOL 452  
 LOTS 1 & 2 ON TP335075L

VIC PROPERTIES  
 NICHOLSON-SARSFIELD ROAD, NICHOLSON

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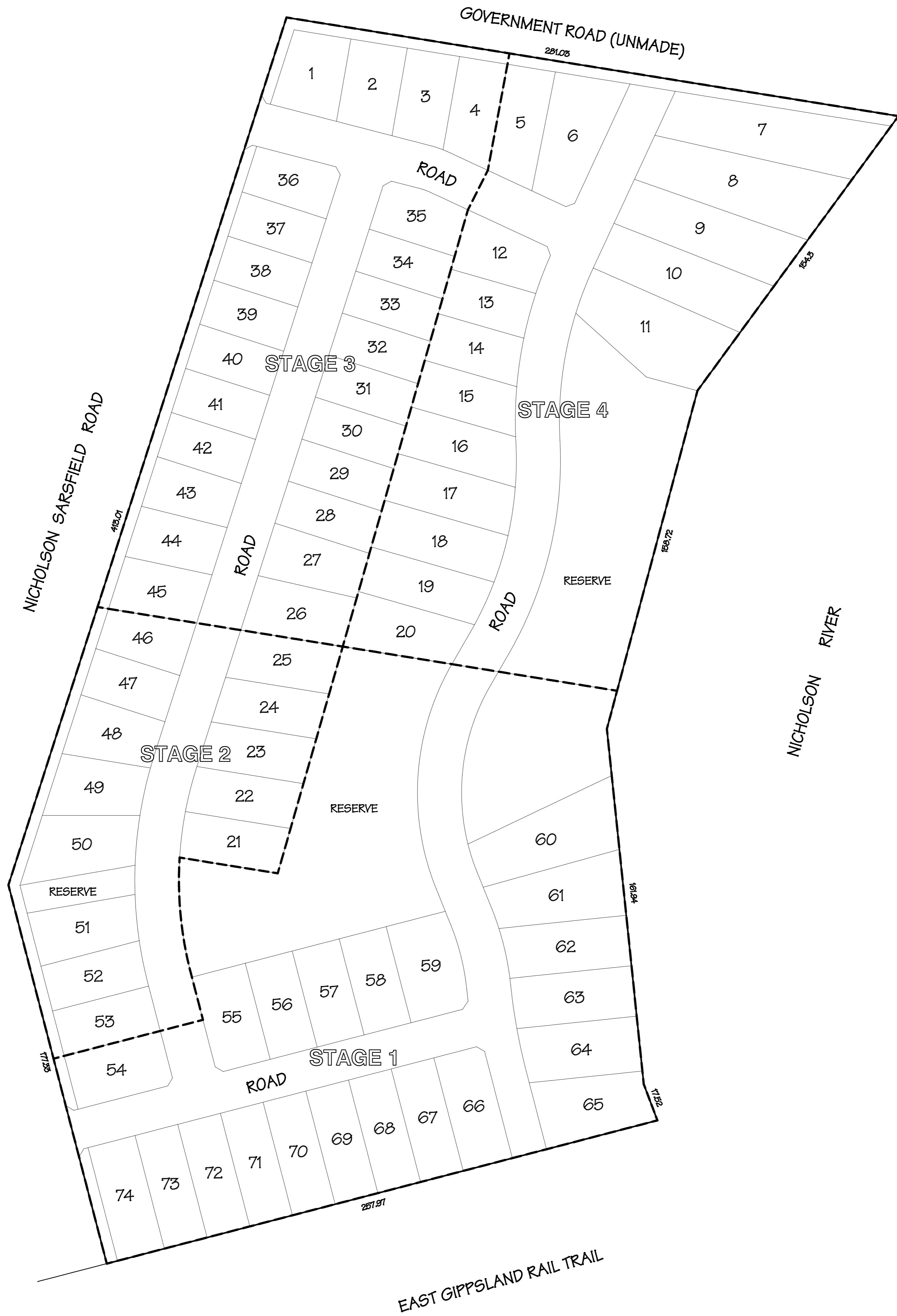
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VERSION 2 - DRAWN 06/10/2017

*Kate Nelson*

Director, East Gippsland Shire  
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MGA94, ZONE 55



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 NICHOLSON-SARFIELD ROAD, NICHOLSON

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VERSION 2 - DRAWN 06/10/2017			

NOTATIONS

**STAGING PLAN**

PARISH OF BROADLANDS  
 SECTION A  
 CROWN ALLOTMENTS 4A & 4B (PARTS)

C/T VOL 8101 FOL 452  
 LOTS 1 & 2 ON TP335075L

Kate Nelson

Director, East Gippsland Shire  
 Date: 16 November 2017



EXAMPLE OF TRANSPARENT TIMBER PALING FENCE - 1.8m HIGH

MGA94, ZONE 55

OLIVERS ROAD

GOVERNMENT ROAD (UNMADE)  
 281.05

EXISTING VEGETATION TO BE RETAINED TO REINFORCE THE PRESENCE OF LARGE INDIGENOUS CANOPY TREES AS A DOMINANT ELEMENT OF THE STREETSCAPE & VIEW CORRIDORS

LEGEND

- EXISTING VEGETATION TO BE RETAINED
- EXISTING VEGETATION EARMARKED FOR FUTURE REMOVAL
- CONCRETE PATHWAY NETWORK
- STREET TREES
- SHARED PATHWAY (GRAVEL)
- SWALE TO BE VEGETATED WITH SUITABLE WETLAND / DRYLAND SPECIES
- INDIGENOUS LANDSCAPE BUFFER (6m WIDE)
- PUBLIC RESERVES & OPEN SPACE
- VEHICLE ACCESS
- ROADS
- RESIDENTIAL ALLOTMENTS
- PROPOSED INFILL PLANTING
- PROPOSED POST & WIRE FENCE (SHOWN OFFSET FOR CLARITY)
- PROPOSED TIMBER PALING FENCE (SHOWN OFFSET FOR CLARITY) (REFER TO EXAMPLE IMAGE)

NICHOLSON SARSFIELD ROAD  
 418.01



PROPOSED POST & WIRE FENCE WITH ACCESS GATE (MAXIMUM 1.2m WIDE)

THERE ARE OPPORTUNITIES FOR PUBLIC FURNITURE TO BE PROVIDED WITHIN THE PUBLIC OPEN SPACE RESERVES

LANDSCAPE PLANTING OF INDIGENOUS SPECIES IS ENCOURAGED WITHIN THE AREAS OF PUBLIC OPEN SPACE TO AESTHETICALLY ENHANCE THE AREA

LANDSCAPE BUFFER TO BE PLANTED WITH INDIGENOUS SPECIES WHICH ARE LIMITED IN HEIGHT TO PROTECT VIEW LINES. SPECIES SELECTION MAY INCLUDE, BUT NOT LIMITED TO, SPECIES WITHIN THE RELEVANT ECOLOGICAL VEGETATION CLASS (EVC 151: PLAINS GRASSY FOREST OF THE THE GIPPSLAND PLAIN BIOREGION)

PROPOSED POST & WIRE FENCE WITH ACCESS GATE (MAXIMUM 1.2m WIDE)

EXISTING FOOTPATH

FENCING OF THE INTERFACE OF RESIDENTIAL ALLOTMENTS TO THE RAIL TRAIL TO BE CONSISTANT IN MATERIALS & HEIGHT TO PROTECT & ENHANCE THE AMENITY OF THE RAIL TRAIL

EXISTING WATER STATION

EAST GIPPSLAND RAIL TRAIL

VIC PROPERTIES  
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FILENAME: N:\Jobs\17000-17999\17300-17399\17311 Vic Properties\17311 Landscape V2.pro

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SCALE (SHEET SIZE A3)

1 : 2000

SURVEYORS REF.

17311

VERSION 2 - DRAWN 06/10/2017

NOTATIONS

AREAS ARE APPROXIMATE ONLY  
 DIMENSIONS ARE SUBJECT TO SURVEY

LANDSCAPE & OPEN SPACE  
 MASTER PLAN

PARISH OF BROADLANDS  
 SECTION A  
 CROWN ALLOTMENTS 4A & 4B (PARTS)

C/T VOL 8101 FOL 452  
 LOTS 1 & 2 ON TP335075L

# BUILDING ENVELOPE PLAN

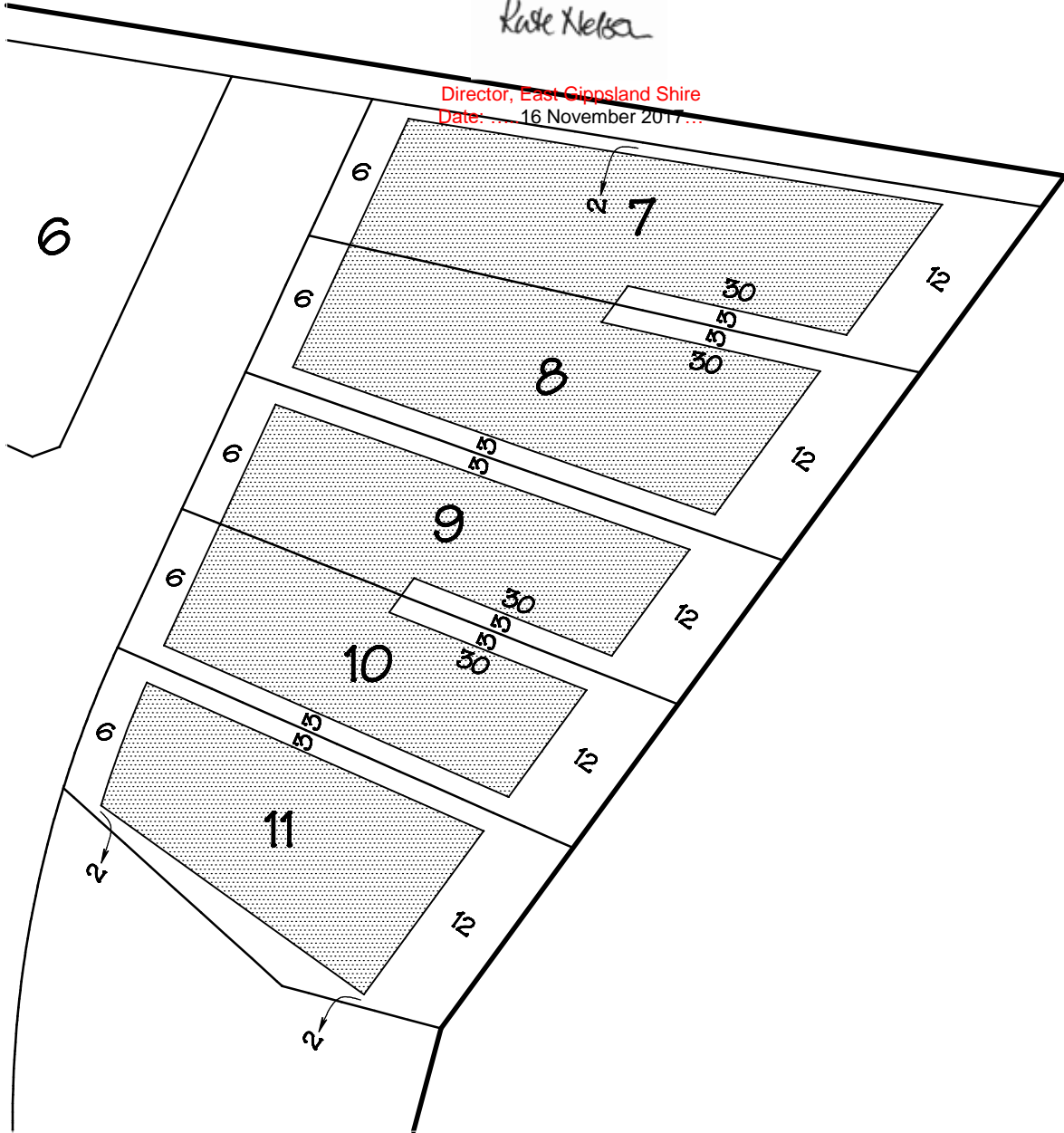
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Planning and Environment Act 1987  
East Gippsland Planning Scheme  
Development Plan Overlay Schedule 9  
(100 Nicholson-Sarsfield Road, Nicholson)

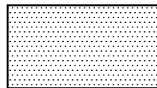
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*Kate Nelson*

Director, East Gippsland Shire  
Date: 16 November 2017



MG94 ZONE 55



- DENOTES BUILDING ENVELOPE

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VIC PROPERTIES

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SCALE (SHEET SIZE A4)

SURVEYORS REF.

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VERSION 1 - DRAWN 25/05/2017

# BUILDING ENVELOPE PLAN

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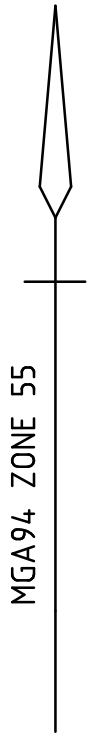
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 East Gippsland Planning Scheme

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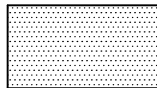
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- DENOTES BUILDING ENVELOPE

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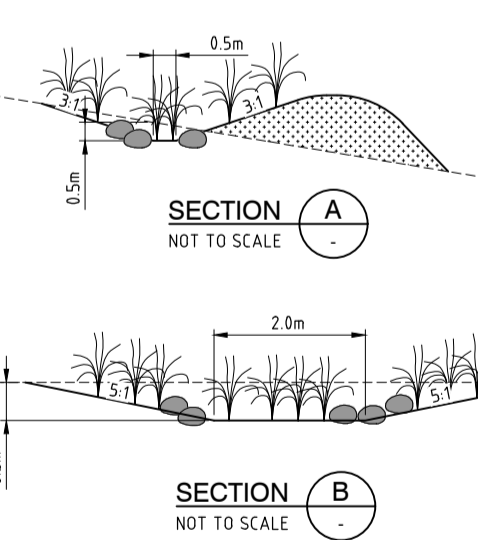
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 Development Plan Overlay Schedule 9  
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 Date: 16 November 2017...

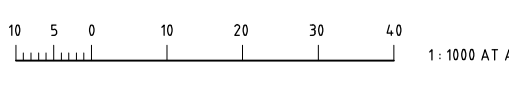


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  - PROPOSED VEGETATED SWALE
  - PROPOSED STORMWATER PIT
  - PROPOSED HOUSE DRAIN
  - PROPOSED PROPERTY INLET
  - PROPOSED KERB AND CHANNEL
  - PROPOSED CONCRETE FOOTPATH
  - PROPOSED GRAVEL SHARED PATH
  - PROPOSED SEWER PUMP STATION
  - DEVELOPED ALLOTMENT DRAINAGE DIRECTION
  - EXISTING CONTOURS (0.5m INTERVAL)
  - EXISTING EDGE OF SEAL
  - EXISTING STORMWATER DRAINAGE



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 ABN 88 135 548 110  
 154 Macleod St P.O. Box 858  
 Barmsdale Vic 3875 Tel: (03) 5126298  
 Fax: (03) 5126222 Email: consult@crossco.net.au

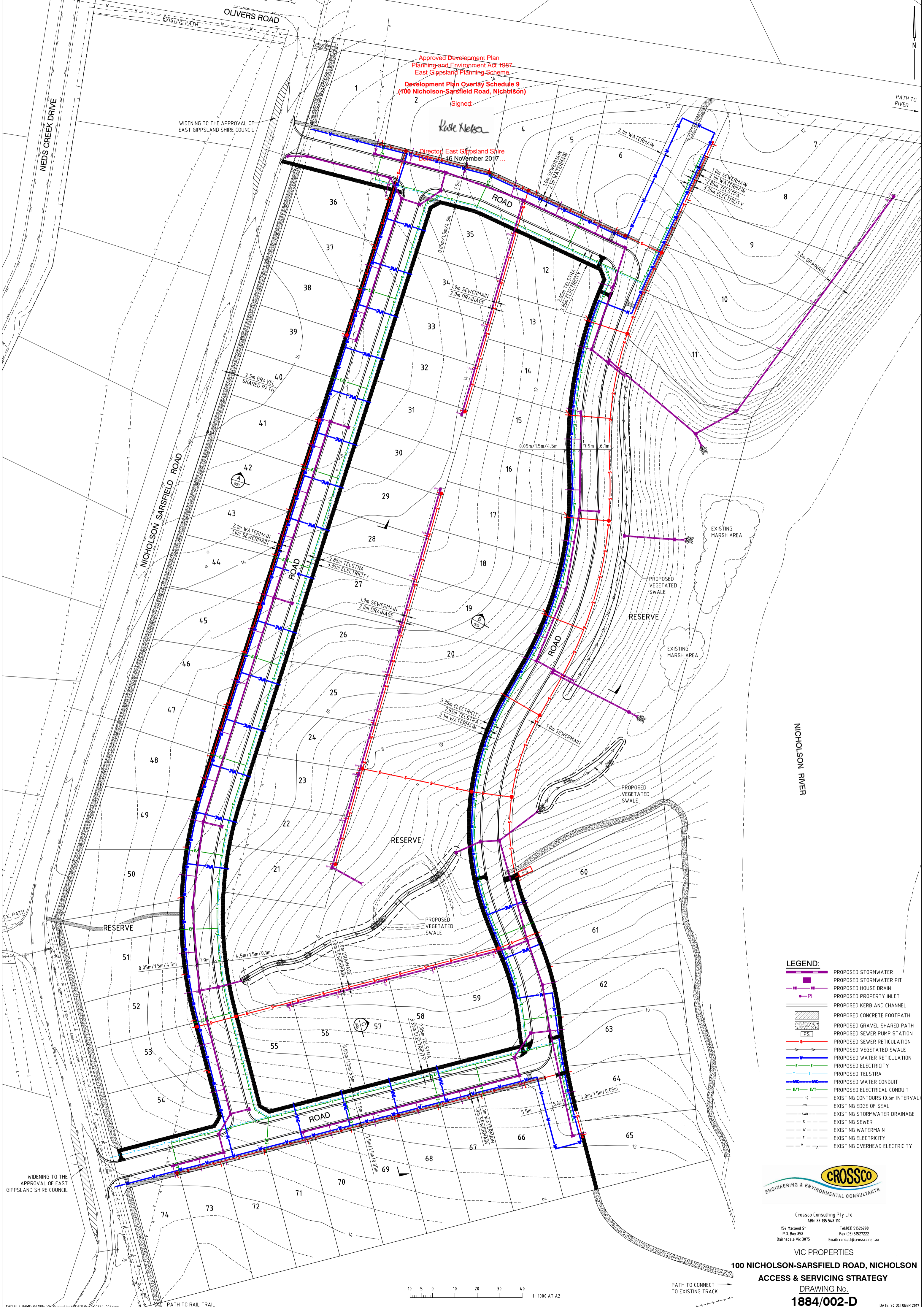
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 CONCEPTUAL STORMWATER LAYOUT PLAN  
 DRAWING No. 1884/004-D  
 DATE: 20 OCTOBER 2017





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 Development Plan Overlay Schedule 9  
 (100 Nicholson-Sarsfield Road, Nicholson)  
 Signed: \_\_\_\_\_  
 Director, East Gippsland Shire  
 Date: 16 November 2017...

Kate Nelson

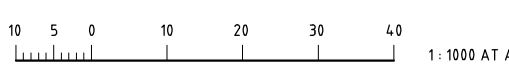


- LEGEND:**
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  - PROPOSED HOUSE DRAIN
  - PROPOSED PROPERTY INLET
  - PROPOSED KERB AND CHANNEL
  - PROPOSED CONCRETE FOOTPATH
  - PROPOSED GRAVEL SHARED PATH
  - PROPOSED SEWER PUMP STATION
  - PROPOSED SEWER RETICULATION
  - PROPOSED VEGETATED SWALE
  - PROPOSED WATER RETICULATION
  - PROPOSED ELECTRICITY
  - PROPOSED TELSTRA
  - PROPOSED WATER CONDUIT
  - PROPOSED ELECTRICAL CONDUIT
  - EXISTING CONTOURS (0.5m INTERVAL)
  - EXISTING EDGE OF SEAL
  - EXISTING STORMWATER DRAINAGE
  - EXISTING SEWER
  - EXISTING WATERMAIN
  - EXISTING ELECTRICITY
  - EXISTING OVERHEAD ELECTRICITY



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 ACCESS & SERVICING STRATEGY  
 DRAWING No.  
**1884/002-D**  
 DATE: 20 OCTOBER 2017

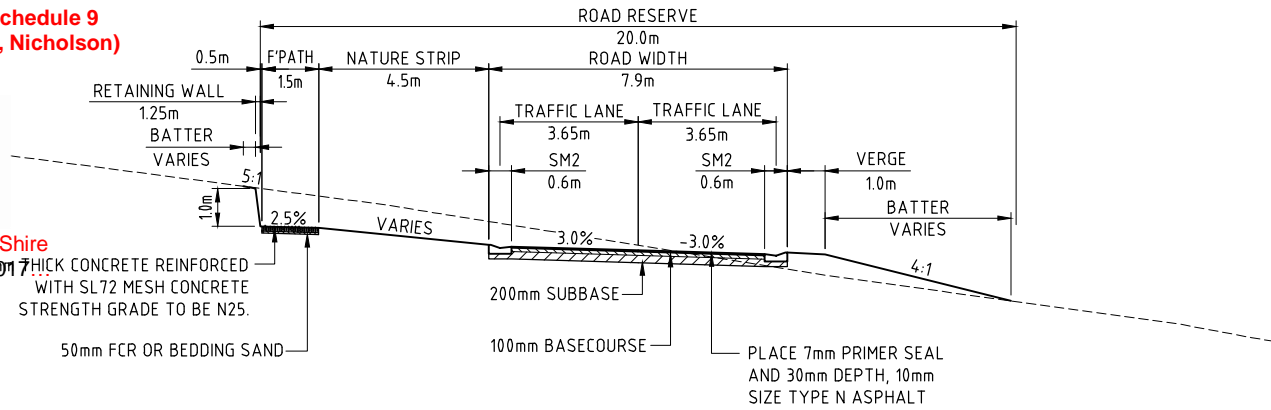


Approved Development Plan  
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 East Gippsland Planning Scheme  
**Development Plan Overlay Schedule 9**  
**(100 Nicholson-Sarsfield Road, Nicholson)**

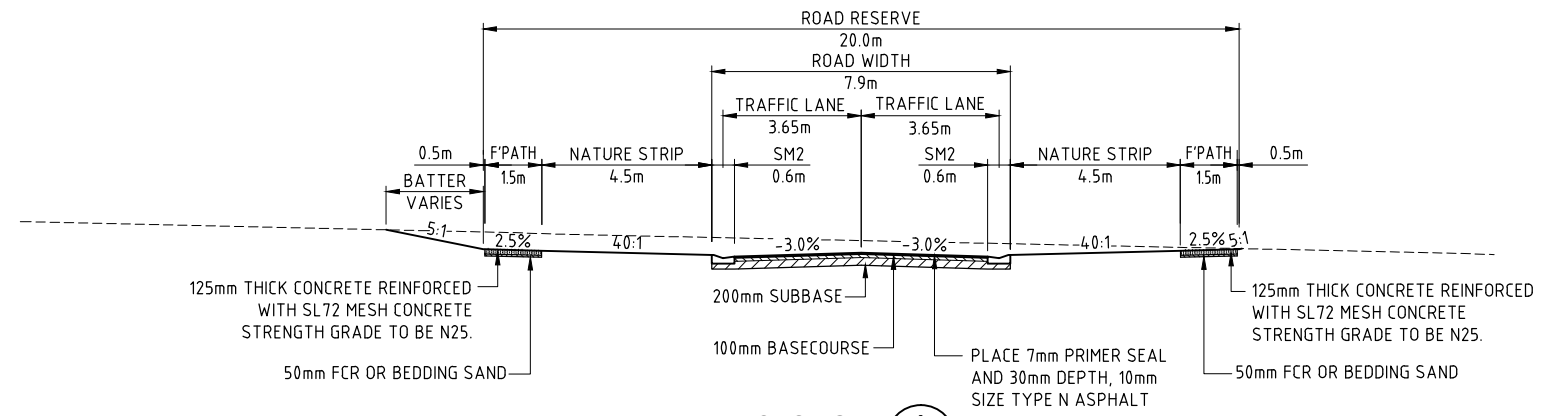
Signed:

*Kate Nelson*

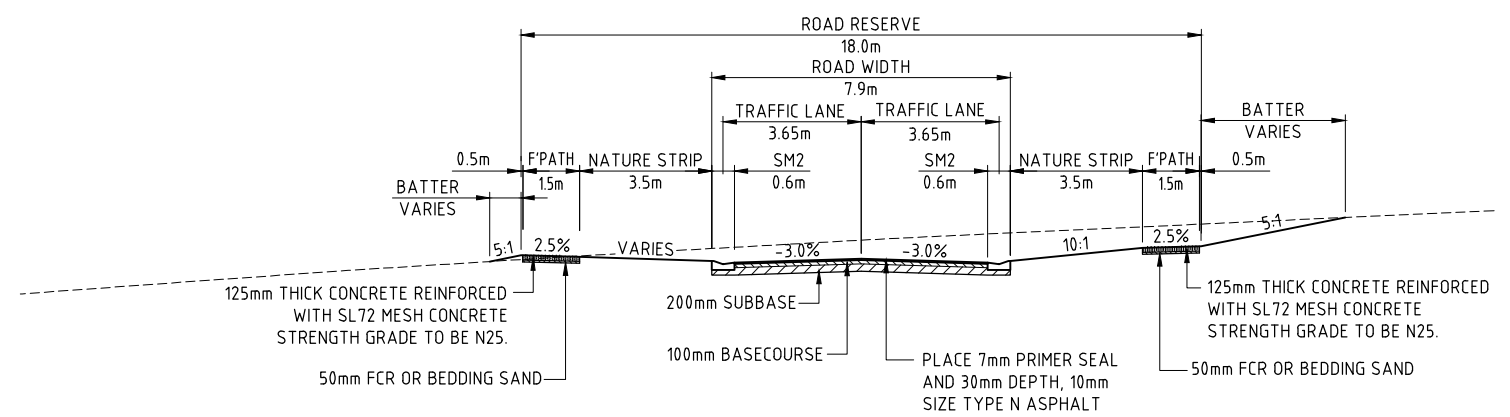
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 Date: 16 November 2017



**SECTION B**  
 SCALE 1:100



**SECTION A**  
 SCALE 1:100



**SECTION C**  
 SCALE 1:100



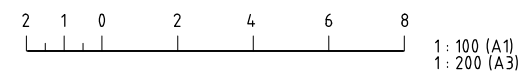
Crossco Consulting Pty Ltd  
 ABN: 88 135 548 110  
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VIC PROPERTIES  
**100 NICHOLSON-SARFIELD ROAD, NICHOLSON**

TYPICAL SECTIONS

DRAWING No.

**1884/003-A**





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Sale, Vic, 3850  
ACN 145 437 065

**Job: Proposed Subdivision**  
100 Nicholson-Sarsfield Rd  
Nicholson

**Client: Vic Properties**

Approved Development Plan

**Checked:** Planning and Environment Act 1987  
East Gippsland Planning Scheme

Date: 27 April 2017

Designed: SJA

Job No.: 376091

Page No.: 1 of 9

Development Plan Overlay Schedule 9  
(100 Nicholson-Sarsfield Road, Nicholson)

# GEOTECHNICAL RISK ASSESSMENT

Signed  
Kate Nelson

Director, East Gippsland Shire  
Date: .....16 November 2017...



100 Nicholson-Sarsfield Rd, Nicholson

## INTRODUCTION

This report is designed to demonstrate the level of geotechnical risk involved in relation to the proposed 15 Lot, Low Density Residential Subdivision at 100 Nicholson-Sarsfield Rd, Nicholson, during and after construction of associated works.

## SITE DESCRIPTION

This Township Zoned property has two parcels (Lot 1 & 2 on TP335075) and is approximately 13.66 ha in size. The subject site is situated on the east side of Nicholson-Sarsfield Road and currently vacant, with an abandoned old farmhouse at the highpoint of the property. The land is situated on an undulating alluvial plain landform, with a yellow duplex sedimentary landscape. The site displays low to moderate falls towards two drainage lines which feed down into the Nicholson River. A small agricultural dam is located at the south end of the property.

The site displays excellent grass/pasture coverage throughout and surface drainage is considered good. There is no evidence of soil erosion or landslip on the subject site or adjoining properties.

The west side of Nicholson-Sarsfield Road has a recently completed residential subdivision of similar size off Ned's Creek Drive, directly adjacent to the subject site. The completed stage of the subdivision shows no signs of soil erosion or landslip. A number of the allotments have already been developed with residential dwellings and landscaped gardens. Directly north of the subject site is also a recently completed subdivision with larger sized lots predominantly 0.4ha – 0.6ha in size. These have also been well developed with residential dwellings.

## PROJECT DETAILS

A 74 Lot residential subdivision is proposed for the site. Proposed construction details will be as follows;

- Lots are to be sized between 840m<sup>2</sup> – 2,137m<sup>2</sup>, with allocated Reserve areas where development is deemed unsuitable.
- Sealed roads with kerb and channel drainage, directing stormwater runoff to underground road easement drainage lines.
- All cut/fill batters to be no steeper than 1 in 3 and sown with local grasses.
- Existing drainage patterns are to be maintained, with proposed road works to have minimal impact.
- Best practice WSUD to treat/retain/discharge stormwater flows from the site.
- Stable vehicle access point to be provided for all lots from new roadways.

**Development Plan Overlay Schedule 3**  
**(100 Nicholson-Sarsfield Road, Nicholson)**

**METHODOLOGY**

Signed:

*Kate Nelson*

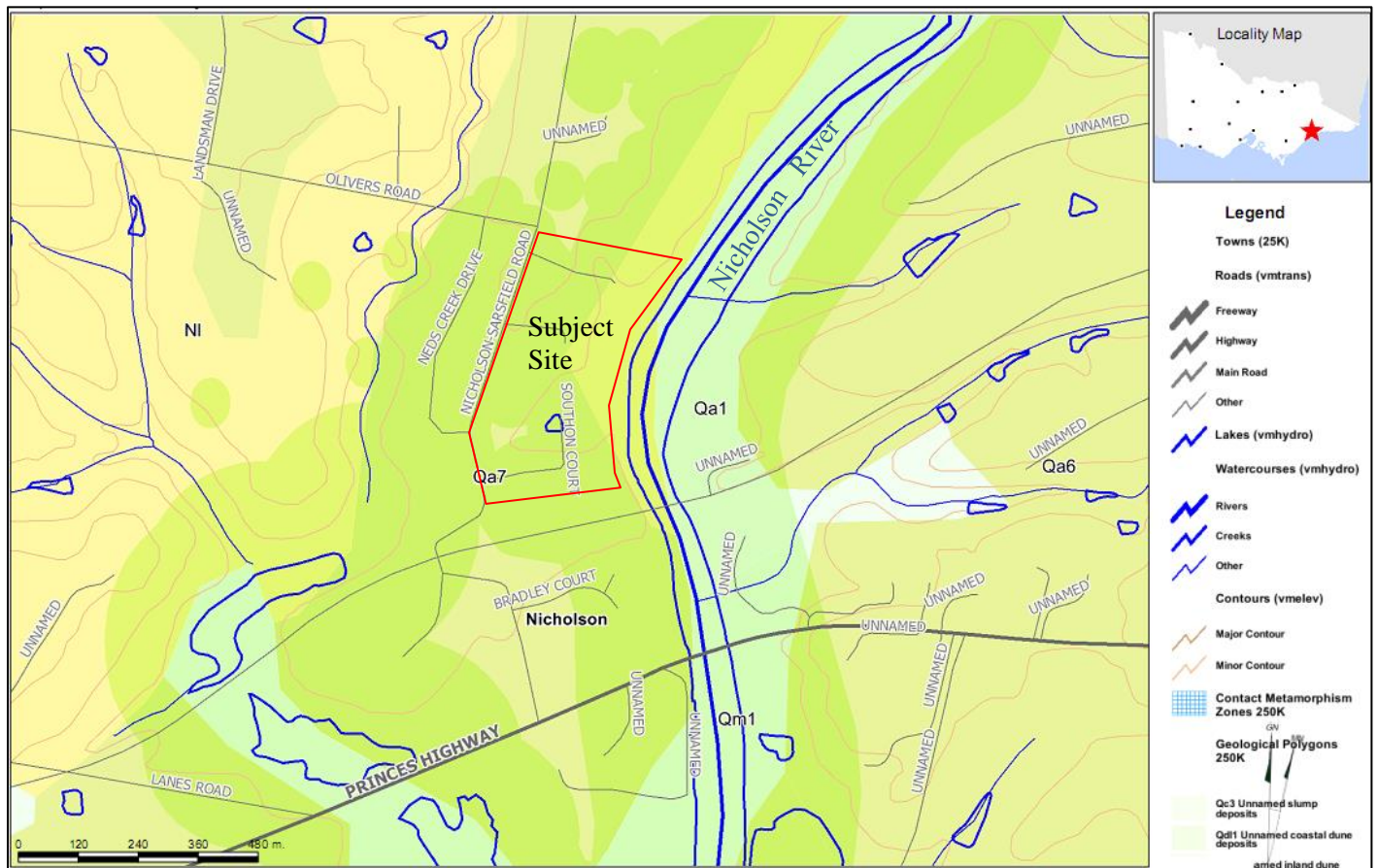
**1. DESKTOP INVESTIGATION**

A desktop investigation of the subject site was carried out and noted watercourse locations.

GeoVIC mapping of published soil survey information

Director, East Gippsland Shire  
Date: .....16 November 2017...

Soils of the site have been mapped and described in Sustainable Soil Management "A reference manual to the major agricultural soils of the Bairnsdale and Dargo regions", and are described as belonging to the Stratford (Sf) map unit. The Qp5 terraces occur on alluvial plains associated with the Mitchell, Nicholson and Tambo Rivers. The surface soils are generally fine sandy loams, occasionally silty loams. The B horizon soils are brown to yellowish brown medium to heavy clays.



Disclaimer: This map is a snapshot generated from Victorian Government data. This material may be of assistance to you but the State of Victoria does not guarantee that the publication is without flaw of any kind

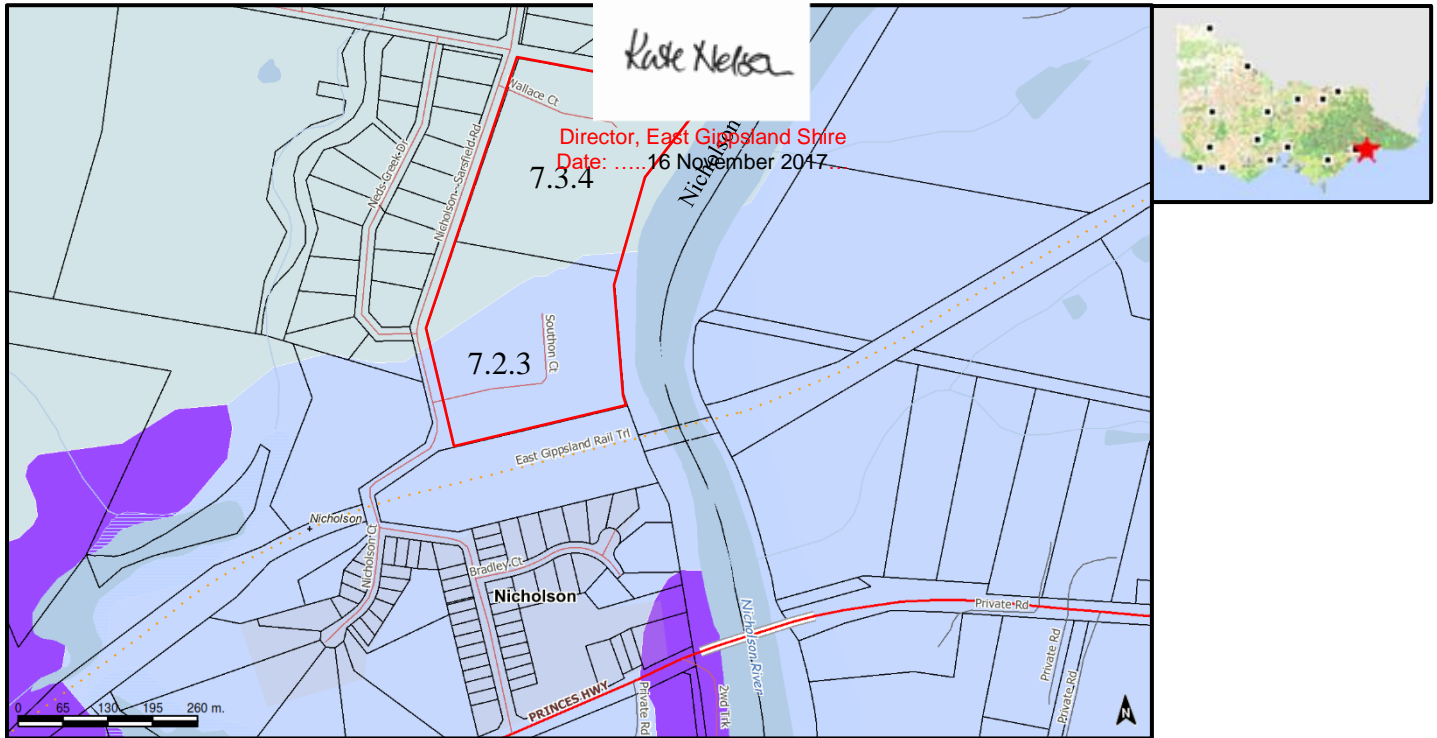
**REF: VANDENBERG, A.H.M., 1997. BAIRNSDALE SJ 55-7 Edition 2, 1:250 000 Geological Map (Series 1:250,000 geological maps. Geological Survey of Victoria.)**

Geological Unit	Geological Description	Mapping Unit
Qa7 (Qp5)	Quaternary Non-marine (Alluvial) deposits consisting of Fluvial: gravel sand, silt.	Stratford (Sf)
Nl (Tm-p)	Tertiary Marine deposits consisting of Marine, non-marine: gravel, sand	Stockdale with Munro (Sd/Mu)

**Development Plan Overlay Schedule 3**  
**(100 Nicholson-Sarsfield Road, Nicholson)**

**1. DESKTOP INVESTIGATION cont'd**

Signed:



Disclaimer: This map is a snapshot generated from Victorian Government data. This material may be of assistance to you but the State of Victoria does not guarantee that the publication is without flaw of any kind.

**REF: Biodiversity Interactive Map, The State of Victoria Department of Environment and Primary Industries 2013**

Geomorphological Unit	Geological Description
7.3.4 Dissected plains with dunes	<p>Dissected plains with dunes occur east of Lakes Entrance to Newmerella then dissected to the west by Snowy River and associated valley, with further occurrences which become further dissected and spatially scattered further east.</p> <p>Based on Neogene sediments these plains which have variable regolith (based on mantle of Eastern Uplands), where coarser <u>regolith</u> occurs it has often been re-worked to produce dunes and sand sheets. Local relief is limited to a few metres, occasionally greater.</p> <p>Soils tend to be acidic texture contrast soils (<u>Kurosols</u> and <u>Chromosols</u>) on the clayier parent material with <u>Tenosols</u> on the dunes.</p> <p>Soil colour and <u>organic matter</u> content is associated with local climate and drainage conditions.</p>
7.2.3 Older alluvial plains (Stratford, Briagolong)	<p>The older alluvial plains and terraces form the most extensive areas of the Gippsland Riverine Plain and were deposited during the Quaternary.</p> <p>Most of the soils on these terraces are sodic and have a strong texture contrast between the surface and subsoil (yellow or brown Sodosols). In addition to being sodic, the subsoils of the older soils are magnesian. Most of the original vegetation is now cleared for grazing, but some remnants of the former grassy woodland remain, with the main tree species being Forest Red Gum. The predominant land use is grazing.</p>

**Development Plan Overlay Schedule 3  
(100 Nicholson-Sarsfield Road, Nicholson)**

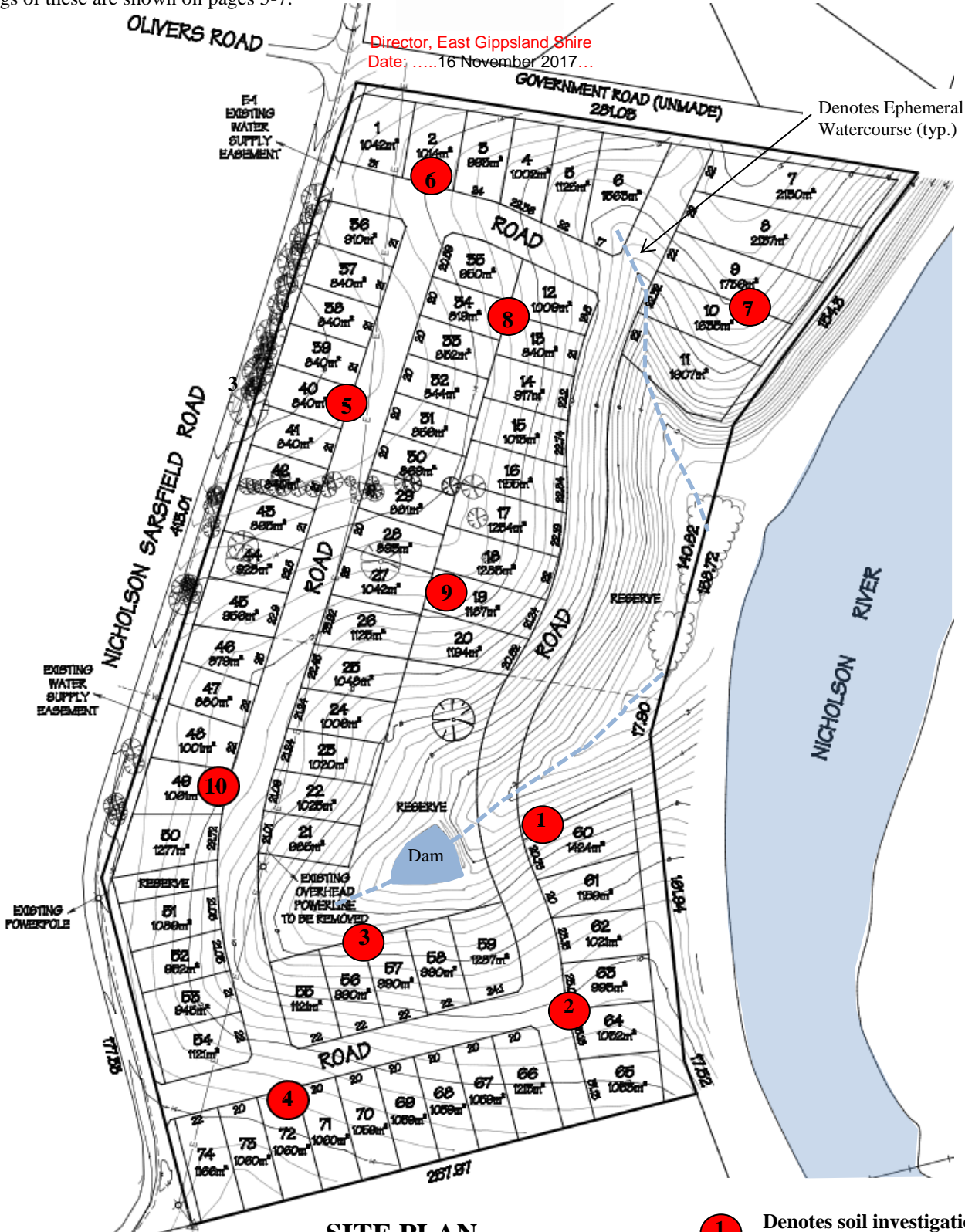
**2. FIELD INVESTIGATION**

Signed:

A site visit was carried out with an inspection of t developments. A series of soil investigation bores wer bore logs of these are shown on pages 5-7.

*Kate Nelson*

d subdivision and of nearby landforms, features and he site (B1-B10) as shown on the site plan below. The



**SITE PLAN**  
Not to Scale

**1** Denotes soil investigation bores (approximate locations)



Development Plan Overlay Schedule 3  
(100 Nicholson-Sarsfield Road, Nicholson)

**TOPSOIL**

**SILT** Signed

**Cl**

*Kate Nelson*

Director, East Gippsland Shire  
Date: .....16 November 2017 ...

**BORE LOG B1**



00 Grey/Brown, Wet, Loam  
100 Brown, Wet, Sandy, Gravely  
200 Yellow/Brown, Moist, Stiff, Gravely  
300  
400 becoming very stiff  
500  
600  
700  
800  
900  
1000



**BORE 1**

**BORE LOG B2**



00 Dark Grey, Wet, Loam  
100  
200 Grey/Brown, Wet, Dense, Gravely  
300 Paler with depth  
400 Yellow/Brown, Moist, Stiff  
500 Red mottling & Sand veins  
600 throughout  
700  
800  
900  
1000

**TOPSOIL**

**SILT**

**CLAY**



**BORE 2**

**BORE LOG B3**



00 Dark Grey, Wet, Loam  
100  
200 Grey/Brown, Wet, Dense, Gravely  
300 Paler with depth  
400 Yellow/Brown, Moist, Stiff  
500 Red mottling & Sand veins  
600 throughout  
700  
800  
900  
1000

**TOPSOIL**

**SILT**

**CLAY**



**BORE 3**

**BORE LOG B4**



00 Dark Brown, Wet, Sandy, Loam  
100  
200 Lt Grey/Brown, Wet, Dense, Sandy  
300 Yellow/Brown, Moist, Stiff  
400 veins of grey sand throughout  
500  
600  
700  
800  
900  
1000

**TOPSOIL**

**SILT**

**CLAY**



**BORE 4**



Development Plan Overlay Schedule 3  
(100 Nicholson-Sarsfield Road, Nicholson)

**TOPSOIL**  
**SILT**  
**Cl**  
*Kate Nelson*

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Date: .....16 November 2017

**BORE LOG B5**



00 Brown, Moist, Loamy  
100 Lt Brown, Moist, Dense  
200 Yellow/Brown, Moist, Stiff  
300  
400 becoming very stiff  
500  
600  
700  
800  
900  
1000



**BORE LOG B6**

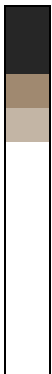


00 Brown, Moist, Loamy  
100 Lt Brown, Moist, Dense  
200 paler with depth  
300 Yellow/Brown, Dry, Stiff, Sandy  
400 Silty  
500  
600  
700  
800  
900  
1000

**TOPSOIL**  
**SILT**  
**CLAY**



**BORE LOG B7**



00 Black, Moist, Gravelly Loam  
100  
200 Lt Brown, Dry, Dense, Gravelly  
300 Torrent Gravels, Auger refusal  
400  
500  
600  
700  
800  
900  
1000

**TOPSOIL**  
**SILT**



**BORE LOG B8**



00 Dark Grey/Brown, Moist, Loamy  
100  
200 Lt Grey/Brown, Dry, Dense  
300 Yellow/Brown, Dry, Very Stiff  
400  
500  
600  
700  
800  
900  
1000

**TOPSOIL**  
**SILT**  
**CLAY**







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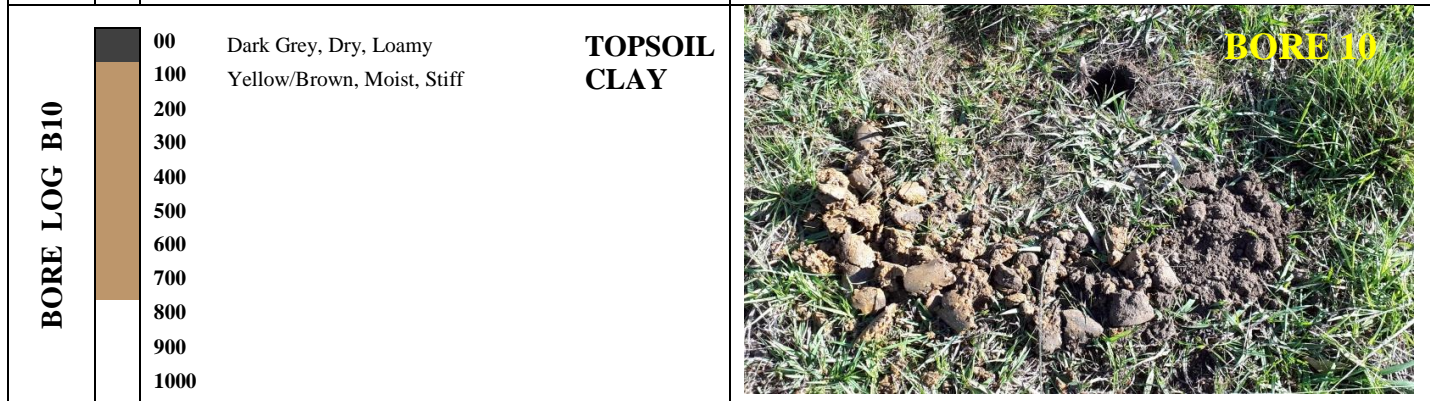
Date: 27 April 2017

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Job No.: 376091

Page No.: 7 of 9

Development Plan Overlay Schedule 3  
(100 Nicholson-Sarsfield Road, Nicholson)





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<b>Date: 27 April 2017</b>
<b>Designed: SJA</b>
<b>Job No.: 376091</b>
<b>Page No.: 8 of 9</b>

**Development Plan Overlay Schedule 3  
(100 Nicholson-Sarsfield Road, Nicholson)**

**SUMMARY OF RISK**

Signed:

**LANDSLIDE  
SHEET/RILL EROSION  
TUNNEL EROSION**

I  
I *Kate Nelson*  
I

Director, East Gippsland Shire  
Date: .....16 November 2017...

- Moderate to low grades over the residential allotments, ranging from approximately 1 in 8 to 1 in 25.
- Excellent grass coverage, preventing topsoils from being washed away (even in the heaviest torrential downpours).
- The well contoured landscape (Waxing Convergent & Divergent) provides good surface water drainage with concentrated run-on within the nominated reserve areas only.
- There is no evidence of soil erosion or landslip on the subject site or adjoining properties and I would consider the geotechnical risks to be low.
- Natural soils of the site (gravely silts overlying stiff heavy clays at shallow depths) will have adequate strength and stability for residential slabs footings and retaining walls.
- Dependent on degree of fall over each allotment, an Erosion Management Plan may need to be implemented during and after construction, if slab on ground design with cut/fill batters and retaining walls were adopted. For example;
  - i. The form, bulk, scale and location of cut and fill is to be controlled to ensure that there are no adverse impacts on Neighbouring properties or Nicholson River Reserve. (i.e. Diversion banks and spoon drains)
  - ii. Appropriate sub-soil drainage to be provided to effectively divert ground water away from any foundation work.
  - iii. Identify a suitable storage area for stockpiles, with appropriate erosion control measures (i.e. Diversion banks and Sediment fences)
  - iv. Where vegetation (natural grass cover) needs to be removed, leave it in place as long as possible.
  - v. All erosion and sediment control measures to be inspected and maintained daily by site manager.
  - vi. Fill batter at 1 in 3 max. to be stabilised with grass at end of construction works.
  - vii. The conditions of retaining walls should be inspected annually to ensure there continued structural and drainage/erosion management adequacy. Any defective components should be removed and replaced immediately.
- Any future construction works associated with the development of allotments would be protected by Building Code of Australia, Australian Standards, Building and Planning Permit requirements and normal construction practise.

Based on findings from both the Desktop and Site investigations the site is suitable for development as proposed and further intensive investigation would not be necessary to confirm the above findings.

**VERIFICATION**

I, the author of this document, declare that I am suitably qualified and experienced to carry out this site assessment.

**Simon Anderson BE (Civil)CPEng MIEAust No 930355**  
**BCC Registration No EC-1711**  
**Date 27 April 2017**

**Development Plan Overlay Schedule 3**  
**(100 Nicholson-Sarsfield Road, Nicholson)**

**APPENDIX A**

Signed:



Photo 1: Existing abandoned farm home



Photo 2: View from future Lot 11 to proposed Reserve adjacent to Nicholson River



Photo 3: Typical landscape elements south end of subject site. Low to moderate grades, well grassed with no signs of soil erosion or landslip.