Colac Otway Shire

Wye River and Separation Creek Construction, Traffic and Environment Management Plan

Contract No. Q2016/17-40

31 May 2017

Pour trust
into your
foundations
and you
can build
anything

This page has been left intentionally blank

Wye River and Separation Creek Construction, Traffic and Environment Management Plan

Prepared for
Colac Otway Shire

Prepared by
Coffey Services Australia Pty Ltd
Level 1, 436 Johnston Street
Abbotsford VIC 3067 Australia
t: +61 3 9290 7000 f: +61 3 9290 7499
ABN: 55 139 460 521

31 May 2017

754-ENAUABTF11650AA_1_CTEMP_v4

Quality information

Revision history

Revision	Description	Date	Originator	Reviewer	Approver
v1 draft	Draft	23/12/2016	G. Heath	C. Balint	C. Balint
v2 draft	Draft for consultation	06/02/2017	G. Heath	C. Balint	C. Balint
v3 draft	Draft for consultation	03/03/2017	G. Heath	C. Balint	C. Balint
V4 final	Issued for use	31/05/17	G. Heath	C. Balint	C. Balint
V5 Rev.1	Revision 1	15/06/2017	B. Williams	K.Sijercic	K.Sijercic

Distribution

Report Status	No. of copies	Format	Distributed to	Date
v1 draft	1	PDF	Colac Otway Shire	23/12/2016
v2 draft	1	PDF	Colac Otway Shire	06/02/2017
v3 draft	1	PDF	Colac Otway Shire	03/03/2017
v4 final	1	PDF	Colac Otway Shire	31/05/2017
V5 Rev.1	1	PDF	Colac Otway Shire	15/06/2017

This page has been left intentionally blank

Table of contents

Tables

Figures

Appendices

This page has been left intentionally blank

1. Introduction

This construction, traffic and environment management plan (CTEMP) has been developed support the rebuilding of the Wye River and Separation Creek communities. The CTEMP sets out the operating framework and specific procedures for minimising potential impacts and managing amenity, traffic and environmental issues associated with post-bushfire construction for private landowners and government agencies and authorities. It was developed in consultation with landholders, local residents, regulatory authorities and other relevant stakeholders.

1.1. Project overview

The residents of Wye River and Separation Creek have been affected and displaced by the 25 December 2015 bushfires. After the bushfires, a clean-up of bushfire-affected areas was undertaken by the State Government. As residents begin the process of rebuilding their homes and government agencies and authorities replace and repair public infrastructure, there is a need for a CTEMP to manage construction activity. The plan is intended to provide guidance, during the rebuilding stage, to Council, council contractors and staff, builders and building subcontractors as well as the local community.

As the clean-up of bushfire debris, removal of hazardous trees and reinstatement of retaining walls by Grocon nears completion, the next stage in the recovery effort is being managed by The Colac Otway Shire (COS). The management of construction traffic and noise control has been given special consideration in this CTEMP to ensure that appropriate measures are in place to manage the cumulative effects of conflict between rebuilding and maintain the community's amenity.

1.2. Purpose and objectives of the CTEMP

The overriding purpose of the CTEMP is to enable COS and the State Government to facilitate orderly re-establishment of fire damaged areas in Wye River and Separation Creek.

The key objectives of the CTEMP are to:

- Ensure safe movement and orderly management of construction and local traffic.
- Ensure air and noise emissions are in accordance with Environment Protection Authority (EPA) guidelines.
- Minimise amenity impacts to the local community, businesses and tourists.
- Protect human health and minimise the risk of injury to construction workers and the general public.
- Minimise damage to the environment including the protection of vegetation and fauna.
- Manage potential erosion and sedimentation issues.
- Manage private construction activity on road reserves.
- Protect COS assets.

1.3. Implementation of the CTEMP

COS will ultimately be responsible for the implementation of the CTEMP for Wye River and Separation Creek. This will involve:

- Restrictions on construction activities (e.g. permissible construction times in accordance with EPA noise guidelines) to moderate the impact of construction activities on the local community's amenity.
- Implementation of a temporary traffic management plan to ensure the safe movement of traffic and minimise the risks to vehicle operators and pedestrians.
- Enforcement of current legislation and if required higher control standards stipulated within this plan to minimise damage to the environment and amenity.

The CTEMP will be administered through the use of planning and building permits within the Wye River and Separation Creek townships. Landowners wishing to rebuild will have to comply with the requirements of the CTEMP and ensure that all contractors also strictly adhere to the plan. All activity within the Wye River and Separation Creek Township Zones must also comply with the COS General Laws (Local Law No.2 – September 2013, see Appendix A). The purpose of the local law is to:

- Provide for the peace, order and good government of the municipality district.
- Promote a physical and social environment free from hazards to health, in which the residents of the municipal district can enjoy a quality of life that meets the general expectations of the community.
- Prevent and supress nuisances which may adversely affect the enjoyment of life within the municipal district of the health, safety and welfare of persons within the municipal district.

Penalties will be issued for non-compliances with planning and building permit conditions.

1.4. Document control

The underlying principles of this CTEMP will remain unchanged, however a yearly review will be undertaken to ensure that the regulations and guidelines within this plan are current. Should any guidelines or legislation be updated within this CTEMP, it will be issued as a new revision to reflect those updates. If and when a new revision of the CTEMP is issued, COS will notify all relevant stakeholders. Planning and building permits issued with reference to the CTEMP will only apply to the revision of the CTEMP at the time the permit is issued.

It is the individual's responsibility to ensure they are adhering to requirements of the CTEMP, which will be available from COS via the following methods:

- Online at http://www.colacotway.vic.gov.au
- Telephone – (03) 5232 9400 between 8:30am and 5pm, Monday to Friday.
- Fax – (03) 5232 9586 between 8:30am and 5pm, Monday to Friday.
- Mail – PO Box 283, Colac, Victoria 3250.
- Email – inq@colacotway.vic.gov.au.

Alternatively, copies of the CTEMP will be made available at the following COS offices:

- 2-6 Rae Street, Colac, between 8.30am and 5pm, Monday to Friday.
- 101-105 Gellibrand Street, Colac, between 8.30am and 5pm, Monday to Friday.
- 69-71 Nelson Street, Apollo Bay, between 8:45am and 1:15pm, Monday to Friday.

2. Context

2.1. Township Zones

This CTEMP covers the fire affected township Zones of Wye River and Separation Creek which are located approximately 160 km southwest of Melbourne and 20 km southwest of Lorne on the Great Ocean Road (Figure 2.1, 2.2 and 2.3). Wye River is located approximately 1 km southwest of Separation Creek, and both settlements are located in the local government area of COS. Prior to the 2015 bushfire, Wye River and Separation Creek consisted of a total of 442 dwellings and 76 vacant lots within the township boundaries, with approximately 120 permanent residents.

Construction activity has the potential to impact surrounding properties and residents. In some instances, particularly for noise, these impacts may extend a significant distance from the source. Other impacts relating to parking, traffic and waste generation have the potential to impose upon residents, holiday makers, local businesses and people previously not affected by the bushfire. A large number of the residences in the settlements are used for holiday accommodation as well as caravan parks and camping areas, with the population reaching approximately 3,500 during summer months. This almost 3000% increase in population during the summer months has a high potential to result in conflict and cumulative impacts from construction activities and traffic movements.

2.2. 2015 bushfire

The Wye River and Separation Creek bushfire took hold on the 19th of December 2015 and had a significant breakaway on Christmas Day when it reached the townships of Wye River and Separation Creek. The severity of the bushfire was rated as high or moderate in parts of the towns (Figure 2.4). The bushfire destroyed 109 houses at Wye River and Separation Creek and burnt approximately 2,500 ha of bushland. As well as the loss of these houses, the bushfire created new hazards, including increased land instability caused by damage to retaining walls, loss of vegetation and erosion.

2.3. Clean-up and re-building activities

Throughout 2016, clean-up of bushfire debris has been conducted by Grocon, COS and their contractors. Emergency Management Victoria has engaged Grocon to re-instate retaining walls with a High or Very High risk rating. COS and the State Government will continue the recovery effort by beginning to re-establish public infrastructure.

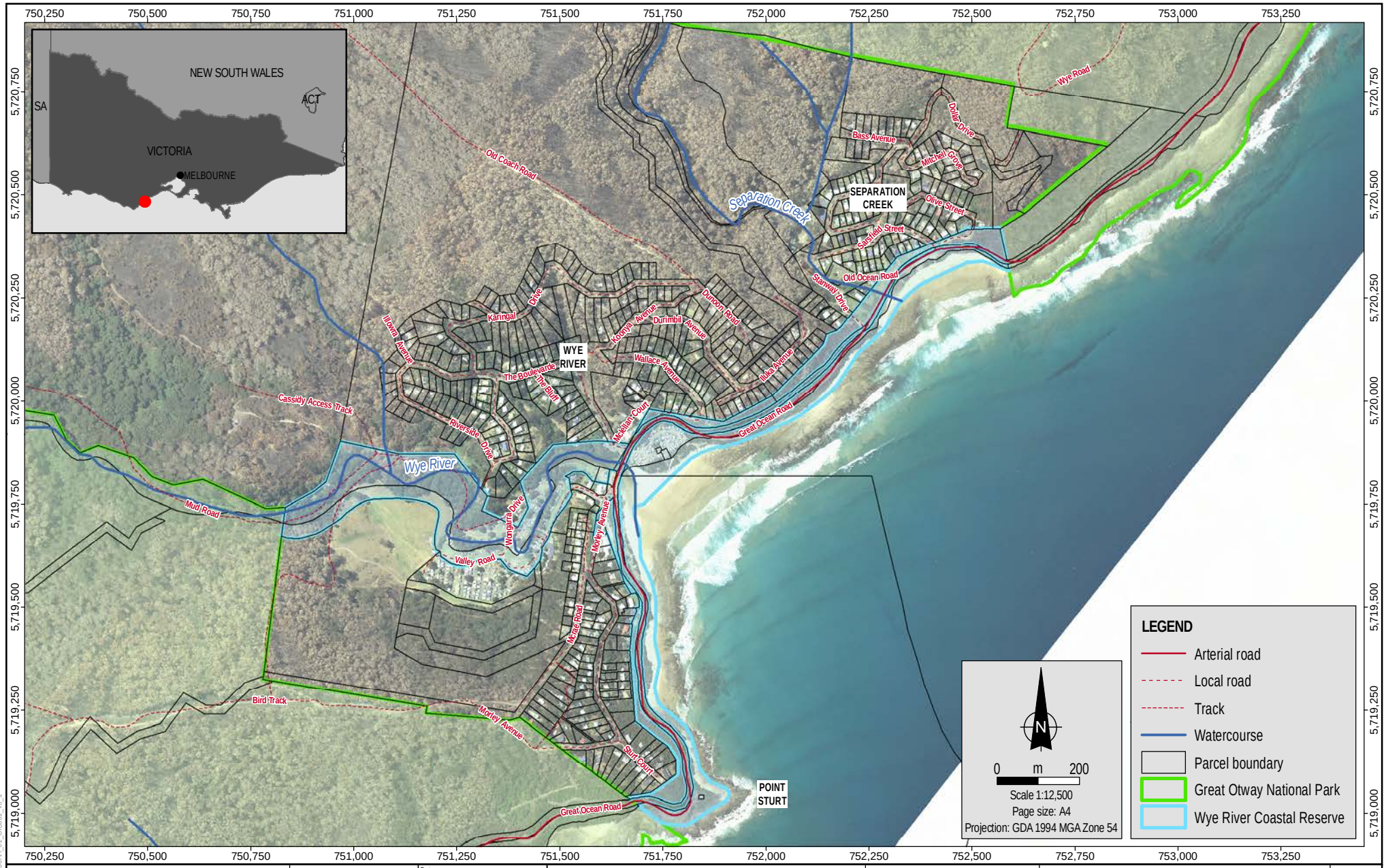
Owners are commencing the rebuilding of their homes and construction in some areas has begun. It is possible that not all of the destroyed houses will be rebuilt, however in the short term there is likely to be significantly higher than normal building activity and traffic.

In addition to the rebuilding of individual homes there will continue to be significant public infrastructure and clean-up works including:

- Repairs to damaged roads and roadside retaining structures (by both COS and Grocon).
- Installation of underground drainage.
- Open space infrastructure such as pathways, fencing, park furniture and waste bins.
- Utility infrastructure including power and telecommunication.
- Revegetation and pest plant control.

2.4. Current traffic management

Currently there are little or no traffic management measures in place for the general public. This CTEMP explores the possible implementation of traffic management measures to improve the safe movement of pedestrian and vehicle traffic.



Source:
Roads, watercourses, parcel boundaries and parks/reserves from VICMAP.
Imagery from DEWLP (captured 9 January 2016).

coffey
A TETRA TECH COMPANY

Date: 20.12.2016
Project: 754-ENAUABTF11650AA
File Name: 11650AA_01_F002_GIS

Colac Otway Shire

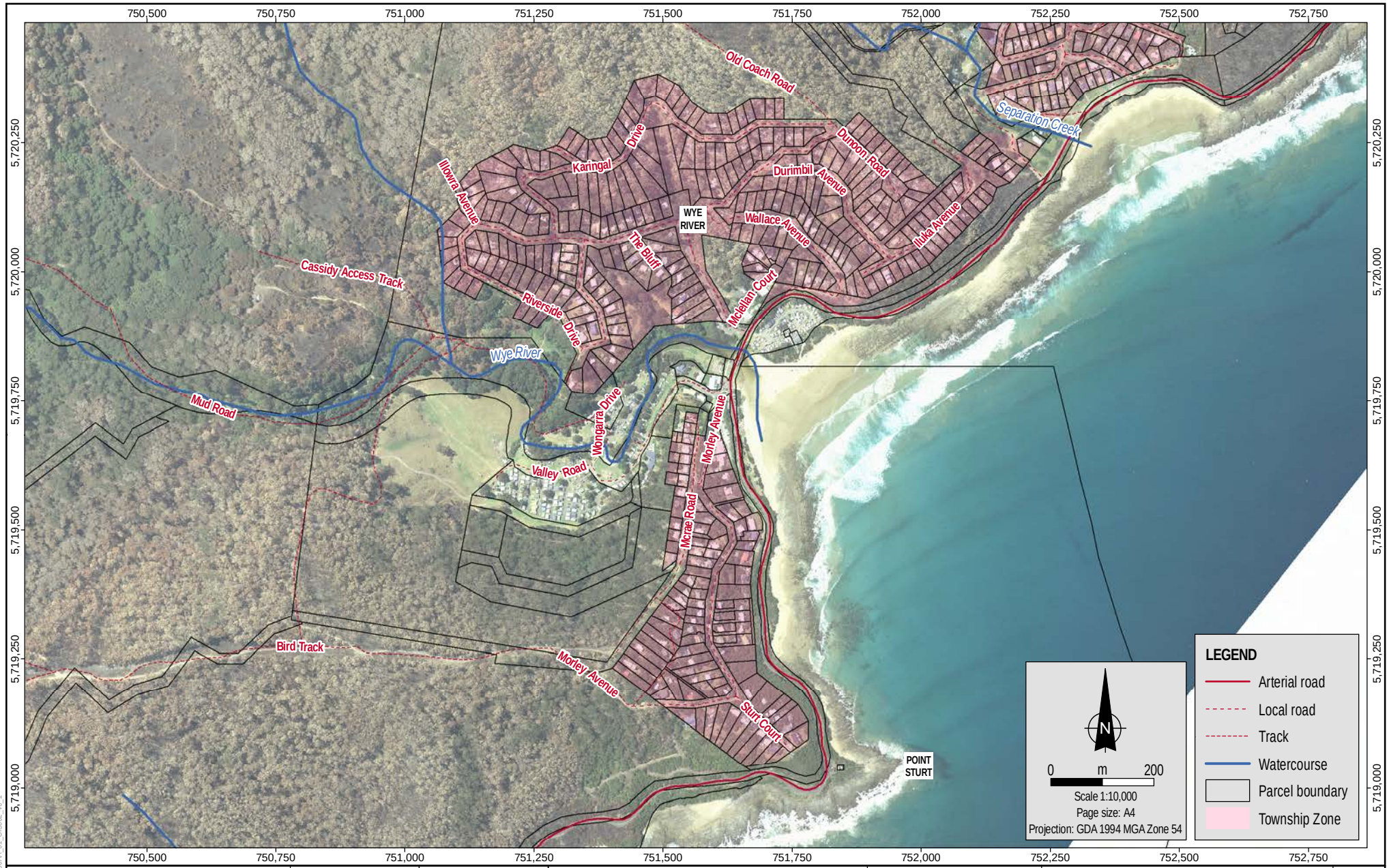
Wye River and Separation Creek CEMP

Colac Otway SHIRE

Wye River and Separation Creek location

Figure No: 2.1

MXD Reference: 11650AA_01_GIS001_v0_1



Source:
Roads, watercourses, parcel boundaries and parks/reserves from VICMAP.
Imagery from DEWLP (captured 9 January 2016).

coffey
A TETRA TECH COMPANY

Date: 20.12.2016
Project: 754-ENAUABTF11650AA
File Name: 11650AA_01_F002_GIS

Colac Otway Shire

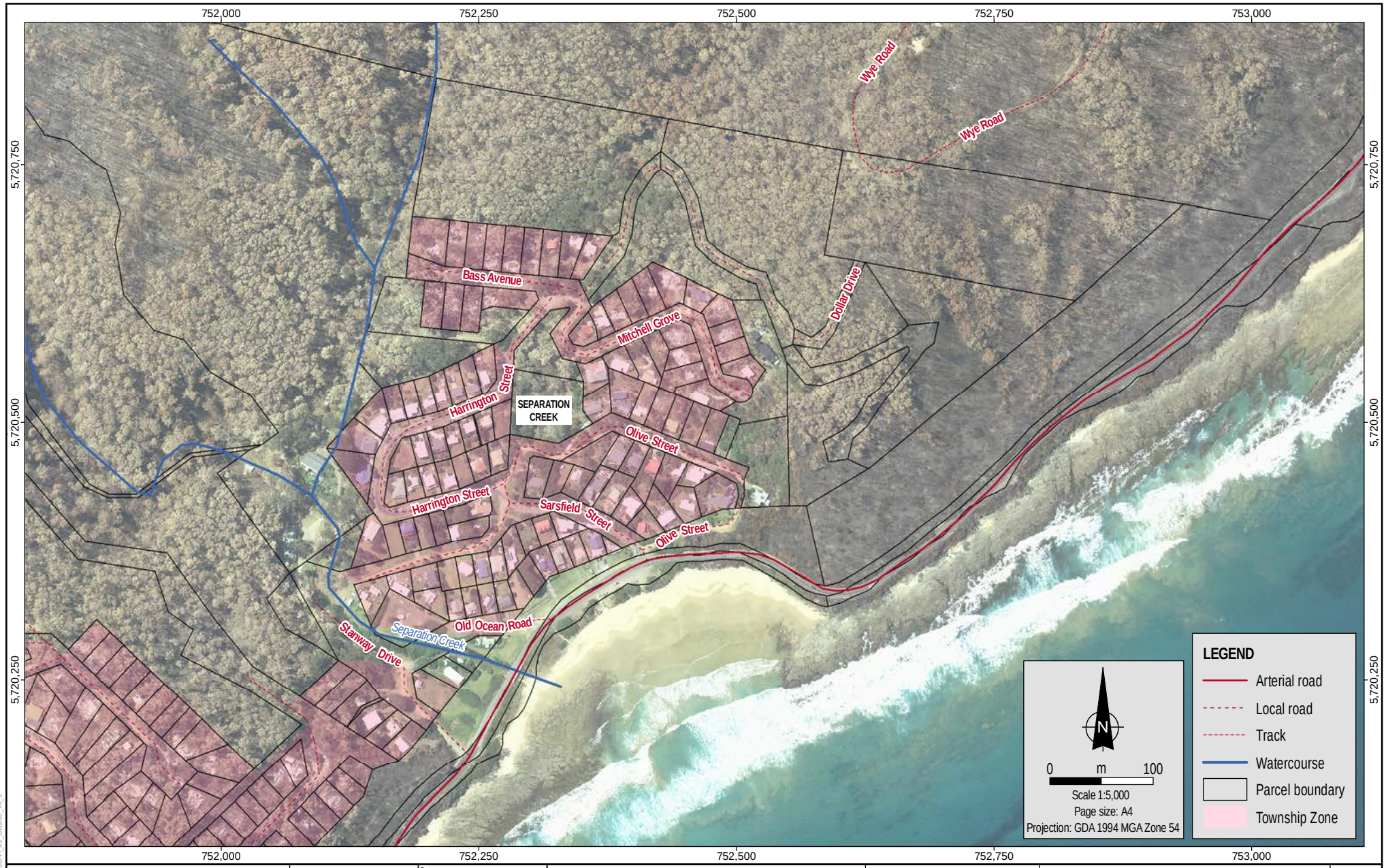
Wye River and Separation Creek CEMP

Colac Otway SHIRE

Wye River township

Figure No: 2.2

MXD Reference: 11650AA_01_GIS002_v0_1



Source:
Roads, watercourses, parcel boundaries and parks/reserves from VICMAP.
Imagery from DEWLP (captured 9 January 2016).

coffey
A TETRA TECH COMPANY

Date: 20.12.2016
Project: 754-ENAUABTF11650AA
File Name: 11650AA_01_F003_GIS

Colac Otway Shire

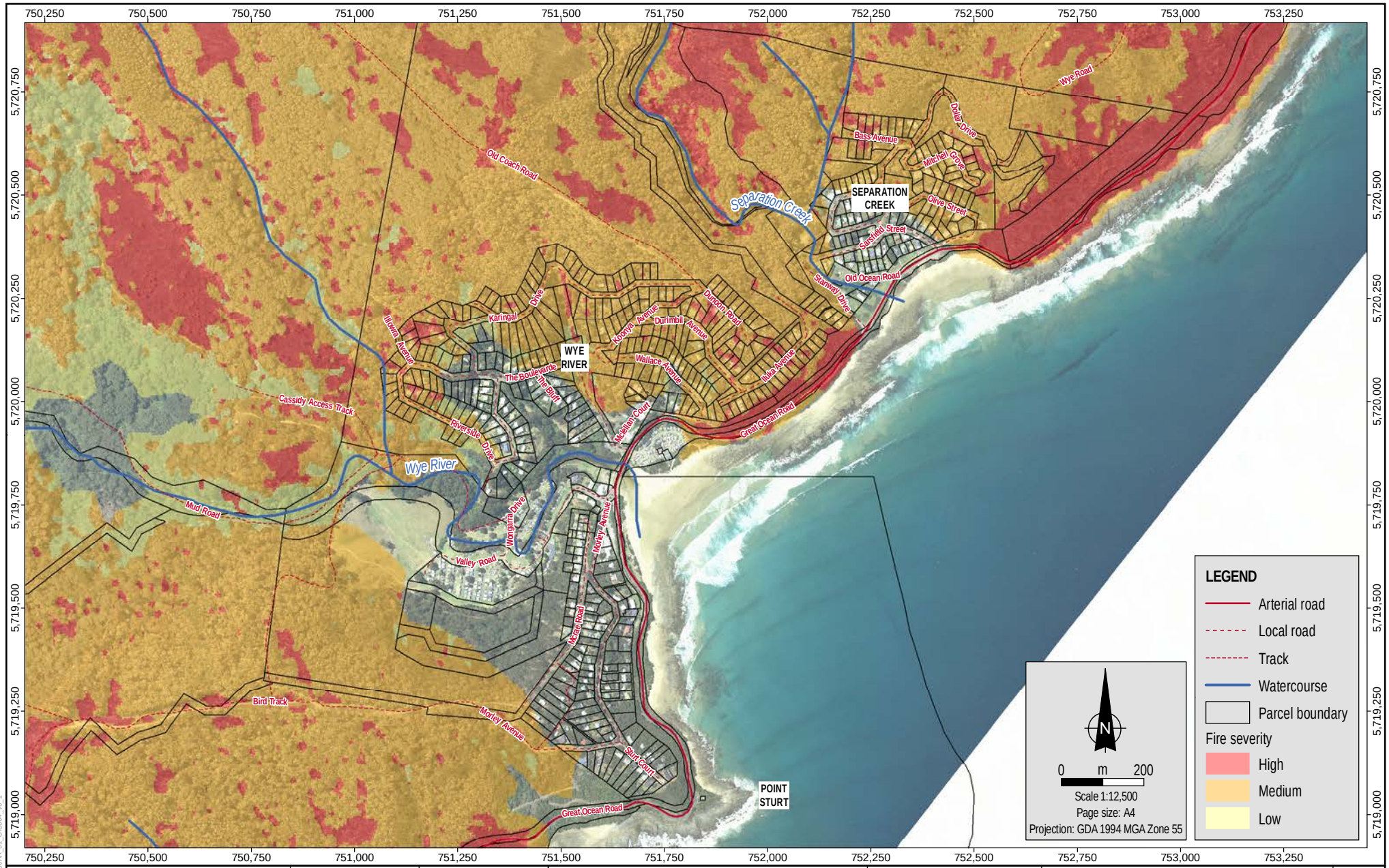
Wye River and Separation Creek CEMP

Colac Otway SHIRE

Separartion Creek township

Figure No: **2.3**

MXD Reference: 11650AA_01_GIS003_v0_1



Source:
Fire severity from DEWLP.
Roads, watercourses, parcel boundaries and parks/reserves from VICMAP.
Imagery from DEWLP (captured 9 January 2016).

coffey
A TETRA TECH COMPANY

Date: 20.12.2016
Project: 754-ENAUABTF11650AA
File Name: 11650AA_01_F004_GIS

Colac Otway Shire

Wye River and Separation Creek CEMP

Colac Otway SHIRE

Fire severity

Figure No: 2.4

MXD Reference: 11650AA_01_GIS004_v0_1

3. Legislative and statutory requirements

3.1. Commonwealth and State legislation, guidelines and codes

Commonwealth and State legislation, guidelines and codes relevant to the Wye River and Separation Creek CTEMP are provided in Appendix B.

3.2. Statutory planning framework

The statutory planning framework for approvals to enable rebuilding to take place in the fire affected areas of Wye River and Separation Creek is provided by the provisions of the *Planning and Environment Act 1987* and, more specifically, by the provisions of the Colac Otway Planning Scheme.

3.2.1. Planning and Environment Act 1987

The Planning and Environment Act 1987 sets the legislative framework for statutory and strategic planning in Victoria. The Act provides the legal framework for development approval by means of planning permits by the relevant responsible authority (in this instance, COS). Planning permits to allow the use or development of a specified parcel of land in accordance with the applicable provisions of the relevant planning scheme are usually issued with conditions.

The CTEMP will be enforced through the conditions of approval for planning and building permits issued by COS for development within Wye River and Separation Creek.

3.2.2. Colac Otway Planning Scheme

A summary of planning controls applying to Wye River and Separation Creek is provided in Appendix C.

Anyone seeking to rebuild, who does not have a valid existing planning permit, will require a new planning permit under the streamlined process. Landowners who have recently obtained permits which have expired will be able to utilise the plans and supporting documentation from the previous process to assist in preparing a new application, although they will need to be updated.

Planning and building approval processes

COS is the responsible authority for the administration of the Scheme. Under the provisions of the Scheme, planning approval will be required to enable construction of new dwellings (except where it is deemed that a valid planning permit exists).

On the WyeSep Connect webpage (http://www.colacotway.vic.gov.au/My-property/Fire-and-emergencies/WyeSep-Connect), COS and EMV provide guidance for applicants for a planning permit in relation to steps including:

- Pre-application consultation with One Stop Shop.
- Other steps to assist the preparation of applications.
- Information requirements to accompany an application.
- The steps in the planning permit process.

A planning permit condition of all new dwelling applications within the Incorporated Plan Area will require applicants comply with the CTEMP. Issues to note in this plan for compliance are:

- Permissible construction times.
- Management of impacts outside of individual construction zones including noise, dust, stormwater run-off and sediment control, protection of adjoining properties and Council infrastructure assets.
- Management of steep sites to prevent the falling, or rolling, of excavated material and building materials into adjoining properties.
- Any impact upon adjacent roads and pedestrian walkways, ensuring there is adequate movement and circulation of vehicles and pedestrian adjacent to the land during the construction phase.
- Access routes for construction vehicles, including the weight and length of heavy vehicles. It is the builder's responsibility to ensure that the local road network is capable of supporting the construction vehicles proposed.
- Parking locations for construction vehicles and construction workers' vehicles.
- Temporary fencing works.
- Type and location of facilities and amenities for construction site workers.
- Disposal of litter and building waste, and methods for containing all waste on the construction site.
- Disposal of displaced soil excavated from the construction site.

Once a planning permit is issued, application can be made for building permit which is required under the Building Regulations for (among other things):

- Demolition/removal of a building.
- Construction of a new dwelling.
- Construction of a range of related works including retaining walls on boundaries or over 1 metre in height, most fences, decks and bushfires shelters.

4. Stakeholder engagement

4.1. Identification of stakeholders

Stakeholders for the rebuilding of Wye River and Separation Creek are not just residents of these communities. Local businesses and accommodation facilities also have an interest in what occurs during the rebuilding of Wye River and Separation Creek. Other stakeholders include the many landowners who are residents of Melbourne and other surrounding districts and visitors and tourists to the region.

The following organisations have also been identified as stakeholders for the development of this CTEMP:

- Department of Environment, Land, Water and Planning (DWELP).
- State Emergency Services (SES).
- Emergency Management Victoria (EMV).
- Country Fire Authority (CFA).
- Colac Otway Shire (COS).
- Community Resilience Committee (CRC).
- Wye River Foreshore Committee of Management.
- VicRoads.

4.2. Methods of engagement

Stakeholder engagement regarding this plan has and will continue to be conducted using a number of methods. This is to ensure that stakeholders have the opportunity to engage and review potential management measures to mitigate against the impacts of reconstruction in Wye River and Separation Creek. It is likely that the management measures within this CTEMP will become planning and building permit approval requirements from COS.

The CTEMP is hosted on the COS website to provide members of the public with easy access to the plan. The key management measures of the CTEMP are also summarised and communicated via an interactive Web Map on the WyeSep Connect webpage.

The CTEMP was presented at two community meetings in Wye River comprising:

- An initial meeting during the development of the draft CTEMP to clearly define and refine issues and seek community feedback.
- A second meeting upon completion of the draft of the CTEMP to present it to the community and seek further feedback.

Feedback from these community meetings was collated and incorporated in this CTEMP where relevant.

4.3. Community feedback and complaints

Feedback and complaints about the CTEMP and its implementation will be invited by COS. All stakeholders are responsible for the successful implementation of the plan. Residents are welcome to provide feedback based on their view of the success and effectiveness of the plan in managing environmental and other construction impacts.

5. Summary of CTEMP

The CTEMP for Wye River and Separation Creek needs to consider three main factors. The amenity of residents and visitors to the area (Section 6), traffic management (Section 7) and management and mitigation of environmental factors (Section 8).

The plan will provide residents planning to develop or construct residences on their land with guidance on meeting the planning approval requirements of COS. Management measures provided in this plan are primarily based on Victorian government policy, legislation and guidelines. Where appropriate, additional management measures have been introduced by COS to meet the requirements of the communities of Wye River and Separation Creek.

All construction site arrangements and operations at a minimum must comply with the COS General Laws (Local Law No.2 – September 2013, see Appendix A). The purpose of the local law is to:

- Provide for the peace, order and good government of the municipality district.
- Promote a physical and social environment free from hazards to health, in which the residents of the municipal district can enjoy a quality of life that meets the general expectations of the community.
- Prevent and supress nuisances which may adversely affect the enjoyment of life within the municipal district of the health, safety and welfare of persons within the municipal district.

All landowners and principal contractors are responsible for compliance with the CTEMP and communication with all relevant stakeholders. This includes safety briefings or inductions for all contractors and visitors. Site signage requirements for principal contractors are provided in the Occupational Health and Safety Regulations 2007. The following requirements outlined in Work Safe Victoria's Site Establishment Checklist for Builders and Building Trades Contractors (2005) should also be met where applicable/appropriate:

- A prominent sign advising all visitors to report to the site supervisor before entering the site.
- Signs depicting the necessary types of personal protective equipment (such as hearing protection and safety helmets, glasses and footwear) required for the site.
- Contact name and number.

Additionally, any site hazards such as unstable areas, hazardous trees etc. should be appropriately signed and fenced.

Table 5.1 below summarises the key risks and issues and objectives of this plan. There is also a summary of the detailed management and mitigation measures for each aspect. Landowners and principal contractors should refer to the full list of management measures and not rely upon the summary to determine compliance.

Table 5.1 Summary of CTEMP

Key risks and issues		Objectives	Management measures
Protection of amenity			
Noise	Increased noise and vibration through construction activities leading to detrimental effects on the health and amenity of residents, visitors, contractors and COS employees.	• Avoid, minimise and manage noise generated from construction • Protect the health and amenity of residents, visitors, contractors and COS employees from noise impacts	• Compliance with EPA construction work hours
Air quality	Potential health and amenity impacts to residents, visitors, contractors and COS employees.	• Avoid, minimise and manage dust generated from construction • Protect the health and amenity of residents, visitors, contractors and COS employees from dust	• Management of fugitive dust • Reduced speed limits for unsealed roads • Rehabilitation of disturbed areas
Rocks and Debris	Falling rocks and debris from development and construction sites leading to damage to property and injury to residents and visitors.	• Avoid, minimise and manage debris and rock movement off construction sites	• Minimise disturbance of rock and debris on site • Erection of fencing to prevent rocks and debris from leaving the construction site.
Traffic management			
	Safety of pedestrians and traffic using the road network	• Provide a safer road network despite competing uses	• Traffic management plan implemented • Advisory 20 km/hr speed limit • One-way traffic flow restrictions • Parking zones and restrictions • Approval of laydown areas
Environmental management			
Soil and water	Erosion and landslips leading to sediment runoff and water quality impacts	• Limit soil instability through the management of surface water flow	• Specific soil and erosion measures • Revegetate cleared ground to prevent sediment runoff
Hazardous materials	Contamination of land, groundwater and surface water through inappropriate storage, handling, transport and disposal of materials.	• Manage hazardous materials in accordance with regulatory requirements	• Management of hazardous materials in accordance with relevant Safety Data Sheets (SDS)

This page has been left intentionally blank

Table 5.2 Summary of CTEMP (continued)

Key risks and issues		Objectives	Management measures
Environmental management (continued)			
Asbestos	Non-compliant handing, management and disposal practices for asbestos	• Avoid the potential for human exposure to asbestos and associated health risks.	• Ensure asbestos management and disposal is in accordance with relevant legislation and regulations
Waste	Pollution of land and water environments and potential health risks to humans	• Manage all waste in accordance with the waste hierarchy and in compliance with statutory requirements	• Minimise and manage wastes in accordance with the principles of avoid, reduce, reuse, recycle, treat and dispose
Contamination and remediation	Contamination issues and human health risks associated with the decommissioning of septic tanks	• Prevent contamination of land, groundwater and surface water • Control risks to human health and the environment	• Compliance with EPA Victoria's Code of Practice – Onsite Wastewater Management
Biosecurity	Introduction and spread of pest plants and soil bore pathogens	• Prevent the introduction and minimise the spread of pest plants and soil borne pathogens	• Wash-down vehicles and machinery • Clean construction materials
Fire	Construction activities increasing the potential for wildfires through ignition	• Minimise risk of fires • Avoid human health and environmental impacts	• Manage hot work activities • Controlled use of earthmoving and excavation equipment • Controlled use of chainsaws and gardening equipment
Vegetation	Unauthorised clearing of vegetation and increased competition from pest plants	• Minimise disturbance to vegetation • No unauthorised clearance of vegetation	• All removal of vegetation subject to permit • Encourage rehabilitation and revegetation of cleared areas • Implementation of Bushfire Vegetation Restoration Plan
Indigenous heritage	Disturbance or damage to Indigenous heritage sites through construction activities	• Minimise adverse impacts to Indigenous heritage	• Established protocols in the event of unexpected discovery
Non-Indigenous heritage	Disturbance or damage to non-Indigenous heritage sites through construction activities	• Minimise adverse impacts to non-Indigenous heritage	• Established protocols in the event of unexpected discovery

6. Amenity

COS are committed to protecting the amenity of residents and visitors to Wye River and Separation Creek. Construction activities have the potential to impact people with noise and dust. These impacts can be mitigated through compliance with Victorian and local legislation.

6.1. Noise

Noise and vibration from construction activities have the potential to impact upon nearby residents. Noise and vibration will principally result from activities such as earthworks, machinery operation, public infrastructure works, rebuilding of residential dwellings and increased traffic. Given the proximity of local residents to construction areas and the expected influx of tourists over the summer months, noise and vibration must be managed in order to minimise amenity impacts.

6.1.1. Key issues and risks

Key issues and risks relating to noise and vibration are:

- Increased noise and vibration from construction activities including building, machinery operation and increased construction-related traffic.
- Structural damage and erosion due to vibration.
- Detrimental effects on the health and amenity of construction workers, contractors, residents and tourists.

6.1.2. Objectives

The objectives of noise and vibration management measures are to:

- Avoid, minimise and manage noise generated from construction.
- Comply with EPA noise limits and COS limits outlined in Table 6.1 at nearby residences, or ensure that noise emissions are acceptable to residents.
- Protect built structures from structural and cosmetic damage due to vibration.
- Protect the health and amenity of residents, visitors, COS employees and contractors due to potential noise and vibration impacts.

6.1.3. Management measures

In general construction noise is prohibited by the EPA regulation inside of the following times (Section 6, Group 2):

- 8 p.m. to 7 a.m. Monday to Friday
- 8 p.m. to 9 a.m. Saturdays, Sundays and public holidays.

These prohibited times are a minimum requirement and do not mean that all construction work will be acceptable outside of these times. Although the Environment Protection (Residential Noise) Regulations 2008 refers to prescribed items in Group 2 it is likely that any construction related noise, including vehicle movements, loading and unloading and other construction site preparation within the times above would not be considered acceptable.

Specific permissible construction work hours applicable to the Wye River and Separation Creek Township Zones are outlined in Table 6.1. These permissible construction work hours are

recommended by the EPA and supported by the Environment Protection (Residential Noise) Regulations 2008.

Table 6.1 Permissible construction work hours

Period	Permissible construction work hours
Monday to Friday	7 a.m. to 8 p.m.
Saturdays, Sundays and Public Holidays	9 a.m. to 8 p.m.

EPA Publication 480 (Best Practice Environmental Management – Environmental Guidelines for Major Construction Sites, 1996) provides guidance on managing noise from major construction projects. During dense periods of construction activity at Wye River and Separation Creek these guidelines should be followed to manage noise rather than the Environment Protection (Residential Noise) Regulations 2008, which are focused on managing noise from less intensive construction activity associated with individual houses. These management measures include:

- Fit and maintain appropriate mufflers on earth-moving and other vehicles.
- Enclose noisy equipment.
- Provide noise attenuation screens, where appropriate.
- Where an activity is likely to cause a noise nuisance to nearby residents, restrict operating hours to between 7 a.m. and 6 p.m. weekdays and 7 a.m. to 1 p.m. Saturday, except where, for practical reasons, the activity is unavoidable.
- Noise should not be above background levels inside any adjacent residence between 10 p.m. and 7 a.m.
- Advise local residents when unavoidable out-of-hours work will occur.
- Schedule deliveries to the construction site so that disruption to local amenity and traffic are minimised.
- Conduct a study on the impact of ground vibration from construction activities, where these operations occur within 50 m of a building and take appropriate action.
- Minimise air vibrations.

6.2. Air quality and greenhouse gases

Construction related activities are likely to generate dust and greenhouse gases which have the potential impact the air quality of nearby residents and contribute to global warming. Dust and greenhouse gases will principally result from activities such as traffic movements along unpaved roads, earthworks and machinery operation. Given the proximity of local residents to construction areas and the expected influx of tourists over the summer months, air quality and greenhouse gases must be managed in order to minimise amenity impacts.

6.2.1. Key issues and risks

Key issues and risks relating to air quality are:

- Dust emissions from traffic movements along unsealed roads, exposed surfaces and stockpiles.
- Water quality effects from dust deposition.
- Generation of greenhouse gases from construction machinery, mobile plant and equipment.
- Potential health and amenity impacts to construction workers, contractors, residents and visitors.

6.2.2. Objectives

The objectives of air quality and greenhouse gas management measures are to:

- Minimise air and greenhouse gas emissions from construction.
- Minimise the impacts of dust generated from vehicle movements and exposed soils, including the prevention of dust deposition on nearby houses and properties.
- Minimise potential health and amenity risks for construction workers, nearby residents and the general public.
- Comply with EPA air quality requirements outlined in Section 6.2 at nearby residences.

6.2.3. Management measures

The State Environment Protection Policy (Air Quality Management) 2001 establishes the framework for managing emissions into the air environment in Victoria from all sources of air pollutants, so that the air quality objectives outlined in The State Environment Protection Policy (Ambient Air Quality) 1999 are met. In addition Section 59E of the Environment Protection Act 1970 provides for an indictable offence where a person intentionally, recklessly, or negligently pollutes the environment or causes or permits an environmental hazard which results in a serious threat to public health or a substantial risk of a serious threat to public health.

In order to manage dust, odour emissions and greenhouse gas emissions the below management measures should be adopted at Wye River and Separation Creek.

Dust prevention

Dust prevention measures shall:

- Ensure that the management of fugitive dust complies with the relevant legislation and regulations listed in Section 3, including the State Environment Protection Policy (Ambient Air Quality) 1999.
- Adhere to speed limits outlined in Section 7 to reduce dust generation.
- Rehabilitate disturbed areas not in use to minimise potential for airborne dust.

Additionally, *Clause 74* in Part 4 of COS Local Law Number 2 2013 (Appendix A) is applicable to dust prevention.

6.3. Rocks and Debris

Construction related activities on steep slopes will possibly have the potential to impact nearby residents and or the general public. Excavated material and building material may fall or roll into nearby properties. Given the proximity of local residents to construction areas and the expected influx of tourists over the summer months, the potential for falling or rolling rocks and debris must be managed in order to minimise amenity impacts.

6.3.1. Key issues and risks

Key issues and risks relating to rocks and debris are:

- Falling or rolling of excavated material from construction site into adjoining properties.
- Falling or rolling equipment from construction site into adjoining properties

6.3.2. Management measures

In order to manage the falling or rolling of rock and debris below management measures should be adopted at Wye River and Separation Creek.

Fencing

Temporary fencing arrangement shall:

- Be installed below construction site.
- Be sufficient to contain all excavated material on site.
- Be installed with-in construction site.
- Be removed on completion of construction.

7. Traffic management

The cumulative impact of heavy vehicle movements associated with the site clean-up, residential construction traffic and increased patronage to the townships during holiday periods (Christmas/New Year, school holidays, Easter and long weekends) necessitates a traffic management strategy to ensure safety and efficiency of the road network. This section summarises the traffic management plan developed by GTA consultants (2017) for Wye River and Separation Creek (see Appendix D).

The area is highly constrained in terms of using roads and road reserves for laydown areas or waste skip bins, and there is high potential for damage to roads or incidents due to erosion (both existing and future) and the steep road network. Works on Council land and roads is covered under Part 3 of COS Local Law Number 2 2013 (Appendix A).

Construction work combined with erosion and physical constraints such as lack of laydown areas and steep roads has the potential to damage COS assets including soils and retaining walls, roads, drainage systems and watercourses. Protection of COS assets is covered by Part 3 of COS Local Law Number 2 2013 (Appendix A).

7.1. Existing road network

7.1.1. Wye River

Wye River is located abutting the Great Ocean Road. Great Ocean Road is an arterial road under VicRoads jurisdiction and generally aligned along the Victorian southwest coast stretching between Torquay and Allansford.

The Boulevard provides the primary connection between Great Ocean Road and the Wye River residential area. Its intersection with Great Ocean Road does not have traffic signals with provision of full turning movements. Wallace Ave also connects Wye River to Great Ocean Road however its predominant purpose is a secondary access.

The greater local road network in Wye River comprises predominantly narrow, winding and/or undulating/steep roads. Limited signage, road safety barriers and lighting exists and a number of the roads are located on slopes supported by retaining walls.

There currently exists an informal road connection between Wye River and Separation Creek, however during a recent inspection this connection was closed to vehicles. Advice provided to GTA indicates this road was used to shuttle residents and visitors between Wye River and the Great Ocean Road via Separation Creek whilst the Great Ocean Road was under restricted operation.

7.1.2. Separation Creek

Separation Creek is also located abutting the Great Ocean Road, with Sarsfield Street providing the primary connection to the town.

The Great Ocean Road/Sarsfield Street intersection does not have traffic signals and allows for full turning movements. The two other minor local road network connections to Great Ocean Road are Stanway Drive and Old Ocean Road which are both dead-end roads.

The greater local road network in Separation Creek is mostly narrow, however with less undulation in comparison to Wye River. Limited road infrastructure is present and the road surface quality varies throughout the township.

7.2. Key issues and risks

Key issues and risks relating to traffic management are:

- Safety of pedestrians and traffic using the road network due to significantly higher than normal building activity resulting in large volumes of trucks, cranes, and contractor and delivery vehicles in a constrained area.
- Traffic congestion caused by vehicles and machinery associated with construction, residents and visitors.
- Peak period traffic volumes within a constrained road network.
- Increased likelihood of conflicts between vehicles.
- Increased likelihood of conflict between pedestrians and vehicles.
- Lack of appropriate parking areas for construction workers, contractors, Council workers and tourists.
- Heavy and over dimensional vehicle movements on narrow roads with eroded verges resulting in vehicle rollover.
- Lack of turning circles.

7.3. Objectives

The ultimate objective of the traffic management plan is to minimise the above key issues and risks and in-turn provide a safer road network.

7.4. Management measures

The traffic management plan (see Figures 7.1 and 7.2) has been prepared with consideration for construction over the next 12 months, noting the short timeframes for implementation. It is largely an extension to the existing traffic management plan facilitated by Grocon during the post-bushfire clean-up. During this time, the ability to remain flexible will be essential with the re-construction of retaining walls and the proposed construction of the stormwater drainage system.

Features of the traffic management plan include:

- A distinguished road network hierarchy (largely determined by the anticipated traffic volumes and quality of the road in regard to observed width, undulation, surface, etc.).
- One-way traffic flow restrictions in the southwest portion of Riverside Drive (Wye River) and two way traffic flow in the remaining road network.
- Investigation into formalised passing areas in strategic locations where there appears to be adequate width and/or moderately flat terrain to allow vehicles to safely pass one another.
- Parking signage to delineate 'time restricted' and 'no parking' areas within the road network.
- 20 km/hr speed limit for all roads within each township.
- Advisory signage on Great Ocean Road to restrict access to The Boulevard and Sarsfield Street to local traffic only.
- Advance signage as it relates to dynamic road network conditions.
- Requirement for contractors to provide a traffic management plan when working from the road reserve for activities such as crane lifts etc.

Figure

Figure 7.1 Wye River Traffic Management Plan

Figure

Figure 7.2 Separation Creek Traffic Management Plan

7.4.1. Peak holiday periods

The traffic management plan has been prepared with consideration to the large influx of visitors to the townships during holiday periods. Holiday periods are not restricted to Christmas and New Year period but could include Easter, school holidays and long weekends. In maintaining a consistent strategy, traffic management during peak periods may feature additional traffic controls to manage the anticipated increase in traffic flow as required.

7.4.2. Speed limits

The steep, narrow and windy road network within Wye River and Separation does not allow for high speeds. The addition of construction sites, machinery, vehicles and workers will result in the need for reduced speed limits throughout the townships. As per the traffic management plan a speed limit of 20 km/hr will be implemented throughout the Wye River and Separation Creek townships.

7.4.3. Parking

Particularly during the summer months, parking is congested in Wye River and Separation Creek with a high visitor numbers. Parking is highly constrained due to:

- The road network comprising narrow winding and steep roads.
- Lack of road reserves and public car parks, particularly in the residential areas but also on the foreshore.
- The volume of tourists over the summer holidays.
- Increased risk of vehicle rollover.
- Soft edges of roads.

Parking management is covered in the traffic management plan (see Appendix D). In summary, the following measures shall be implemented to manage parking:

- Installation of parking signs to delineate ‘time restricted’ or ‘no parking’ areas within the road network.
- Restriction of the amount of trade vehicles at each construction site, with only trade vehicles carrying tools being allowed on site.
- Provision of a parking area (such as in and around The Boulevard in Wye River) for additional trade vehicles, from where workers can leave their vehicles and be picked up by vehicles with permits to get to the construction site.
- Encouraging the use of shared access to the construction work site.

7.4.4. Laydown areas

Due to the steep nature of the area, narrow roads with lack of road verges, existing erosion and lack of flat areas, laydown areas for construction material are scarce. When several houses are being constructed within proximity to each other, coupled with public infrastructure works such as reconstruction of retaining walls and drainage installation, the capacity to accommodate construction materials will be limited.

To manage limitations and conflicts relating access to and use of laydown areas, the following measures shall be implemented:

- The use of road verges as laydown areas must be approved and permitted by Council prior to use.

- A scheme will be made available for landowners with cleared sites that are not currently rebuilding under which they can make their vacant sites available to COS so that they can be used for stockpiling of construction material. COS can then make these sites available to landowners requiring construction stockpiling areas.
- No unauthorised stockpiling of construction materials on road reserves or other people's properties.

8. Environmental management and controls

Construction at the Wye River and Separation Creek has the potential to cause environmental impacts. Environmental aspects that need to be considered at Wye River and Separation Creek include:

- Soil and water.
- Hazardous material.
- Asbestos.
- Waste.
- Contamination and remediation.
- Wastewater.
- Biosecurity.
- Vegetation.
- Heritage.
- Fire management.

This section describes the key issues and risks, objectives and environmental management and control measures for the above environmental aspects.

8.1. Soil and water (including wastewater)

As a result of the bushfires, catchments surrounding the area have lost significant understorey vegetation. This has resulted in increased runoff, and sediment and debris sources overloading the drainage system (GHD, 2016a). Due to the catchment conditions and ongoing works, the functionality of the existing drainage system is currently being compromised. This has resulted in unintended overland flow paths which have placed infrastructure and properties at risk of further damage (GHD, 2016a). Additionally, large volumes of sediment are deposited in various gullies within the area, and ultimately the waterways and coastal foreshore areas (GHD, 2016a).

In addition to erosion and sediment issues, stormwater run-off has the potential to transport contaminants from soils and materials.

8.1.1. Key issues and risks

Key issues and risks relating to soil and water are:

- Erosion and landslips.
- Increased sediment runoff from the erosion of exposed surfaces.
- Sediment runoff from stockpiles of topsoil and construction materials.
- Sediment runoff and disturbance to creeks and drainage lines during works near rivers and creeks.
- Impacts to water quality in surrounding rivers, creeks, groundwater systems and the ocean from incorrect wastewater disposal.
- Spills from on-site fuel tanks or chemicals storage.
- Runoff or leachate from exposure of buried contaminated material or soils.
- Runoff from grass establishment and maintenance activities (e.g. pesticides, herbicides, fertilizers, soil improvers etc.).

- Sediment and contaminants (e.g. oil, grease, metals) from wash down of vehicles and machinery

8.1.2. Objectives

The objectives of soil and water management measures are to:

- Limit soil erosion and exacerbation of land instability.
- Control sediment discharge leaving the construction area.
- Retain sediment laden water within specified site boundaries and prevent sediment from impacting surface water quality.
- Dispose of wastewater in accordance with relevant legislation and guidelines.
- Minimise the potential for impacts to the surrounding environment and human health and safety.

8.1.3. Management measures

After the December 2015, GHD prepared an Erosion and Sediment Control Report (GHD, 2016a; Appendix E) and an Erosion and Sediment Control Plan (GHD, 2016b; Appendix F) providing specific guidance on the erosion and sediment control measures required to be implemented on each property. Table 8.1 provides a summary of GHD's (2016a) proposed site specific management measures for the gully catchments within Wye River and Separation Creek. Implementation methods for the below specific management measures are provided in Appendix E. Landowners are responsible for the implementation of the management measures for erosion and sediment control.

Table 8.1 Specific soil and erosion measures

Gully	Proposed treatment measure
Wye River north (west of Main Gully)	• Gravel reinstatement – stabilisation of individual sites. • Table drain stabilisation – check dams in table drain. • Steep embankment treatment – erosion matting over batters. • Pit protection – mesh gravel roll place around inlet pit. • Slope drain to erosion protection – channel protection using slope drain to rock pad. • Sediment/debris trap (endwall) – sediment fence on endwall. • Erosion protection – erosion control matting and revegetation. • Silt fences. • Hydromulcher – stabilisation through revegetation using a hydromulcher.
Wye River North (East of Main Gully)	• Table drain stabilisation – check dams in table train. • Pit protection – mesh gravel roll place around inlet pit. • Steep embankment treatment – erosion matting over batters. • Erosion protection – erosion control matting and revegetation. • Silt fences. • Slope drain to erosion protection – channel protection using slope drain to rock pad. • Sediment/debris trap – sediment fence on headwall/endwall. • Hydromulcher – stabilisation through revegetation using a hydromulcher.

Table 8.2 Specific soil and erosion measures (continued)

Gully	Proposed treatment measure
Separation Creek	• Steep embankment treatment – erosion matting over batters. • Silt fences. • Table drain stabilisation – check dams in table train. • Pit protection – mesh gravel roll place around inlet pit. • Hydromulcher – stabilisation through revegetation using a hydromulcher.

Source: GHD, 2016a.

In addition to above specific erosion and sediment control management measures, *Clause 42* under Part 3 of COS Local Law Number 2 2013 (Appendix A) is also applicable to soil and erosion.

Best practice measures to manage potential soil and water issues in Wye River and Separation Creek include:

- Remove topsoil and subsoil using suitable equipment and reuse wherever possible, and transport off-site as soon as practicably possible.
- Minimise the number and size of stockpiles.
- Construct stockpiles with slopes less than 2:1.
- Cover, mulch or seed any topsoil stockpile which is to be maintained for longer than one month.
- Where stockpiles are seeded, a sterile seed combined with native seed mix should be used. After seeding a standard hydromulch consisting of various types of organic fibrous material (e.g. paper or wood pulp, wood fibre, straw fibre) mixed with water, tackifier and soil ameliorants and sprayed on the soil in a slurry to provide a protective layer.
- Surround unstabilised stockpiles and batters with silt fences or a drainage system to collect and correctly dispose of contaminated water
- Do not locate stockpile soils within or close to drainage lines.
- Ensure contaminated soils, affected by fuel or other chemical spills will be removed from site for appropriate disposal in compliance with relevant licences and legislation, as appropriate. Contaminated soils are covered further in Section 8.5.
- Restrict traffic (including machinery) movement to roads to avoid disturbance of soil and creation of bare areas, where practicable.
- Inspect and maintain erosion and sediment control structures (e.g., diversion drains, sediment traps, silt fences etc.) regularly and prior to, and after, heavy rain invents.
- Do not clear steep slopes and areas of highly erodible soils and progressively rehabilitate cleared areas.
- Manage work schedules of multiple contractors to minimise delays in construction activity that may prolong the duration of disturbed land remaining unstablised.
- Do not direct surface water or stormwater flow to areas of unprotected soil such as driveways. This includes water from erosion treatment areas.
- All builders and contractors working longer-term (e.g. greater than one week) at a construction site will be required to provide a port-a-loo onsite. Wastewater from all port-a-loos must be disposed of in accordance with manufacturer requirements.

8.2. Hazardous materials

Construction activities at Wye River and Separation Creek will involve the use of hazardous materials such as fuels, lubricants, paints and adhesives. These materials require appropriate handling, storage, transport and disposal to keep the construction area safe, and to prevent to occurrence of a hazardous incident. Uncovering of asbestos is covered in Section 8.3.

8.2.1. Key issues and risks

Key issues and risks relating to hazardous materials are:

- Inappropriate storage, handling, transport and disposal of hazardous materials increasing the risk of a hazardous incident with the potential to result in health and environmental impacts.
- Contamination of land, groundwater and surface water through inappropriate storage, handling, transport and disposal of materials.
- Inadequate spill response procedures resulting in potential health and environmental impacts.
- Exposing hazardous materials previously buried under soil through earthmoving.

8.2.2. Objectives

The objectives of hazardous materials management measures are to:

- Avoid the release of hazardous substances to land and water.
- Manage hazardous materials in a safe and environmentally appropriate manner and in accordance with regulatory requirements.
- Ensure hazardous materials are identified, stored, transported and handled correctly to minimise the risk of spills.
- Minimise waste through efficient use of resources and recycling.

8.2.3. Management measures

Hazardous material management measures shall:

- Ensure that hazardous materials are managed in accordance with the legislation and guidelines listed in Section 3.
- Ensure that all personnel are trained in procedures for the safe handling, transport, storage and disposal of hazardous materials if they are required to use hazardous materials
- Ensure that all relevant Safety Data Sheets (SDS) are available at each site for hazardous chemicals used.
- Ensure that all spill response kits and clean up materials are well stocked.
- Ensure that all relevant personnel are trained in spill responses.
- Ensure all personnel have appropriate PPE to work with hazardous materials.

8.3. Asbestos

Most of the asbestos in materials from destroyed dwellings was removed by Grocon during the post-bushfire clean-up, however there remains the potential for residual asbestos-containing material to be present on construction sites. Exposure to asbestos fibres can cause a range of debilitating medical conditions affecting the respiratory system, including mesothelioma, asbestosis and lung

cancer. Many asbestos-related conditions are life threatening or associated with a marked reduction in life expectancy, therefore the potential presence of asbestos must be taken seriously.

8.3.1. Key issues and risks

Key issues and risks relating to asbestos are:

- Non-compliant asbestos handling, management and disposal practices leading to health and safety risks to construction workers, contractors and the local community.

8.3.2. Objectives

The objectives asbestos management measures are to:

- Avoid the potential for human exposure to asbestos and associated health risks.
- Comply with relevant legislation and guidelines relating to asbestos handling, management and disposal practices.

8.3.3. Management measures

The Occupational Health and Safety Act 2004, Occupational Health and Safety (Asbestos) Regulations 2003 and the Occupational Health and Safety Regulations 2007 provide guidance on duties and obligations in relation to asbestos management. The management of asbestos is also summarised in Work Safe Victoria Compliance Code, Managing Asbestos in Workplaces 2008.

Asbestos management measures shall:

- Ensure that asbestos and any items contaminated with asbestos are managed in accordance with the legislation and guidelines listed in Section 3, in particular the Occupational Health and Safety (Asbestos) Regulations 2003 and the Work Safe Victoria Compliance Code, Managing Asbestos in Workplaces 2008.
- Ensure that asbestos removal is only undertaken by a licensed removalist and involves a non-friable asbestos-containing material with an area that does not exceed 10 square metres in total.
- Ensure that the total time of all asbestos removal does not exceed one hour in any period of seven days.
- Prevent the use of brooms, brushes, high-pressure water jets, power tools, compressed air or other gases on asbestos-containing material.
- Stop work and evacuate the area if asbestos-containing material is suspected and:
  - Secure the potential affected area using asbestos warning tape and signs.
  - Wet down the material and seal or encapsulate the affected area using plastic sheeting and adhesive tape.
  - Restrict commencement of works until the area or asbestos has been secured and made safe.
- Ensure the suppression of dust when working in the vicinity of suspected asbestos-containing material.

8.4. Waste

Construction and presence of the construction workforce will result in generation of industrial and general waste. Mismanagement of waste on construction areas has the potential to contaminate land

on-site or result in the transport of litter and other waste materials off-site by wind or water. Waste management is covered in Part 8 of COS Local Law Number 2 2013 (Appendix A).

8.4.1. Key issues and risks

Key issues and risks relating to waste are:

- Pollution of land and water environments.
- Non-compliant waste management and disposal practices leading to contamination of soils, surface water and groundwater.
- Health and safety risks to construction workers, contractors and the local community.

8.4.2. Objectives

The objectives of waste management measures are to:

- Manage and dispose of all waste properly and in compliance with relevant legislation and guidelines.
- Maximise recycling and reuse of industrial and general waste.
- Minimise waste generation, landfill disposal and contamination associated with construction.

8.4.3. Management measures

Industrial and general waste management is covered by Part 3 and Part 8 of COS Local Law Number 2 2013 (Appendix A).

General waste management measures shall:

- Ensure no burning of construction waste within Wye River and Separation Creek.
- Manage wastes in accordance with the principles of avoid, reduce, reuse, recycle, treat and dispose.
- Ensure that recyclable materials are stored separately from general waste.
- Ensure unused solid materials that are excess to requirements are stored and disposed of according to their safety data sheets (SDS) and in such a manner as to avoid health and safety risks and spillage or leakage to the environment.
- Return waste and unused oils to suppliers, where practicable and encourage suppliers to take responsibility for unwanted waste packaging.
- Ensure bins are present at all construction sites for workers and contractors.
- Ensure that construction workers do not use public, local residence or business waste or recycling bins for disposal of construction waste.

8.5. Contamination and remediation

During rebuilding, on-site wastewater treatment systems damaged by the bushfires may require decommissioning. Decommissioning of wastewater treatment systems has the potential to contaminate land, surface water and groundwater systems through the release of and exposure to sludge, scum and black water. This section focuses on contamination and remediation associated with decommissioning on-site wastewater treatment systems.

8.5.1. Key issues and risks

Key issues and risks relating to contamination and remediation are:

- Contamination issues and risks associated with decommissioning septic tanks.
- Health and safety risks to construction workers, contractors and the local community.

8.5.2. Objectives

The objectives of contamination and remediation management measures are to:

- Prevent contamination of land, groundwater and surface water in accordance with relevant legislation and guidelines.
- Control risks to human health and the environment from existing contamination, i.e. septic tanks.
- Minimise transport of existing contamination throughout the environment.
- Ensure that no contaminated material is moved off-site without the required approvals or permits.

8.5.3. Management measures

EPA Victoria's Code of Practice – Onsite Wastewater Management, summarises requirements under the *Environment Protection Act 1970* for decommissioning wastewater treatment systems. Decommissioning of wastewater treatment must be in accordance with this Code of Practice, including:

- Before decommissioning, any remaining contents of the septic tank must first pumped out by a sewage sludge contractor.
- The contractor must also hose down all inside surfaces of the tank and extract the resultant water.
- Where the tank will no longer be used but will remain in the ground, the contractor must first disinfect the tank by spreading (broadcasting) hydrated lime over all internal surfaces in accordance with the WorkSafe safety precautions associated with using lime (i.e. wearing gloves, safety goggles and not using lime on a windy day).
- Under no circumstances should anyone enter the tank to spread the lime or for any other reason, as vapours in confined spaces can be toxic.
- A licensed plumbing practitioner must disconnect the tank from the premises and from the absorption trench system, and permanently seal or plug the inlet and outlet plugs.
- To demolish a tank, the bottom of the tank is broken and then the lid and those parts of the walls that are above ground are collapsed into the tank. The tank is then filled with clean earth or sand.
- Before a tank may be used to store stormwater a licensed plumbing practitioner must disconnect it from the premises and the trench system, and connect an overflow pipe from the tank to the stormwater legal point of discharge. The tank must be filled with fresh water and disinfected, generally with 100 mg/L of pool chlorine (calcium hypochlorite or sodium hypochlorite) to provide a resultant minimum 5 mg/L of free residual chlorine after a contact time of 30 minutes.
- All treatment systems must be decommissioned by a licensed plumbing practitioner.

In addition to the requirements of the Environment Protection Act 1970 it is also necessary to obtain approval from COS prior to decommissioning by submitting an Application to Install a Septic Tank System form to COS.

8.6. Biosecurity

Pest plants and animals threaten environmental values and can result in expensive control methods. Construction machinery used in areas where pest plants and pathogens such as phytophthora are present has the potential to spread pest plants and pathogens at Wye River and Separation Creek. Earthworks also has the potential to spread existing plants and pathogens throughout the area.

8.6.1. Key issues and risks

Key issues and risks relating to biosecurity are:

- Introduction and spread of pest plants and soil borne pathogens through contaminated construction machinery and equipment.
- The introduction of pest plants leading to an increase in pest animal habitat.
- Displacement of native fauna and vegetation species.
- Pest plants and animals outcompeting native flora and fauna.
- The inappropriate disposal of food wastes leading to an increase in pest animals.
- The movement of soil resulting in fresh habitat for rabbits and foxes.
- The introduction of domestic dogs accompanying construction workers which may predate on native fauna.
- Degradation of the native environment and wildlife habitat.

8.6.2. Objectives

The objectives of biosecurity management measures are to:

- Prevent the introduction and spread of new pest plants and animals and soil pathogens due to construction at the site.
- Minimise the spread of existing pest plant and animal species.

8.6.3. Management measures

The following management measures shall be implemented to prevent the introduction and spread of new pest plants and animals:

- Ensure that all construction machinery used in other areas is sufficiently cleaned before entering Wye River and Separation Creek using one or more of the following methods:
  - Wash-down: achieved by applying water to machinery and equipment at a high pressure using a pressure cleaner or spray tank and pump.
  - Air blast: assists decontamination in hard to reach areas.
  - Physical removal: most appropriate for contaminants that adhere to machinery or equipment, usually undertaken prior to wash-down or air blasting.
- Undertake cleaning of machinery and vehicles off-site at an appropriate are, e.g. on site where pest plants occur and clear of water courses and drainage lines.
- Keep machinery and equipment log books to keep a record of cleaning activities.
- Obtain guarantees from suppliers that any construction materials with the potential to be contaminated with invasive weed species or plant pathogens, e.g. topsoil, are free of contaminants.

The following management measures shall be implemented to reduce spread of existing pest plants and animals:

- Operate in compliance with the Wye River and Separation Creek Bushfire Vegetation Restoration (Short-term) Plan (Appendix G).
- Ensure that soil is not stockpiled in or in proximity to water courses and drainage lines.
- Avoid the spread of soils that potentially contain pathogens throughout the area and limit ground disturbance as far as reasonably practicable.
- If phytophthora has been identified, all sites will require the use of Phytoclean in the wash-down of all mobile plant and equipment.

8.7. Fire from construction activities

Construction activities have the potential to generate fires (e.g. welding, grinding) at Wye River and Separation Creek. Given that the area has recently experienced and is being rebuilt because of a bushfire, extreme precaution must be undertaken to ensure that construction activities do not result in bushfires. This section focuses on fires associated with construction activities. Bushfire management is not covered in this CTEMP.

8.7.1. Key issues and risks

Key issues and risks relating to fire from construction activities are:

- Activities such as welding, grinding, fuel handling increasing the potential for accidental fires.
- Fire spreading through the area resulting in human injury or death, damage to property and public infrastructure and loss of vegetation species.
- Additional trauma and hardship for those affected by the December 2015 bushfires.

8.7.2. Objectives

The objectives fire management measures for construction activity are to:

- Minimise the risk of bushfires starting as a result of construction activities.
- Prevent fires resulting from construction activities.
- Avoid human health and environmental impacts associated with fires.

8.7.3. Management measures

Due to the sensitive nature of the site, no work will be permitted at Wye River and Separation Creek during total fire ban days.

The below management measures for specific works shall be implemented during the CFA declared Fire Danger Period to prevent fires being started from construction activities.

Hot work including welding, grinding and soldering

- Use of fire-resistant shield or guard to stop sparks or hot metal.
- Ensure an area of at least 1.5 m from the operation is clear of flammable material or wetted down sufficiently to prevent the spread of fire.

- Presence of a reticulated water supply or water spray knapsack containing at least 9 litres of water.
- All cut-offs and hot materials from the operation are to be placed in fire-proof receptacles.

Earthmoving and excavating equipment

- Ensure that equipment is free from faults and mechanical defects that could cause a fire outbreak.
- Ensure equipment is fitted with a spark arrester in working order (unless it is fitted with a turbocharger or an exhaust aspirated air-cleaner).
- All vehicles to carry fire suppression equipment, e.g., fire extinguisher, knapsack spray pump.

Chainsaw, plant trimmer or lawnmower

- Ensure that equipment is free from faults and mechanical defects that could cause a fire outbreak and fitted with a sufficient spark arrester.
- Have an area of at least 3 m around the machine cleared of flammable material.
- Person operating the equipment must carry fire suppression equipment, e.g., fire extinguisher, knapsack spray pump.

8.8. Vegetation

The clearing of hazardous trees at Wye River and Separation Creek following the bushfire has impacted the landscape and amenity of the area. Competition from pest plants, continued erosion and further unauthorised tree removal has the potential to reduce the viability of remaining trees and wildlife habitat present.

8.8.1. Key issues and risks

Key issues and risks relating to vegetation are:

- Unauthorised clearing of vegetation.
- Increased competition from pest plants.
- Hazardous tree removal leading to bare ground and increased runoff.
- Management of fire fuel loads including treatments to control landslips and erosion.

8.8.2. Objectives

The objectives of vegetation management measures are to:

- Minimise disturbance to vegetation, particular conservation significant vegetation, whilst balancing the need to provide for asset protection from bushfires.
- Protect staff, contractors and the local community from hazardous trees.
- Avoid damage to dwellings, machinery and vehicles from hazardous trees.
- Ensure there is no unauthorised vegetation clearance.
- Ensure that cleared areas are revegetated and reduce the potential for soil erosion and land slips.

8.8.3. Management measures

Vegetation management measures shall:

- Require anyone planning to undertake tree removal within Wye River and Separation Creek to consult with COS and obtain a permit prior to doing so.
- Ensure vegetation removal and ground disturbance is minimised and restricted to only what is required for safe construction.
- Encourage rehabilitation of areas that have been exposed by tree removal and understorey clearance associated with the bushfire.
- Ensure compliance with the Wye River and Separation Creek Bushfire Vegetation Restoration (Short-term) Plan (Appendix G).

8.9. Indigenous heritage

The Gadubanud people lived in the Cape Otway region until the mid-nineteenth century (Otway Coast Tourism, 2016), and the Wye River and Separation Creek region is known to contain registered Aboriginal archaeological sites that are considered highly sensitive for their cultural heritage values (Dahlhaus et al, 2003). Due to limited ground disturbance associated with site construction activities, it is unlikely that Aboriginal heritage material will be encountered. However, minor earthworks associated with additional site clearing and installation of retaining walls and drainage infrastructure has the potential to disturb Aboriginal heritage material, which must be managed in accordance with the relevant legislation and guidelines in Section 3.

8.9.1. Key issues and risks

Key issues and risks relating to Indigenous heritage are:

- Disturbance or damage to Indigenous cultural heritage sites through construction activities and site personnel.

8.9.2. Objectives

The objectives of Indigenous heritage management measures are to:

- Minimise adverse impacts to Indigenous cultural heritage during construction activities.
- Outline actions to be implemented if Indigenous cultural heritage is detected during construction activities.
- Ensure that Indigenous cultural heritage is managed in accordance with statutory requirements.

8.9.3. Management measures

In the event that suspected Indigenous cultural heritage (that has not been previously identified) is discovered, the following procedures will be adopted:

- All activity in the vicinity must cease immediately.
- In no circumstances will material from the location be removed or interfered with in any way without authorisation.
- The person discovering the material must immediately notify the person in charge.
- The person in charge of the activity must suspend any relevant works within a 50 m radius of the location of the discovery and must isolate that area with a protective barrier.

- Works may continue outside the 50 m barrier.
- The person in charge must notify Aboriginal Victoria (AV) within 24 hours.
- Representatives of the Registered Aboriginal Party (RAP) or nominated Aboriginal stakeholder must be given access to site to inspect the discovery and deal with material found.
- Within three days, the RAP or nominated Aboriginal stakeholder must consult with a cultural heritage adviser to determine how to manage the discovery.
- If agreement cannot be reached the parties must apply the Dispute Resolution Procedure (or resort to VCAT if this process fails).
- Works can recommence within the exclusion zone when:
  - The agreed protective measures have been implemented.
  - The relevant Aboriginal cultural records have been updated.
  - All parties agree and any dispute has been resolved.
- If the material is deemed to be artefactual, an Indigenous Cultural Heritage Site Card will be completed by an archaeologist and the Indigenous Cultural Heritage Database updated accordingly. An Indigenous Cultural Heritage Site Card will also be submitted to Aboriginal Victoria for inclusion in the Victorian database.
- Any cultural heritage recovered remains the property of the RAP or nominated Aboriginal stakeholder for that area.

Where human remains (or suspected human remains) are discovered, the following procedures will be adopted:

- All activity in the vicinity must cease immediately.
- The remains must be left in place and protected from harm or damage.
- The Coroner's office, Victoria Police and the Commonwealth Representative must be notified immediately.
- If there are grounds to believe the remains may be Aboriginal, Aboriginal Victoria must be notified.
- All details on the location and nature of the remains must be provided to the authorities.
- If the remains are confirmed as Aboriginal, Aboriginal Victoria must be notified.
- The relevant authority, after consulting relevant Aboriginal groups, will determine the appropriate course of action.
- The mitigation and/or salvage strategy determined by the relevant authority must be implemented.
- All efforts to minimise disturbance to the remains must be examined.
- Any salvaged Aboriginal human remains must be treated in accordance with the relevant authority's directions.
- Any reburial must be fully documented by COS and the site clearly marked and all details provided to the relevant authority.
- Where the reburial is within or close to the site measures must be implemented to ensure the remains are not subject to further disturbance.

8.10. Non-Indigenous heritage

The first European settlement was made by Alexander and Donald McRae in 1882 (Otway Coast Tourism, 2016). Given the area's European history, including the construction of the Great Ocean World post World War I, there is the potential for non-Indigenous archaeological material to be present. Due to limited ground disturbance associated with site construction activities, it is unlikely

that European heritage material will be encountered. However, minor earthworks associated with additional clean-up and installation of retaining walls and drainage infrastructure has the potential to disturb European heritage material, which must be managed in accordance with the relevant legislation and guidelines in Section 3.

8.10.1. Key issues and risk

Key issues and risks relating to non-Indigenous heritage are:

- Disturbance or damage to non-Indigenous cultural heritage sites through construction activities and construction workers.

8.10.2. Objectives

The objectives of non-Indigenous heritage management measures are to:

- Minimise adverse impacts to non-Indigenous cultural heritage during construction activities.
- Outline actions to be implemented if non-Indigenous cultural heritage is detected during construction activities.
- Ensure that non-Indigenous cultural heritage is managed in accordance with statutory requirements.

8.10.3. Management measures

In the event that suspected non-Indigenous cultural heritage (that has not been previously identified) is discovered, the following procedures will be adopted:

- In no circumstances will material from the location be removed or interfered with in any way without authorisation.
- Any discovery of non-Indigenous cultural artefacts will be reported immediately to the person in charge.
- The status of the non-Indigenous cultural heritage material shall be ascertained. The location will remain as an interim listing until a qualified archaeologist can make confirmation.
- The site will be flagged as a ‘no-go zone’ until the site assessment has been completed by an archaeologist (if deemed necessary by archaeologist). A buffer exclusion zone of 50 m will be established around the site.
- Work will not recommence in the affected area until the site is appropriately viewed and approval given, following outcomes of the archaeologist survey and consultation with any authorities, as required.
- If the material is deemed to be a site, a Non-Indigenous Cultural Heritage Site Card will be completed by an archaeologist and the Non-Indigenous Cultural Heritage Database updated accordingly. A Non-Indigenous Cultural Heritage Site Card will also be submitted to relevant state agency and authority for inclusion in the respective state database.
- Where a site is found and further disturbance is unavoidable, approval will be sought under either the *Victorian Heritage Act 1995* for the appropriate management measure.

Where human remains (or suspected human remains) are discovered, the following procedures will be adopted:

- All activity in the vicinity must cease immediately.
- The remains must be left in place and protected from harm or damage.

- The Coroner's office, State Police and the Commonwealth Representative must be notified immediately.
- All details on the location and nature of the remains must be provided to the authorities.
- The relevant authority will determine the appropriate course of action.
- The mitigation and/or salvage strategy determined by the relevant authority must be implemented.
- All efforts to minimise disturbance to the remains must be examined.
- Any salvaged human remains must be treated in accordance with the relevant authority's directions.
- Any reburial must be fully documented by COS and the site clearly marked and all details provided to the relevant authority.
- Where the reburial is within or close to the site measures must be implemented to ensure the remains are not subject to further disturbance.

9. Induction and implementation

Construction worker, contractor and local resident awareness of the required construction, traffic and environmental management measures will be critical to managing potential construction, traffic and environmental impacts.

Prior to undertaking works at Wye River and Separation Creek all construction workers, contractors and local residents rebuilding their homes must review the construction, traffic and environmental management measures in this CTEMP. Before issuing a planning permit, COS is responsible for notifying local residents rebuilding their homes about the requirement to review this CTEMP before issuing a planning permit.

Local residents are responsible for notifying construction companies rebuilding their homes about the requirement to review this CTEMP, and construction companies are responsible for notifying any contractors undertaking works at the site. Ultimately, it is the responsibility of all personnel undertaking works at Wye River and Separation Creek to know and implement the management measures within this CTEMP.

This CTEMP is available from COS via the following methods:

- Online at http://www.colacotway.vic.gov.au
- Telephone – (03) 5232 9400 between 8:30 a.m. and 5 p.m., Monday to Friday.
- Fax – (03) 5232 9586 between 8:30 a.m. and 5 p.m., Monday to Friday.
- Mail – PO Box 283, Colac, Victoria 3250.
- Email – inq@colacotway.vic.gov.au.

Alternatively, copies of the CTEMP will be made available at the following COS offices:

- 2-6 Rae Street, Colac, between 8.30 a.m. and 5 p.m., Monday to Friday.
- 101-105 Gellibrand Street, Colac, between 8.30 a.m. and 5 p.m., Monday to Friday.
- 69-71 Nelson Street, Apollo Bay, between 8:45 a.m. and 1:15 p.m., Monday to Friday.

10. Compliance and monitoring

Monitoring will be conducted by COS by-laws and environmental staff to ensure that construction and environmental procedures are correctly implemented and adequate to:

- Minimise potential environmental and amenity impacts associated with construction at Wye River and Separation Creek.
- Ensure that construction activities comply with legislation and guidelines in Section 3.
- Traffic management measures are being complied with i.e. parking requirements.

A compliance and monitoring program will be developed to ensure regular and effective monitoring of construction and environmental procedures outlined within this CTEMP.

11. References and bibliography

Coffey. 2011. Geotechnical Assessment, Proposed Pressure Sewer Scheme, Wye River and Separation Creek. December 2011. Prepared for Barwon Water by Coffey Geotechnics. Abbotsford, Victoria.

Coffey. 2016. Wye River and Separation Creek – Geotechnical, Land Capability and Wastewater Solutions. Prepared for the Department of Environment, Land, Water and Planning. Melbourne, Australia.

Colac Otway Tourism. 2016. Wye River Heritage Walk trail information. Accessed online on the 15 of December at [http://otwaycoast.com.au/wp-content/uploads/2012/09/wyeheritage.pdf].

Dahlhaus Environmental Geology Pty Ltd and A.S Miner Geotechnical Pty Ltd. 2003. Coastal Community Revitalisation Project - Kennett River, Separation Creek and Wye River. Prepared for Colac Otway Shire. Buninyong, Victoria.

GHD. 2016a. Wye River and Separation Creek Draft Erosion and Sediment Control Report. Prepared for Colac Otway Shire. Melbourne, Victoria.

GHD. 2016b. Wye River and Separation Creek Draft Erosion and Sediment Control Plan. Prepared for Colac Otway Shire. Melbourne, Victoria.

GTA Consultants. 2017. Wye River and Separation Creek Traffic Management Plan. Prepared for the Colac Otway Shire. Melbourne, Victoria.

This page has been left intentionally blank