Project Environment Protection Strategy (PEPS)

PYRENEES HIGHWAY
SAFER ROAD INFRASTRUCTURE PROJECT

Issue No.	***Issue Date***	***Description of amendment***	
1	10/12/2018		Final Draft

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SECTION 1. INTRODUCTION

1.1 Purpose of the Project Environment Protection Strategy

The purpose of the Project Environment Protection Strategy (PEPS) is to ensure that the environmental impacts arising from the construction of the VicRoads Safe System Road Infrastructure Project to complete road safety improvement works on the Pyrenees Highway (Sec 2) between road chainage 10.90 km and 15.00 km are minimised.

This document is consistent with VicRoads Sustainability and Climate Change Policy (see Appendix 1), and VicRoads Environmental Sustainability Toolkit (see Section 1.2). The PEPS also demonstrates compliance with the environmental requirements of statutory authorities.

The key objectives of the PEPS are to:

- Guide VicRoads in the pre-construction and delivery phases of the project;
- Protect the environment during delivery; and
- Enhance, where possible, the environment in the immediate vicinity of the project.

The PEPS details a range of aspects of the Project's strategic environmental preparation, describing the required planning and statutory approvals, as well as the different responsibilities assigned to the Contractor and VICROADS staff. The identification of potential environmental impacts is facilitated through a risk assessment process that identifies individual management actions for each aspect of specific Project activities.

The PEPS identifies:

- All environmental issues significant to the detailed design, delivery and commissioning of the project;
- Potential impacts on the environment and ways of minimising or eliminating these through design, delivery and maintenance;
- Processes for identifying further issues and protection actions throughout design and delivery (risk assessment reviews, auditing and surveillance);
- Issues that need to be specifically addressed in contract specifications to ensure contractors meet the PEPS requirements; and
- Issues that need to be addressed at project completion.

VICROADS has developed the PEPS with input from stakeholders as appropriate. The Contract Administrators (VicRoads officers including the Manager - Project Delivery, Team Leaders, Engineers and Surveillance Officers) will use the PEPS

during the preparation of the contract specification, ongoing design and delivery, to ensure that the project is delivered in an environmentally responsible manner.

This document will also assist VicRoads staff in the evaluation of the Contractor's Environmental Management Plan (EMP) that is prepared by the Contractor prior to undertaking any specific works.

1.2 VicRoads Environmental Management Process

VicRoads has a comprehensive environmental management system to minimise environmental impact from its construction and maintenance activities. VicRoads environmental management system is based on the principles of ISO 14001 Environmental Management Systems.

The overall approach for environmental management by VicRoads comprises a number of distinct phases of development (see Figure 1). Table 1 describes the objective and tasks of the major environmental management components. The main elements of VicRoads environmental management system are based on VicRoads systems and tools, as determined by the MOU between VicRoads and VicRoads. They include:

- VicRoads Sustainability and Climate Change Policy (2014)
- VicRoads Sustainability and Climate Change Strategy 2015 - 2020
- VicRoads Environmental Risk Management Guidelines (2012)
- Environmental Sustainability Toolkit comprising:
    - environmental management procedures for each stage of projects (planning and development, preconstruction and delivery, post-construction and maintenance) aligned with the Project Management Toolkit
    - issue specific policies and guidelines, e.g. noise, biodiversity, heritage
    - Enviro Tracker incident reporting system
- Template contract specification clauses

The environmental management system is accessed through an intranet based Environmental Sustainability Toolkit. The Toolkit is one of many support systems available to assist VicRoads S to become a leader in achieving an integrated and sustainable road network that contributes to an inclusive, prosperous and environmentally responsible state.

This toolkit provides relevant and appropriate information and assistance in achieving VicRoads environmental requirements. It contains environmental policies, procedures and guidelines and support tools that allow staff to readily identify and manage their environmental requirements.

VicRoads incident reporting system, (Enviro Tracker) where all VicRoads environmental incidents are reported and managed.

Environmental management during the delivery of projects is managed in accordance with environmental procedures and through the implementation of contract specifications and surveillance. The Project Environment Protection Strategy (PEPS) is a key part of VicRoads environmental management, incorporating specific references to any environmental issues raised during the planning and development phase.

The contract specification is developed on the basis of the PEPS (this document) and contains stringent clauses relating to avoiding and minimising environmental impact. The contractor is required to develop an Environmental Management Plan (EMP) that provide details of how all the specified environmental requirements are to be addressed. The contractor is also required to have an environmental management system (EMP) that meets the requirements of the ISO 14001 Environmental Management Systems.

VicRoads has in place a risk-based audit and surveillance system in addition to the audit requirements of the contractor. This ensures that all environmental risks are appropriately managed and that the Contractor's EMP is implemented.

VicRoads also has cooperative working and consultative arrangements with agencies such as the Environment Protection Authority (EPA), Department of Environment, Land Water and Planning (DELWP), local councils and water authorities. These agencies are consulted as required during the development and delivery of projects.

Figure 1 VicRoads Environmental Management System Implementation

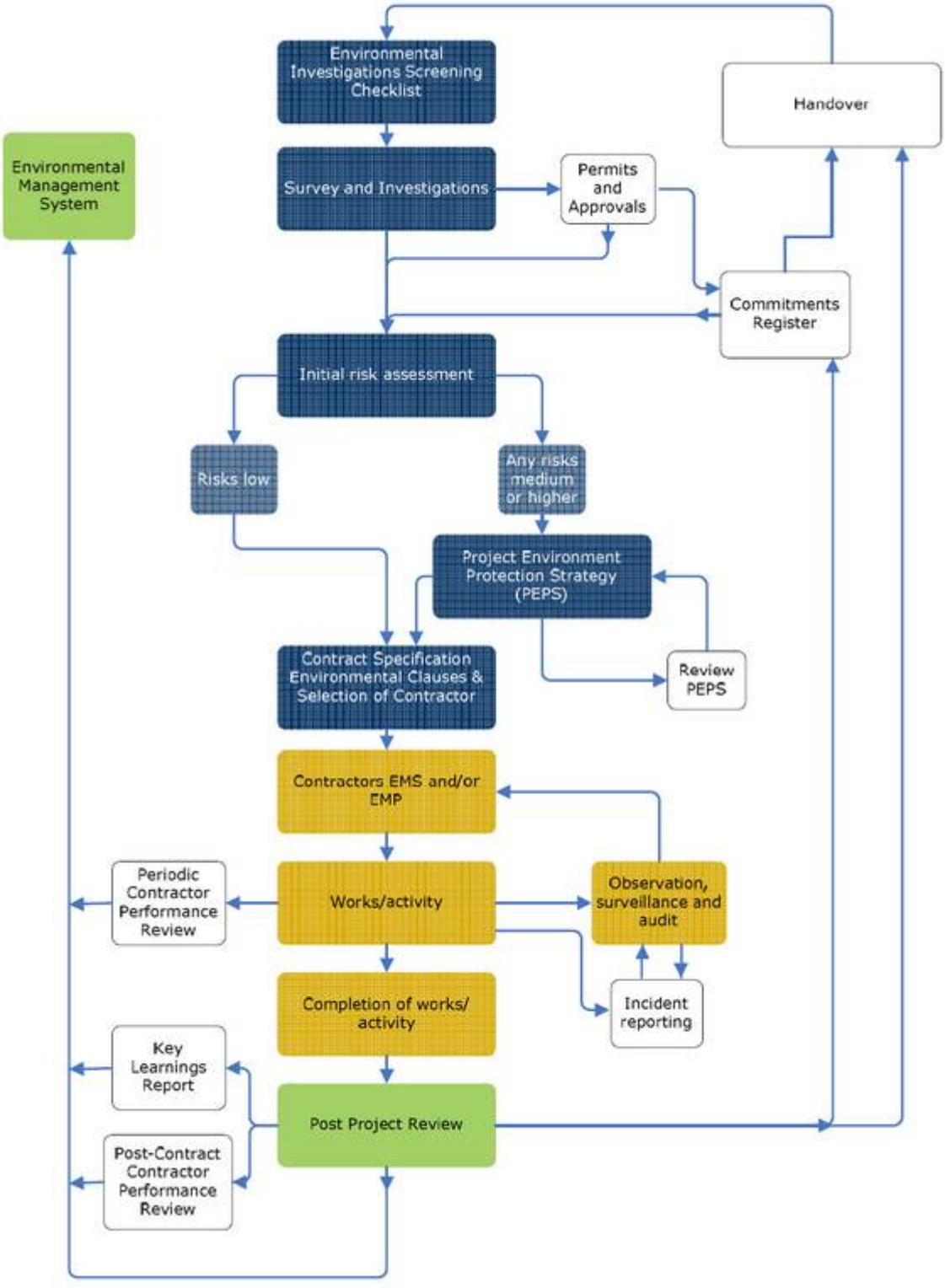


Table 1 Description of Environmental Management Components

COMPONENT	DESCRIPTION
VicRoads **Environmental Management System**	VicRoads Environmental Management System is documented in VicRoads Environmental Toolkit. The Toolkit encompasses all key environmental management policies, procedures, guidelines and support tools.
Environmental Investigation Screening Checklist	Utilised to identify the various environmental investigations that need to be undertaken to ensure that the relevant environmental sensitivities are identified during the preconstruction phase of a project.
Survey and Investigations	Completion of the investigations result in the identification of existing conditions and recommendations relating to the management of environmental sensitivities of the project, They are undertaken by pre-qualified consultants.
Commitments Register	The Commitments Register contains details of all permits and approvals and the associated conditions that must be met
Permits and Approvals	Permits and approvals required for a project are identified by the surveys and investigations undertaken for the works. Any approvals/permits must be obtained from local council, DELWP, indigenous communities or other statutory authorities prior to undertaking works.
Project Environment Protection Strategy	A PEPS is developed for any project that is assessed to have medium, high or extreme environmental risks. It documents all known environmental sensitivities that may be impacted on by the project, and the objectives to effectively address their management throughout the contract. The PEPS is prepared as part of pre-construction activities and is updated throughout the contract. The PEPS encompasses each stage of the environmental management process. It is a 'live' document that requires regular review.
Contract Specification Clauses and selection of Contractor	Contract specification clauses are prepared to clearly address and specify the management objectives that are identified in the PEPS. VicRoads pre-qualification scheme requires potential Contractors to provide evidence of an effective management system that demonstrates environmental control of activities and the capacity to develop and implement an effective Environmental Management Plan.
Contractors Environmental Management Plan	The Environmental Management Plan (EMP) provides an overview of management practices/systems employed to meet legislative and contract specification requirements and avoid environmental impacts. It identifies policies, risks and responsibilities associated with the contract to addresses the specific environmental issues identified in this PEPS through its compliance with the contract specification clauses. The EMP also documents the objectives processes, procedures and controls to be implemented by the Contractor to avoid or mitigate environmental impacts.

COMPONENT	DESCRIPTION
Observation, Surveillance and Audit	Observation, surveillance and auditing of the works involve the monitoring and review of works to ensure that the Contractor has implemented effective environmental protection measures and is conducting works in accordance with the Environmental Management Plan and the contract specification.
Periodic & Post Contract Contractor Performance Review	Contractor performance review Involves the formal review of contractor performance against the requirements of the contract specification and the project objectives. It results in assigning a performance rating, A poor performance rating by the Superintendent and may result in the review the contractor's pre-qualification status in VicRoads systems.
Environmental Incident Reporting	Environmental incidents are reported in Enviro Tracker, a web-based system. Incident reporting also involves the investigation of an incident which is intended to identify the root cause and preventative actions that will avoid a future reoccurrence.

SECTION 2. PROJECT DESCRIPTION

2.1 Project Scope

The project is located in the Mount Alexander Shire local government area in Central Victoria on the Pyrenees Highway (Sec 2) from road chainage 10.90 – 15.00 km. It is located between Muckleford South and Newstead, commencing approximately one kilometre east of the Newstead township for a 4.1 km section of this Highway (Appendix 2).

The proposed road safety improvement works are designed to reduce the severity and occurrence of run-off road accidents through targeted road safety improvements to the highway. The safety works include:

- Installation of 23 safety barriers at various location throughout the project area with a mix of steel beam guard fences and wire rope safety barriers to be installed;
- Minor widening of the existing road formation and batter flattening;
- Tree and vegetation removal to enable road safety improvements;
- Sealing of road shoulders and side road bellmouths; and
- Extension of existing culverts.

2.2 Project Background

The Pyrenees Highway is a “B” class rural Highway. This road classification typically has two 3.3 metre sealed lanes and 2.0 m unsealed shoulders. This section of Highway is a 2-way 2-lane road with a posted speed limit of 90 km/hr to 100 km/hr. The vehicle traffic volumes along this section of the Pyrenees Highway is approximately 5,900 vehicles per day with 11% of the traffic being heavy vehicles. The terrain throughout the 4.1 km stretch is undulating with several curves, with either unsealed shoulders or sealed shoulders. There are numerous trees and drop offs in close proximity to the road pavement that create safety hazards.

VicRoads has received Traffic Accident Commission (TAC) Project funding under the Safe System Road Infrastructure Program by the Victorian State Government in 2015-16 to complete road safety improvement works on the Pyrenees Highway (Sec 2) between road chainage 10.90 km and 15.00 km. Funding was granted based on the crash history and the need to address deficiencies and unprotected hazards throughout this section of highway.

Funding was granted based on the crash history and the need to address deficiencies and unprotected hazards throughout this section of highway. Four run-off road incidents were recorded within the project area between 2009 and 2013. All incidents involved vehicles colliding with trees. One of these resulted in a fatality and three in serious injury. The fatality occurred on a curve, with a drop-off and trees

close to the road. Improvements and implementation of road safety treatments to this stretch of highway will benefit all road users and assist in reducing serious trauma.

2.3 Project Program and Staging

The following program of major activities provides an indicative summary only, as activities are subject to change depending on progress. Outlined below are the major contract milestones for the Pyrenees Highway (Section 2) Ch 10.1 – 15 km:

- Completion of preconstruction / planning — July 2015 - Oct 2018
- Request for tender — Oct 2018
- Contract award — Jan 2019
- Commencement of construction — Jan 2019
- Project completion — End June 2019

SECTION 3. DESCRIPTION OF THE LOCAL ENVIRONMENT

3.1 Environmental Sensitivities of the Project

A summary of the environmental and cultural heritage sensitivities for the project are outline below:

Land Use (within and Adjacent to the Project Area)

The project area is located within the existing road reserve of the Pyrenees Highway (Section 2) with a large portion of the project section length, to the east of Monash St, near Newstead, bisecting and adjoining the southern part of the Muckleford State Forest.

There are a number of residential and farming properties that front onto the Highway, primarily at the western end of the project area, near Newstead, between Mia Mia Road and Cemetery Road.

The Shire of Mount Alexander planning schemes zones the Pyrenees Hwy (Sec 2) road reserve within the project area as Road Zone One (RDZ1) with surrounding freehold land zoned as Farm Zone (FZ) and public lands (i.e. State Forest) as Public Conservation Resource Zone (PCRZ).

Topography

The topography of the land can be characterised as being undulating.

Native Vegetation and Flora Values

The Project area is located within the Goldfields Bioregion, the biodiversity site assessment identified two ecological vegetation classes as being present in the road reserve; Box-Ironbark Forest (EVC 61) and Alluvial Terraces Herb-rich Woodland (EVC 47). These EVCs are vulnerable and endangered, respectively.

A large portion of the project area is adjacent to and bisects the Muckleford State Forest. The road side native vegetation, habitat zones predominantly of Box-Ironbark Forest and to a lesser extent Alluvial Terraces Herb-rich Woodland, adjoining this section of State Forest are relatively undisturbed and hence of high quality. The roadside native vegetation that is present in proximity to the forest comprises a relatively intact area of overstorey and understorey with a high cover abundance of native plants. These areas form higher quality habitat values, providing woodland habitat that links with larger areas of similar habitat in the Muckleford State Forest.

Native vegetation habitat zones located in the far western-most portion of the project area contain areas of lower quality Alluvial Terraces Herb-rich Woodland vegetation. Typically as a result of past prior disturbance.

The site biodiversity assessment identified a total of 76 flora species comprising 47 indigenous species and 29 exotic plants.

Six protected flora species, listed under the *Flora and Fauna Guarantee Act 1988* (Vic), fall into the construction zone of the project: These being Golden Wattle, Gold-dust Wattle, Spreading Wattle, Shiny Everlasting, Drooping Cassinia and Cotton Fireweed.

No nationally of state significant flora species were recorded or identified as potentially being impacted by the road safety works within the project area.

Five species listed as noxious under the *Catchment and Land Protection Act 1994* (CaLP Act) were recorded within the study area; Blackberry, St John's Wort, Montpellier Broom, English Broom and Bridal Creeper.

Biodiversity values for the immediate project area are shown on Appendices A41 - A4.2, mapping as extracted from the Ecolink Consulting (August 2016) "*Biodiversity Assessment, Pyrenees Highway, Greens Gully"* report for VicRoads.

Fauna Values

Twenty-five fauna species common to the local area were recorded within the project area during a site assessment. This included 20 native bird species, three native mammals and two native reptiles. Of these fauna species, nine threatened species were predicted to have a 'high' or 'moderate' likelihood of occurrence due to the presence of suitable habitat and state database records. This included a range of threatened bird species such as the Brown treecreeper, Speckled Warbler, Hooded Robin, Dimond Firetail, Powerful Owl, Square Tailed Kite, and Swift Parrot. Threatened mammal species predicted to occur included the Grey Headed Flying Fox and the Brush-tailed Phascogale.

The State Flora and Fauna Guarantee Act listed Brush-tailed Phascogale was identified as potentially foraging or nesting within the study area. This species potentially utilises hollow bearing trees that are present within the road reserve corridor.

The Swift Parrot is listed under the EPBC Act as a Matter of National Environmental Significance (MNES) and is predicted to utilise the project areas due to the presence of suitable foraging habitat, which includes Box-Ironbark forests and woodlands inland of the Great Dividing Range. This species is typically an over wintering migrant from Tasmania, potentially occurring in Victoria from February to September. The project area is also close to 'priority habitat', located 3km to the north, for this species which is listed in the National recovery plan.

Hollows and fissures were observed in nine of the trees that will be affected by the road safety works. These hollows are likely to provide nesting and roosting resources to a range of arboreal mammals and bird, although the small size of these hollows is likely to preclude some species, such as owls, and favour others, such as micro-bats.

Surface Water

Several creeks pass through or are in proximity to the project area. Mia Mia Creek is an ephemeral creek that situated to the north of the highway at the western limit of the project area. The un-named tributary of this creek located south of the highway before passing north of the highway under the road in proximity to Monash Street.

Green Gully Creek, also ephemeral, passes under the highway between Stevens Road and Cemetery Road.

Creeks and Tributaries ultimately flow into the Muckleford Creek, to the south of the highway, which connects with the Loddon River which in turn flows into the Cairn Curran Reservoir north-west of Newstead.

Aboriginal Cultural Heritage

The project area is located within the boundaries of the area for which the Dja Dja Wurrung Clans Aboriginal Corporation is the Registered Aboriginal Party (RAP) and crosses or is within 200m of creeks placing the project within areas of cultural heritage sensitivity.

A site assessment identified that there are no Aboriginal places currently located within the project area that are registered on the Victorian Aboriginal Heritage Register (VAHR).

Areas of existing road formation and road reserve within the areas of proposed road safety works has already been subjected to significant ground disturbance as a result of past land use, and thus is not considered to be in an area of Aboriginal cultural heritage sensitivity. Also, the works will occur largely within the existing footprint of the road formation and associated existing infrastructure.

Historical Heritage

The project can cause an impact upon several historical features observed during the site inspection. The features identified includes:

- A water race or channels;
- Field stone and mortar hydraulic control features;
- Field stone and mortar stepped water control features;
- Field stone and mortar water flow feature in situ in water race/channel; and
- Mounds and pit - possible mullock heap.

Of these historical features, it was identified that only the water race / channel features may be impacted by the road safety treatments. Further consultation with Heritage Victoria considered that these features were not suitable for inclusion in the Victorian Heritage Inventory, it was suggested that they may be suitable for inclusion on the local government Heritage Overlay (although their use as water management features for alluvial gold mining would need to be established).

However, the road safety project works do not present a significant danger to the preservation of these features.

Historical heritage values for the project area are shown in Appendix A4.3. This includes details of historical feature locations and site photos of identified features as extracted from the Dr Vincent Clark & Associates P/L (24 March 2016 / 14 November 2018 updated) *"Road Safety Infrastructure Project, Pyrenees Highway (Sec 2) Ch 10.90km – 15.00km, Muckleford South – Newstead, Cultural Heritage Due Diligence Assessment*" report to VicRoads.

3.2.1 Surveys and Investigations Conducted

Table 2 Environmental Surveys and Investigations

The following surveys / investigations, listed in Table 2, have been undertaken to identify the abovementioned environmental sensitivities of the Project.

Table 2 Summary of Environmental Surveys and Investigation

Survey / Investigations	Company	Date of Report	Status	Appendices Summary
Biodiversity Assessment	Ecolink Consulting	August 2016	Final	A3-1 A4.1 – A4.2
Cultural Heritage Due Diligence Assessment	Dr Vincent Clark and Associates	24 March 2016 (revised / updated 14 November 2018)	Final	A3-2. A4.3
Pyrenees Hwy Road Safety Works - Green Gully Preliminary documentation – as prescribed by the Commonwealth DOEE in relation to the VicRoads EPBC Act Project (Swift Parrot) referral 2016/7809)	Biosis	7 September 2017	Final	Not detailed

Key findings and recommendations of the environmental surveys and investigations are summarised in Appendix 3.

SECTION 4. ENVIRONMENTAL COMMITMENTS

4.1 Introduction

VicRoads makes a number of environmental commitments throughout the life of a project. These can be the result of:

- Complying with Government policy and/or legislation;
- Conditions on permits and approvals;
- Consulting with the community and stakeholders; or
- Following internal VicRoads processes.

All environmental commitments are recorded in the Table of Commitments (see Appendix 5). This is regularly reviewed an updated, at a 6 monthly interval, to ensure that all commitments are delivered. Where commitments fall outside the scope of the project or continue once the project is delivered, the commitment will be passed onto the relevant region in VicRoads.

4.2 Relevant Environmental Legislation and Reference Documents

Outlined in Appendix 6 is a list of the major legislative and regulatory requirements relevant to the development and delivery of Pyrenees Hwy - Safer Road Infrastructure Project. A list of key environmental guidelines is also noted. VicRoads is required to comply with all statutory environmental requirements while acknowledging the importance of local or regional strategies.

4.3 Permits and Approvals

VicRoads is required to obtain any necessary permits and approvals as outlined in relevant acts and legislation.

VicRoads has liaised with the Commonwealth Department of Environment and Energy (DoEE), Department of the Environment, Land, Water and Planning (DELWP), and Mount Alexander Shire Council regarding the environmental requirements for Pyrenees Highway – Safer Road Infrastructure Project. This section identifies the legislation and guidelines relevant to this project and any environmental approvals and permits that need to be obtained prior to any works commencing on site.

A summary of the permits and approvals relevant to the Pyrenees Hwy - Safer Road Infrastructure Project is outlined in Table 3.

Table 3 Summary of Project Permit/Approval Requirements

Type of Permit/Approval	Act	Approval Authority	Date Submitted	Date Obtained
Approval for works that may have an impact to a Matter of National Environmental Significance (MNES)	Commonwealth Environment Protection Biodiversity Conservation (EPBC) Act 1999	Commonwealth Department of Environment and Energy	11/11/2016	18/05/2018
Permit to take protected flora	State Flora Fauna & Guarantee (FFG) Act 1988	Department of Environment, Land Water and Planning	5/12/2016	27/03/2017
Approval to remove or trim native vegetation under the "Road Safety" exemption subject to the operation of the Memorandum of Understanding between the Department of Economic Development, Jobs, Transport and the Department of Environment, Land, Water and Planning	State Planning & Environment Act 1987	Department of Environment, Land, Water and Planning	5/12/2016	27/03/2017

The status of permits, their associated conditions and status of their implementation is documented in the Table of Commitments (see Appendix 5).

A detailed outlined of Commonwealth and State approvals is provided below.

State– Planning & Environment Act 1987

The Planning and Environment Act 1987 (Vic), later amended by the Planning and Environment (Planning Schemes) Act 1996 (Vic) provides the foundation of planning schemes in Victoria. Planning schemes set out policies and provisions for the development and protection of land within each municipality in Victoria.

The project will be undertaken within the Shire of Mount Alexander and under its planning scheme. The Pyrenees Highway road reserve is zoned Road Zone 1 and is public land / State arterial road managed by the Roads Corporation (VicRoads). The surrounding areas are zoned either FZ: Farm Zone, where private land adjoins the study area, or PCRZ: Public Conservation and Resource Zone, where the study area passes through Muckleford State Forest and other public land. There are no

Vegetation Protection Overlays or Environmental Significance Overlays covering the project area.

A planning permit will not be required from the Shire of Mount Alexander Council because the works are to be undertaken in accordance with the Memorandum of Understanding (MOU) between the Department of Economic Development, Jobs, Transport and Resources and the Department of Environment, Land, Water and Planning as detailed in VicRoads (2009) *Native Vegetation Removal Guidelines*, under Clause 52.17-6 of the Victorian State Planning provisions. This Clause permits VicRoads to clear native vegetation without a planning permit under the "Road Safety" exemption subject to the operation of the Memorandum of Understanding and the VicRoads guidelines to ensure the 'safe and efficient function of an existing public road'.

The application and use of this "Road Safety" exemption is based on the following avoid and minimise principles under the VicRoads guidelines:

- Avoid vegetation removal where practical and / or remove the minimum extent necessary; and
- Where the removal, destruction or lopping of native vegetation cannot be avoided, the extent and impact of clearing must be minimised through the planning, design and undertaking of works.

VicRoads has through design and environmental assessment of Project works treatments has considered and implemented these principles for this Project to reduce the impact to native vegetation. As a result, the project will remove 0.632 ha native vegetation, including 146 trees along a 4.1 km stretch of the Pyrenees Highway. The 146 trees comprise:

- 9 live Large Old Trees (≥ 700mm diameter), and one dead Large Old Tree;
- 8 Medium trees (≥ 520mm – 699mm diameter); and
- 128 Small trees (≤ 519mm diameter), including 6 already dead.

The Project for construction purposes has minimised the impact to native vegetation / trees to the greatest possible extent for each works zone / road safety project treatment. The boundary of all works zones is demarcated / defined on the Construction Plans – "Limits of Works". Any areas of road reserve / roadside outside of the Limits of Works is defined as a No Go Zone. The Construction Limits of Works plans are attached in Appendix 9.

Approval by the DELWP to remove and / or trim this native vegetation (based on the limits of works) under the "Road Safety" exemption, subject to the operation of the Memorandum of Understanding, was obtained by VicRoads on the 27 March 2017.

State - Flora and Fauna Guarantee Act 1988 (Vic)

The *Flora and Fauna Guarantee Act 1988* (Vic) (FFG Act) provides a legal framework for enabling and promoting the conservation of all Victoria's native flora and fauna, and to enable management of potentially threatening processes on public land. The Act lists native species, communities, and processes that threaten native flora and fauna, under Schedules of the Act. This enables the assessor and regulators to establish management measures to mitigate impacts on listed values within Victoria.

The site biodiversity assessment identified:

- Two (2) fauna species on the threatened list are considered likely to occur within the study area: the Swift Parrot *Lathamus discolour* (discussed in greater detail in EPBC Act section below) and the Brush-tailed Phascogale *Phascogale tapoatafa*.
    - The Brush-tailed Phascogale may occasionally forage or nest within the project area, but is not likely to provide core habitat for the species and therefore any impacts are likely to be small. The removal of the nine hollow bearing trees identified within the project area will need to take place outside the breeding period of this species (Mid-May to June) and a qualified ecologist will be on-site during these operations to salvage any Phascogales that might be found on-site. The details of these measures are described in a Fauna Management Plan/Protocol attached in Appendix 10.
- A number of species of 'protected flora' affected by the Project works. These species and genera are not listed as threatened under this Act, but require an approved 'protected flora licence or permit' from Department of Environment, Land, Water and Planning (DELWP) prior to their removal. VicRoads has an FFG Act Permit (No. 10007409) that authorises it to take protected flora for road projects, however VicRoads are required to report on the number and species of protected flora plants that are proposed to be removed (Appendix 5). The Protected flora species requiring removal for the current project include:
    - Cotton Fireweed *Senecio quadridentatus*, Drooping Cassinia *Cassinia arcuata*, Gold-dust Wattle *Acacia acinacea*, Golden Wattle *Acacia pycnantha*, Spreading Wattle *Acacia genistifolia*, and Shiny Everlasting *Xerochrysum viscosum*.

State - Wildlife Act 1975 (Vic)

Victoria's *Wildlife Act 1975* (Vic) and the *Wildlife Regulations 2002* (Vic) protect all indigenous vertebrate fauna, some non-indigenous vertebrate fauna, and some invertebrate fauna listed as 'threatened' under the FFG Act. The *Wildlife Act 1975* (Vic) prevents intentional injury to wildlife, and stipulates that a licence should be granted where there is a possibility that wildlife are injured, or where wildlife is to be kept, relocated or traded.

It is likely that some native fauna species will be displaced by the project works. This is likely to include some birds and/or arboreal and aerial mammals that will be impacted by the removal of trees that provide them with refuges (such as flaking bark) and hollows. Therefore contractors must use due care when removing vegetation from the study area. Further, in the interests of animal welfare, VicRoads prepared a Fauna / Wildlife Management Protocol / Plan to be utilised to manage any wildlife encountered during tree removal works by Contractors (Appendix 10).

Commonwealth - Environment Protection Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the EPBC Act as matters of national environmental significance.

The biodiversity assessment of the site was completed by Ecolink Consulting in August 2016. This assessment identified potential foraging habitat for the Swift Parrot, which is a listed species under this Act and a matter of national environmental significance (MNES).

The Swift Parrot Lathamus discolor is a medium size, nectarivorous parrot that is endemic to Australia. It is identified by its bright green colouration with patches of yellow, red and blue located on its throat, chin, face and wings. They breed in Tasmania and overwinter in mainland Australia. Breeding occurs between September and April in Tasmania. Once breeding is complete, they disperse from breeding areas, across Tasmania, and to mainland Australia. Birds arrive in Victoria as early as February and March, however most 'first' records for the year are from April. Most birds spend the winter in Victoria and New South Wales, but they are also known to extend as far north as Brisbane, although this is unusual They disperse across broad landscapes, foraging on nectar, pollen and lerps in a variety of eucalypt species. They return to Tasmania in August and September.

Swift Parrots occur as a single population that is estimated to be approximately 1000 pairs, which is most likely continuing to decline.

The Swift Parrot is currently listed as 'Critically Endangered' under the EPBC Act and is also listed as a threatened species in all states and territories in which it occurs (New South Wales, Tasmania, Victoria, Queensland, ACT and South Australia).

Key factors contributing to their decline reported in the National Recovery Plan include the loss and alternation of habitat from forestry activities, firewood harvesting, residential clearing, agricultural and industrial developments, attrition of old growth trees within agricultural landscapes.

Due the project proposing to remove native vegetation including potentially suitable foraging habitat for Swift Parrot, VicRoads referred the project to the Commonwealth Government Minister for the Environment in 2016 (referral no. 2016/7809) to determine if approval was required under the EPBC Act.

The Commonwealth decision on the 17 January 2017 was that the project was likely to have a significant impact on the Swift parrot (MNES) and that approval was required.

The Commonwealth determined on the 28 February 2017 that the project would be assessed using the "assessment on preliminary documentation" process. This assessment phase was completed by VicRoads in mid December 2017.

The Commonwealth Minister for the Environment decision on the 18 May 2018 was to approve the project under the EPBC Act with conditions (Appendix 5).

4.4 Consulting with Community and Stakeholders

VicRoads consults with the local community and stakeholders throughout the course of a project. This consultation process may lead to a wide range of commitments. They could range from a commitment to undertake monitoring, surveys or address an environmental issue of concern. Environmental commitments should be recorded in writing where possible (e.g. minutes, letter, e-mail) and kept on file.

Where VicRoads agrees to commitments, they are also recorded in the Table of Commitments (see Appendix 5).

SECTION 5. RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT

5.1 Personnel and Responsibilities

Whilst environmental management is the responsibility of everyone in VicRoads, each staff member has specific roles in relation to environmental management. These are detailed in VicRoads environmental management procedures and outlined in Table 4 below.

The contractor also has well defined responsibilities for environmental management, which will be detailed in their Environmental Management Strategy.

Table 4 Personnel and Responsibilities

POSITION TITLE	RESPONSIBILITY
Regional Director	Ensure that the PEPS is developed and implemented in accordance with VicRoads Environmental Sustainability Toolkit and approve it.
	Ensure VicRoads staff are appropriately trained in environmental awareness.
	Sign off environmental incidents in VicRoads Enviro Tracker reporting system (may be signed off by Director or delegate).
	Generally designated as Superintendent for contracts and is the Project Director during pre-construction and construction activities.
Delivery Manager	Ensure that the required actions identified in the PEPS are undertaken.
	Ensure that the PEPS is regularly reviewed and updated as required. **Updated PEPS must be approved by the Director.**
	Ensure relevant stakeholders are consulted and allow them to provide input into the development of the PEPS where appropriate.
	Ensure non-contractual environmental commitments are actioned.
	Obtain all necessary permits for VicRoads as identified.
Team Leader / Project Engineer / Surveillance Officer	Prepare the PEPS in accordance with VicRoads Environmental Risk Management Guidelines (2012)
	Ensure that the requirements in the PEPS are incorporated into the Contract Specifications.
	Ensure that the requirements of the PEPS and Contract Specification are addressed by the Contractor's Environmental Management Strategy and Environmental Management Plan(s) and that they include monitoring, surveillance and auditing
	Log environmental incidents in VicRoads incident reporting system "Enviro Tracker".

POSITION TITLE	RESPONSIBILITY
	Ensure that a Surveillance Plan is prepared and that regular assessment/review of the environmental risks is undertaken and that the Surveillance Plan amended to reflect the risks.
	Conduct observation, surveillance and audits of works to ensure compliance with the Contract Specification and the Contractor's EMS and EMP(s).
	Record environmental surveillance in SuMS.
Manager Environment Practice **(Whole of VicRoads)**	Review and develop guidelines and procedures for Environmental Management Systems (Environmental Sustainability Toolkit).
	Manage VicRoads incident reporting system, Enviro Tracker.
Contractor	Develop an Environmental Management Strategy and EMP(s).
	Effectively implement and manage the EMS and EMP(s).
	Monitor, audit and conduct surveillance of the implementation and effectiveness of the EMP(s) and report their effectiveness.
	Engage specialist environmental advice where required.
	Ensure that all contractual commitments are honoured.
	Report environmental incidents to VicRoads and relevant statutory authorities. Document actions taken to rectify the situation.
	Ensure all other requirements as described in the contract specification are met.
	Inform Superintendent of any queries from statutory agencies and respond accordingly.
	Ensure that staff and subcontractors have been appropriately trained in environmental awareness.

SECTION 6. ENVIRONMENTAL RISK MANAGEMENT

6.1 Planning and Development

Environmental risks are identified during planning and development through an Environmental Risk Assessment (ERA). The ERA identifies all project and contract specific activities, their potential environmental impacts and VicRoads objectives for environmental management. (See Section 7.1 and Appendix 8).

6.2 Delivery

The procedure for risk management during delivery will be outlined by the Contractor in the Contractor's Environmental Management Plan (EMP). A review of the EMP is undertaken by VicRoads to ensure that they meet the requirements of the PEPS and Contract Specification.

VicRoads, using the risk assessment evaluation guide included in VicRoads Risk Management Guidelines, undertakes regular risk assessments of the proposed works to identify the required level of surveillance, investigation, monitoring, or additional action, to form the surveillance and audit plan for the Contract.

VicRoads conducts its own monitoring of a contractor's compliance with the EMP and the requirements of the Contract Specifications by:

- Undertaking surveillance of the effectiveness of environmental protection measures implemented on site;
- Auditing the implementation and effectiveness of the EMP. The frequency of the audits is based on the nature of the project and when critical or high risk activities are being undertaken; and
- Monitoring key environmental performance measures to enable review of the effectiveness of environmental protection measures implemented.

VicRoads monitoring and reporting is undertaken in accordance with Section 8.1 of this document.

Several mechanisms, such as the issuing of non-compliances and corrective action requests, are available to formally notify the contractor that improvements are required. Following receipt of a requirement for an improvement to be made, the contractor is required to demonstrate that corrective action has been taken. VicRoads maintains a record of surveillance outcomes it undertakes in the Surveillance and Management System (SuMS).

The Project Team is able to review reports from SuMS as to whether tasks are being performed and whether there are any patterns or issues arising regarding the Contractor's environmental performance. The information obtained and recorded in SuMS can be used to report on the adequacy of outcomes.

6.3 Emergency Contacts

Appendix 7 provides the emergency contacts as part of this project, which will be included in the Contractor's EMP. This list will be kept up to date throughout the contract.

SECTION 7. PEPS ENVIRONMENTAL RISK ASSESSMENT

7.1 PEPS Environmental Risk Assessment

A list of the expected activities (aspects) to be undertaken by the Contractor is included in the PEPS Environmental Risk Assessment (ERA). For each activity, the likelihood and consequences of potential impacts on the environment are assessed and appropriate objectives and mitigation actions are identified.

ERAs are utilised in the preparation of contract specifications by VicRoads to ensure that all identified project specific environmental requirements have been addressed. Contract specification clauses are referenced back to the ERA to confirm that the appropriate sections of the PEPS requirements have been addressed.

Risks identified in the ERA will be incorporated into the Contract Risk Register where they will be assessed regularly and used for the preparation of the Surveillance Plan (See Section 8.1).

The risks shall be reviewed (and revised as necessary) to ensure that the actual activities occurring on site have been considered and are being appropriately managed by the Contractor in its EMP. Review of these risks shall occur:

- subsequent to the Contractor submitting their Detailed Works Program and Quality Systems to VicRoads;
- where delivery techniques are proposed which are beyond the scope of the current assessment;
- based on events occurring during delivery which require an assessed risk to be reviewed; and
- at regular time intervals to ensure its adequacy.

The PEPS Environmental Risk Assessment is included in Appendix 8.

SECTION 8. PROJECT MONITORING AND REPORTING

8.1 VICROADS Monitoring and Reporting

The absolute risks (before mitigation measures are implemented) identified as high or extreme in the PEPS Environmental Risk Assessment are incorporated into the Lotus Notes database “Contract Risk Register” (CRR). Risk assessments within this database are reviewed on a regular basis to ensure that VicRoads surveillance requirements reflect the risks associated with the Project and to confirm compliance by the Contractor. The level of risk associated with a particular task is generally reflected in the frequency and the level of surveillance required by Project Delivery staff. The greater the risk, the more frequent the surveillance and the more detailed the report will be.

Absolute risks that have been assessed as “low” or “medium” will be surveilled/managed on a needs basis during the daily observation of construction activities.

The Contract Risk Register is uploaded into the Lotus Notes Database ‘Surveillance and Management System (SuMS) to generate the contract’s surveillance plan. A calendar is generated that identifies scheduled surveillance tasks that must be completed by specific Project Delivery staff identified as being responsible for completing the surveillance report.

VicRoads reviews reports from SuMS to ensure that tasks are being performed and to identify any patterns or issues arising regarding the Contractor’s environmental performance. The information obtained and recorded in SuMS can be used to report on the adequacy of outcomes.

The information in the Contract Risk Register is regularly reviewed, with the subsequent risk ratings and task frequencies amended to reflect the Project’s surveillance requirements and stage of the works. This ensures that the environmental surveillance plan for the contract is actively managed and updated to reflect the construction activities and the associated environmental risks.

In general, environmental audits will be carried out on a quarterly basis. Audits of the Contractor’s Environmental Management Strategy and Environmental Management Plan(s) will be undertaken by a suitably qualified independent auditor.

8.2 Contractor’s Monitoring and Reporting

The Contractor will undertake planned surveillance and auditing of its Environmental Management Plan(s). Processes identified in the EMP(s) are implemented via a range of means including checklists and site inspections. The Contractor will provide a report each month on the performance and effectiveness of their EMP to VicRoads.

8.3 Environmental Incident Reporting

Environmental incidents are reported in VicRoads "Enviro Tracker" (a web based database), which has been designed to ensure prompt and accurate reporting and management of incidents. All environmental incidents are to be reported to the Supervising Engineer who shall consult with the Project Delivery Team Leader and notify the Project Director.

The use of Enviro Tracker ensures that incident reports include:

- Details of the environmental impact;
- An assessment of the level/impact (against the five levels, as outlined in Table 5;
- An investigation of the root cause of the incident; and
- The identification and closure of the actions required to mitigate and /or avoid a reoccurrence of the incident.

Further to logging an environmental incident, VicRoads has a number of mechanisms that can be used at a Project and Corporation level to deter the contractor from breaching the requirements of the PEPS and Contract Specification. These range from:

- Issuance of Non-Conformance Reports;
- Instructing the Contractor to cease part or all of the works;
- Instructing the Contractor to repair or restore the breach;
- VicRoads undertaking the repair or restoration and claiming costs against the Contractor; and
- Termination of the Contract.

Table 5 Environmental Incident Level Rating

Category	Category Definitions	Examples
Catastrophic: **Very serious long term environmental impairment of ecosystem functions or relationships** **Level 5 Incident**	Serious long term environmental impairment of ecosystem functions or long term threat to community health. High level of public outrage. Permanent relationship damage Litigation anticipated	**Cultural Heritage** Disturbance without approval of a known or newly identified heritage site where the site is identified as being of high significance to the local Aboriginal community (e.g. significant aboriginal burial site). **Fauna/Flora** Deaths or destruction of a number of endangered species and habitats such that the population cannot recover. **Water** Long-term land contamination affecting water supply
Major **Serious long-term environmental impairment of ecosystem functions** **Level 4 Incident**	Major onsite or moderate offsite impact extending over large area or impact that will adversely impact beneficial use long term Major impact on local community or significant involvement of statutory agencies. Permanent damage to cultural heritage sites. Short term threat to community health. Adverse publicity which may impact on reputation Litigation possible	**Cultural Heritage** Disturbance without approval of a known or newly identified heritage site where the site is identified as being of medium significance to the local Aboriginal community (e.g. aboriginal burial site) or Heritage Victoria (Historical Bridge) whichever is applicable. **Fauna/Flora** Rare flora damaged when construction equipment parked on a registered site. Deaths or destruction of a number of endangered species and habitats such that the population requires decades to recover. **Water** Structural damage to a waterway – bed & banks Any unauthorised discharge into watercourse or wetland (or another sensitive receiver) requiring remediation to recover from the damage done. Offsite impact incident likely to be publicised by media

Category	Category Definitions	Examples
Moderate: **Serious medium-term environmental effects** **Level 3 Incident**	Impact extends beyond road reserve. Requires investigation that requires resources to be redirected to complete. Minor impact on the local community or minor involvement of statutory agencies. Impact on flora and fauna is recoverable, i.e. flora damaged but not destroyed. No FFG or EPBC Act listed species impacted. Potential for litigation	**Air** Repeat community complaints relating to construction activities. Property damage, with potential claims of crop damage. **Cultural Heritage** Disturbance without approval of a known or newly identified heritage site where the site is identified as being of low significance to the local Aboriginal community (e.g. artefact site) or Heritage Victoria (Historical Bridge) whichever is applicable. **Fauna/Flora** Significant tree damaged requiring removal. Short term impact to national and state threatened flora or fauna. **Noise and Vibration** Repeat community complaints relating to construction noise and or vibration **Soil** Identified contamination on properties acquired for road development that requires extensive remediation **Water** Any unauthorised offsite discharge to watercourses and/or groundwater
Minor **Moderate short-term effects but not affecting ecosystem functions** **Level 2 Incident**	Minor impact confined to within road reserve. No threat to any beneficial use including fauna or flora. Technical breach of legislation or agreements but limited potential for litigation or abatement notice. Can be managed through routine activities	**Air** Community complaints relating to construction activities **Fauna/Flora** Significant tree damaged, not requiring removal. Short term localised impact to flora/fauna. **Noise & Vibration** Community complaint relating to construction noise and or vibration. **Soil** Contamination of land on-site with immediate containment and removal. **Water** Any unauthorised discharge to watercourses and/or groundwater that is captured on site.
Insignificant: **Minor effect on biological or physical environment** **Level 1 Incident**	Incident or non-compliance that does not impact on operations No breach of legislation	

SECTION 9. GLOSSARY AND ABBREVIATIONS

Contractor: Organisation or person carrying out construction works on behalf of VICROADS.

Contract Risk Register (**CRR**): The Contract Risk Register is a Lotus Note database that maintains records of all contract risks, including the environmental risks identified in the PEPS Environmental Risk Assessment. The register also includes details regarding the frequency and level of surveillance required and the person responsible for undertaking it.

Environmental Management Plan (**EMP):** A plan prepared by the contractor, prior to the commencement of works in an area or for a construction activity. The EMP details all aspects of works associated with the EMP that may impact on the environment and details environmental management process/controls that will be implemented by the Contract for their avoidance or minimisation.

EPA: Environment Protection Authority

Environmental Incident: Any incident occurring that has caused, or has the potential to cause, appreciable pollution or damage to the environment, including failure to implement any permit and/or approval conditions, or mitigation measures, that were included as part of the project approval process.

ERA: Environmental Risk Assessment – a VicRoads excel spreadsheet template used to identify all project and contract specific activities, their potential environmental impacts and VicRoads objectives for environmental management. Risks identified in the ERA are incorporated into the Contract Risk Register.

Environmental Sustainability Toolkit (Build and Maintain Sustainable Roads): The repository of all environmental information in VicRoads and is accessed through Exchange > How To > Build and Maintain Sustainable Roads.

Enviro Tracker: A web-based database which has been designed for the management/reporting of environmental incidents.

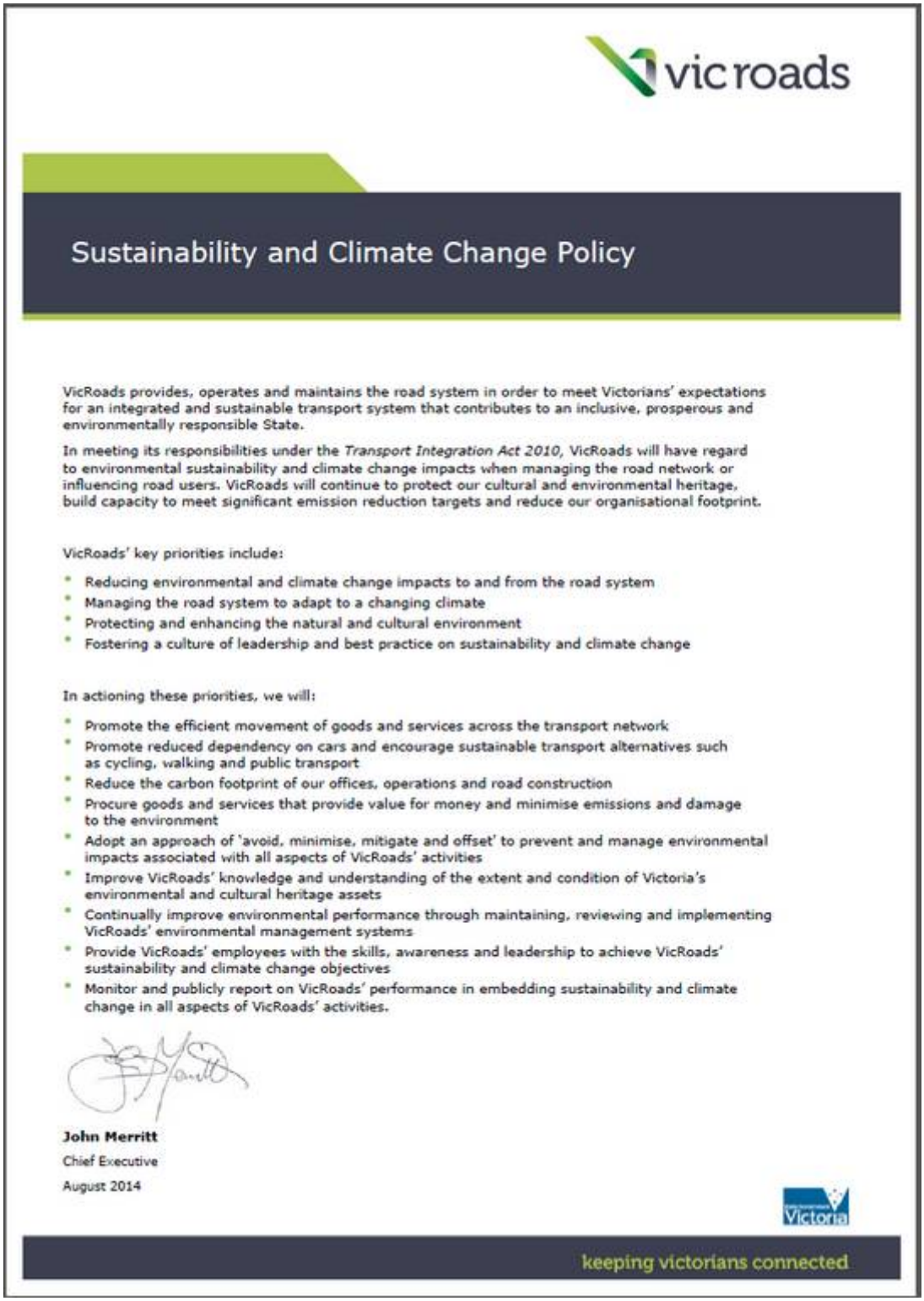
Project Environment Protection Strategy (PEPS): A risk based environmental strategy prepared by VicRoads in consultation with stakeholders during pre-construction, containing a description of the project, the local environment, environmental commitments, Environmental Risk Assessments and responsibilities.

SEPP: State Environment Protection Policy

Surveillance and Management System (SuMS): – Electronic diary used to record surveillance undertaken by project staff. It also provides a management/monitoring tool for the Supervising Officers.

Superintendent: A VicRoads Officer responsible for the administration of contracts. Generally the Project Manager is the Contract Superintendent during the construction phase.

APPENDIX 1: VicRoads Sustainability and Climate Change Policy



vicroads

Sustainability and Climate Change Policy

VicRoads provides, operates and maintains the road system in order to meet Victorians' expectations for an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible State.

In meeting its responsibilities under the *Transport Integration Act 2010*, VicRoads will have regard to environmental sustainability and climate change impacts when managing the road network or influencing road users. VicRoads will continue to protect our cultural and environmental heritage, build capacity to meet significant emission reduction targets and reduce our organisational footprint.

VicRoads' key priorities include:

- Reducing environmental and climate change impacts to and from the road system
- Managing the road system to adapt to a changing climate
- Protecting and enhancing the natural and cultural environment
- Fostering a culture of leadership and best practice on sustainability and climate change

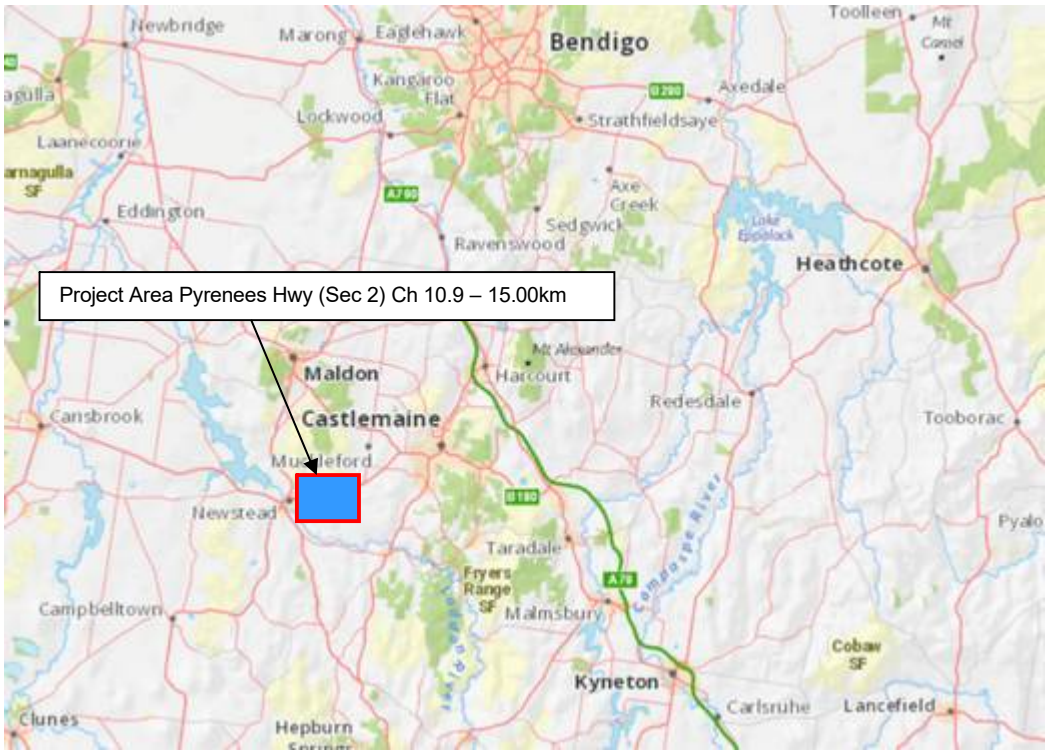
In actioning these priorities, we will:

- Promote the efficient movement of goods and services across the transport network
- Promote reduced dependency on cars and encourage sustainable transport alternatives such as cycling, walking and public transport
- Reduce the carbon footprint of our offices, operations and road construction
- Procure goods and services that provide value for money and minimise emissions and damage to the environment
- Adopt an approach of 'avoid, minimise, mitigate and offset' to prevent and manage environmental impacts associated with all aspects of VicRoads' activities
- Improve VicRoads' knowledge and understanding of the extent and condition of Victoria's environmental and cultural heritage assets
- Continually improve environmental performance through maintaining, reviewing and implementing VicRoads' environmental management systems
- Provide VicRoads' employees with the skills, awareness and leadership to achieve VicRoads' sustainability and climate change objectives
- Monitor and publicly report on VicRoads' performance in embedding sustainability and climate change in all aspects of VicRoads' activities.

John Merritt
Chief Executive
August 2014

keeping victorians connected

APPENDIX 2: Location of the Project



APPENDIX 3: Environmental Surveys – Recommendations and Key Findings

Following are recommendations and suggested further work as reported in the specialist investigations undertaken for the Pyrenees Hwy - Safer Road Infrastructure Project

A3-1 Biodiversity Assessment

Author's name(s)

Stuart Cooney

Simon Scott

Consultancy name

Ecolink Consulting Pty Ltd

Report title, date and status.

Biodiversity Assessment,

Pyrenees Highway, Greens Gully,

August 2016. FINAL

Key Findings:

- The project area is located approximately 1 kilometre east of Newstead and is located within the Goldfields bioregion and the management area of North Central Catchment Management Authority (CMA).
- A number of small rural properties are also located along the road.
- The Pyrenees Highway road reserve is zoned Road Zone 1 and is public land. The surrounding areas are zoned either FZ: Farm Zone, where private land adjoins the study area, or PCRZ: Public Conservation and Resource Zone, where the study area passes through Muckleford State Forest and other public land.
- The road includes existing road safety fencing, a series of culverts, and driveways to private property (some of which are being upgraded for the current project). Vegetation quality was lowest in these areas because it is subject to ongoing maintenance and disturbance.

Flora

- The site assessment identified a total of 76 flora species comprising 47 indigenous species and 29 exotic plants.
- A large portion of the project area bisects the Muckleford State Forest and contains road side vegetation is relatively undisturbed. The vegetation that is present comprises a high cover abundance of native plants (compared relatively with exotic species), and is characterised by
    - an overstorey of Yellow Box Eucalyptus melliodora, Yellow Gum Eucalyptus leucoxylon and Grey Box Eucalyptus microcarpa.
    - The midstorey that generally includes a sparse cover (<10% cover abundance) of low shrubs such as Drooping Cassinia Cassinia spp aff arcuata, Golden Wattle Acacia pycnantha, Gold-dust Wattle Acacia acinacea s.s., Spreading Wattle

Acacia genistifolia, Showy Parrot-pea Dillwynia sericea and Twiggy Bush-pea Pultenaea largiflorens; and

- An understorey that is generally sparse in cover; containing a high cover abundance of leaf litter.

- Green Gully Creek, located within the study area, is dominated by weeds including Toowoomba Canary Grass Phalaris aquatica, Wild Oats Avena fatua, Docks Rumex sp, Couch Cynodon dactylon and Blackberry Rubus fruticosus spp agg.
- Eight habitat zones have been mapped within the project area, 4 of which were assessed against EVC 61 (Box Ironbark Forest and another 4 assessed against EVC 67: Aluvial Terraces, all of which was considered to be moderate to high quality.
- Habitat zones located in the western-most portion of the project area is the lowest quality vegetation, Habitat zones further east contained higher quality with habitat values.
- Five species listed as noxious under the Catchment and Land Protection Act 1994 (CaLP Act) were recorded within the study area; Blackberry Rubus fruticosus spp agg, St John's Wort Hypericum perforatum subsp. veronense, Montpellier Broom Genista monspessulana, English Broom Cytisus scoparius and Bridal Creeper Asparagus asparagoides.
- The desktop assessment revealed that only three (3) threatened flora species have previously been recorded within a five kilometre radius of the project area, and a further ten species, or their habitats, are predicted to occur within the vicinity of the project area. No threatened species were observed during the biodiversity assessment.
- Six flora species listed protected flora under the Flora and Fauna Guarantee Act 1988 (Vic) will be impacted by construction activities.

Fauna

- Twenty-five fauna species were recorded within the project area during the current assessment, comprising species common to the local area. This included 20 native bird species, three native mammals and two native reptiles.
- A range of fauna species, arboreal and terrestrial, from a range of foraging guilds are likely to be found within and around the study area. Impacts to these species are likely to be low, given the large amounts of higher quality habitat adjoining the study area.
- Apart from the Brown Treecreeper *Climacteris picumnus*, no threatened fauna species were recorded during the current assessment. Potential habitat exists within the project area for nine of the threatened species that have previously been recorded within vicinity of the study area and have a predicted "High' or "Moderate" likelihood of occurrence within or adjoining the project area. They include:
    - Swift Parrot Lathamus discolor (High);
    - Powerful Owl Ninox strenua (Moderate);
    - Brown Treecreeper Climacteris picumnus (Present);
    - Speckled Warbler Chthonicola sagittatus (Moderate);
    - Hooded Robin Melanodryas cucullata cucullata (High);
    - Diamond Firetail Stagonopleura guttata (High);
    - Square-tailed Kite Lophoictinia isura (Moderate);
    - Grey-headed Flying Fox Pteropus poliocephalus (Moderate); and,
    - Brush-tailed Phascogale Phascogale tapoatafa (Moderate).

- Whilst it is unlikely that any of the bird species nest or breed within vegetation located within the project area, there is a high likelihood that they forage in the road reservation on some occasions.
- The Swift Parrot is an Environment Protection and Biodiversity Conservation Act 1999 (Cth) listed MNES. It is unlikely that there will be a significant impact to this species because of the limited footprint of the proposed works within the wider landscape and a range of mitigation measures proposed to reduce the likelihood of a significant impact.
- Significant impacts to Swift Parrots, assessed against the Department of the Environment and Energy's significant impact criteria, found that without mitigation measures there is a moderate likelihood of having a significant impact. The impacts have relate directly to foraging and roosting habitat removal.
- Brush-tailed Phascogale have been recorded near the project area on one occasion in 1962. While it is likely that Brush-tailed Phascogales occasionally use the project area, the area is unlikely to be important habitat for the species because of the disturbance caused by the vehicles using the road.
- The Square-tailed Kites Lophoictinia isura and Grey-headed Flying-foxes Pteropus poliocephalus may fly over the project area on occasion, without directly using resources within it and as such will not be impacted by the project.

Fauna Habitat

- The road reservation provides woodland habitat that links with larger areas of similar habitat in the Muckleford State Forest, and currently supports moderate to high quality habitat (characterised and open woodland habitat) for a range of species that range from foraging guilds, including nectarivores and insectarivores in the trees, to ground dwelling reptiles, frogs and mammals in the undergrowth, leaf litter and fallen timber. Surrounding habitat, within the Muckleford State Forest, is of similar or higher quality.
- Hollows and fissures were observed in nine of trees that will be affected by the road works. These hollows are likely to provide nesting and roosting resources to a range of arboreal mammals and bird, although the small size of these hollows is likely to preclude some species, such as owls, and favour others, such as micro-bats.
- Where the study area is not contiguous with the Muckleford State Forest, the trees within the road reserve provide an important corridor of vegetation that connects areas of higher quality habitat.
- The preferred habitat for the Swift Parrot, listed under the EPBC Act as a matter or National Environmental significance (MNES) occurs within the project area and the Muckleford State Forest. The Muckleford State Forest is identified as a 'Priority area' listed in the National Recovery Plan for the Swift Parrot. The project area may provide important habitat to Swift Parrots because it supports mature trees on which Swift Parrots are known to feed.

Recommendations:	**Status & Contract Clauses:**
Avoid removing trees where appropriate, by minimising the extent of works, using appropriate technology to minimise its impact and using a qualified arborist to prune and lop trees, rather than remove them, where practicable;	Through barrier design and selection iterations with minimal offsets at selected locations from the edge of traffic lane, including minimal footprint / limits of works for construction purposes has minimised the impact to native vegetation / trees to the greatest possible extent. The Construction Plans - Limits of Works define all works areas. Any

	areas of road reserve / roadside outside of the Limits of Works is defined as a No Go Zone. The Construction Limits of Works plans are attached in Appendix 9. Addressed in Contract clauses as follows: 176.I1, 100.1, 100.6, 100.7, 100.8, 200.1, 200.2 and Table 5
Where an option exists, remove smaller trees with fewer ecological values than larger trees;	Refer above
Minimise the impact of the works on understorey vegetation where practicable; • Works vehicles will remain on the road or within a defined 'Limits of Works' marked prior to commencement of any activities adjoining the roadside native vegetation. • Roadside native vegetation will be protected from works activities to prevent any disturbance or unauthorised removal.	Refer above
Ensure that the construction footprint is contained through signage and barriers;	Addressed in Clause 176.I1. Barrier fencing and signage is to be implemented. Refer also to Clauses: 100.1, 100.6, 100.7, 100.8, 200.1, 200.2 & Table 5
Using already impacted areas for stacksites, vehicle set-downs and other related construction activities.	Addressed in Clause 100.7(b) and (c). Locations are to be approved by the Superintendent. Refer also to Clauses: 176.I1, 100.1, 200.2 and Table 5
Protect trees that are to be retained but are located within close proximity to the construction works with high visibility fencing. Tree Protection Zones should be considered exclusion zones from construction and all construction-related activities.	Addressed in Clause 176.I1 & 100.1. Limits of Works / No-go zones are to be established, prior to commencement of works. Refer also to Clauses: 100.1, 100.6, 100.7, 200.1, 200.2.
Undertake tree removal in spring and summer, if possible, to minimise potential impacts to Swift Parrots that will only be present within the study area during Autumn and winter.	Addressed in Clause 100.8. Vegetation removal works will occur only between November 2018 and January 2019.
If weeds are seeding, control weeds prior to the commencement of works, during works and after works are complete.	Addressed in Clause 176.I2 Refer also to Clauses: 100.6, 100.7 and - Table 5
Implement vehicle and plant hygiene procedures to avoid spreading or introducing environmental weeds	Addressed in Clause 176.I2.

(particularly noxious weeds) within the project area, prior, during and post construction works.	Refer also to Clauses: 100.6, 100.7 and Table 5
Vehicles and plant must remain within the Limit of Works area delineated by the protective fencing.	Addressed in Clause 176.I1 & 100.1 Barrier fencing and signage is to be implemented. Refer also to Clauses: 100.6, 100.7, 200.1, 200.2.
Maintain the 'Limit of Works' protective fencing through the duration of the construction activities.	Addressed in Clause 176.I1. Barrier fencing and signage is to be implemented. Clause 176.A3 requires control measures to be maintained in working order for the duration of the associated works. Refer also to Clauses: 100.1, 100.6, 100.7, 200.1, 200.2
Prepare a Construction Environmental Management Plan to ensure that construction personnel are aware of the ecological values of the works area and control weeds.	Addressed in Clause 176.A3, 100.6 & 100.7.
Revegetate affected areas (including dump sites, plant sites, temporary site-office sites) with plants of local provenance and characteristic of the removed EVC, where appropriate.	Addressed in Clause 100.7, 200.6 & - Table 5.
Prepare a Fauna Management Plan to manage and salvage any fauna encountered during works. The Fauna Management Plan must include as a minimum, additional mitigation measures are proposed to minimise impacts to significant fauna species such as Swift Parrots and Brush-tailed Phascogale. It's to include measures: • If tree works are proposed to occur during the period when Swift Parrots are in Victoria (March - September), then the following measures must be implemented with regard to the Project area: 1. Undertake a pre-start inspection of the study area with a qualified zoologist to determine if: a. Eucalypts within and directly adjoining the project area are flowering (nectar/food source present); b. Swift Parrots are utilising the project area and/or areas directly adjoining the Project area in liaison with the DELWP; c. Eucalypts are not flowering and Swift parrots are not present proceed to 2 or proceed to 3 if Eucalypts are flowering and Swift parrots are present. 2. If Eucalypts are not flowering and Swift parrots are not present, works can proceed subject to the following: d. Daily pre-start checks are undertaken by a qualified zoologist to	Completed. Addressed in Clauses 100.6, 100.8 and Appendix E. A Fauna Management Plan has been prepared for the project. See: "Fauna Management Protocol Pyrenees Highway (Sec 2) SSRIP Project, Road Chainage 10-15km"

monitor the Project area and works to confirm presence / absence of the Swift Parrot; e. If daily pre-start checks confirm that Swift Parrots are present and utilising parts of the project area then follow mitigation options 3 f), g) and h) must be followed. 3. If Eucalypts are flowering and Swift parrots are present, works can proceed with caution subject to the following: f. Undertake daily pre-start checks with a qualified zoologist, if Swift Parrots are present and foraging on trees proposed for removal / or are sighted in a section of Project area, then follow g) and h); g. Commence works within another part of the project area where Swift Parrots are not foraging / present, provide a minimum buffer of 200m - 300m from sighted Swift Parrot location; h. Zoologist to monitor Swift parrot activity with regard to the operation of works over the course of the works period and tree removal works in the project area. If it is determined that works are impacting on Swift Parrot foraging then consider either increasing the works area buffer and / or shifting works to another section of the project area. This would include liaison with the DELWP as required. • If tree works are proposed to occur during outside of the period when Swift Parrots are in Victoria, then works can proceed in accordance with the normal operational requirements of a Fauna Management Plan/Protocol. • Undertake the following with regard to minimising impacts to Brush-tailed Phascogale in relation to the nine identified hollow bearing trees within the project area with a qualified zoologist as follows: 1. During the breeding season, a qualified zoologist to undertake a prestart inspection of the tree(s) proposed to be removed. If being used for breeding purposes - tree is to be retained until finish of breeding season and/or tree has been vacated and re-checked as part of a Fauna Management Plan/protocol prior to removal works occurring. Liaise with DELWP as required; and 2. If during breeding season, tree is not being utilised for breeding purposes - remove the tree in accordance with a Fauna Management Plan/Protocol. 3. Non-breeding season, check trees and manage tree removal works in accordance with a Fauna Management Plan/protocol.	

Advise the Department of Environment, Land, Water and Planning of the number of protected flora plants that are proposed to be removed.	Completed on the 5 December 2016 and DELWP approval granted on the 27 March 2017. Consultation has been undertaken with the DELWP in accordance with the MOU.
Referral the project to the Federal Government (Department of the Environment and Energy under the EPBC Act be prepared for the potential non-significant impacts to this species, on the basis that the preferred habitat for the species occurs within the study area and the Muckleford area is a 'Priority area' listed in the National Recovery Plan for the Swift Parrot.	Completed. Project referred to the DOEE on the 11 November 2017. Referral no. 2016/7809 was approved on the 18 May 2018.

A3-2 Cultural Heritage & Heritage Assessment

Author's name(s)
Paul Kucera and
Michelle Negus Cleary

Consultancy name
Dr Vincent Clark and Associates

Report title, date and status.
Road Safety Infrastructure Project,
Pyrenees Highway (Sec 2)
Ch 10.90km – 15.00km
Muckleford South – Newstead
Cultural Heritage Due Diligence Assessment
Final: 24 March 2016 / 14 November 2018 updated)

Key Findings:

Aboriginal Heritage

- The project area is located within the boundaries of the area for which the Dja Dja Wurrung Clans Aboriginal Corporation is the Registered Aboriginal Party (RAP).
- The study area crosses Green Gully Creek and is partly situated within 200m of Mia Mia Creek at Newstead, and is therefore within an area of cultural heritage sensitivity as defined by r.23(1) of the Aboriginal Heritage Regulations 2007
- There are no Aboriginal places currently located within the study area that are registered on the Victorian Aboriginal Heritage Register (VAHR).
- Land within the area of proposed works has already been subjected to significant ground disturbance as a result of past land use, and thus is not considered to be in an area of Aboriginal cultural heritage sensitivity.
- As the works will occur largely within the existing footprint of the road and associated road infrastructure and are therefore found to be an exempt activity - "minor works", as defined by r.12(2)(a).

Historical Heritage

- A search of the National and Commonwealth heritage lists, the Australian Heritage Database, and the Heritage Victoria Database revealed that there are no historic sites within the current study area.
- The ground either side of the roadway has been disturbed by road construction or roadside drainage in varying widths between 2–8m the either side of the roadway
- The project can cause an impact upon several historical features observed during the site inspection:
    - A set of associated features was present at the eastern end of the study area and comprise a water race or channel (HF001) and associated mullock heaps, pits and stone water control features (HF002 – HF005) at the north-eastern end of the works area on the southern side of the road, about 500m west of the Symes Rd and Pyrenees Hwy intersection. This area has the typical appearance of areas worked for alluvial gold - many small mounds with stoney deposits, including a large amount of white quartz.
    - At the eastern end of the survey area, on the southern side of the road, a deeply eroded water channel, HF001, was located running alongside the road following the

natural contours. There were several weir-type features constructed across it as cross-walls in the bed of the channel made of basalt field stones and sandstone mortared together (HF002 – HF005). HF005 had a more complicated stepped design made of basalt fieldstones and mortar with a settling pool on the north-eastern side. These appear to have been designed to rapidly drop the depth of the channel in one place and perhaps to increase the speed of water flow,

- Historical Features observed during the site inspection:

Chainage (km)	Feature ID	Description
10.90 – 11.18	HF001	Water race or channel winding approximately southwest to northeast. Channel is dry but heavily eroded. Channel or race follows the ground contour but runs downhill from west to east and is interrupted with several *in situ* stone water control features that create sudden drops in the water flow. (See Photo 1 and Photo 2.) There are many small mounds, with a large amount of white quartz stones visible.
10.96	HF002	Field stone and mortar hydraulic water flow control feature HF002 *in situ* in water race feature HF001. Has a narrow, rectangular settling basin at the base of the feature and side retaining walls. (See Photo 3.)
11.00	HF003	Field stone and mortar hydraulic water flow control feature HF003 *in situ* in water race feature HF001. It has a rectangular settling basin at the base of the feature and side retaining walls. There is a road culvert situated very close to this feature that empties into the water channel and is built against HF003. This feature is at risk of disturbance due to the proposed culvert widening at this point. (See Photo 4.)
11.05	HF004	Field stone and mortar hydraulic water flow control feature *in situ* in water race feature HF001.
11.16	HF005	Field stone and mortar stepped water flow feature (HF005) *in situ* in water race/channel HF001. This feature is constructed of local basalt field stone, sandstone and mortar and has side retaining walls, three steps, and a long rectangular settling basin at the bottom. (See Photo 5.)
13.8	HF006	Field stone and mortar water flow feature *in situ* in water race/channel HF008. This feature is a low wall across the channel near the fork or junction in the channel. Covered with vegetation debris. (See Photo 7.)
13.7	HF007	Field stone and mortar water flow feature *in situ* in water race/channel HF008. Covered with vegetation debris. (See Photo 8.)
13.7 – 13.9	HF008	Water race or channel winding approximately northwest-southeast with a fork leading to the south-south-east. Channel is dry but heavily eroded. There are several water control features built into the channel to change and manage the water flow, HF006, HF007, HF009. Covered with vegetation debris. Not was well preserved as HF001. (See Photo 7.)
13.9	HF009	Field stone and mortar water flow feature (HF005) *in situ* in water race/channel HF008. Covered with vegetation debris.
11.18	HF010	Mounds and pit - possible mullock heap. Located across the road from water race features HF001 – HF005. (See Photo 6.)

- Heritage Victoria officer did not feel that any of the features were suitable for inclusion in the Victorian Heritage Inventory and suggested that they may be suitable for inclusion on the local government Heritage Overlay, although their use as water management features for alluvial gold mining would need to be established.
- The present works by VicRoads to the Pyrenees Highway will not present a significant danger to the preservation of these features and therefore further investigation is not required at this time.

Recommendations:	**Status & Contract Clauses:**
Aboriginal Heritage	
A mandatory Cultural Heritage Management Plan is not required for this activity.	Noted
If during the works for the activity the client or the client's agent or contractor identifies Aboriginal cultural heritage, or has reason to believe that it may be present, work must cease immediately at that location and the appropriate parties must be notified, namely,	Addressed in Clauses: 176.J1 and 100.10.

Aboriginal Victoria and the RAP	
To ensure that Aboriginal cultural heritage is not harmed by the proposed works, all works must be restricted to the limit of works as shown in Appendix 9	Addressed through the application of Limits of Works on the Project road safety treatment sections. Ensure that the construction footprint is contained through signage and barriers. Addressed in Clause 176.I1. Barrier fencing and signage is to be implemented. Refer also to Clauses: 100.1, 100.6, 100.7 & Table 5
The stack site(s) and contractor's work compound should be located within the existing road reserve if possible. If the contractor proposes to use any area outside of the existing road reserve within the existing study area, VicRoads and/or the contractor, must ensure that there is a prior inspection of the area by a cultural heritage advisor and a representative of the Dja Dja Wurrung (the RAP) to ensure that no Aboriginal heritage will be harmed.	Addressed in Clauses: 100.7(b) and (c). All locations are to be approved by the Superintendent.
Historical Heritage	
Ensure that impacts upon the water races are minimised as far as is possible during the works. Ensure that all works in the immediate vicinity of these features are restricted to the work zone/identified limit of works as defined in the VicRoads design drawings (Appendix 9).	
In the event that a historic site is identified during works, Heritage Victoria must be notified and works must cease at that location until an assessment can be made by an archaeologist.	Addressed in Clause 100.10
Contingency for the unexpected discovery of Aboriginal cultural heritage	
Note that s.24 of the Act provides for the mandatory reporting of the discovery of an Aboriginal place as soon as practicable and specifies that the "person in charge of the works is deemed ... to be the person who discovered the place or object" (s.24[3]). The procedure for reporting the discovery of Aboriginal cultural heritage during construction activities will be: • If any unexpected artefacts or other features are identified during the site works, the person making the discovery must notify the person in charge of the activity immediately and that person must then suspend soil disturbance at that location. • The extent of the site, or suspected site, must be determined and a 5m buffer established around that extent, within which work may not be undertaken. • The person responsible for the activity must notify Aboriginal Victoria (AV) and the RAP immediately (i.e. within no more	Addressed in Clauses: 176.J1 and 100.10 (b)

than 24 hours) of the discovery or suspected discovery. If the discovery is determined to be Aboriginal cultural heritage a qualified archaeologist must record the Aboriginal place and complete any necessary records and notify AV and the RAP. A decision/recommendation concerning the process to be followed to manage the Aboriginal cultural heritage in an appropriate manner will be determined in consultation with AV, the RAP, the Heritage Advisor and VicRoads. A stop order may be issued for the activity, pursuant to s.87 of the Act.	
Contingency for the unexpected discovery of human remains	
If suspected human remains are uncovered during the site works, all work must cease immediately and the Victoria Police and the Victorian Coroner's Office (**1300 309 519**) notified, as required by the *Coroners Act* 2008. If there are reasonable grounds to believe that the remains are Aboriginal, the Coronial Admissions and enquiries hotline must be contacted immediately (**1300 888 544**) and the requirements of s.17 of the *Aboriginal Heritage Act* 2006 will apply. Any discovery of suspected human remains during the project must comply with the following contingencies: **1) Discovery:** If suspected human remains are discovered, all activity in the vicinity must stop; and, • the remains must be left in place and protected from harm or damage. • There must be no contact with any media representative in the event of discovery of suspected human remains. **2) Notification:** Road Safety Infrastructure Project, Muckleford South - Newstead Cultural Heritage Due Diligence Report • If suspected human remains have been found, the State Coroner's Office and the Victoria Police must be notified immediately. The State Coroner's Office may be contacted at any time on 1300 309 519. • If there are reasonable grounds to believe the remains are Aboriginal Ancestral Remains, the Coronial Admissions and Enquiries hotline must be immediately notified on 1300 888 544. • All details of the location and nature of the human remains must be provided to the relevant authorities. • If it is confirmed by these authorities the discovered remains are Aboriginal Ancestral Remains, the person responsible for the activity must report the existence of them to the Victorian Aboriginal Heritage Council (VAHC) in accordance with section 17 of the Aboriginal Heritage Act 2006. **3) Impact Mitigation or Salvage:** The VAHC, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal Ancestral Remains,	Addressed in Clauses: 176.J1 and100.10 (c).

will determine the appropriate course of action as required by section 18(2)(b) of the *Aboriginal Heritage Act* 2006; • An appropriate impact mitigation or salvage strategy as determined by the Victorian Aboriginal Heritage Council must be implemented by VicRoads. **4) Curation and further analysis:** The treatment of salvaged Aboriginal Ancestral Remains must be in accordance with the direction of the Victorian Aboriginal Heritage Council and in accordance with s.18(2)(b) *Aboriginal Heritage Act* 2006. **5) Reburial:** Any reburial site(s) must be fully documented by an experienced and qualified heritage advisor, clearly marked and all details provided to Aboriginal Victoria. • Appropriate management measures must be implemented to ensure the Aboriginal Ancestral Remains are not disturbed in the future. • **Do not touch or otherwise interfere with the remains, other than to safeguard them from further disturbance.** • **Do not contact the media.**	

APPENDIX 4: Environmental Features

A4.1 – Biodiversity Values

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(Extracted form Ecolink Consulting report "*Biodiversity Assessment, Pyrenees Highway, Greens Gully*" Aug 2016)

Figure 1a: Results of the curent assessment

Pyrenees Highway, Newstead, Victoria

Figure 1b: Results of the curent assessment

Pyrenees Highway, Newstead, Victoria

Figure 1c: Results of the curent assessment

Pyrenees Highway, Newstead, Victoria

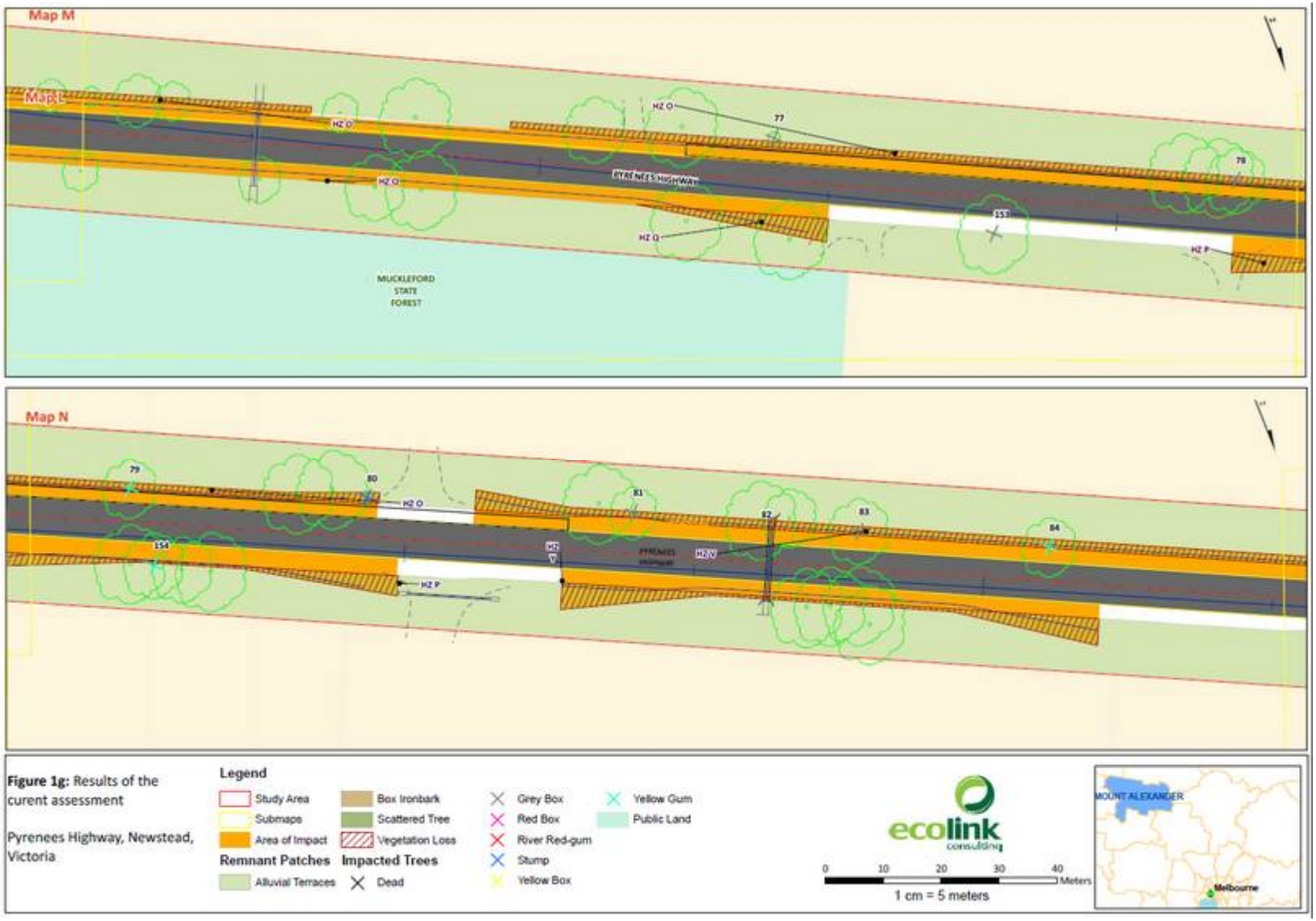

Map G
PYRENEES HIGHWAY
HZ H
HZ I
HZ G
Map H
PYRENEES HIGHWAY
HZ U
MUCKLEFORD
STATE
FOREST
Figure 1d: Results of the curent assessment
Pyrenees Highway, Newstead, Victoria
Legend
Study Area
Submaps
Area of Impact
Remnant Patches
Alluvial Terraces
Box Ironbark
Scattered Tree
Vegetation Loss
Impacted Trees
Dead
Grey Box
Red Box
River Red-gum
Stump
Yellow Box
Yellow Gum
Public Land
ecolink consulting
0 10 20 30 40 Meters
1 cm = 5 meters
MOUNT ALEXANDER
Melbourne

Figure 1e: Results of the curent assessment

Pyrenees Highway, Newstead, Victoria

Figure 1f: Results of the curent assessment

Pyrenees Highway, Newstead, Victoria


Map M
Map L
HZ O
77
78
PYRENEES HIGHWAY
153
HZ P
MUCKLEFORD
STATE
FOREST
Map N
79
80
81
82
83
84
154
HZ O
HZ P
HZ V
Figure 1g: Results of the curent assessment
Pyrenees Highway, Newstead, Victoria
Legend
Study Area
Submaps
Area of Impact
Remnant Patches
Alluvial Terraces
Box Ironbark
Scattered Tree
Vegetation Loss
Impacted Trees
Dead
Grey Box
Red Box
River Red-gum
Stump
Yellow Box
Yellow Gum
Public Land
ecolink consulting
0 10 20 30 40 Meters
1 cm = 5 meters
MOUNT ALEXANDER
Melbourne

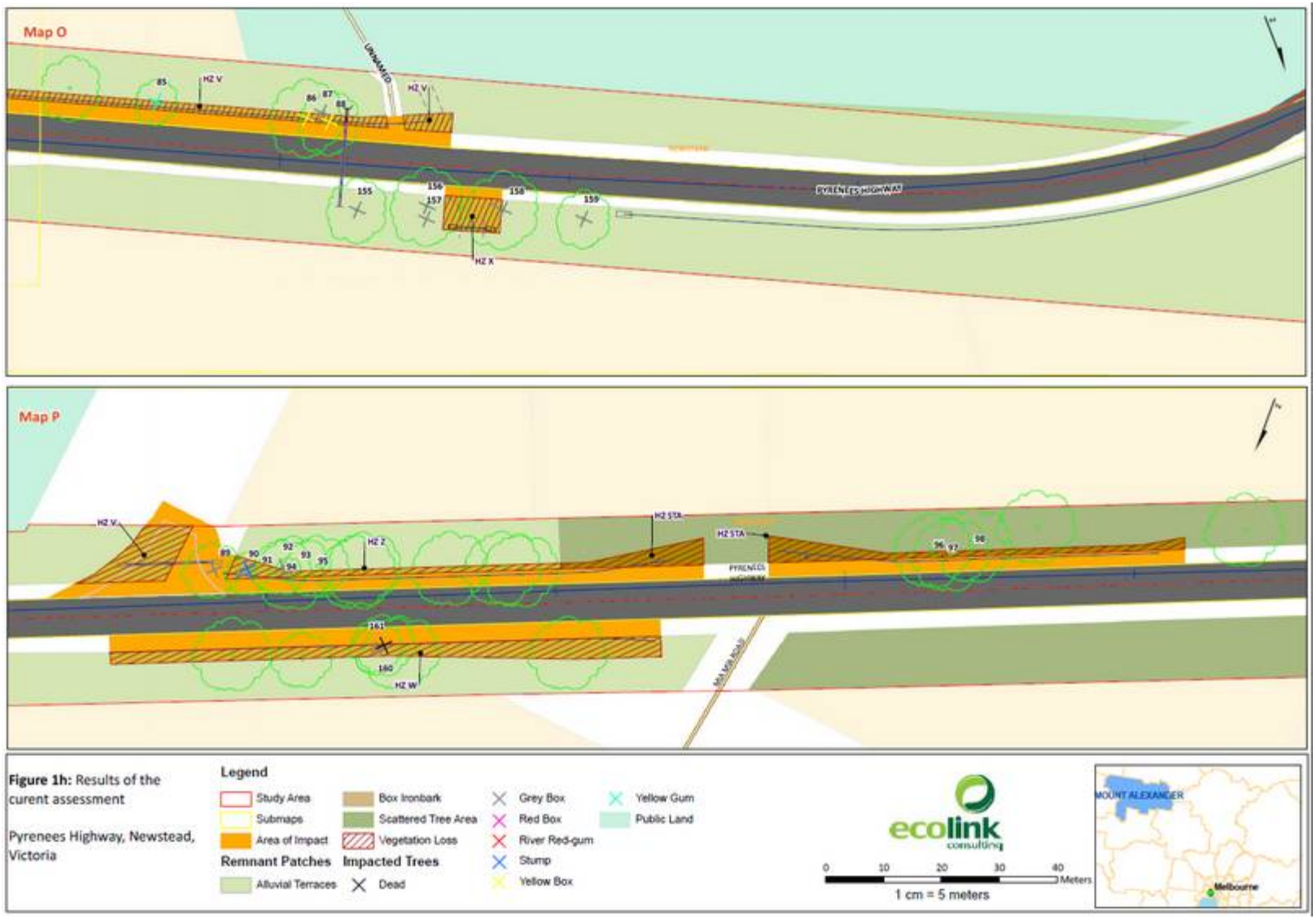
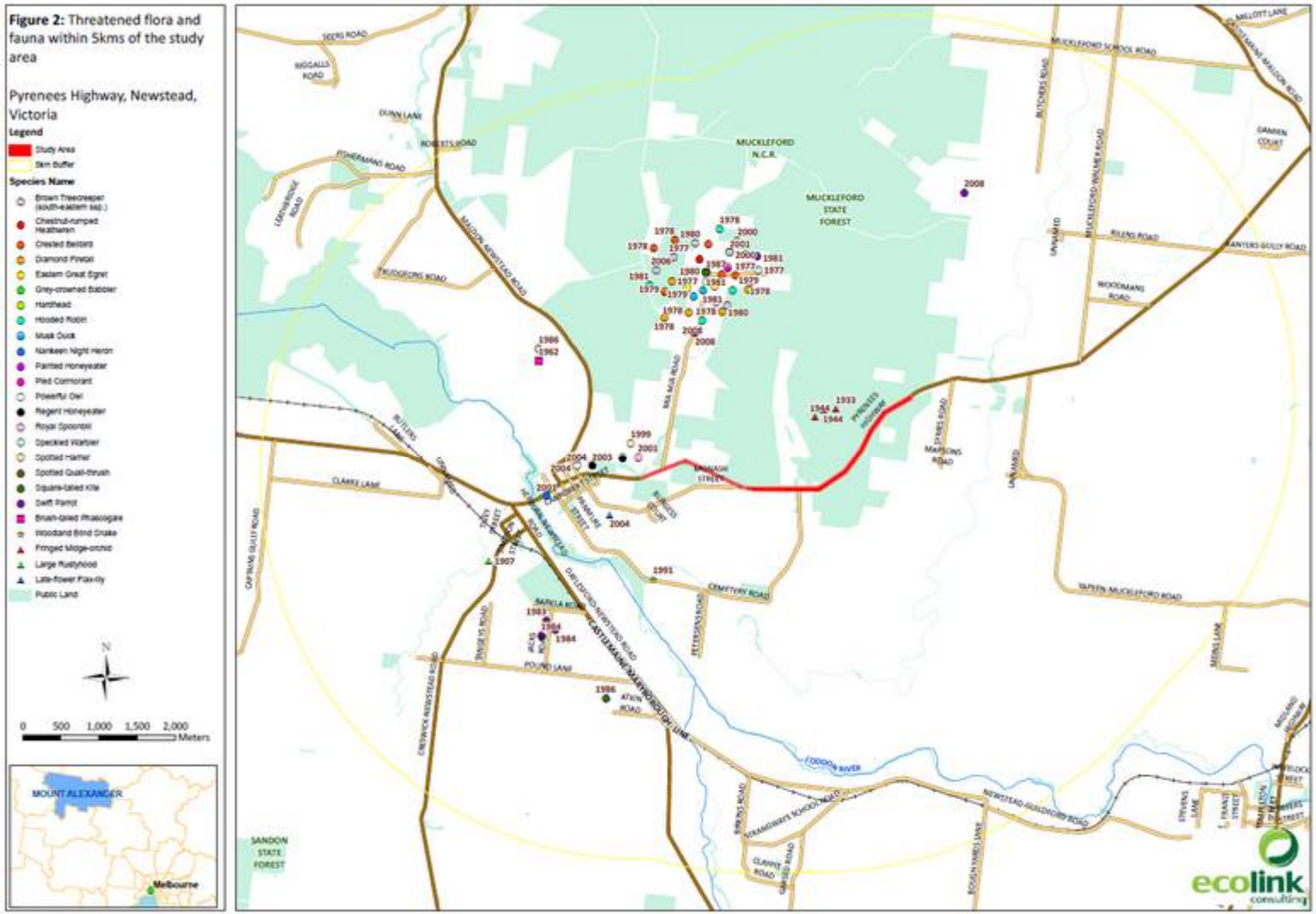


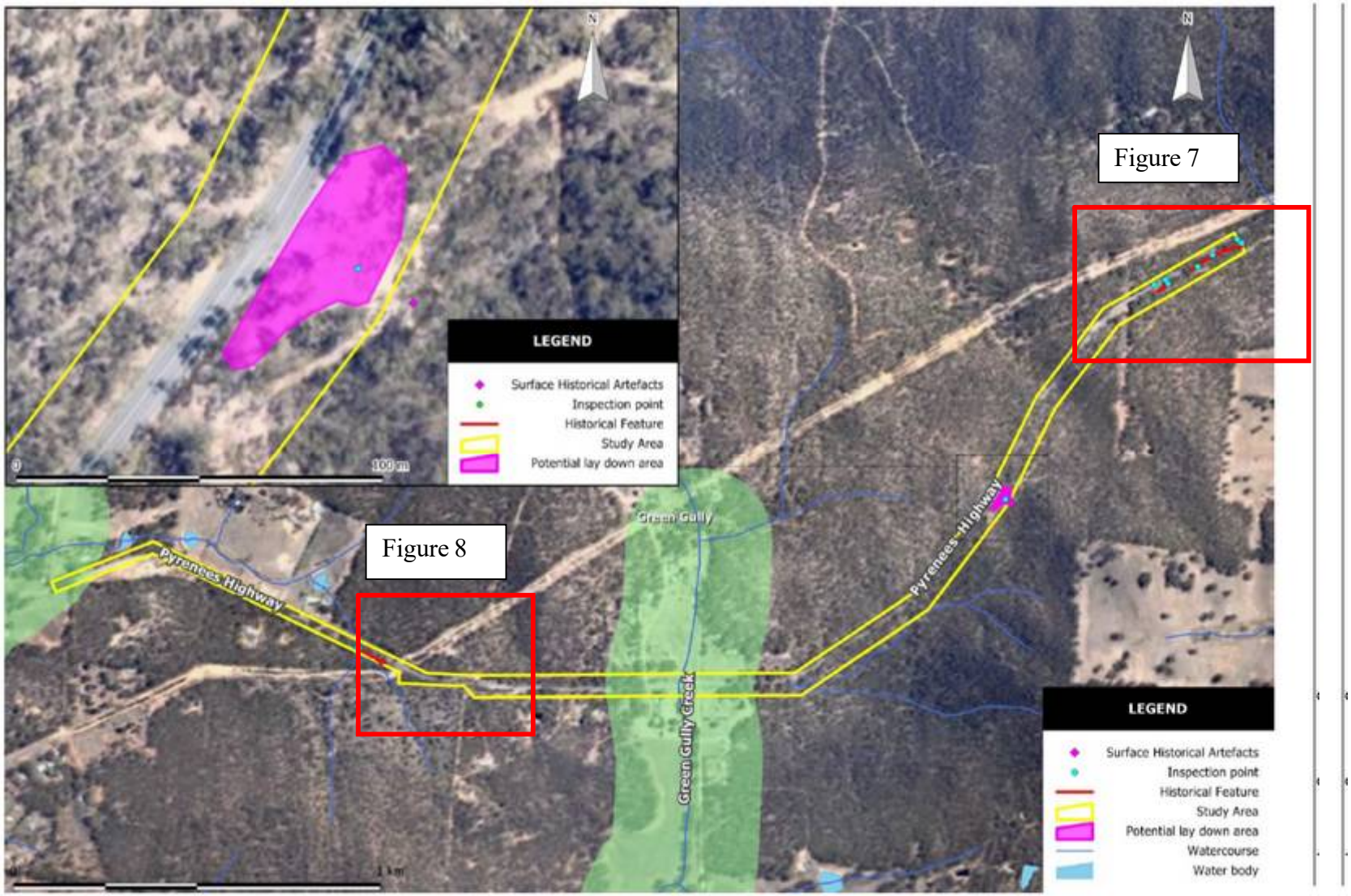
Figure 1h: Results of the curent assessment

Pyrenees Highway, Newstead, Victoria

A4.2 – Threatened Flora & Fauna species within 5 km



A4-3 – Historical Heritage



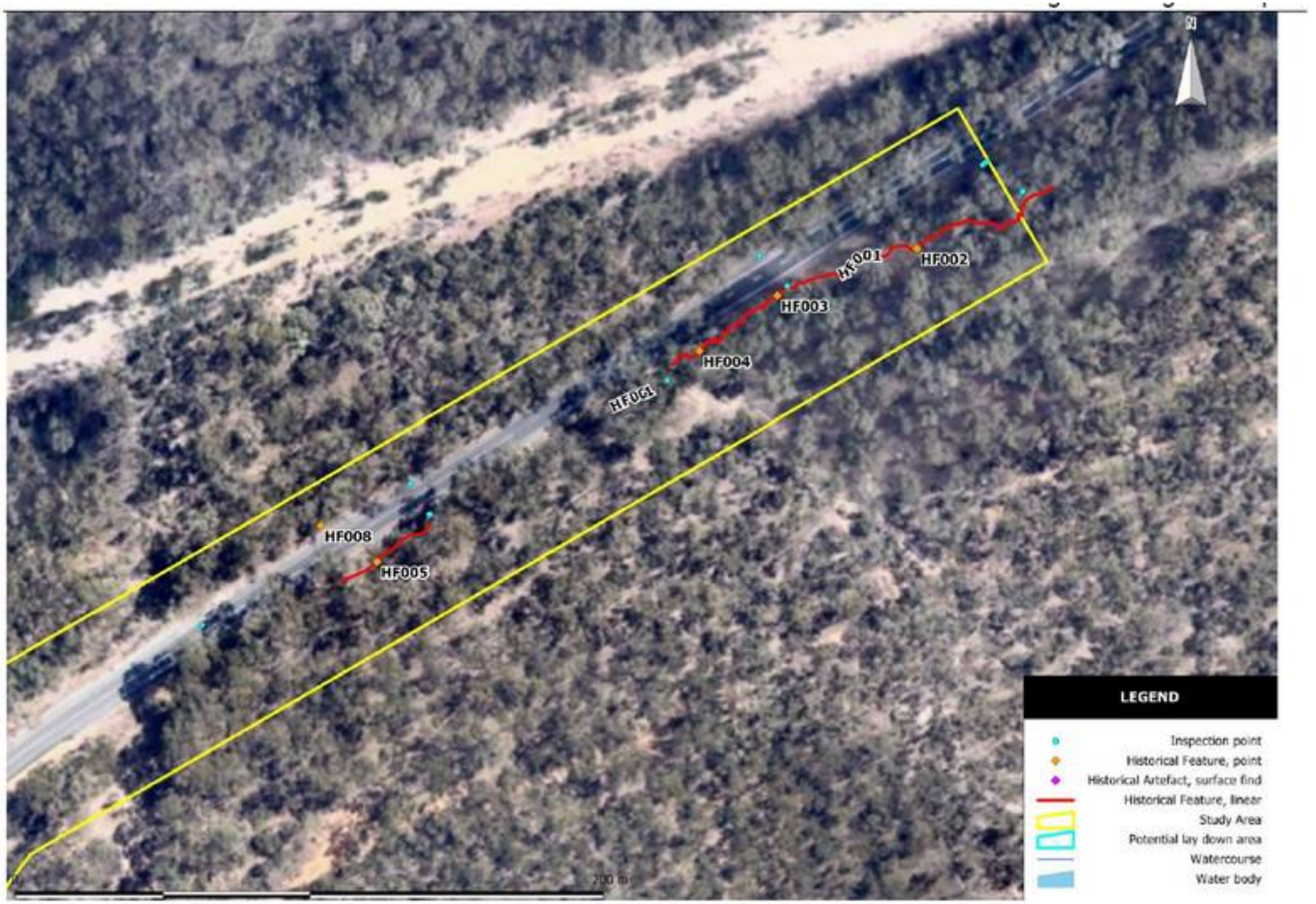


Figure 7. Historical features, HF001 – HF005 & HF010, at the eastern end of the study area, CH10.9 – 11.18

Figure 8. Historical features, HF007 – HF009, at the western end of the study area, CH13.7 – 13.9

Field stone and mortar stepped water flow feature (HF005) in water race/channel HF001.

Field stone and mortar hydraulic water flow control feature HF003 *in situ* in water race feature HF001. Roadway sandstone box culvert can be seen at right, built into features HF001 and HF003

Water race feature HF001, looking west along channel towards stone and mortar water control feature (HF002)

APPENDIX 5: Table of Commitments

The Table of Commitments has been prepared to record details of any commitments made during the course of the project through the approval process (e.g. permits), community consultation or internal VICROADS procedures. The Table of Commitments shall be updated as and when commitments have been implemented.

Type of Permit / approval / Commitment	Permit Number	Act	Responsible Authority	Status / Expiry	Conditions	Status of Permit Conditions
EPBC Act Approval removal of Swift parrot Foraging habitat	***EPBC2016/7809***	***EPBC Act 1999***	***Department of Environment and Energy***	***Approved*** ***18 May 2018*** ***1 December 2032***	1. The approval holder must not clear more than 0.6 hectares of Swift parrot habitat, including 146 Swift parrot habitat trees at the project area 2. The approval holder must ensure that any removal of Swift parrot habitat is undertaken in accordance with the Fauna Management Plan. 3. Prior to commencement of construction, the approval holder must develop a Construction Environmental Management Plan (CEMP). The approval holder must not commence construction until the CEMP has been published. Once published, the approved CEMP must be implemented. The CEMP must: a. be prepared by a suitably qualified expert b. include measurable performance indicators to avoid and mitigate impacts to Swift parrot habitat and Swift parrots surrounding the project area c. include measures for identification and marking of the clearing footprint prior to commencement of construction and establishment of no-go zones and buffers to avoid impacts on Swift parrot habitat and Swift parrots surrounding the project area d. d. include weed management measures e. e. include pest and disease management measures (including measures to prevent the occurrence of dieback by Phytophtora cinnamon during construction) f. f. include sediment and erosion controls measures **g.** g. ensure that all personnel are trained on the requirements of the CEMP. 4. Prior to the commencement of the action, to compensate for the loss of 0.6 hectares of Swift parrot habitat, the approval holder must, for the long-term protection of Swift parrot habitat, enter into a legal mechanism to secure an offset containing at least 4.5 hectares of Swift parrot habitat at Deep Lead as identified in Attachment A, or another offset agreed to by the Minister in writing. 5. Within 14 Days of the offset, required under condition 4, being secured the approval holder must provide the Department with: a. written evidence demonstrating that the offset has been secured **b.** shapefiles and offset attributes that clearly define the location and boundaries of the offset site. **6.** The approval holder must ensure the Deep Lead offset site is managed in accordance with the Offset Management Plan at Deep Lead for a period of at least 10 years commencing from the day the offset is secured	1. Noted. The construction zone limits of works are specified in CN9227. The limits of works will ensure that that no more than 0.6 hectares / 146 trees of Swift Parrot foraging habitat is removed for the Project works. **2. To be undertaken** 3. **To be undertaken** *4.* 4.5 ha Offset purchased under Credit Trading Agreement between Deep lead, Regional Roads Victoria and Vegetation Links on the 6th of December 2018. Offset site secured under Sec 69 Agreement under the Vic *Conservation Forests and lands Act 1987* **5. To be undertaken** 6. Completed via a Section 69 of the *Conservation Forest and Land Act 1987 (Vic)* - Landowner Agreement BB-3018/LA01 between The Secretary to the Department of Environment, Land, Water and Planning and Deep Lead Property Pty Ltd. This Landowner Agreement includes the Site Management Plan for Credit Site [BB-3018-LA01] and incorporates the Commonwealth Department of Environment and Energy approved Biosis (Dec 2017) *Old Glenorchy Road, Deep Lead, Victoria - Offset Management Plan (EPBC 2016/7809)* prepared for VicRoads.
Removal of protected flora / vegetation	***10007409*** ***Expires 12/12/2018***	***FFG Act 1988***	***Department of the Environment, Land Water and Planning***	***27 March 2017***	**Site Specific Conditions** 1. The permit holder is authorised to take protected flora for minor improvement and road safety treatments works in accordance with the principles of the Memorandum of Understanding (MoU) between the Department of Environment, Land, Water and Planning (DELWP) and the Department of Transport (DoT) 2. Prior to taking any taxa of protected flora, the permit holder is required to consult with the local DELWP Environment, Natural Resources and Fisheries regarding their proposed activities. 3. Works should be designed so as to minimise impacts on areas of remnant native vegetation. 4. All work conditions and work locations / defined workzones where the taking of protected flora is permitted must be limited to those specifically recorded in documentation submitted to and approved by DELWP. Any variation requires written permission from DELWP. 5. All works must be limited to the approved location / define workzones as detailed within Condition 3. All other areas of road reserve adjoining these locations / defined workzones shall be clearly designated as 'No Go Zones' for the duration of the works. 7. Except with the written approval of the DELWP in accordance with Conditions 2 and 3, no entry to, or works, stockpiling, or spoil placement are to be undertaken/placed in or adjoining sites of national, state or regional floral and/ or faunal significance (Biosites). Where works adjoin unfenced sites of designated floral and/or faunal significance, temporary fencing and signage is to be installed along the boundary of the site closest to the works prior to the works commencing and identified as 'No Go Zones'. Such temporary fencing is to be maintained until the nearby works are completed.	**Site Specific Conditions** 1. Noted 2. Consultation with DELWP offices has been undertaken. (Wendy Murphy, Peter Johnson and Andrea Keleher in 2015 / 2016 & 2016 / 2017. A Site inspection was undertaken with Wendy Murphy on the 19 April 2016. DELWP approval was given on the 27 March 2017. 3. Completed. Road safety treatment design and the footprint / limits of works of works been designed to minimise impacts to vegetation to the greatest extent practical. Construction zone Limits of Works (Works Zone) is delineated as per the marked Construction Drawings - Appendix 9). 4. Letter submitted to DELWP dated 5 December 2016 with protected flora details attached. Letter included: • Project Site - Existing Conditions, Deficiencies and Description; • Project Treatments and Application of 'Avoid' and 'Minimise' principles to Native Vegetation; • Planning and Assessment;

					8. Subject to Conditions 3, 6 and 7, vehicles and plant will operate from the existing road pavement and formation or within degraded areas, and / or cleared weed free areas where they exist. 9. This permit allows for the removal of protected flora for emergency works. The Environmental Research Coordinator is to be contacted as soon as practicable after the event, and a report of species removed must be supplied to DELWP within 30 days. DELWP will determine in consultation with VicRoads measures for revegetation/reinstating the site (if deemed necessary). 10. No stockpiling of rocks, soil or other material is permitted in areas of remnant native vegetation or any threatened species sites/areas. Stockpile areas are to be clearly designated and marked. 11. All works must prevent the spread of weeds and soil pathogens through the employment of appropriate hygiene practices. All vehicles, plant, earthmoving equipment, associated machinery and hand tools will be made free of soil, seeds and other plant material before being taken to the works site and again before being taken from the works site on completion of the project. This requirement includes moving equipment and material from one section of the road reserve to another or within worksite sections, especially where weed problems are known to exist. Any materials imported to a worksite shall also be weed and soil pathogen free. 12. In areas where works have removed native vegetation, the works areas shall be reinstated / revegetated with suitable indigenous species as appropriate and agreed with DELWP, so that the ground surface is stable, free draining and as near as practical to its pre-works condition. The Contractor shall undertake monitoring of any revegetated sites as well as monitor the presence of weeds, pests and diseases at intervals specified in the VicRoads contract Specifications. 13. If working in temporarily boggy / wet conditions, subject to Condition 3, appropriate low-impact vehicles / equipment for wet conditions are to be used, (i.e. wide-wheel based vehicles to reduce the potential for bogging). 14. Trees and branches shall be brought down in such a manner as to avoid damage to other trees, shrubs or ground vegetation outside the area being cleared or designated to be retained within the area being cleared. All pruning / tree trimming works must be undertaken in accordance with AS 4373-2007 “Pruning of Amenity Trees”. 15. Fallen material is not to be left on site, unless subject to Condition 3, prior written approval has been given by DELWP, including method of material retention. Cut material is to be removed in a manner so as to limit damage to native ground vegetation. 16. In any work locations / defined workzones containing surface or excavated rocks that are disturbed as a result of works, they are to be taken 17. Where excavation is to occur within or adjacent to any watercourse, (permanent or intermittent), all works will comply with the following EPA Publication’s: EPA Publication No. 275 – Construction Techniques for Sediment Pollution Control, EPA Publication No. 960 – Doing It Right On Subdivisions, EPA Publication No. 480 – Environmental Guidelines for Major Construction sites, and EPA SEPP Waters of Victoria. 18. The permit holder(s) responsible for works must ensure that all staff, contractors and sub-contractors have received appropriate environmental training to make them aware of flora and fauna conservation requirements and their obligations in relation to the permit area. All contractors and sub-contractors must at all times have access to or carry a copy of the (contract/EMP/key VicRoads documents) and the specific requirements stated in this permit. ***General Conditions*** 19. Provisions of the Flora and Fauna Guarantee Act 1988 must be observed, except where exemption is specifically provided for in this permit. 20. The granting of this permit under the Flora and Fauna Guarantee Act 1988 does not exempt the holder of a permit from the requirements of other Commonwealth and State legislation or policy. 21. The direction of any authorised officer of the Department of Environment, Land, Water and Planning, in relation to this permit, must be promptly complied with. Powers of authorised officers are stated in S.57 of the Act. 22. Subject to Conditions 2 and 3, data will be collected on the type of works activity, species, number and / or area removed, dates of removal and localities. This will be collated by VicRoads Environmental Officers. An annual report will then be submitted detailing this in addition to the vegetation removed under the native vegetation removal exemption. More information relating to data collection is in Section 4.2 of the VicRoads Native Vegetation Removal Guidelines 2009. 23. Where any listed on the FFG Threatened List or the Advisory List are identified, that were not previously identified in pre-works surveys, the exact location should be noted and reported to the relevant Biodiversity Officer of the Department of Environment, Land, Water and Planning, at the earliest possible convenience. 24. Where a project involves more than one worker or a group activity, all work is to be under the direction of the permit holder(s) who shall be deemed responsible.	• Native Vegetation Removal Exemption (plus photos); and • Flora and Fauna Guarantee Act 1988 permit / licence 5. Noted. 6. No-go zones are to be maintained free from all mentioned construction impacts 7. Given the location / extent of no-go zones that have been developed, all works and plant operation will be undertaken from the road pavement / road formation from within the defined Limits of Works (Appendix 9). 8. Noted 9. No-Go zones, outside the defined Limits of Works (Appendix 9), will be maintained free of all stockpiling activities 10. Addressed in Contract Specification Clause 176.I2 11. Earthworks and road formation will be kept to the absolute minimum resulting in no areas of revegetation. 12. Noted. Works to be undertaken in accordance with EPA ‘best practice’ construction management guidelines. (Contract Specification Clause 176.D1) 13. Permit condition to be adhered to. 14. Permit condition to be adhered to. 15. Noted. Rocks will not be reused within the construction zone. No-go zones will be kept free of all materials. 16. Noted. Works to be undertaken in accordance with EPA ‘best practice’ construction management guidelines. (Contract Specification Clause 176.D1) 17. Noted. Training/induction requirements addressed in Contract Specification Clause 176.A4 **General Conditions** 18. Noted. 19. Noted. This project has been referred to the Commonwealth. 20. Noted. 21. Noted. Data associated with vegetation removal is to be entered into VicRoads systems for annual reporting to DELWP. 22. Noted. Protected flora data submitted to the DELWP and approved under this FFG permit on the 27 March 2018. 23. Noted. Permit condition to be adhered to should any FFG listed threatened or advisory list species be discovered during the works. 24. Noted. Copies of the permit are maintained within VicRoads systems for access. A copy of the permit is included in the Contract Specification and will be included in the Contractor’s EMP. 25. Noted 26. Understood.

					25. The permit or copy must be carried by any person acting under this authority whilst undertaking any work and shown on demand to any Authorised Officer of the Department of Environment, Land, Water and Planning. All contractors working under the direction of the permit holder must have access to the permit or copy. 26. The rights granted by this permit are not transferable to other persons without the written consent of the Secretary, Department of Environment, Land, Water and Planning, or his delegate. 27. Failure to comply with the terms and limitations of this permit may result in its cancellation and renders the permit holder liable to prosecution.	

APPENDIX 6: Environmental Legislation and Guidelines

LEGISLATION / GUIDELINES	DOCUMENT NAME / DESCRIPTION
Commonwealth Acts	***Environment Protection and Biodiversity Conservation Act 1999***; to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance.
Victorian State Acts	***Environment Protection Act 1970***; Victoria's principal environmental statute. The Act makes provisions for the development of State Environment Protection Policies (SEPP's).
	Flora and Fauna Guarantee Act 1988; establishes a system for the protection of flora and fauna, which places restrictions on the land use development that can override planning legislation.
	Aboriginal Heritage Act 2006; provides blanket protection for all Indigenous cultural heritage sites and places in Victoria. The act is administered by the Victorian Minister for Aboriginal Affairs through the Secretary to the Department for Victorian Communities and Aboriginal Affairs Victoria.
	Heritage Act 1995; establishes a system for the protection of places and objects of cultural heritage, including a system of registration that restricts development and use of listed areas.
	Water Act 1989*;* regulates the management and use of all water under the control of the Crown in Victoria. The Act provides Water Authorities with a range of enforcement powers and imposes obligations on persons and organisations not to interfere with assets of Water Authorities, waterways and water.
	Catchment and Land Protection Act 1994; sets up a framework for the integrated management of catchment areas and sets up a system of controls on noxious weeds and pest animals.
	Planning and Environment Act 1987; establishes the overall framework for the control of planning and development.
	Environment Effects Act 1978*;* provides the principal mechanism in Victoria for the assessment of environmental impacts of projects which have been determined as reasonably likely to have a "significant effect" on the environment.
Strategies	Victorian Biodiversity Strategy 1997.
	Victoria's Native Vegetation Management: A Framework for Action 2002.
	National Strategy for the Conservation of Australia's Biological Diversity 1996.

LEGISLATION / GUIDELINES	DOCUMENT NAME / DESCRIPTION
EPA State Environment Protection Policies (SEPP), and Guidelines	SEPP (Air Quality Management)
	SEPP (Ambient Air Quality)
	SEPP (Waters of Victoria)
	SEPP (Groundwaters of Victoria)
	SEPP (Prevention and Management of Contaminated Land)
	Doing It Right On Subdivisions:, EPA Publication 960, 2004
	Environmental Guidelines for Major Construction Sites, EPA publication 480, December 1995
	Construction Techniques for Sediment Pollution Control, EPA Publication 275, May 1991
	A Guide to the Sampling and Analysis of Waters, Wastewaters, Soils and Wastes – EPA Publication 448
	Groundwater Sampling Guidelines – EPA Publication 669
	Bunding Guidelines – EPA Publication 347
	Classification of Wastes – EPA Publication 448
	Use of Reclaimed Water – EPA Publication 464.2
VicRoads Documents	Sustainability and Climate Change Policy 2014
	Sustainability and Climate Change Strategy 2015-2020
	Environmental Risk Management Guidelines 2012
	Cultural Heritage Guidelines 2007
	Biodiversity Guidelines 2005
	Noise Guidelines – Construction and Maintenance Works 2007
	Contaminated Land (Planning, Construction & Maintenance) Guidelines 2011
	Integrated Water Management Guidelines 2011
	Sustainable Procurement Guidelines 2011
Regional/Local policies and strategies	INSERT DETAILS OF LOCAL POLICIES AND STRATEGIES, E.G. LOCAL COUNCIL, CMA

APPENDIX 7: Emergency Contacts

In the event of an emergency, the following contact numbers are provided and are incorporated into the CEMP.

ORGANISATION	CONTACT NAME	CONTACT DETAILS
Department of Environment Land Water and Planning	Mick Dedini Wendy Murphy	5036 4809 0427179 441 5430 4563
North Central Catchment Management Authority		(03) 5448 7124
State Emergency Services	Emergency - 24 hour	9696 6111
Contractor	TBD	
VicRoads – Northern Region	Kelly Wilson Peter Woods	5434 5025 5434 5081
VicRoads - Environment Practice	Scott Watson	(03) 9935 4109
Wildlife Shelters	Wildlife Victoria	1300 94535
Veterinary Clinics		
Mount Alexander Shire Council		(03) 5471 1700
EPA Pollution Watch		1300 EPA VIC 1300 372 842
Ambulance **Police** **Fire Brigade**		000
VicRoads 24hr Emergency		13 11 70 (24 hour)

APPENDIX 8: PEPS Environmental Risk Assessment

PYRENEES HIGHWAY (SEC 2) CH 10.9 - 15.0KM
SAFER ROAD INFRASTRUCTURE PROJECT
PROJECT ENVIRONMENT PROTECTION STRATEGY (PEPS)
ENVIRONMENTAL RISK ASSESSMENT

Risk Categories		Rare	Unlikely	Possible	Likely	Almost Certain
		A	B	C	D	E
		Negligible likelihood	Likelihood low but not negligible	Likelihood less than 50/50	As likely as not to happen (50/50)	More than likely to happen
		Less than once in 12 months OR 5% chance of recurrence during course of the	About once in 6 months OR 10% chance of recurrence during course of the	About once in 4 months OR 30% chance of recurrence during course of the	About once in 2 months OR 50% chance of recurrence during course of the contract	About once in a month OR 100% chance of recurrence during course of the contract
Catastrophic	5	High	High	Extreme	Extreme	Extreme
Major	4	Medium	High	High	Extreme	Extreme
Moderate	3	Low	Medium	High	Extreme	Extreme
Minor	2	Low	Low	Medium	High	Extreme
Insignificant	1	Low	Low	Medium	High	High

Activity	Aspect (source)	Impact (Effect)	Objective	ABSOLUTE RISK			Risk Treatment	RESIDUAL RISK			CLAUSE	ACTION / COMMENTS
				Likelihood	Consequence	Assessed risk		Likelihood	Consequence	Assessed risk		
				E - Almost certain D - Likely C - Possible B - Unlikely A - Rare	5 - Catastrophic 4 - Major 3 - Moderate 2 - Minor 1 - Insignificant	Extreme High Medium Low		E - Almost certain D - Likely C - Possible B - Unlikely A - Rare	5 - Catastrophic 4 - Major 3 - Moderate 2 - Minor 1 - Insignificant	Extreme High Medium Low		
PRECONSTRUCTON ACTIVITIES												
Planning and Design												
	Road Alignment, Geometry and Road Safety Barrier & Treatments Design	Impact on flora & fauna due to location of alignment & extent of footprint	Minimise impacts on flora within the Pyrenees Hwy road reservation, particularly on Swift Parrot habitat	E	4	**Extreme**	Survey roadside native vegetation to obtain detail of flora & fauna values within the area and methods for managing impacts.	E	3	**Extreme**	N/A	Pre-assessment activities are not included in Construct only contracts. Project design incorporated avoid and minimise principle for all of the 23 barriers designs on this Project in accordance with the VicRoads (2009) Native Vegetation Removal guidelines under the Road Safety exemption and MOU with the DELWP.
							Investigate ways to avoid significant native vegetation, flora and fauna impacts through sensitive design.					
							Specify construction area footprint via Limits of Works and No-Go Zones to protect roadside native vegetation / trees and fauna habitat.					
		Impact on cultural heritage	Minimise impacts on cultural heritage	C	3	**High**	Undertake cultural heritage investigations to ascertain the values within the area.	B	2	**Low**	N/A	Pre-assessment activities are not included in Construct only contracts. Due Diligence Assessment undertaken for Cultural Heritage / Heritage matters for this Project via Dr Vincent Clark and Associates. Not cultural heritage or heritage matters were identified for the project, subject to the Project complying with the defined limits of works.
							Plan for works to remain within the road formation footprint.					
Geotechnical Investigations												
	Drilling	Contamination - ground water	Ensure no contamination of ground water	N/A		**#N/A**	Avoid the use of drilling fluids unless necessary.	N/A		#N/A	N/A	Not applicable. These investigations were not required as part of any pre-construction activities for the works under contract.
		Flora – disturbance/ damage	Preserve, protect, and minimise damage and disturbance to trees	N/A		**#N/A**	Avoid drilling activities within the TPZ of trees located within the road reservation.	N/A		#N/A		
		Noise Nuisance	Minimise noise disturbance to the neighbouring residential properties	N/A		**#N/A**	Plant operation hours: Monday to Friday between 7am or sunrise (whichever is later) and 6pm or sunset (whichever is earlier), and Saturdays between 7am or sunrise (whichever is later) and 1pm.	N/A		#N/A		
		Water Pollution - sediment and drilling fluid runoff	No discharge of drilling fluid from the works	N/A		**#N/A**	Contain/recycle all drilling fluid on site.	N/A		#N/A		
							Avoid discharge of drilling fluid to drainage network or the creeks.					
	Excavation of Test Pits	Flora / Fauna – disturbance/ damage	Preserve, protect, or minimise damage and disturbance	N/A		**#N/A**	Plan investigations to avoid impacts to o the TPZ and SRZ of trees	N/A		#N/A		
		Historical /Archaeological site damage	Ensure no disturbance to trees located within areas of identified historical features	N/A		**#N/A**	Identify and establish limits of works / no-go zones by fencing off known sites to the extent necessary when Geotech investigations are in proximity to them	N/A		#N/A		
		Noise Nuisance	Minimise noise disturbance to the public	N/A		**#N/A**	Working hours to be: Monday to Friday between 7am or sunrise (whichever is later) and 6pm or sunset (whichever is earlier) and on Saturdays between 7am or sunrise (whichever is later) and 1pm	N/A		#N/A		
		Water Pollution - sediment runoff	Minimise erosion and appropriately manage turbid run-off to ensure the suitable protection of water quality of the local watercourses, dams, wetlands etc.	N/A		**#N/A**	Implement erosion and sediment control in accordance with EPA best practice guidelines.	N/A		#N/A		

				ABSOLUTE RISK				RESIDUAL RISK				
				Likelihood	Consequence	Assessed risk		Likelihood	Consequence	Assessed risk		
Vehicle Access												
	Using existing access roads	Noise Nuisance	Minimise noise disturbance to the public	N/A		**#N/A**	Ensure plant is well maintained	N/A		#N/A	N/A	Not applicable. Preconstruction activities such as design and investigations did not require any plant to access the areas of proposed works. Site access was via regular vehicles or on foot i.e. VicRoads pool vehicles.
							Ensure plant is not left idling for periods when it is not operating.					
CONSTRUCTION ACTIVITIES												
Relocation / Installation of Services												
	Service installation / relocation	Ground water contamination.	Prevent ground water contamination	N/A		**#N/A**	Re-use material that's been excavated.	N/A		#N/A	N/A	Project works do not require any service locating, installations or relocations
		Flora disturbance and damage	Preserve and protect the TPZ and SRZ of trees from impacts where possible. Where this is not possible minimise the damage and disturbance, particularly to Swift Parrot habitat.	N/A		**#N/A**	Identify and establish no-go-zones by fencing off trees that are to be protected and retained. No go-zones to be fenced off before works commence.	N/A		#N/A		
							Ensure that clearing of vegetation is kept to a minimum					
							Before any excavation occurs, the effect of such excavation on the health and structural stability of the tree should be evaluated by a qualified arborist.					
							Any roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root.					
		Historical /Archaeological site damage	Ensure no disturbance to heritage values	N/A		**#N/A**	Ensure that works remain within the formation in proximity to heritage values identified within the road reservation.	N/A		**#N/A**		
							Avoid ground disturbance in areas of Aboriginal heritage sensitivity in proximity to creeks					
		Water Pollution - sediment runoff	Minimise erosion and appropriately manage turbid run-off to ensure the suitable protection of water quality	N/A		**#N/A**	Implement sediment and erosion control measures in accordance with EPA best practice guidelines.	N/A		#N/A		
							Minimise the are of exposed surface					
							Stabilise exposed surfaces asap to prevent erosion.					
		Air Pollution	Minimise dust impact to road users and adjoining properties	N/A		**#N/A**	Establish controls to prevent dirt or mud from being tracked onto the trafficked road network and ensure that the road is kept free of soil deposits.	N/A		#N/A		
Vehicle Access												
	Using road network	Air Pollution	Minimise dust	D	3	**Extreme**	Establish controls to prevent dirt or mud from being tracked onto the trafficked road network and ensure that the road is kept free of soil deposits.	B	2	**Low**	176.A3 176.C1 176.D3 Table 5	Access to works zones / construction zone Limits of Works (Appendix 9) restricted to access from the existing Pyrenees Hwy road pavement and maintained road formation
		Water Pollution - sediment runoff from material deposited on the road's surface.	Prevent turbid water from entering the drainage system and the watercourse it discharges into. This must also consider wetlands, dams and water catchment areas.	D	3	**Extreme**	Ensure that the road surface is maintained free of dirt and mud.	C	2	**Medium**	176.A3 176.D3 100.7 200.7 Table 5	
Plant Operation												
	Arrival & departure to and from the site	Spreading of Noxious Weeds	Eliminate or minimise the spread of noxious weeds	D	3	**Extreme**	Machinery arriving and leaving the site to be site clean and free of weed seed.	C	2	**Medium**	176.A3 176.I2 100.6 100.7 Table 5	Small no of noxious weed species occur within the Project section with short to long term seed viability, including Chilean needle Grass & Cape Broom around Green Gully and isolated small patches of St Johns Works. Site management of vehicle / plant hygiene and topsoil management will be key to minimising weed seed import and spread.
		Noise Nuisance	Minimise noise disturbance to the public	E	2	**Extreme**	Construction vehicles and equipment shall have appropriate measures fitted and be effectively maintained to minimise engine noise	C	2	**Medium**	176.A3 176.H1	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the
							Where practicable, plant is not to be delivered outside normal work hours.					

				ABSOLUTE RISK				RESIDUAL RISK				
				Likelihood	Consequence	Assessed risk		Likelihood	Consequence	Assessed risk		
							If it must arrive out of hours, identify parking areas for remote from residential or other sensitive properties.				Table 5	Houses located between 20m to 100m setbacks from the Hwy.
		Water Pollution - sediment runoff from material deposited on the road's surface as plant depart the site.	To prevent turbid water from entering the drainage system and the watercourse it discharges into. This must also consider wetlands, dams and water catchment areas.	C	3	High	Keep road surface clear of dirt and mud.	B	2	Low	176.A3 176.B1 176.D1 176.D3 Table 5	Several seasonal creeks and associated tributaries intersect the Project area, which flow into the Loddon River and which flows into cairn Curran Reservoir located to the west north-west of the Project area.
							Establish controls to prevent dirt or mud from being tracked onto the trafficked road network and ensure that the road is kept free of soil deposits.					
	Onsite plant operation	Noise Nuisance	Minimise noise disturbance to the public	E	2	Extreme	Ensure that plant is not left idling when not in use.	C	2	Medium	176.A3 176.H1 Table 5	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the Hwy.
							Construction vehicles and equipment shall have appropriate measures fitted and be effectively maintained to minimise engine noise					
							Plant operating hours to be Monday to Friday between 7am or sunrise (whichever is later) and 6pm or sunset (whichever is earlier), and Saturdays between 7am or sunrise (whichever is later) and 1pm..					
		Air Pollution	Minimise fume emissions effects	C	2	Medium	Ensure plant is well maintained and that visible exhaust fumes are not emitted for longer than at 10 second intervals.	A	1	Low	176.A3 176.H1 Table 5	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the Hwy.
		Vibration	Minimise the effects of vibration on nearby properties	B	1	Low	Contractors utilise construction techniques and select appropriate plant to minimise vibration.	A	1	Low	176.A3	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the Hwy.
							Contractor ot implement vibration monitoring for the works.					
		Native vegetation / Flora / Fauna – disturbance/ damage	Preserve, protect, or minimise damage and disturbance to native vegetation / trees	D	3	Extreme	Clearly identify and fence off native vegetation / trees to be protected in accordance with the Construction Zone Limits of Works plans and legislative approvals, prior to commencement of any works. This is to prevent unauthorised plant / vehicle access or other works activities in areas of roadside outside of the Limits of Works / or in No Go Zones.	C	3	High	176.A3 176.I1 100.1 100.6 100.7 200.1 200.2 Table 5	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and sensitivities. Construction Zone Limits of Works Plans are detailed in Appendix 9
	Failure of hydraulic systems	Soil contamination and water pollution	Minimise the impacts of the incident/accident.	B	2	Low	Ensure plant is well maintained so that the likelihood of a hydraulic hose failure is minimised.	A	1	Low	176.A3 176.G1 Table 5	Several seasonal creeks and associated tributaries intersect the Project area, which flow into the Loddon River and which flows into cairn Curran Reservoir located to the west north-west of the Project area.
							Have spill kits available and ready for use at all times in proximity to plant operation					
	Plant Refuelling	Soil Contamination and/or water pollution	Avoid the spillage of fuel when refuelling	B	3	Medium	Refuel vehicles in approved areas remote from drainage system.	A	2	Low	176.A3 176.G1 100.6 Table 5	
							Have spill kits available within 10m of any refuelling location.					
	Maintenance & Repairs	Contamination of soil and water	Ensure no soil contamination	A	2	Low	Undertake maintenance in approved areas (e.g. hard standing & bunded area and away from sensitive land uses)	A	1	Low	176.A2 176.A3 176.E1 Table 5	
							Have spill kits available and ready for use at all times					
		Noise Nuisance	Minimise noise disturbance to the public	A	2	Low	Undertake maintenance in approved areas (e.g. away from residential properties or other sensitive receptors)	A	1	Low	176.A3 176.H1 Table 5	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the Hwy.
							Working hours to be: Monday to Friday between 7am or sunrise (whichever is later) and 6pm or sunset (whichever is earlier) and on Saturdays between 7am or sunrise (whichever is later) and 1pm					
		Waste	Minimise waste and maximise recycling	A	2	Low	Dispose of waste at appropriate recycling facilities.	A	1	Low	176.A3 176.E1 176.F1 Table 5	
Site Management												
	Establishment of compound	Native vegetation / Flora / Fauna – disturbance / damage	Preserve, protect, or minimise damage and disturbance to trees				Locate site in area away from trees and their associated TPZ					

				ABSOLUTE RISK				RESIDUAL RISK				
				Likelihood	Consequence	Assessed risk		Likelihood	Consequence	Assessed risk		
				D	3	Extreme	Clearly identify and fence off native vegetation / trees to be protected in accordance with the Construction Zone Limits of Works plans and legislative approvals, prior to commencement of any works / site establishment. This is to prevent unauthorised native vegeation removal, including any unauthorised site compound, plant / vehicle access or parking or other works activities in areas of roadside outside of the Limits of Works / or in No Go Zones.	C	3	High	176.A3 176.I1 100.1 200.2 Table 5	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site sensitivities. Construction Zone Limits of Works Plans are detailed in Appendix 9
		Historical /Archaeological site damage	Ensure no disturbance to known sites	B	3	Medium	Ensure that the location of the compound is assessed for heritage values before the compound is established. .	B	2	Low	176.A3 176.J1 100.10 Table 5	
							Ensure that procedures are in place for the management of Heritage should it be discovered.					
		Local amenity and noise nuisance	Minimise the effects on neighbouring properties from operations within the compound.	A	2	Low	Provide parking for vehicles and plant locations away from residential properties or other sensitive land uses where practicable.	A	1	Low	176.A3 176.H1 Table 5	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the Hwy.
	Litter/waste management	Air Pollution	Minimise odours to the public	B	2	Low	Ensure that odorous substances are stored in such a way so as to avoid objectionable odours	A	2	Low	176.A3 176.C1 Table 5	
		Local Amenity - visual	All litter to be managed and disposed of in an appropriate manner.	B	2	Low	Contractor to maintain a clean site policy	A	2	Low	176.A3 176.B1 176.F1 Table 5	
		Waste	Minimise waste and maximise recycling	B	2	Low	Recycle and re-use material wherever possible.	A	2	Low	176.A3 176.E1 176.F1 Table 5	
Clearing and Grubbing												
	Vegetation clearance	Impact on native vegetation / flora	Minimise the removal of native vegetation / trees	E	4	Extreme	Undertake a joint inspection to identify the extent of native vegetation / tree removal as legally authorised, prior to commencment of any works.	C	3	High	176.A3 176.I1 100.1 100.6 100.7 200.1 200.2 Table 5	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site sensitivities. Issues include Swift parrot and Brushtailed Phacogale habitat, high quality native vegetation and management of native fauna potentially utilising vegetation / habitat trees during vegetation / tree removal works. Site management must include compliance with the fauna management protocol. Construction Zone Limits of Works Plans are detailed in Appendix 9
							Native vegetation / tree removals must be kept to that as authorised (i.e. legally apprved) for the works to be undertaken.					
							Clearly identify and fence off native vegetation / trees to be protected by the Construction Zone Limits of Works (Appendix 9) i.e. no go zones, prior to the commencement of any clearing activities / tree removals.					
							Pruning of any vegetation to be retained shall be undertaken by a suitably qualified practicing arborist and in accordance with AS4373 - 2007 "Pruning of Amnenity trees"					
		Impact to fauna	Minimise the removal and impacts on habitat and avoid injury to fauna	E	4	Extreme	Ensure that vegetation removal is undertaken in accordance with the Fauna Management Plan. .	C	3	High	176.A3 176.I1 100.1 100.6 100.8 Table 5	
							In the event that fauna is discovered, ensure that operations are ceased and that the ecologist provides advice for the management of the fauna species as per the requirements of the Fauna Management Plan.					
		Spread of Noxious Weeds		C	3	High	Prevent spread of Calp Act listed noxious weeds. Site management of vehicle plant hygiene and topsoil management will be key to minimising weed seed spread.	C	2	Medium	176.A3 176.I2 100.6 100.7 Table 5	Small no of noxious weed species occur within the Project section with short to long term seed viability, including Chilean needle Grass & Cape Broom around Green Gully and isolated small patches of St Johns Works. Site management of vehicle / plant hygiene and topsoil management will be key to minimising weed seed spread.
							Noxious weeds to be managed in accordance with the CALP Act as	C	2	Medium		

				ABSOLUTE RISK				RESIDUAL RISK				
				Likelihood	Consequence	Assessed risk		Likelihood	Consequence	Assessed risk		
		Historical /Archaeological site damage	Ensure no disturbance to known sites	B	3	**Medium**	Ensure that works remain within the formation in proximity to heritage values identified within the road reservation.	B	2	**Low**	176.A3 176.J1 100.10	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site heritage sensitivities. Construction Zone Limits of Works Plans are detailed in Appendix 9
		Noise Nuisance	Minimise noise disturbance to the public	E	2	**Extreme**	Working hours to be: Monday to Friday between 7am or sunrise (whichever is later) and 6pm or sunset (whichever is earlier) and on Saturdays between 7am or sunrise (whichever is later) and 1pm	C	2	**Medium**	176.A3 176.H1 Table 5	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the Hwy.
		Waste	Maximise the reuse of vegetation that is to be removed.	E	2	**Extreme**	Mulch vegetation for re-use for landscaping where appropriate.	B	2	**Low**	176.A3 176.I1 100.1 100.6 200.2 200.3 Table 5	
Earthworks												
Earthworks	Land Disturbance	Air Pollution	Minimise dust from site.	D	3	**Extreme**	Minimise the areas of exposed surface.	B	2	**Low**	176.A3 176.C1 Table 5	
							Apply dust suppression techniques where there are exposed surfaces are trafficked.					
							Re-vegetate or stabilise disturbed areas as soon as practical.					
		Historical /Archaeological site damage	Preserve, protect, or minimise damage and disturbance to Aboriginal and historical heritage	B	3	**Medium**	Ensure that works remain within the formation in proximity to heritage values identified within the road reservation.	B	2	**Low**	176.A3 176.J1 100.10	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site sensitivities. Construction Zone Limits of Works Plans are detailed in Appendix 9
							Ensure that procedures are in place for the management of Heritage should it be discovered.					
							Avoid ground disturbance in areas of Aboriginal heritage sensitivity in proximity to creeks					
		Native vegetation / Flora / Fauna – disturbance / damage	Preserve, protect, or minimise damage and disturbance to native vegetation, flora and fauna. Minimise impacts to Swift Parrot habitat.	D	3	**Extreme**	Clearly identify and fence off native vegetation / trees to be protected in accordance with the Construction Zone Limits of Works plans and legislative approvals, prior to commencement of any works. This is to prevent unauthorised plant / vehicle access or other	C	3	**High**	176.A3 176.I1 100.1 100.6 100.7 100.8 200.1 200.2 Table 5	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site sensitivities. Issues include Swift parrot and Brushtailed Phacogale habitat, high quality native vegetation and management of native fauna potentially utilising vegetation / habitat trees during vegetation / tree removal works. Site management must include compliance with the fauna management protocol. Construction Zone Limits of Works Plans are detailed in Appendix 9
							Any tree roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root. Refer to AS4373 - "Pruning of Amendity Trees" for requirements.					
							Before any excavation occurs, the effect of such excavation on the health and structural stability of the tree should be evaluated by a qualified arborist.					
							In the event that fauna is discovered that may be impacted by the works activities, ensure that operations are ceased / and any fauna management actions are undertaken in accordance with any Fauna Management Protocol / Plan and that a qualified zoologist / ecologist provides advice for the management of the fauna species.					
		Water Pollution	Manage turbid water discharging into the local drainage system and ultimately the nearby a watercourse. This must also consider wetlands, dams and water catchment areas.	C	3	**High**	Install erosion and sediment control measures in accordance with EPA Best Practice Guidelines	C	2	**Medium**	176.A3 176.B1 176.D1 176.D2 100.6 100.7 Table 5	Several seasonal creeks and associated tributaries intersect the Project area, which flow into the Loddon River and which flows into cairn Curran Reservoir located to the west north-west of the Project area. This would include dams or and local drainage lines / road table drains that intersect the length of the project area.
							Minimise the area of exposed surface at any time during the works and stabilise or vegetate areas where disturbance has occurred as soon as practicable.					

				ABSOLUTE RISK				RESIDUAL RISK				
				Likelihood	Consequence	Assessed risk		Likelihood	Consequence	Assessed risk		
	Creation of Stockpiles	Air Pollution – dust	Minimise nuisance dust emissions resulting from stockpiles	C	3	High	Locate stockpiles away from residential properties or other sensitive receptors and treat within 28 days of commencing their establishment.	B	2	Low	176.A3 176.C1 200.6 Table 5	
		Native vegetation / Flora / Fauna – disturbance / damage	Avoid damage or disturbance to native vegetation, flora and fauna	C	3	High	Clearly mark and fence off the Limits of Works to protect areas of native vegetation / trees to be retained and adjoining areas of native vegetation. All adjoining areas of road reserve outside of works areas / Limits of Works are No-Go Zones. Identify where stockpiles are not be placed in consultation with RRV..	B	3	Medium	176.A3 176.I1 100.1 100.6 100.7 100.8 200.1 200.2 Table 5	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site sensitivities. Issues include Swift parrot and Brushtailed Phacogale habitat, high quality native vegetation and management of native fauna potentially utilising vegetation / habitat trees during vegetation / tree removal works. Site management must include compliance with the fauna management protocol. Construction Zone Limits of Works Plans are detailed in Appendix 9
		Local Amenity – visual	Minimise the effects of visual pollution	A	1	Low	Locate stockpiles away from site boundaries that are adjacent to residential properties.	A	1	Low	176.A3 176.C1 200.6 Table 5	Impacts likley to be minor and of temporary duration.
		Spread of Noxious Weeds		B	3	Medium	Do not mix soils that containing weed and weed seed into stockpiles that are free of weed seed.	B	2	Low	176.A3 176.I2 100.6 100.7 Table 5	Small no of noxious weed species occur within the Project section with short to long term seed viability, including Chilean needle Grass & Cape Broom around Green Gully and isolated small patches of St Johns Works. Site management of vehicle plant hygiene and topsoil management as outlined will be key to minimising weed seed spread.
							Noxious weeds to be managed in accordance with the CALP Act as	B	2	Low		
		Historical /Archaeological site damage	Ensure no disturbance to known sites or in areas of Aboriginal heritage sensitivity	B	3	Medium	Ensure that stockpiles are not placed in area of sensitivity or on proximity to heritage values identified within the road reservation.	B	2	Low	176.A3 176.J1 100.10	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site heritage sensitivities. Construction Zone Limits of Works Plans are detailed in Appendix 9
		Water Pollution - sediment runoff	Prevent turbid water from entering a watercourse or any drainage system.	C	3	High	Install erosion and sediment control measures in accordance with EPA Best Practice Guidelines	B	2	Low	176.A3 176.D1 176.D2 200.6 Table 5	Several seasonal creeks and associated tributaries intersect the Project area, which flow into the Loddon River and which flows into cairn Curran Reservoir located to the west north-west of the Project area. This would include dams or and local drainage lines / road table drains that intersect the length of the project area.
							Stockpiles to be treated within 28 days of commencing their establishment .					
							Ensure that stockpiles are not placed within 10m of a drainage line, road table drain or a watercourse.					
	Uncovering or importing of contaminated materials	Contamination of other portions of the site, groundwater or watercourse	Prevent the contamination of areas beyond that discovered.	A	3	Low	Ensure that the contractor has a procedure to manage the discovery, treatment and/or removal of contaminated material that is consistent with the relevant EPA guidelines.	A	2	Low	176.A3 176.E1 176.F1 Table 5	Several seasonal creeks and associated tributaries intersect the Project area, which flow into the Loddon River and which flows into cairn Curran Reservoir located to the west north-west of the Project area. This would include dams or and local drainage lines / road table drains that intersect the length of the project area.
							Contact EPA prior to the use of the contaminated material and establish appropriate safeguards and monitoring to be implemented					
Site Rehabilitation												
	Topsoiling	Air pollution	Minimise dust	C	3	High	Ensure that a process in place to avoid/minimise dust impacts on residential properties and road users.	C	2	Medium	176.A3 176.C1 200.6 Table 5	Sections of Pyrenees Hwy from Cemetary Rd west to Newstead are adjoined by low density rural living, with Houses located between 20m to 100m setbacks from the Hwy.
		Water Pollution	Minimise erosion and appropriately manage turbid run-off to ensure the suitable protection of water quality	C	3	High	Install erosion and sediment control measures in accordance with EPA Best Practice Guidelines	C	2	Medium	176.A3 176.D1 176.D2 200.6 Table 5	Several seasonal creeks and associated tributaries intersect the Project area, which flow into the Loddon River and which flows into cairn Curran Reservoir located to the west north-west of the Project area.
		Spreading of Noxious Weeds	Eliminate or minimise the spread of noxious weeds	C	3	High	Site to be cleared of noxious weeds prior to commencing landscaping. This risk will be further minimised in the rehabilitation of affected areas, as required, in that topsoil and organic mulch from within each construction zone section of works will be retained and reused to rehabilitate each works zone affected area. This will ensure that existing topsoil seed bank is used in site rehabilitation. Topsoil from each construction zone area will not be spread or shared between works zones.	C	2	Medium	176.A3 176.I2 100.6 100.7 Table 5	Small no of noxious weed species occur within the Project section with short to long term seed viability, including Chilean needle Grass & Cape Broom around Green Gully and isolated small patches of St Johns Works. Sit management of vehicle plant hygiene and Topsoil management as outlined will be key to minimising weed seed spread.

				ABSOLUTE RISK				RESIDUAL RISK				
				Likelihood	Consequence	Assessed risk		Likelihood	Consequence	Assessed risk		
	Revegetation / Site Rehabilitation i.e. reseeding	Native vegetation / Flora disturbance / damage	Preserve, protect, trees / native vegetation from impacts associated with topsoil placement.	D	3	**Extreme**	Clearly identify and fence off native vegetation / trees to be protected in accordance with the Construction Zone Limits of Works plans and legislative approvals. The Limits of Works must be maintained during all activities / works until project completion This is to prevent unauthorised plant / vehicle access or other works activities in areas of roadside outside of the Limits of Works / or in No Go Zones.	C	3	**High**	176.A3 176.I1 100.1 100.6 100.7 100.8 200.1 200.2 APPENDIX E Table 5	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site sensitivities. Issues include Swift parrot and Brushtailed Phacogale habitat, high quality native vegetation. Construction Zone Limits of Works Plans are detailed in Appendix 9
Road Furniture												
	Signs	Native vegetation / Flora disturbance/ damage	Preserve, protect, or minimise damage and disturbance to trees.	B	2	**Low**	Avoid where possible the placement of signs within Tree Protection Zones / Outside the defined Cosntrction Zone - Limits of Works (Appendix 9).	A	1	**Low**	176.A3 176.I1 100.1 100.6 100.7 100.8 200.1 200.2 APPENDIX E Table 5	Refer to Section 3, 4 and Appendix 4 of the PEPS for further details or risks and site sensitivities. Issues include Swift parrot and Brushtailed Phacogale habitat, high quality native vegetation. Construction Zone Limits of Works Plans are detailed in Appendix 9
		Historical /Archaeological site damage	No unnecessary disturbance to trees within the Heritage Overlay (HO123)	N/A		**#N/A**	Ensure that works remain within the formation in proximity to heritage values identified within the road reservation.	N/A		#N/A		
STORAGE, TRANSPORT & DISPOSAL OF GOODS												
Supply, transport and storage												
Fuels and chemical use	Fuel/chemical storage	Contamination	Ensure no soil contamination	B	3	**Medium**	Fuel and chemicals to be stored in accordance with the EPA Bunding Guidelines.	B	2	**Low**	176.A3 176.G1 100.6 100.7 Table 5	
							Have spill kits available and ready for use at all times					
		Water Pollution	Prevent fuels of chemicals from entering the local drainage system for where it can discharge into the nearby table drains, watercourses, wetlands, dams etc.	B	3	**Medium**	Ensure all materials stored in bunded areas on hard standing.	B	2	**Low**	176.A3 176.G1 100.6 100.7 TABLE 5	Seasonal creeks and associated tributaries intersect the Project area, which flow into the Loddon River and which flows into cairn Curran Reservoir located to the west north-west of the Project area. This would include dams or and local drainage lines / road table drains that intersect the length of the project area.
							Have spill kits available and ready for use in close proximity to fuel and chemical storage areas.					
							Locate fuel and chemical storage at least 10m away from drainage systems					
Disposal												
Waste material	Disposal of surplus material	Natural Resource Depletion	Maximise the reuse of materials	D	2	**High**	Identify opportunities for re-use of surplus material on-site and/or off-site	B	2	**Low**	176.A3 100.6 100.7 176.F1	
							Mulch vegetation for re-use in landscaping where appropriate.					
		Contamination	Ensure no land contamination	C	2	**Medium**	All prescribed waste to be transported by certified contractors with necessary permits in accordance with relevant EPA guidelines	A	2	**Low**	176.A3 100.6 100.7 176.F1	

		Less than once in 12 months OR 5% chance of recurrence during course of the	About once in 6 months OR 10% chance of recurrence during course of the	About once in 4 months OR 30% chance of recurrence during course of the	About once in 2 months OR 50% chance of recurrence during course of the contract	About once in a month OR 100% chance of recurrence during course of the contract
		Negligible likelihood	Likelihood low but not negligible	Likelihood less than 50/50	As likely as not to happen (50/50)	More than likely to happen
Risk Categories		Rare	Unlikely	Possible	Likely	Almost Certain
		A	B	C	D	E
Catastrophic	5	High	High	Extreme	Extreme	Extreme
Major	4	Medium	High	High	Extreme	Extreme
Moderate	3	Low	Medium	High	Extreme	Extreme
Minor	2	Low	Low	Medium	High	Extreme
Insignificant	1	Low	Low	Medium	High	High

CATASTROPHIC	MAJOR	MODERATE	MINOR	INSIGNIFICANT
Serious long term environmental impairment of ecosystem functions or long term threat to community health. High level of public outrage. Permanent relationship damage Litigation anticipated	Major onsite or moderate offsite impact extending over large area or impact that will adversely impact beneficial use long term. Major impact on local community or significant involvement of statutory agencies. Permanent damage to cultural heritage sites. Short term threat to community health. Adverse publicity which may impact on reputation Litigation possible	Impact extends beyond road reserve. Requires investigation that requires resources to be redirected to complete. Minor impact on local community or minor involvement of statutory agencies. Impact on flora and fauna is recoverable i.e. flora damaged but not destroyed. No FFG or EPBC Act listed species impacted. Potential for litigation	Minor impact confined to within road reserve. No threat to any beneficial use including fauna or flora. Technical breach of legislation or agreements but limited potential for litigation or abatement notice. Can be managed through routine activities	Incident or non-compliance that does not impact on operations No breach of legislation

APPENDIX 9: Plans to define Construction Limits of Works

vic roads

PYRENEES HIGHWAY - SECTION 2

10.90 to 15.00km

ROAD SAFETY TREATMENTS

13/10/2016

- Limits of Works (LOW) – Marked on Plans

NOTE 1: Limits of Works (LOW) = Is the distance in meters (m) from the edge of existing traffic lane (EOTL) at the designated road chainage (Ch). At each road (Ch) point, as marked, it denotes a change in the LOW as measured in meters from the EOTL.

NOTE 2: LOW – All areas of roadside / road reserve outside the marked LOW are NO GO ZONES until works completion. This includes un-marked areas where no works are indicated to occur on these plans. Areas excluded includes existing operational road stacksites, driveways and local side roads.

NOTE 3: NO GO ZONES are established directly adjacent to each worksite as marked on the Plans. All other areas of roadside / road reserve not within or adjoining worksites will remain undisturbed in accordance with NOTE 2.

Computer File: 2742amf0.dgn

Catalogue: Bendigo_Region

Project: Pyrenees

DRAWING No.761355

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VEGETATION CONTROLS

NO CONSTRUCTION ACTIVITY OR DISTURBANCE TO EXISTING VEGETATION BEYOND DESIGN TOE/TOP OF BATTER UNLESS SPECIFICALLY DIRECTED BY THE SUPERINTENDING OFFICER.

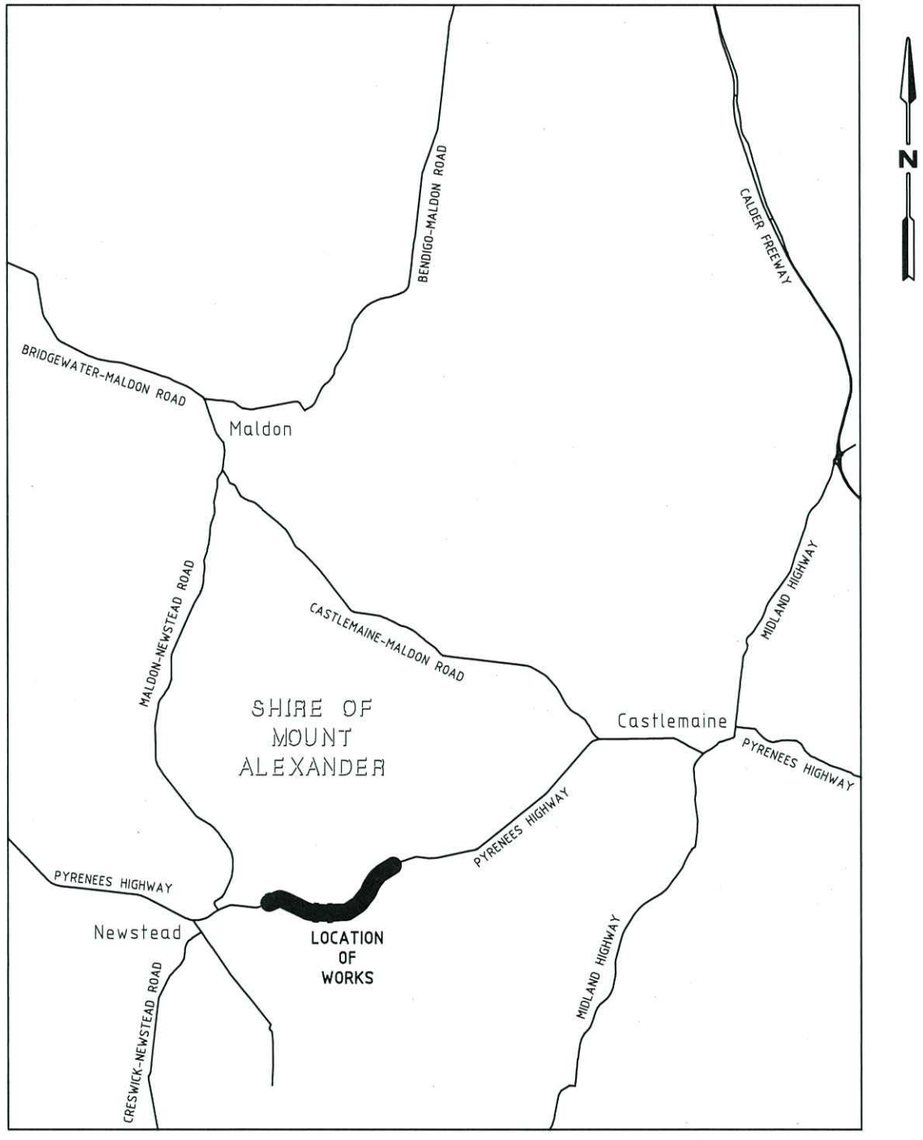
TREES LESS THAN 100mm DIAMETER AND LOCATED WITHIN 2.0m FROM FACE OF NEW SAFETY BARRIERS TO BE REMOVED

SIGNS, LINEMARKING & PAVEMENT DETAILS

a) PAVEMENT DETAILS FOR SHOULDER AND BELLMOUTH SEALING WORKS:
- SIZE 10 PRIMERSEAL
- 2 x 100mm LAYERS OF COMPACTED 20mm CLASS 1 CRUSHED ROCK.
- 1 x 75mm LAYER OF COMPACTED 20mm CLASS 3 CRUSHED ROCK

b) LINEMARK INTERSECTIONS AS PER VICROADS T.E.M, VOLUME 2, FIGURE 17.1

c) RELOCATE ALL SIGNS AS REQUIRED AND DIRECTED BY SUPERINTENDENT



LOCALITY PLAN
(NOT TO SCALE)

ISSUE	APP'D	DATE	AMENDMENT
E			
D			
C			
B			
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GENERAL NOTES

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amf1.dgn

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PYRENEES HIGHWAY - SECTION 2

ROAD SAFETY TREATMENTS
10.90 to 15.00km

TABLE OF CONTENTS, LOCALITY PLAN, & GENERAL NOTES

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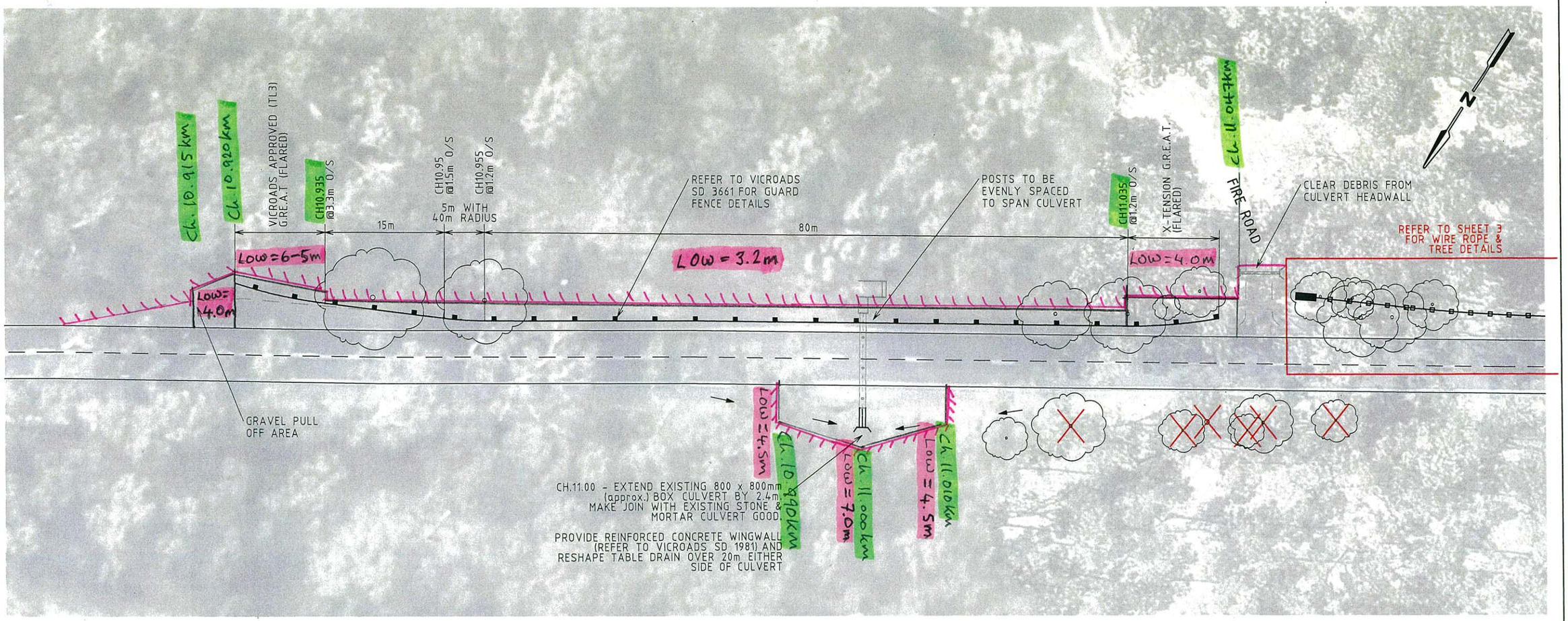

TREE REMOVAL SCHEDULE:

RHS:

- CH11.028: 4.5m O/S, 400mm DIA
- CH11.042: 5.0m O/S, 1 x 250 & 1 x 100mm DIA
- CH11.045: 3.7m O/S, STUMP
- CH11.050: 4.9m O/S, 200mm DIA
- CH11.052: 3.8m O/S, 350mm DIA
- CH11.061: 3.5m O/S, 1 x 250mm

WARNING

BEWARE OF UNDERGROUND SERVICES

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ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 11km POST.
2. ALL GUARD FENCE OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE TO FACE OR RAILING.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILING.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
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DESIGNED
A.Stanford (Total Property Developments)
May 2015

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PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
GUARD FENCE & OTHER WORKS
CH10.935 - 11.035

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
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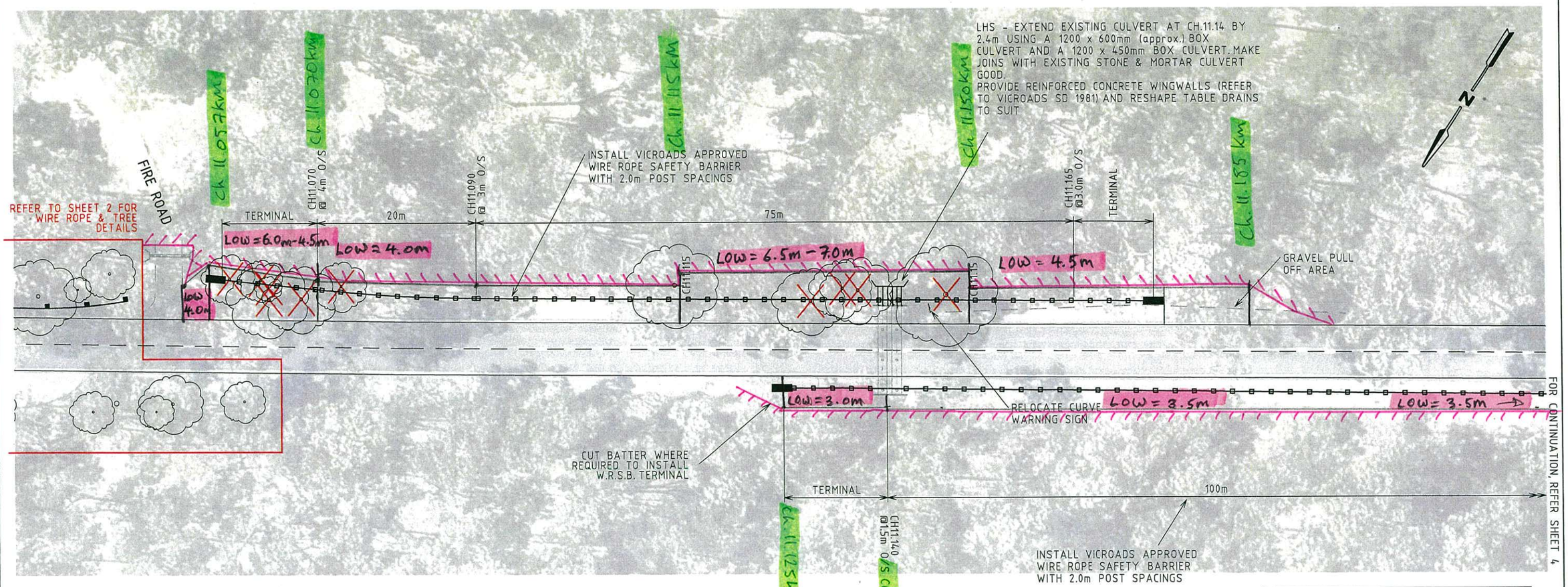

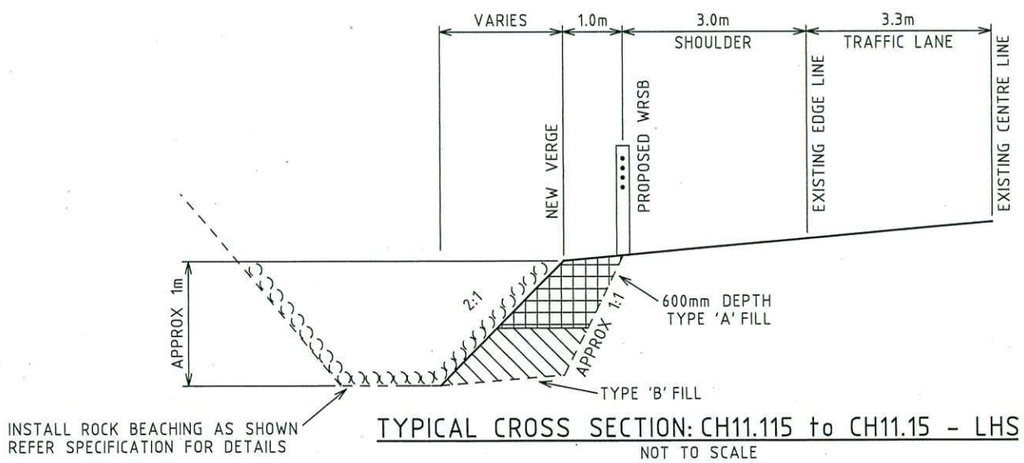

TYPICAL CROSS SECTION: CH11.115 to CH11.15 - LHS

NOT TO SCALE

TREE REMOVAL SCHEDULE:
LHS:
- CH11.059: 5.0mO/S, 3 x 300mm DIA
- CH11.063: 4.9m O/S, 250mm DIA (DEAD)
- CH11.064: 2.4m O/S, 450mm DIA & 3.9m O/S, 150mm DIA
- CH11.068: 2.5m O/S, 400mm DIA
- CH11.073: 4.2m O/S, 300mm DIA
- CH11.132: 2.6m O/S, 400mm DIA
- CH11.136: 4.2m O/S, 350mm DIA (DEAD)
- CH11.138: 4.0m O/S, FALLEN TREE
- CH11.149: 3.4m O/S, 600mm DIA

WARNING

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ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 11km POST.
2. ALL WIRE ROPE OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE.
3. ALL WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 2.0m BEHIND PROPOSED WIRE ROPE SAFETY BARRIER.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED A.Stanford (Total Property Developments) May 2015

APPROVED

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PROJ: Pyrenees
FILE: 2742amr2.dgn

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SCALE OF METRES
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PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
WIRE ROPE SAFETY BARRIER & OTHER WORKS
CH11.065 - 11.165

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
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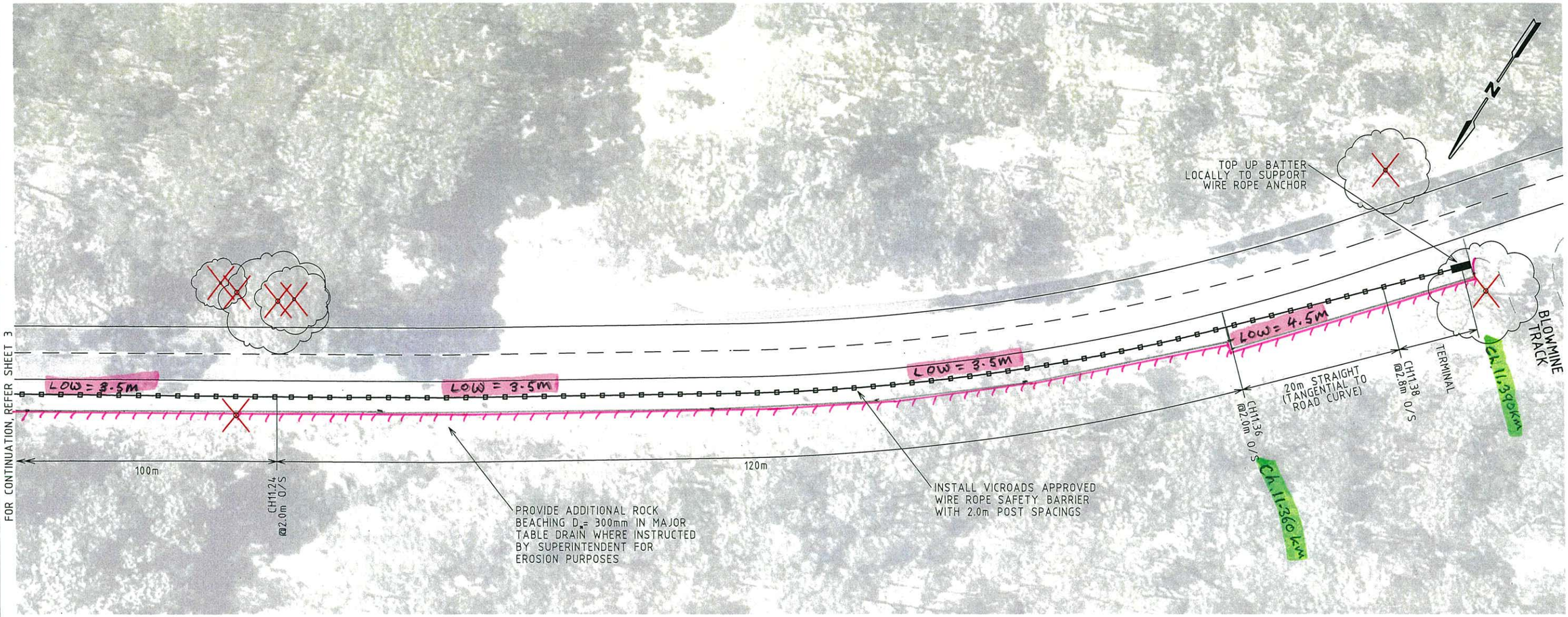

TREE REMOVAL SCHEDULE:

LHS:
- CH11.233: 5.3m O/S, 300mm DIA
- CH11.235: 4.0m O/S, STUMP
- CH11.240: 2.9m O/S, 700mm DIA
- CH11.242: 3.3m O/S, 400mm DIA
- CH11.385: 4.0m O/S, 500mm DIA

RHS:
- CH11.235: 4.0m O/S, STUMP
- CH11.392: 7.0m O/S, 800mm DIA

WARNING

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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 11km POST.
2. ALL WIRE ROPE OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE.
3. ALL WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 2.0m BEHIND PROPOSED WIRE ROPE SAFETY BARRIER.

X DENOTES TREE FOR REMOVAL

Total Property Developments
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DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

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PROJ: Pyrenees
FILE: 2742amr3.dgn

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SCALE OF METRES
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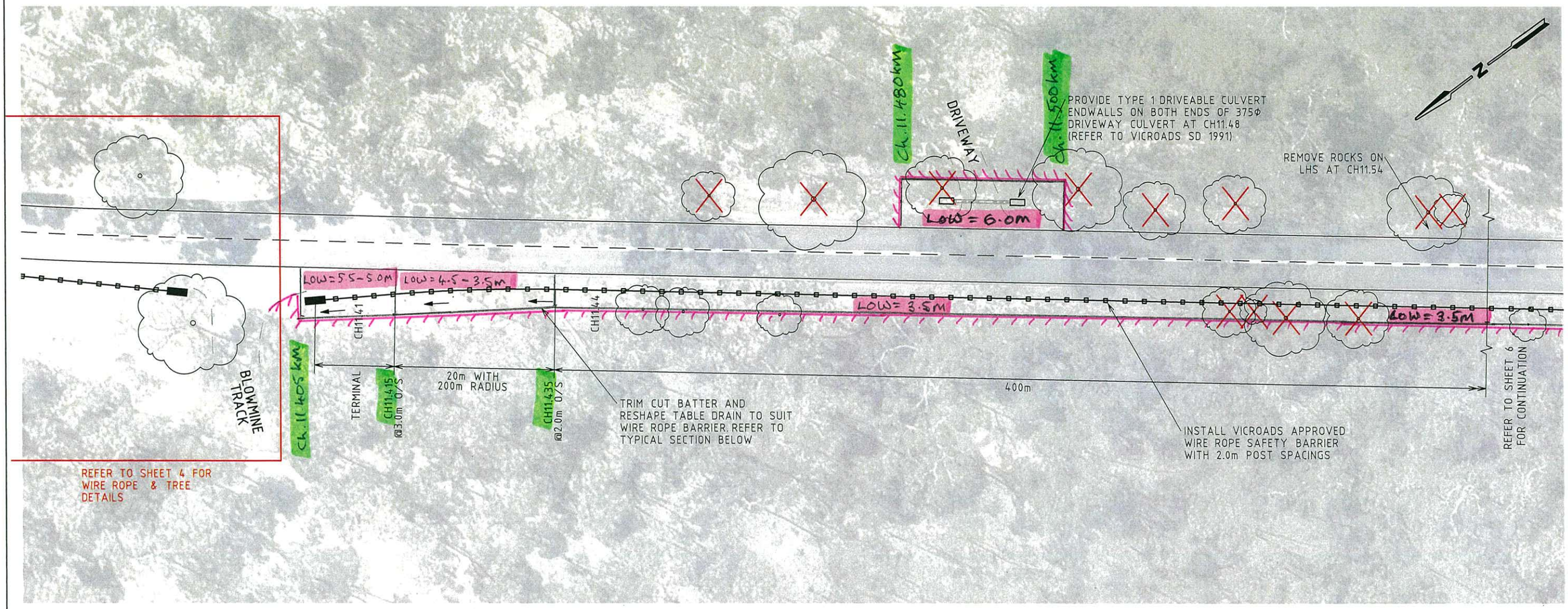
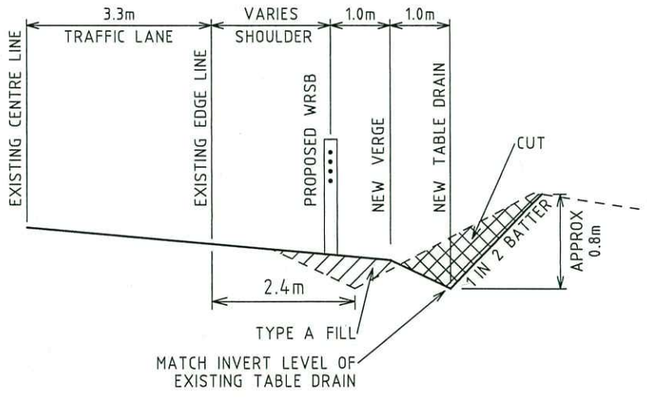
PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
WIRE ROPE SAFETY BARRIER & TREE REMOVAL
CH11.22 - 11.38

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		4 OF 19	761359	





TYPICAL CROSS SECTION: CH11.41 to CH11.44 - RHS

NOT TO SCALE

TREE REMOVAL SCHEDULE:

LHS:
- CH11.454: 3.3m O/S, 300mm DIA
- CH11.467: 3.0m O/S, 600mm DIA
- CH11.485: 4.8m O/S, 400mm DIA
- CH.11.498: 4.8m O/S, 600mm DIA
- CH11.504: 2.6m O/S, 350mm DIA
- CH11.514: 3.6m O/S, 350mm DIA
- CH11.538: 3.0m O/S, 450mm DIA
- CH11.541: 3.4m O/S, 200mm DIA

RHS:
- CH11.513: 2.9m O/S, 2 x 300 & 2 x 150mm DIA
- CH11.516: 2.9m O/S, 150mm DIA
- CH11.520: 3.5m O/S, 450mm DIA
- CH11.529: 3.4m O/S, 350mm DIA

WARNING

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GENERAL NOTES
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2. ALL WIRE ROPE OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE.
3. ALL WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 2.0m BEHIND PROPOSED WIRE ROPE SAFETY BARRIER.

X DENOTES TREE FOR REMOVAL

Total Property Developments
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FAX (02) 8282 4755

DESIGNED: A.Stanford (Total Property Developments) May 2015
APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr4.dgn

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PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km

WIRE ROPE, GUARD FENCE & OTHER WORKS
CH11.415 - 11.86 (SHEET 1 OF 3)

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		5 OF 19	761360	

TREE REMOVAL SCHEDULE:

LHS:

- CH.11.636: 3.3m O/S, 400mm DIA
- CH.11.669: 3.5m O/S, 300mm DIA
- CH.11.672: 4.2m O/S, 150mm DIA (DEAD)
- CH.11.686: 3.9m O/S, 500mm DIA
- CH.11.692: 5m O/S, 350mm DIA
- CH.11.698: 5m O/S, 300mm & 350 DIA
- CH.11.701: 5.7m O/S, 300mm DIA
- CH.11.703: 4m O/S, 400mm DIA
- CH.11.710: 5m O/S, 200mm DIA

RHS:

- CH11.550: 3.8m O/S, 200mm DIA
- CH11.571: 3.6m O/S, 1 x 300 & 1 x 250mm DIA
- CH11.632: 3.3m O/S, 200mm DIA
- CH11.680: 3.5m O/S, 400mm DIA
- CH11.709: 3.5m O/S, 250mm DIA
- CH11.711: 3.4m O/S, 300mm DIA

WARNING

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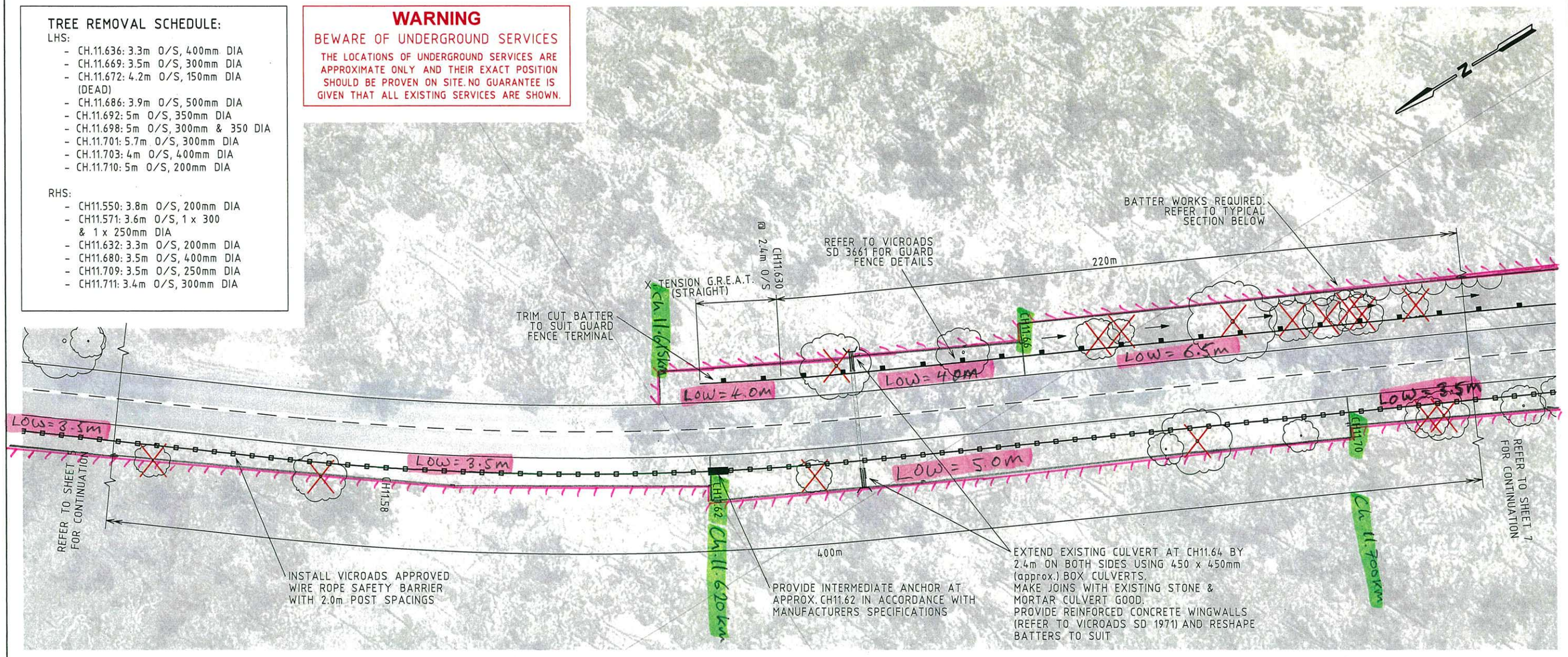
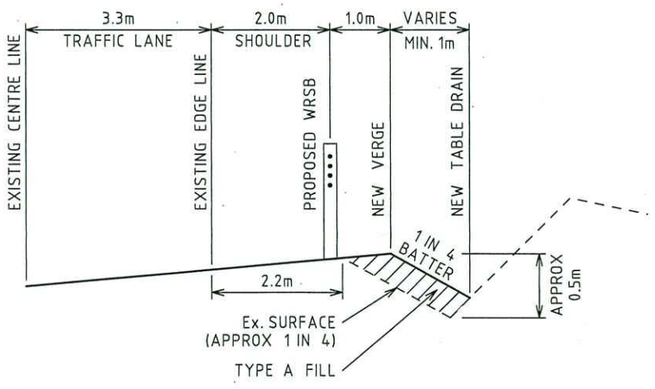
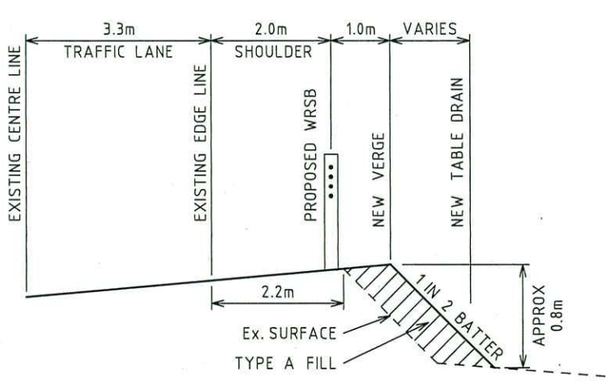




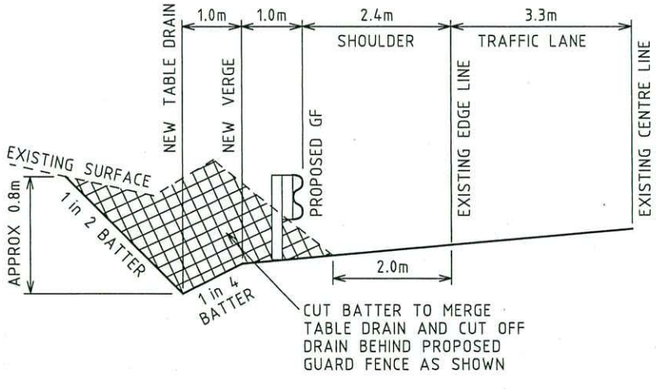
TYPICAL CROSS SECTION: CH11.58 to CH11.62 - RHS

NOT TO SCALE



TYPICAL CROSS SECTION: CH11.62 to CH11.70 - RHS

NOT TO SCALE



TYPICAL CROSS SECTION: CH11.66 to CH11.75 - LHS

NOT TO SCALE

ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES

1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 11km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m AND WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS AND 2.0m BEHIND WIRE ROPE BARRIERS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED: A.Stanford (Total Property Developments) May 2015

APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr5.dgn

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SCALE OF METRES
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PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km

WIRE ROPE, GUARD FENCE & OTHER WORKS
CH11.415 - 11.86 (SHEET 2 OF 3)

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
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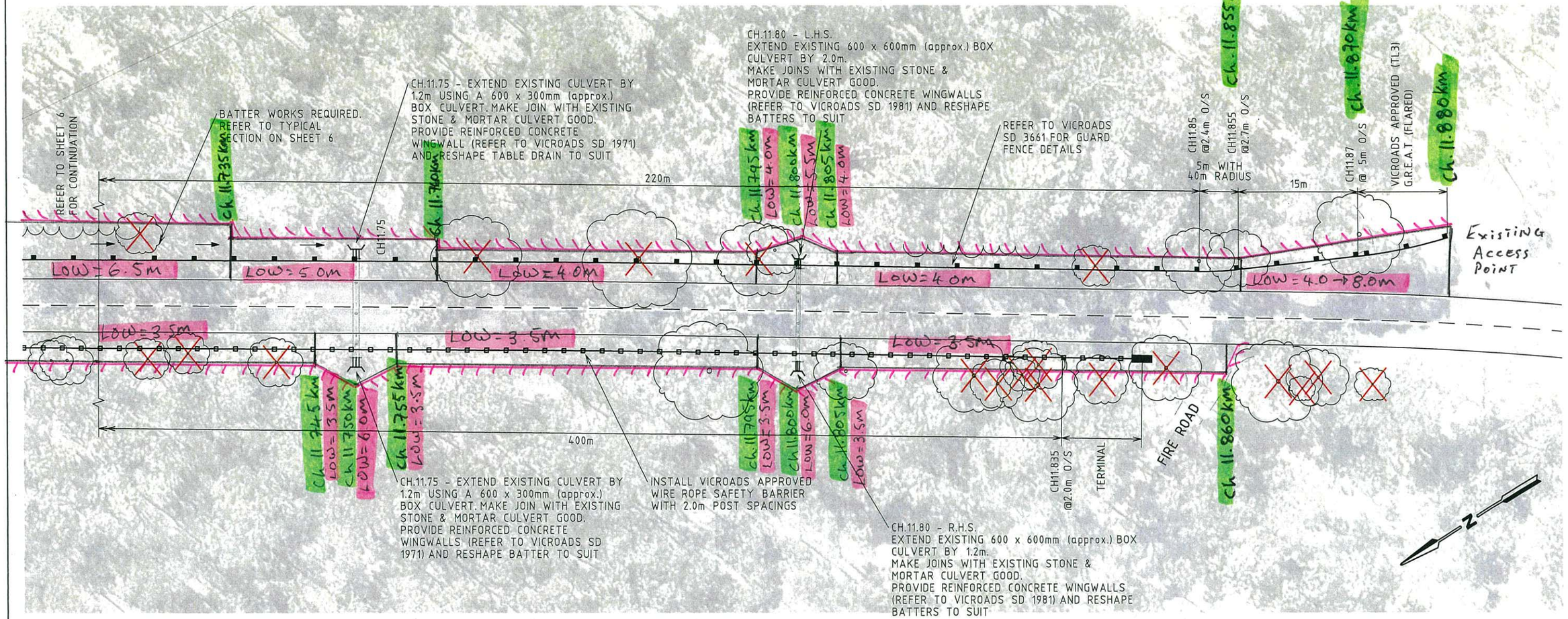

TREE REMOVAL SCHEDULE:

LHS:
- CH.11.722: 5m O/S, 300mm DIA
- CH.11.762: 2.8m O/S, 500mm DIA
- CH.11.782: 2.6m O/S, 600mm DIA
- CH.11.797: 2.8m O/S, 400mm DIA
- CH.11.837: 2.8m O/S, 250mm DIA

RHS:
- CH.11.721: 3.2m O/S, 250mm DIA
- CH.11.726: 2.5m O/S, 250mm DIA
- CH.11.737: 3.5m O/S, 300mm DIA
- CH.11.824: 4.2m O/S, 450mm DIA
- CH.11.827: 5.2m O/S, 300mm DIA
- CH.11.830: 4.1m O/S, 200mm DIA
- CH.11.832: 2.8m O/S, 300mm DIA & 5.2m O/S, 450mm DIA
- CH.11.840: 4.5m O/S, 300mm DIA
- CH.11.848: 2.9m O/S, 400mm DIA
- CH.11.862: 4.3m O/S, 500mm DIA
- CH.11.865: 5.3m O/S, 150mm DIA
- CH.11.867: 3.8m O/S, 350mm DIA
- CH.11.874: 4.6m O/S, 200mm DIA

WARNING

BEWARE OF UNDERGROUND SERVICES

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3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m AND WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS AND 2.0m BEHIND WIRE ROPE BARRIERS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED: A.Stanford (Total Property Developments) May 2015
APPROVED

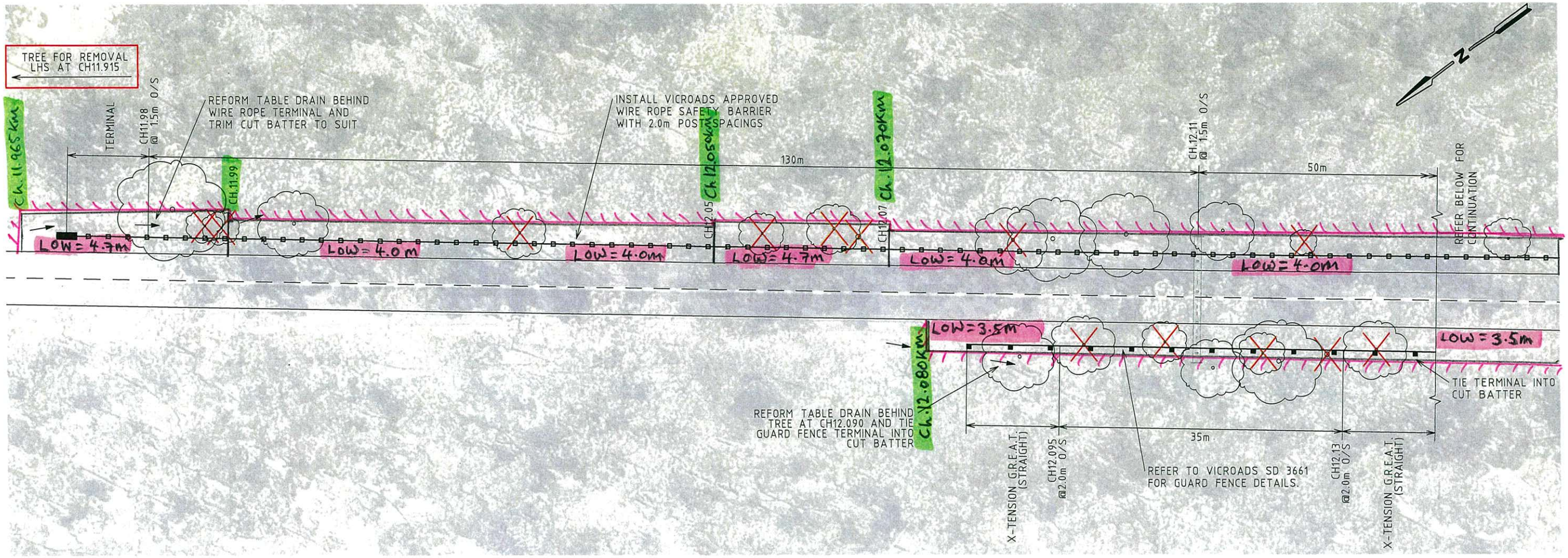
CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr6.dgn

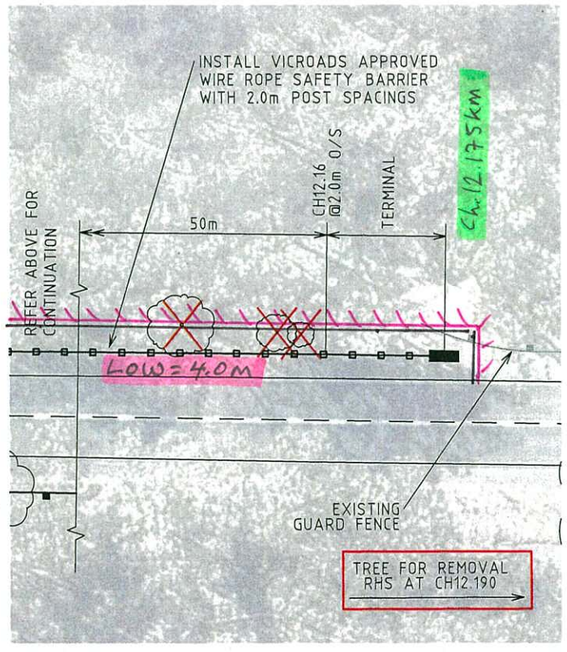
vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
WIRE ROPE, GUARD FENCE & OTHER WORKS
CH11.415 - 11.86 (SHEET 3 OF 3)

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		7 OF 19	761362	

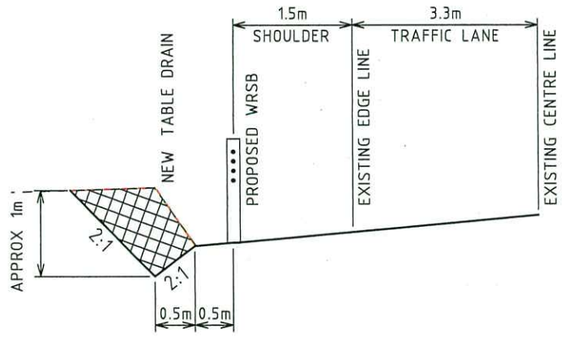




TYPICAL CROSS SECTION: CH.11.965 to CH.11.990 - LHS

TYPICAL CROSS SECTION: CH12.05 to CH12.07 - LHS

NOT TO SCALE



TREE REMOVAL SCHEDULE

LHS:

- CH11.915: 4.7m O/S, 300mm DIA
- CH11.987: 3.4m O/S, 200mm DIA
- CH11.989: 3.2m O/S, 200mm DIA
- CH12.026: 3.2m O/S, 300mm DIA
- CH12.056: 3.6m O/S, 250mm DIA
- CH12.065: 4.3m O/S, 2 x 300mm DIA
- CH12.068: 3.2m O/S, 2 x STUMPS
- CH12.087: 3.2m O/S, 400mm DIA
- CH12.123: 3.6m O/S, 150mm DIA
- CH12.148: 4.2m O/S, REMOVE 1 x 250mm, KEEP 1 x 350mm DIA
- CH12.156: 3.7m O/S, 150mm DIA
- CH12.158: 3.6m O/S, 100mm DIA

RHS:

- CH12.098: 2.6m O/S, 350mm DIA
- CH12.108: 2.2m O/S, 250mm DIA
- CH12.120: 3.4m O/S, 250mm DIA
- CH12.128: STUMP
- CH12.134: 2.6m O/S, 350mm DIA
- CH12.190: 3.5m O/S, 2 x 300mm DIA

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

ISSUE	APP'D	DATE	AMENDMENT
E			
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GENERAL NOTES

1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 12km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m AND WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS AND 2.0m BEHIND WIRE ROPE BARRIERS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

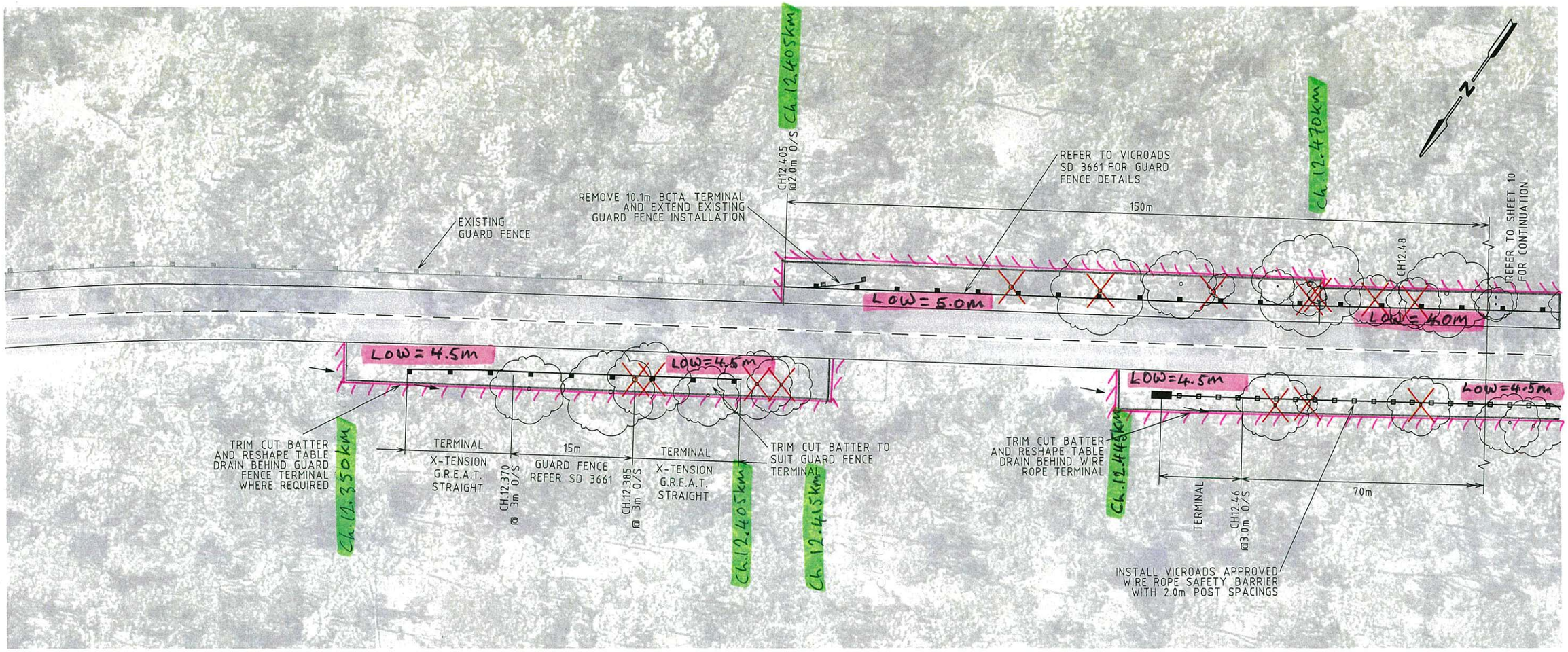
CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr7.dgn

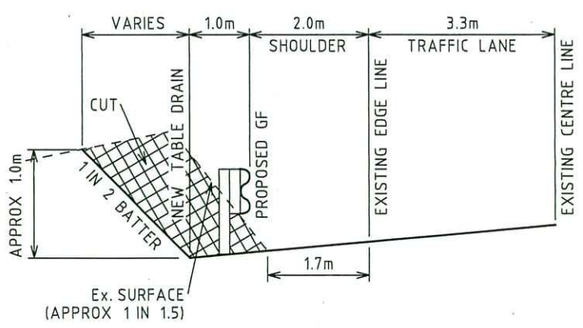
vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
WIRE ROPE, GUARD FENCE & OTHER WORKS
CH11.98 - 12.16

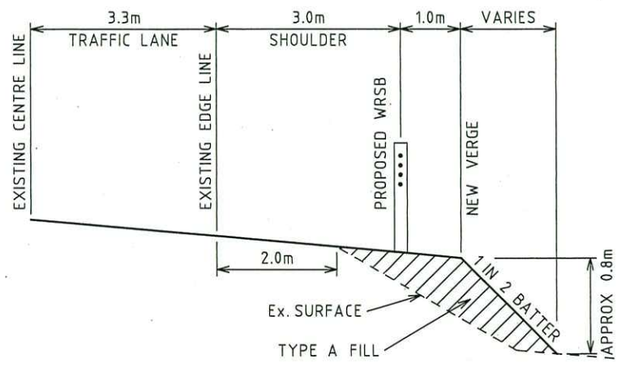
FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		8 OF 19	761363	





TYPICAL CROSS SECTION: CH12.405 to CH12.48 - LHS

NOT TO SCALE



TYPICAL CROSS SECTION: CH12.46 to CH12.55 - RHS

NOT TO SCALE

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

TREE REMOVAL SCHEDULE:

LHS:

- CH12.431: 2.7m O/S, STUMP
- CH12.442: 2.7m O/S, 1 x 500mm, 1 x 300mm & 1 x 200mm DIA
- CH12.456: 3.0m O/S, STUMP
- CH12.468: REMOVE 2.8m O/S, 200mm & KEEP 4.4m O/S, 600mm DIA
- CH12.469: 3.3m O/S, 100mm DIA
- CH12.476: 2.8m O/S, 300mm DIA
- CH12.481: 2.6m O/S, 1 x 300mm & 1 x 100mm DIA

RHS:

- CH12.385: 3.2m O/S, STUMP
- CH12.387: 3.2m O/S, 450mm DIA
- CH12.400: 3.3m O/S, 400mm DIA
- CH12.403: 3.3m O/S, 500mm DIA
- CH12.464: 3.6m O/S, 400mm, & 1 x 300mm
- CH12.468: 3.4m O/S, 120mm DIA
- CH12.482: 3.1m O/S, 1 x 350mm & 1 x 120mm DIA

ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES

1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 12km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m AND WIRE ROPE POST SPACINGS ARE TO BE 2.5m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS AND 2.0m BEHIND WIRE ROPE BARRIERS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr8.dgn

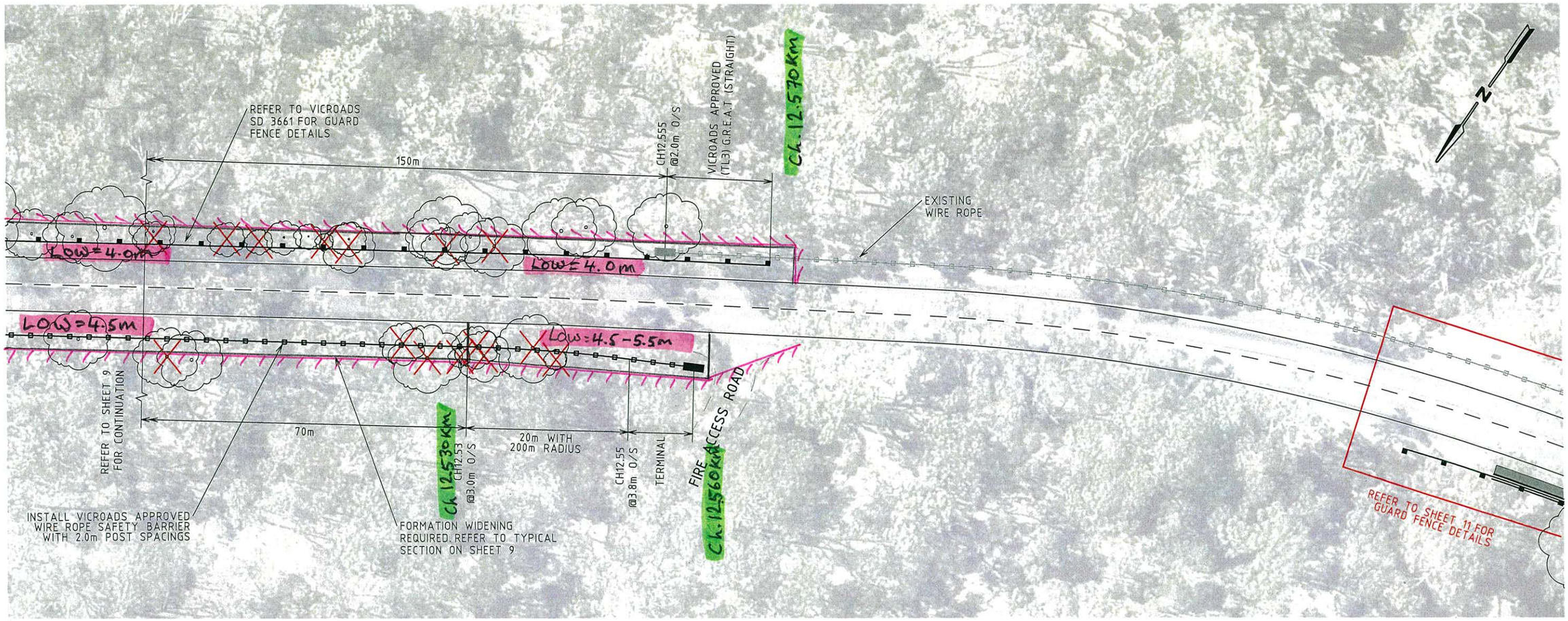
vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km

WIRE ROPE, GUARD FENCE & TREE REMOVAL
CH12.36 - 12.555 (SHEET 1 OF 2)

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		9 OF 19	761364	



WARNING

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TREE REMOVAL SCHEDULE:

LHS:

- CH12.491: REMOVE 2.7m O/S, 200mm, 3.5m O/S, 250mm DIA
- CH12.500: 2.8m O/S, 200mm DIA (DEAD)
- CH12.504: 2.6m O/S, 150mm DIA
- CH12.512: 2.9m O/S, 100mm DIA
- CH12.515: REMOVE 2.2m O/S, 300mm, DIA
- CH12.527: REMOVE 2.4m O/S, 250mm, DIA
- CH12.533: 2.7m O/S, 350mm DIA

RHS:

- CH12.494: 4.3m O/S, 300mm DIA
- CH12.522: 2.7m O/S, 250mm DIA
- CH12.525: 4.3m O/S, 2 x 400mm DIA
- CH12.529: 4.2m O/S, 120mm DIA
- CH12.531: 2.9m O/S, 250mm DIA
- CH12.532: 3.9m O/S, 300mm DIA
- CH12.538: 2.7m O/S, 400mm DIA
- CH12.541: 4.2m O/S, 120mm DIA

ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 12km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE.
3. ALL WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 2.0m BEHIND PROPOSED WIRE ROPE BARRIERS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr9.dgn

vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km

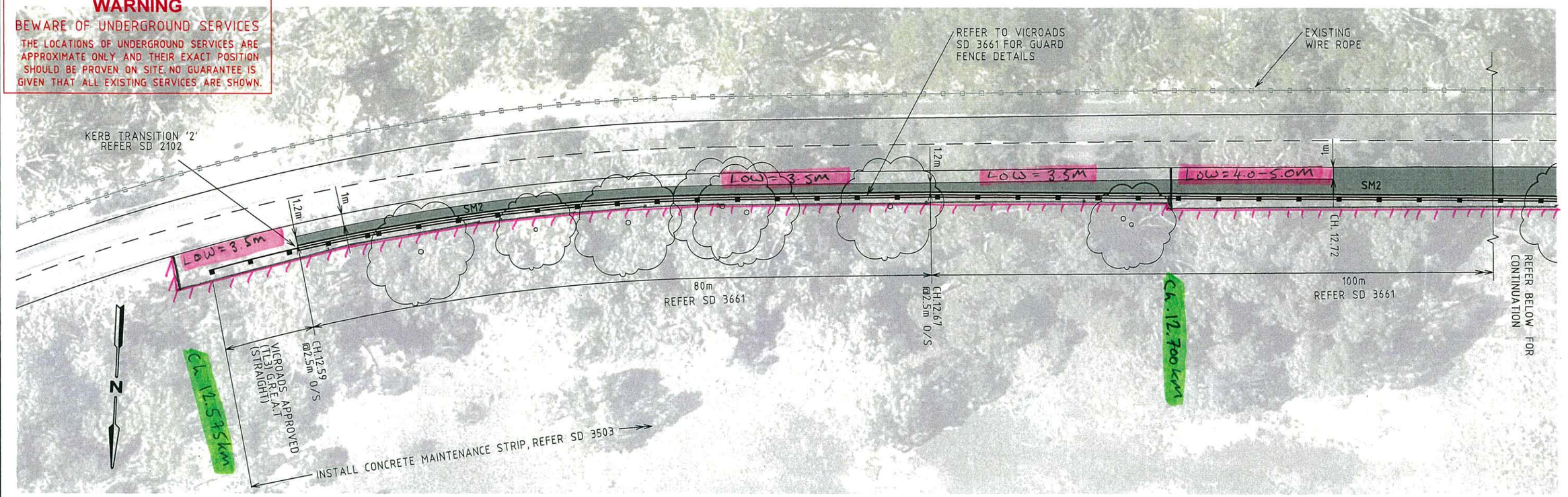
WIRE ROPE GUARD FENCE & TREE REMOVAL
CH12.36 - 12.555 (SHEET 2 OF 2)

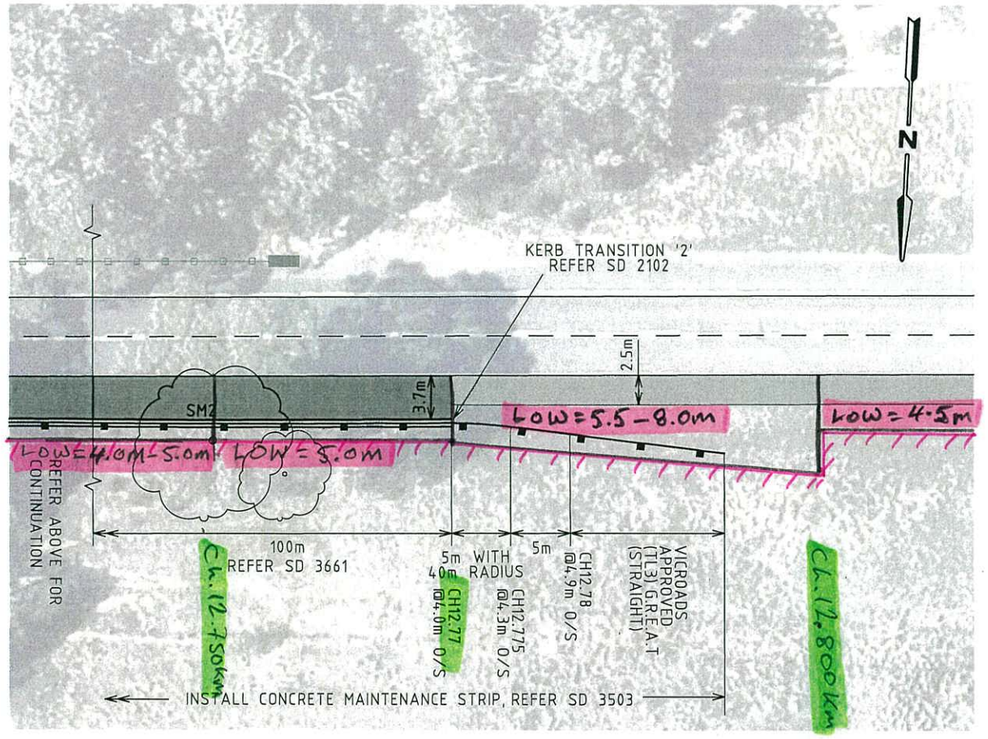
FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		10 OF 19	761365	

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

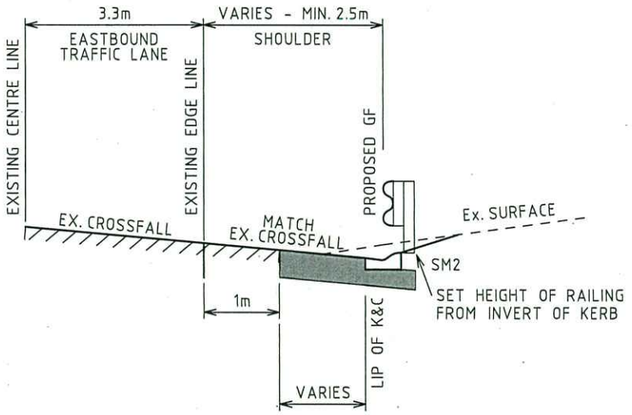




SHOULDER PAVEMENT DETAILS

SIZE 10 PRIMERSEAL
2 x 100mm LAYERS OF 20mm CLASS 1 CRUSHED ROCK
1 X 75mm LAYER OF 20mm CLASS 3 CRUSHED ROCK

CH.12.59 to 12.77

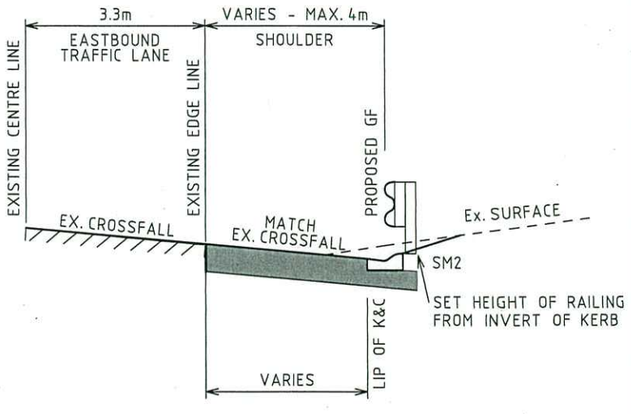


TYPICAL CROSS SECTION:
CH12.59 to CH12.72 - RHS

NOT TO SCALE

SHOULDER & BELLMOUTH PAVEMENT DETAILS

SIZE 10 PRIMERSEAL
2 x 100mm LAYERS OF 20mm CLASS 1 CRUSHED ROCK



TYPICAL CROSS SECTION:
CH12.72 to CH12.77 - RHS

NOT TO SCALE

ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 13km POST.
2. ALL GUARD FENCE OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE TO FACE OR RAILING.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILING.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

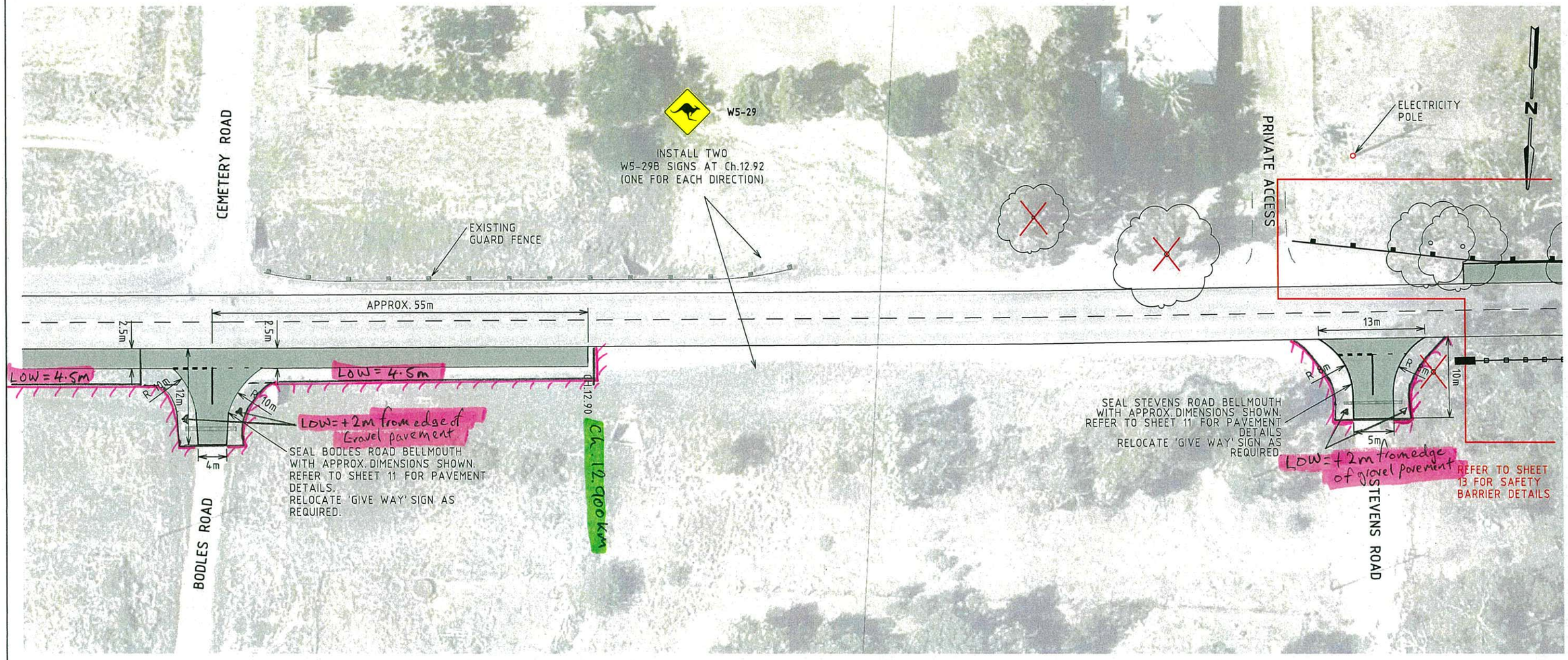
CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr10.dgn

vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
GUARD FENCE INSTALLATION
CH12.58 - 12.79

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		11 OF 19	761366	



TREE REMOVAL SCHEDULE:

LHS:
- CH.12.947: 9m O/S, 300mm DEAD TREE
- CH.12.964: 4m O/S, 1m DIA

RHS:
- CH.12.996: 4m O/S, 2 x STUMPS

WARNING

BEWARE OF UNDERGROUND SERVICES

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ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 13km POST.
X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

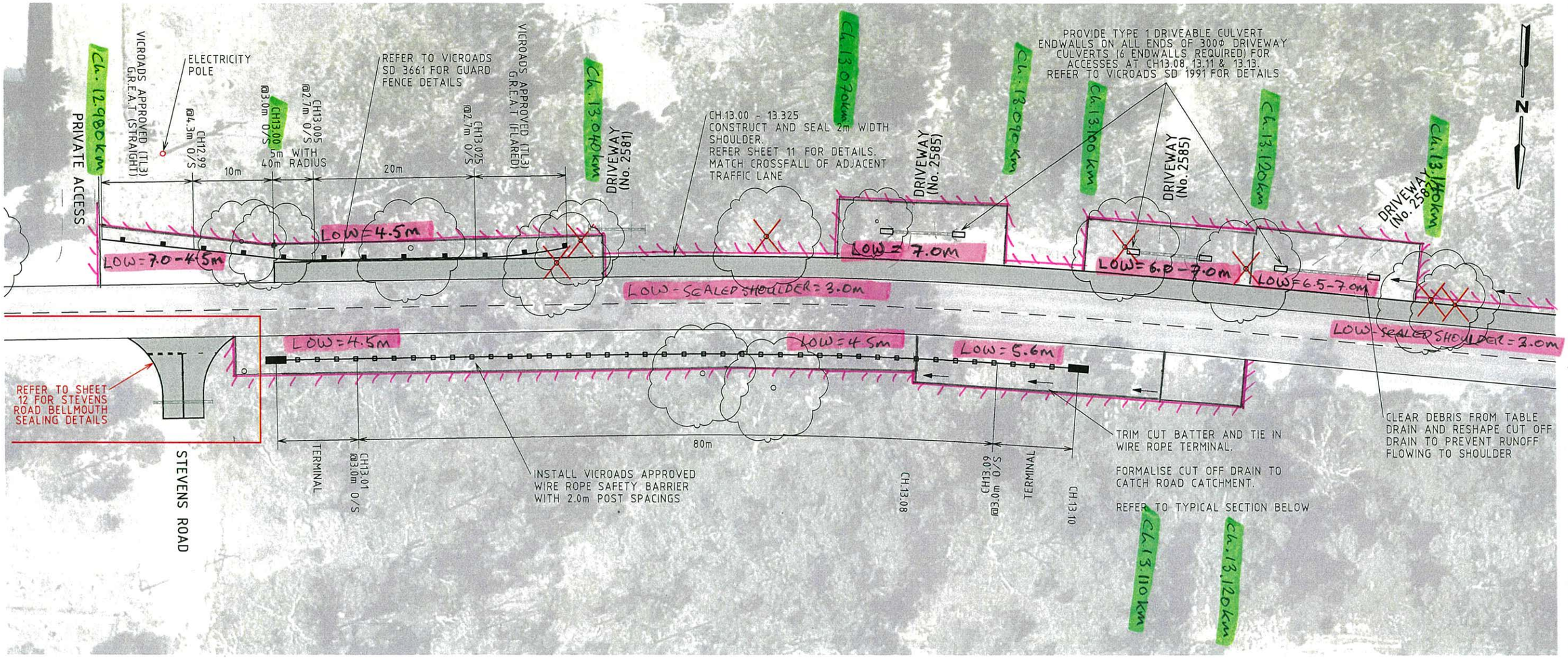
CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr11.dgn

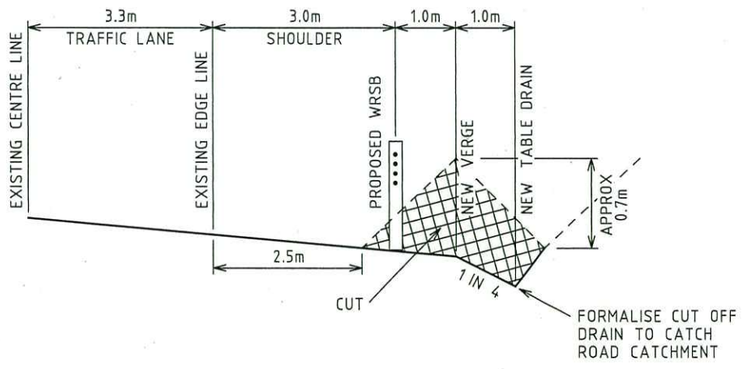
vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
BELLMOUTH SEALING & TREE REMOVAL
CH12.84 - 13.00

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		12 OF 19	761367	





TYPICAL CROSS SECTION: CH13.08 to CH13.10 - RHS

NOT TO SCALE

TREE REMOVAL SCHEDULE:

LHS:

- CH13.035: 1.6m O/S, 1 x 600mm & 1 x 500mm DIA
- CH13.038: 4.3m O/S, 500mm DIA
- CH13.061: 4.7m O/S, 700mm DIA
- CH13.105: 5.6m O/S, 600mm DIA
- CH13.120: 4.3m O/S, 700mm DIA
- CH13.143: 2.6m O/S, 900mm DIA
- CH13.146: 2.3m O/S, 500mm DIA

WARNING

BEWARE OF UNDERGROUND SERVICES

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ISSUE	APP'D	DATE	AMENDMENT
E			
D			
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GENERAL NOTES

1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 13km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m AND WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS AND 2.0m BEHIND WIRE ROPE BARRIERS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED: A.Stanford (Total Property Developments) May 2015

APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr12.dgn

vicroads

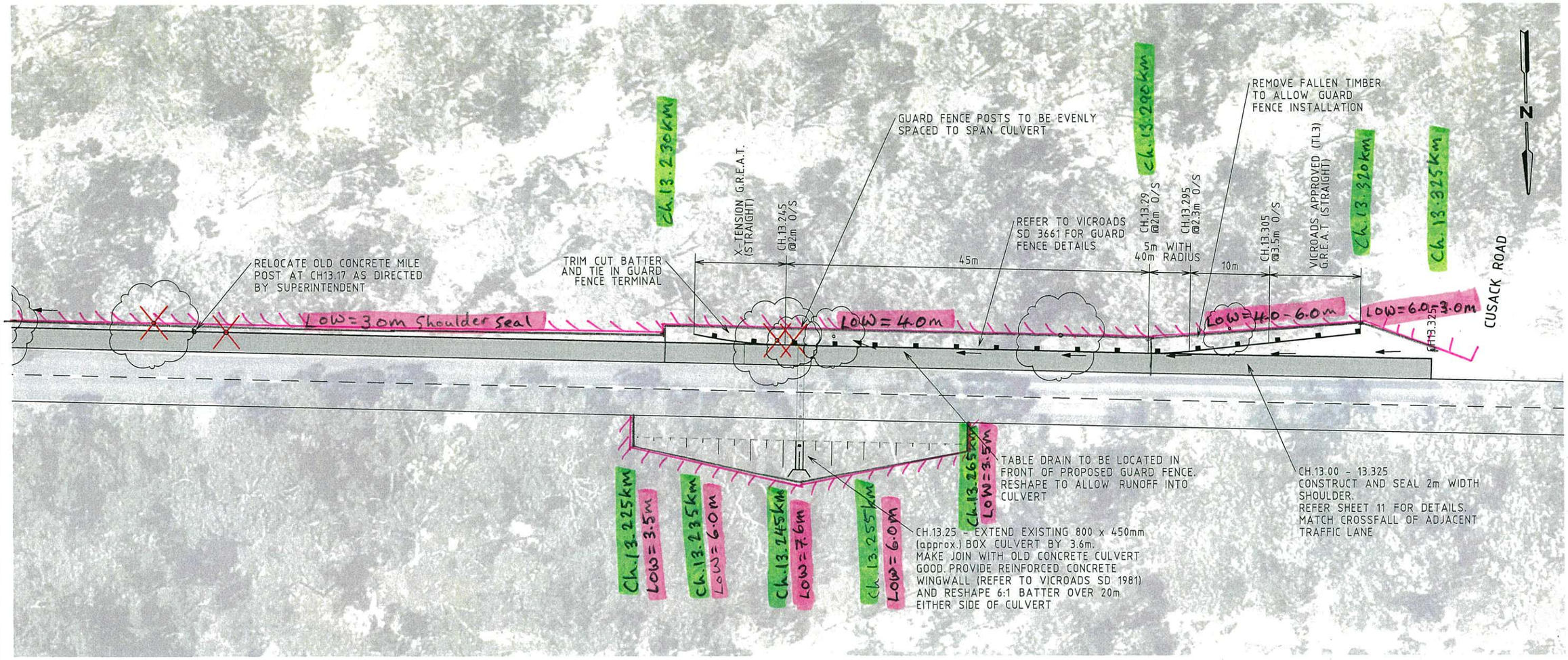
SCALE OF METRES HOR 0 5 10 VER

PYRENEES HIGHWAY - SECTION 2

ROAD SAFETY TREATMENTS 10.90 to 15.00km

GUARD FENCE, WIRE ROPE & OTHER WORKS CH12.99 - 13.15

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		13 OF 19	761368	



TREE REMOVAL SCHEDULE:
- CH13.167: 3.1m O/S, 1 x 500mm & 1 x 300mm DIA
- CH13.176: GRIND STUMP ON BATTER
- CH13.244: 2.8m O/S, 500mm DIA
- CH13.246: 2.9m O/S, 300mm DIA

WARNING

BEWARE OF UNDERGROUND SERVICES

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ISSUE	APP'D	DATE	AMENDMENT
E			
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 13km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND PROPOSED GUARD FENCE RAILING.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

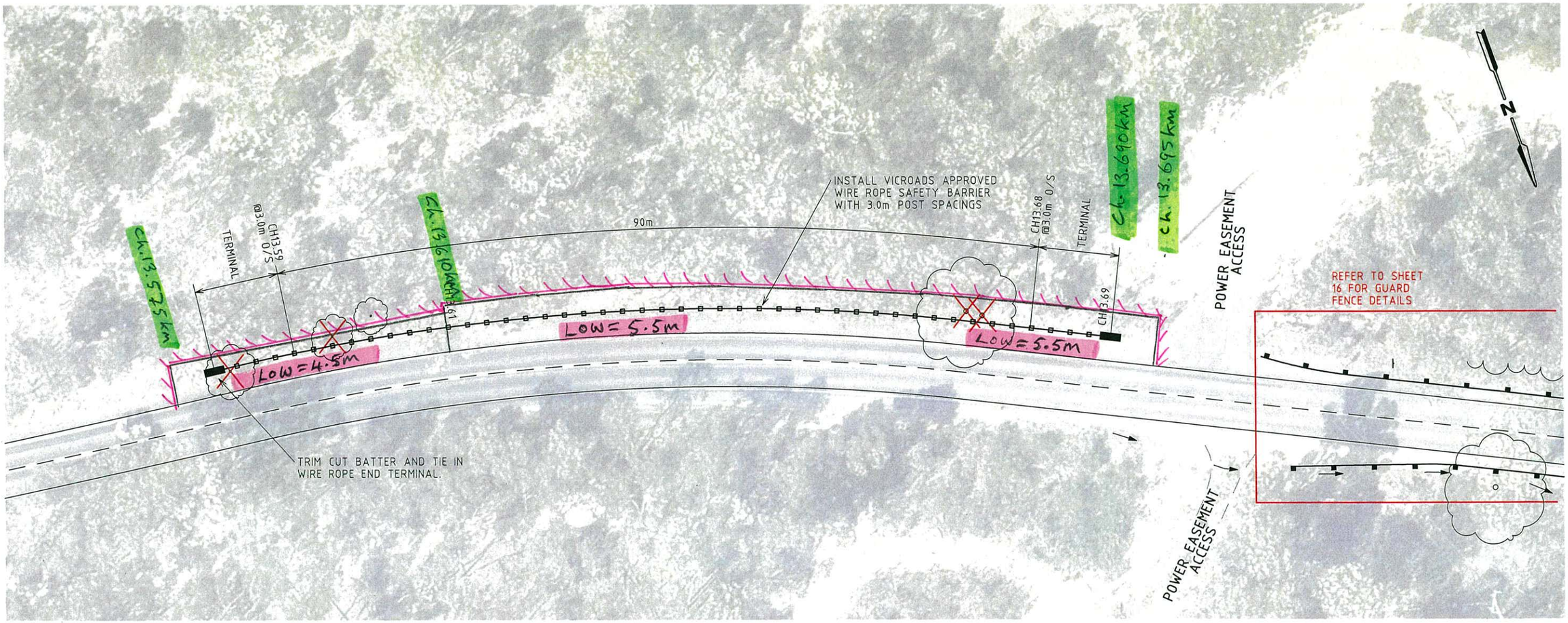
CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr13.dgn

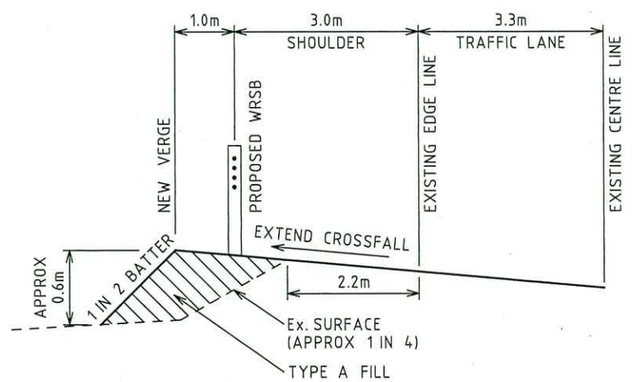
vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
GUARD FENCE & OTHER WORKS
CH13.17 - 13.325

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		14 OF 19	761369	





TYPICAL CROSS SECTION: CH13.61 to CH13.69 - LHS

NOT TO SCALE

TREE REMOVAL SCHEDULE:
- CH13.582: 2.4m O/S, 300mm DIA
- CH13.595: 4.0m O/S, 2 x 250mm DIA
- CH13.672: 3.9m O/S, 700mm DIA
- CH13.674: 3.6m O/S, 2 x STUMPS

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 14km POST.
2. ALL WIRE ROPE OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE.
3. ALL WIRE ROPE POST SPACINGS ARE TO BE 2.0m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 2.0m BEHIND PROPOSED WIRE ROPE BARRIERS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

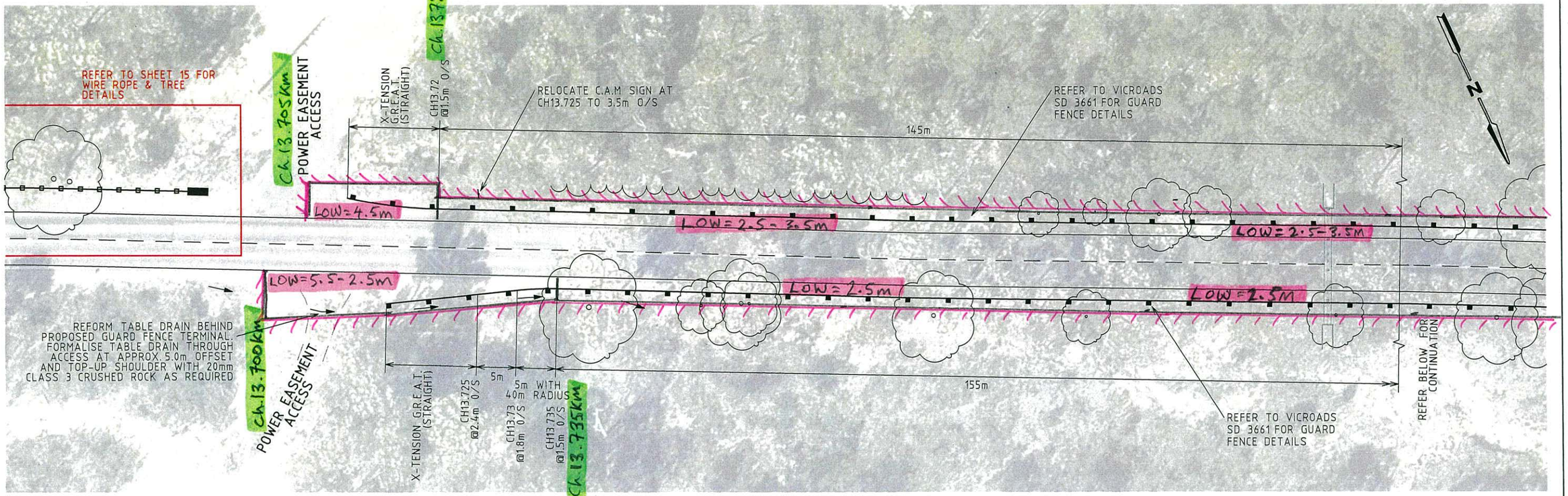
CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr14.dgn

vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
WIRE ROPE SAFETY BARRIER & TREE REMOVAL
CH13.58 - 13.69

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		15 OF 19	761370	



TREE REMOVAL SCHEDULE:

LHS:
- CH13.915: 4.0m O/S, 2 x 100mm & 1 x STUMP

RHS:
- CH13.953: 2.6m O/S, 1.0m DIA

WARNING

BEWARE OF UNDERGROUND SERVICES

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ISSUE	APP'D	DATE	AMENDMENT
E			
D			
C			
B			
A			

GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 14km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS,

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr15.dgn

vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2

ROAD SAFETY TREATMENTS
10.90 to 15.00km

GUARD FENCE, SHOULDER SEALING & TREE REMOVAL
CH13.72 - 14.065 (SHEET 1 OF 2)

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		16 OF 19	760371	

CH.13.90 - CH14.10:
CONSTRUCT AND SEAL 2m WIDTH SHOULDER.
REFER SHEET 11 FOR DETAILS.
MATCH CROSSFALL OF ADJACENT TRAFFIC LANE

REFER TO SHEET 16 FOR CONTINUATION

CH13.96 @2m O/S

CH13.98

20m

1m POST SPACINGS

CH14.00

90m

REFER TO VICROADS SD 3661 FOR GUARD FENCE DETAILS

Ch.14.050km

CH14.05 @2m O/S

X-TENSION G.R.E.A.T. (STRAIGHT)

Ch.14.065km

Ch.14.080km

N

DRIVEWAY

REFER TO SHEET 18 FOR GUARD FENCE DETAILS

LOW=3.5m

LOW=3.5m

LOW=4.5M

LOW=3.0m

LOW=5.0m

LOW=6.5-3.5m

LOW=3.5m

LOW=3.5-6.0m

DRIVEWAY

CH14.01

CH14.015

Ch.14.000km

VICROADS APPROVED (TL3) G.R.E.A.T (FLARED)

CH14.015 @3.0m O/S

30m WITH 1.0m POST SPACINGS

REFER TO VICROADS SD 3661 FOR GUARD FENCE DETAILS

Ch.14.045km

5m WITH 40m RADIUS

CH14.045 @3.0m O/S

CH14.05 @3.3m O/S

5m

CH14.055 @3.9m O/S

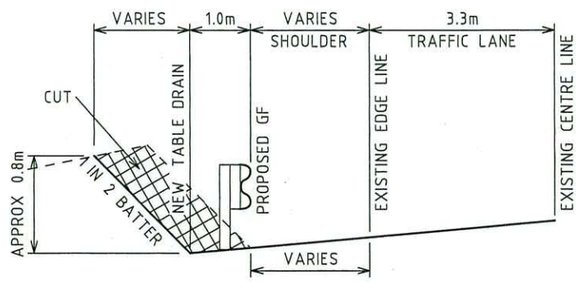
VICROADS APPROVED (TL3) G.R.E.A.T (STRAIGHT)

Ch.14.070km

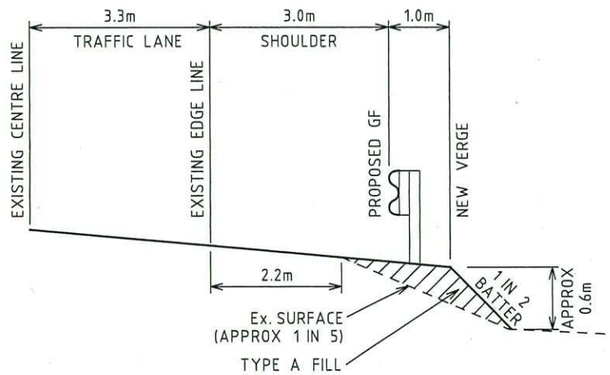
DRIVEWAY

DRIVEWAY

REFER TO SHEET 16 FOR GUARD FENCE DETAILS



TYPICAL CROSS SECTION: CH13.90 to CH13.98 - LHS
NOT TO SCALE



TYPICAL CROSS SECTION: CH14.01 to CH14.025 - RHS
NOT TO SCALE

TREE REMOVAL SCHEDULE:
LHS:
- CH.13.993: 2.6m O/S, 500mm DIA
- CH.14.025: 2.3m O/S, 450mm DIA
- CH.14.065: 3.5m O/S, STUMP

RHS:
- CH.14.026: REMOVE FRONT BRANCH ONLY, 3.0m O/S, 600mm DIA

WARNING
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ISSUE	APP'D	DATE	AMENDMENT
E			
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C			
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 14km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
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DESIGNED
A.Stanford (Total Property Developments)
May 2015

APPROVED

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr16.dgn

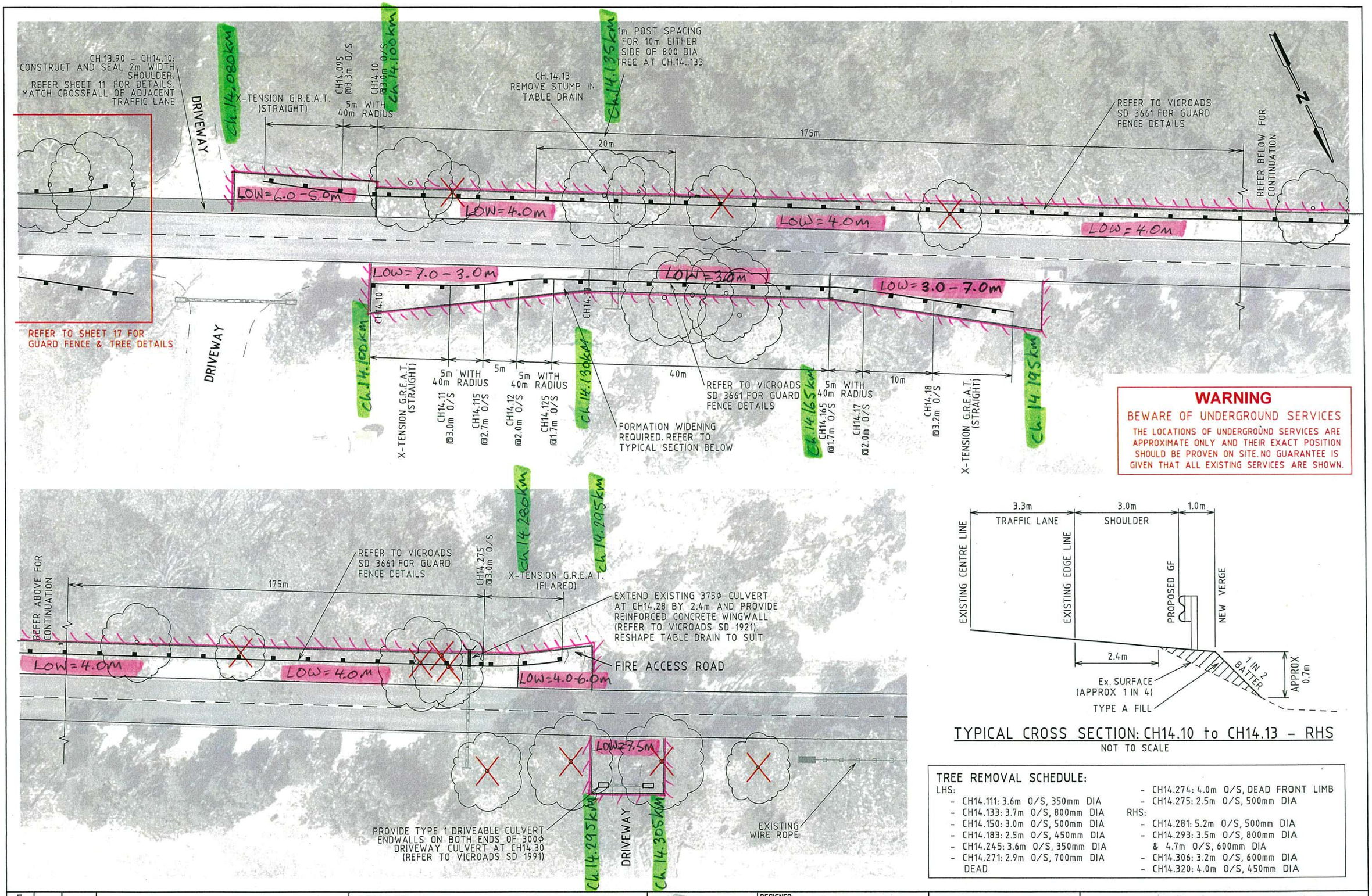
vicroads

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km

GUARD FENCE, SHOULDER SEALING & TREE REMOVAL
CH13.72 - 14.065 (SHEET 1 OF 2)

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		17 OF 19	761372	



WARNING

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TYPICAL CROSS SECTION: CH14.10 to CH14.13 - RHS

NOT TO SCALE

TREE REMOVAL SCHEDULE:

LHS:
- CH14.111: 3.6m O/S, 350mm DIA
- CH14.133: 3.7m O/S, 800mm DIA
- CH14.150: 3.0m O/S, 500mm DIA
- CH14.183: 2.5m O/S, 450mm DIA
- CH14.245: 3.6m O/S, 350mm DIA
- CH14.271: 2.9m O/S, 700mm DIA DEAD
- CH14.274: 4.0m O/S, DEAD FRONT LIMB
- CH14.275: 2.5m O/S, 500mm DIA

RHS:
- CH14.281: 5.2m O/S, 500mm DIA
- CH14.293: 3.5m O/S, 800mm DIA & 4.7m O/S, 600mm DIA
- CH14.306: 3.2m O/S, 600mm DIA
- CH14.320: 4.0m O/S, 450mm DIA

ISSUE	APP'D	DATE	AMENDMENT
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C			
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2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
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X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED: A.Stanford (Total Property Developments) May 2015
APPROVED

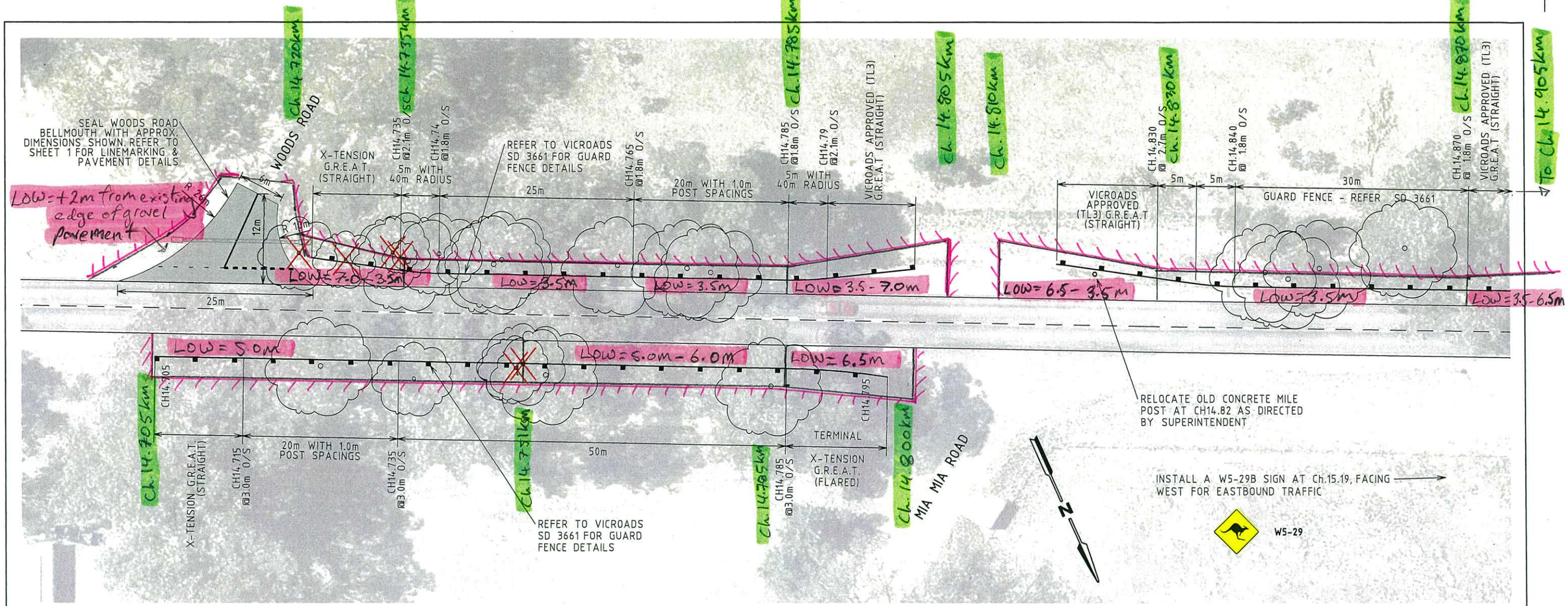
vicroads

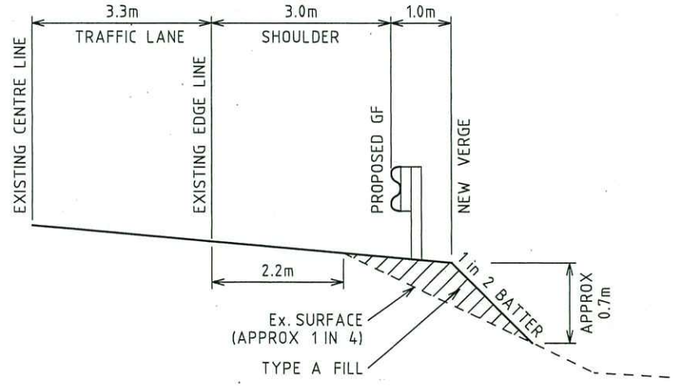
CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr17.dgn

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
GUARD FENCE & OTHER WORKS
CH14.09 - 14.32

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		18 OF 19	761373	





TYPICAL CROSS SECTION: CH14.705 to CH14.795 - RHS

NOT TO SCALE

TREE REMOVAL SCHEDULE:

LHS:
- CH14.722: 3.9m O/S, 450mm DIA
- CH14.728: 3.2m O/S, 1 x 350mm & 1 x STUMP
- CH14.734: 4.2m O/S, 450mm DIA
- CH14.735: 3.7m O/S, 200mm DIA (DEAD)

RHS:
- CH14.749: 3.4m O/S, 400mm DIA
- CH14.751: 2.8m O/S, 500mm DIA (DEAD)

WARNING

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ISSUE	APP'D	DATE	AMENDMENT
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GENERAL NOTES
1. ALL CHAINAGES ON THIS SHEET RELEVANT TO 15km POST.
2. ALL BARRIER OFFSETS ARE FROM EDGELINE OF EXISTING TRAFFIC LANE, AND ARE TAKEN TO FACE OR RAILING FOR GUARD FENCE INSTALLATIONS.
3. ALL GUARD FENCE POST SPACINGS ARE TO BE 2.5m UNLESS NOTED OTHERWISE.
4. REMOVE ALL TREES < 100mm AND REGROWTH WITHIN 1.0m BEHIND GUARD FENCE RAILINGS.

X DENOTES TREE FOR REMOVAL

Total Property Developments
444 HARGREAVES STREET, BENDIGO
PHONE (03) 5443 7977
FAX (02) 8282 4755

DESIGNED: A.Stanford (Total Property Developments) May 2015
APPROVED

vicroads

CAT: Bendigo_Region
PROJ: Pyrenees
FILE: 2742amr18.dgn

SCALE OF METRES
HOR 0 5 10
VER

PYRENEES HIGHWAY - SECTION 2
ROAD SAFETY TREATMENTS
10.90 to 15.00km
GUARD FENCE & OTHER WORKS
CH14.705 - 14.85

FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		19 OF 19	761374	

APPENDIX 10: Fauna / Wildlife Management Protocol / Plan

Wildlife CSI

Wildlife Conservation Services International Pty Ltd

FAUNA MANAGEMENT PROTOCOL

PYRENEES HIGHWAY (SEC 2) SSRIP PROJECT, ROAD CHAINAGE 10-15KM

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Introduction

This Fauna Management Protocol has been prepared to manage and salvage any native fauna that may be impacted on by road safety improvement works on the Pyrenees Highway (Sec 2), chainage 10-15 km, Green Gully, Victoria, as recommended by Ecolinks Consulting (Biodiversity Assessment Pyrenees Highway, Green Gully report, August 2016).

In addition to the general fauna management protocol, management protocols have been prepared for two threatened species; Swift Parrot (EPBC Act & FFG Act) and the Brush-tailed Phascogale (FFG Act) (Appendix 3). As detailed in the Ecolinks (August 2016) *Biodiversity Assessment, Pyrenees Highway, Green Gully* report for VicRoads.

Fauna species identification data sheets are provided for the following threatened species, the Swift Parrot, Brush-tailed Phascogale and the Brown Treecreeper (FFG Act - Victorian Temperate Woodland Bird Community) in Appendix 4.

General

1. All native fauna in Victoria is protected by law (the Wildlife Act 1975). Permits and authorisations are required to handle and manage native fauna. Only qualified, experienced and authorised personnel are to handle and relocate native fauna.

2. A Wildlife Management Authorisation (see Appendix 1) is required from the Department of Environment, Land, Water and Planning (DELWP) to capture and relocate fauna affected by habitat removal works.

3. A qualified, experienced and authorised Zoologist/Wildlife Specialist should be engaged under this protocol.

Pre Construction

4. Contractor induction must be provided (see Appendix 2) and is to include this protocol and those outlined in Appendix 3 and other fauna management issues and obligations under the Wildlife Act and/or as required by DELWP, to not interfere with or harm fauna.

5. Artificial Hollows or nest boxes are to be considered and installed as an offset to the loss of natural hollows due to any hollow-bearing tree removal. Nest boxes should be installed at least 3 metres from ground level and entrance holes generally facing east (avoiding cold and hot weather from the south, west and north).

6. The following types of nest boxes are available Sugar Glider/Tuan, Common Brushtail Possum, Common Ringtail Possum, Feathertail Glider, Antechinus, insectivorous bat, Kookaburra, Duck, Owl, Parrot and pardalote.

During Construction (eg vegetation removal, earthworks)

7. The Zoologist/Wildlife Specialist is to be on site during the construction and the removal of vegetation and to inspect trees and ground litter/vegetation for fauna that may need to be relocated.

8. All possible options should be explored to successfully relocate fauna affected by the works.

9. All fauna requiring to be relocated will be relocated into adjacent suitable habitat as close as practical to the point of capture. Usually this is within 50 meters of the capture location, but no more than 100 meters unless authorised by the DELWP.

10. Depending on the fauna encountered and/or during construction or vegetation removal when fauna may become evident, the Zoologist/Wildlife Specialist will determine if capture and relocation is warranted, based on the best interests (animal welfare interests) of the animal concerned.

11. For any threatened species that are encountered, advice from the DELWP should be sought prior to relocation. Works may need to cease, pending advice from DELWP.

12. If the Zoologist/Wildlife Specialist determines that construction or tree removal is to cease so that fauna may be safely captured and relocated, the Zoologist/Wildlife Specialist is to liaise with the site manager and/or the appropriate contractor(s).

13. If elevated platforms are to be used to cut down trees, it is advised that the Zoologist/Wildlife Specialist inspect the hollows for fauna from the platform prior to removal. If fauna is resident in the hollow, follow step 16.

14. Once a tree or section of tree of interest is on the ground, Zoologist/Wildlife Specialist should inspect hollows, loose bark, fissures and nests for fauna.

15. Fauna is to be captured by the Zoologist/Wildlife Specialist either by hand, nets, capture poles, capture bags, blankets or towels. Captured fauna must immediately be covered and/or placed into a suitable container, to reduce stress and the risk of escape.

16. Fauna in hollows should be extracted by hand from the hollow. This may require cutting the entrance of the hollow with a chainsaw. Extreme care is advised. A portable inspection camera may be useful to see where the animal is in the hollow. If a chainsaw must be used to increase the entrance size, it is strongly recommended that a suitable plug (for example, several scrunched-up cloth capture bags or towels), be placed between the animal and the chainsaw. Care must be taken not to injure the animal during the extraction process. Firm but gentle pressure should be applied, to encourage the animal from the

hollow. The use of an inverted cloth capture bag is recommended if appropriate to the circumstance, so that when the animal is extracted, the bag can be pulled over the animal immediately.

17. Captured arboreal mammals should be placed into cloth capture bags.

18. If frogs are encountered and need to be translocated, they require specific attention to avoid disease transmission. The following hygiene protocol applies:

    a. Gloves (nitrile) should be worn at all times when handling frogs.
    b. Gloves need to be changed for each frog handled.
    c. Each frog must be housed individually in plastic zip lock bags.
    d. No plastic bag is to be re-used and must be disposed of after a single use.

    Bagged frogs must be kept in a cool quiet location and released into suitable habitat at the earliest opportunity.

19. Arboreal mammals captured are to be released into a suitable hollow or nest box within the identified release location as soon as is practical after capture.

20. If nocturnal fauna is required to be kept during the day, they will be kept in either standard pet carrying cages or ventilated cardboard/plastic animal boxes, or cloth capture bags. Captive fauna will be kept in cool and shaded conditions. Water will be provided if necessary. Zoologist/Wildlife Specialist is to regularly monitor captive fauna.

21. Reptiles and Frogs captured can be relocated as soon as is practical to the nearest suitable habitat for the species within the identified release site.

22. Snakes can only be captured by an experienced Zoologist/Wildlife Specialist or licensed snake handlers. All snakes are protected and are not to be harmed or interfered with. Any snakes disturbed by the development should only be captured and relocated if they present a potential threat to construction personnel or are likely to be harmed by the works. In most cases, snakes will attempt to move away from a disturbed area.

23. In the event that juvenile fauna is displaced and cannot be re-united with its parent(s), orphaned fauna must be deposited with an authorised wildlife shelter within the region for hand rearing.

24. In the event that fauna is injured during construction, the removal of trees, or during hand capture, the animal should initially be assessed and first aid rendered by experienced Zoologist/Wildlife Specialist and subsequently taken to a Veterinarian for further assessment and treatment and if necessary euthanasia. The DELWP must be advised of any euthanized wildlife should they wish to obtain the body.

25. After consultation with the veterinarian, injured fauna that requires recuperation and thus is unable to be immediately released must be deposited with an authorised wildlife shelter. Upon successful recuperation and rehabilitation, the animal is to be released into suitable habitat as close as is practical to the point of original capture.

26. Fauna killed by the works must be collected and offered to the Museum of Victoria and the DELWP notified.

27. At all times, the welfare of individual animals must be of utmost concern to all involved in this protocol.

28. All fauna observed, captured, relocated, injured or killed during the development must be recorded by the Zoologist/Wildlife Specialist. This data is to be supplied to the DELWP Wildlife Atlas Database by the consultant Zoologist/Wildlife Specialist.

Earthworks

29. The Zoologist/Wildlife Specialist is to inspect the site for vertebrates (and in some cases threatened invertebrates) on the day of earthworks. Vertebrates (and threatened invertebrates) that are encountered and in danger from the earthworks should be captured and translocated.

30. The Zoologist/Wildlife Specialist should observe the initial excavation/clearing of soil for vertebrates (and in some cases threatened invertebrates). If vertebrates (or threatened invertebrates) are encountered, the Zoologist/Wildlife Specialist should signal the plant operator to stop so that the animal can be captured and translocated.

Fauna Translocation

31. Fauna encountered during development works may require to be captured and translocated to a safe area. Translocated fauna does best if it is translocated within the individuals' home range and habitat. Thus if possible, translocation of fauna affected by the works should be adjacent to the capture point where practical, or say within 50 meters of the capture point, but no more than 100 meters from the capture point, unless authorised by the DELWP.

32. Fauna translocation can pose an issue with regards to the transmission of disease from one population to another. Disease transmission may not be an issue as long as the translocation distances are not significant and are likely to be within the same general population of a species. For frogs, hygiene protocols as outlined in 18 above are to be followed.

33. The method for translocation will depend on the species captured. *Table 1* lists the general recommended translocation methods for the potential animal groups that may be encountered. Depending on the species that may be encountered, particularly threatened species, more specific protocols may need

to be developed. The capture and translocation of larger vertebrate species such as koalas, macropods, and wombats and threatened invertebrates may require specific protocols and are not covered here.

Table 1: Translocation methods for fauna captured during development projects.

Animal Group	Time for release	Method
Frogs	As soon as practical after capture, during day light.	Translocate frogs into the same habitat type/structure as close as is practical to the point of capture. Release frogs into or near some form of cover to reduce the risk of predation. Ensure the frog moves off, is able to hide and appears to be safe from potential predators.
Reptiles	As soon as practical after capture, during day light.	Translocate reptiles into the same habitat type/structure as close as is practical to the point of capture. Release reptiles into or near some form of cover to reduce the risk of predation. Ensure the reptile moves off, is able to hide and appears to be safe from potential predators.
Birds	As soon as practical after capture, during day light.	Adult birds are unlikely to be directly impacted by the works. However, nestlings may be impacted directly by nest destruction/disturbance. As nestlings are still dependant, they will need to be reunited or of this is not possible, retained for hand rearing.
Mammals		
Echidna	As soon as practical after capture, during day light.	Hand capture and move to the translocation site and release. The Echidna is likely to "dig in". Observe the animal from a distance to ensure it moves off freely and away from any roads.
Tuan, gliders & Possums	As soon as practical after capture, during day light.	Translocate and release into installed artificial hollows (nest boxes). Two release methods can be used. 1. Place a temporary cover over the nest box entrance hole; undo capture bag; place capture bag and animal into nest box; slowly remove the capture bag from nest box; install nest box with animal in suitable tree; remove temporary cover over entrance hole. 2. With the animal in the capture bag, expose the nose and direct the animal into the entrance hole. This simulates the animal entering a hollow as it would normally. Once the nose is within the entrance, the rest of the capture bag can slowly be exposed. Animals will usually enter the box freely.

Post Construction

34. If practical, suitable woody debris (identified by experienced zoologist/Wildlife Specialist) should be retained to increase habitat diversity within the area. The woody debris should be placed to avoid disturbance or damage to other habitat features.

35. A fauna monitoring program for fauna translocated may be required.

Other Considerations

36. The use and parking of heavy plant and equipment should be restricted to within the Project boundary or cleared areas where possible, so as not to disturb ground vegetation and fauna. All plant and equipment should be clean to avoid the spread of weeds.

APPENDIX 1: Wildlife Management Authorisation

All wildlife in Victoria is protected under the Wildlife Act 1975. The capture and translocation of fauna associated with major road or land development projects requires a permit from the Department Environment, Land, Water and Planning (DELWP). This permit is known as a Wildlife Management Authorisation.

Wildlife Management Authorisations are issued to individuals pursuant to the provisions of the Wildlife Act 1975. They generally give permission to "…*live capture and relocate native fauna … to the nearest remnant habitat suitable for that species* …". There are usually several standard and perhaps specific conditions that will also need to be adhered to. These generally include the following:

- To notify the relevant regional Flora and Fauna Officer of DELWP prior to any relocation activities.
- Any traps used must be labelled with the permit number.
- Any threatened species encountered must be notified to DELWP.
- Within 30 days of the expiration of the permit, fauna data must be submitted to DELWP for incorporation into the Atlas of Victorian Wildlife.

APPENDIX 2: Induction for personnel involved in land development activities

To reduce the impact on fauna as a result of the proposed works a fauna monitoring, salvage and relocation plan (the **Fauna Management Plan**) has been prepared.

The following points are relevant to personnel involved in the construction works:

1. All native fauna in Victoria is protected by law (the Wildlife Act1975). Permits and authorisations are required to handle and manage native fauna. Only qualified, experienced and authorised personnel are to handle and relocate native fauna.

2. A qualified, experienced and authorised Zoologist/Wildlife Specialist will be engaged for this project to deal with affected fauna.

3. Depending on the fauna encountered and/or during vegetation removal when fauna may become evident, the Zoologist/ Wildlife Specialist will determine if capture and relocation is warranted, based on the best interests (animal welfare interests) of the animal concerned.

4. If the Zoologist/Wildlife Specialists determine that work is to cease so that fauna may be captured and relocated, the Zoologist/Wildlife Specialists will liaise with the site manager and/or the appropriate contractor(s).

5. If elevated platforms are to be used to cut down trees, it is advised that the Zoologist/Wildlife Specialist inspect the hollows for fauna from the platform prior to removal.

6. Once a tree or vegetation of interest is on the ground, the Zoologist/Wildlife Specialists will inspect hollows, loose bark, fissures and nests for fauna.

7. Snakes can only be captured by the Zoologist/Wildlife Specialist or licensed handlers. All snakes are protected and are not to be harmed or interfered with. Any snake disturbed by the clearing should only be captured and relocated if they present a potential threat to construction personnel or are likely to be harmed by the works. In most cases, snakes will attempt to move away from a disturbed area.

8. At all times, the welfare of individual animals must be of utmost concern to all involved in this project.

9. All fauna observed, injured or killed during the vegetation removal and other works must be reported to the Zoologist/Wildlife Specialist and recorded.

10. If practical, suitable woody debris (identified by experienced zoologist/Wildlife Specialist) should be retained to increase habitat diversity within the area is possible and practical. The woody debris should be placed to avoid disturbance or damage to other habitat features.

11. The use and parking of heavy plant and equipment should be restricted to within the Project boundary or cleared areas where possible, so as not to disturb ground vegetation and fauna. All plant and equipment should be clean to avoid the spread of weeds.

12. Specific protocols for two threatened species, the Swift Parrot and the Brush-tailed Phascogale have been prepared. Fauna Data Sheets for these species are provided to contractors for information, including for the Brown Treecreeper. If these species in particular are encountered by contractors they must be reported to the site supervisor, Vic Roads or the on-site zoologist.

APPENDIX 3:

SWIFT PARROT AND BRUSH-TAILED PHASCOGALE FAUNA MANAGEMENT PROTOCOL

PRE-WORKS, TREE REMOVAL AND CONSTRUCTION PHASE

SWIFT PARROT

If tree works are proposed to occur during the period when Swift Parrots are in Victoria (March - September), then the following measures must be implemented with regard to the Project area:

1. Undertake a pre-start inspection of the study area with a qualified zoologist to determine if:
    a. Eucalypts within and directly adjoining the project area are flowering (nectar/food source present);
    b. Swift Parrots are utilising the project area and/or areas directly adjoining the Project area in liaison with the DELWP;
    c. Eucalypts are not flowering and Swift parrots are not present proceed to 2 or proceed to 3 if Eucalypts are flowering and Swift parrots are present.
2. If Eucalypts are not flowering and Swift parrots are not present, works can proceed subject to the following:
    d. Daily pre-start checks are undertaken by a qualified zoologist to monitor the Project area and works to confirm presence / absence of the Swift Parrot;
    e. If daily pre-start checks confirm that Swift Parrots are present and utilising parts of the project area then follow mitigation options 3 f, g and h must be followed
3. If Eucalypts are flowering and Swift parrots are present, works can proceed with caution subject to the following:
    f. Undertake daily pre-start checks with a qualified zoologist, if Swift Parrots are present and foraging on trees proposed for removal / or are sighted in a section of Project area, then follow g and h;
    g. Commence works within another part of the project area where Swift Parrots are not foraging / present, provide a minimum buffer of 200m - 300m from sighted Swift Parrot location;
    h. Zoologist to monitor Swift parrot activity with regard to the operation of works over the course of the works period and tree removal works in the project area. If it is determined that works are impacting on Swift Parrot foraging then consider either increasing the works area buffer and / or shifting works to another section of

the project area. This would include liaison with the DELWP as required.

If tree works are proposed to occur during outside of the period when Swift Parrots are in Victoria, then works can proceed in accordance with the normal operational requirements of this Fauna Management Plan/Protocol.

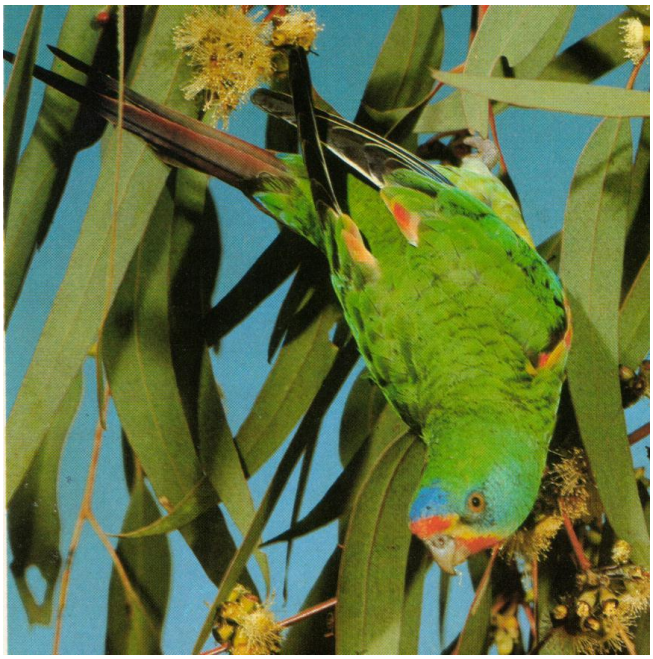
BRUSH-TAILDED PHASCOGALE

Undertake the following with regard to minimising impacts to Brush-tailed Phascogale in relation to the nine identified hollow bearing trees within the project area with a qualified zoologist as follows:

1. During the breeding season, a qualified zoologist to undertake a pre-start inspection of the tree(s) proposed to be removed. If being used for breeding purposes - tree is to be retained until finish of breeding season and/or tree has been vacated and re-checked as part of this Fauna Management Plan/protocol prior to removal works occurring. Liaise with DELWP as required; and
2. If during breeding season, tree is not being utilised for breeding purposes - remove the tree in accordance with a Fauna Management Plan/Protocol.
3. Non-breeding season, check trees and manage tree removal works in accordance with this Fauna Management Plan/protocol.

APPENDIX 4:

Species data sheet: SWIFT PARROT



Description

A medium sized bird, up to 245 mm. Generally green. The face is red with yellow margins and the crown is blue. Shoulders and underwing coverts are red. Central tail feathers dull brown-red tipped with blue.

Habitat

Swift Parrots migrate to Victoria in Autumn from their breeding sites in Tasmania. In Victoria they mainly occur in box-ironbark forests, particularly where Red Ironbark is well represented. They feed on winter flowering plants, particularly Grey Box, Red Ironbark, Yellow Gum, White Box and Mugga Ironbark (far north-east Victoria). As the parrots arrive, the Grey Box is in flower.

Diet

Nectar of eucalypts; sugary exudates from insects.

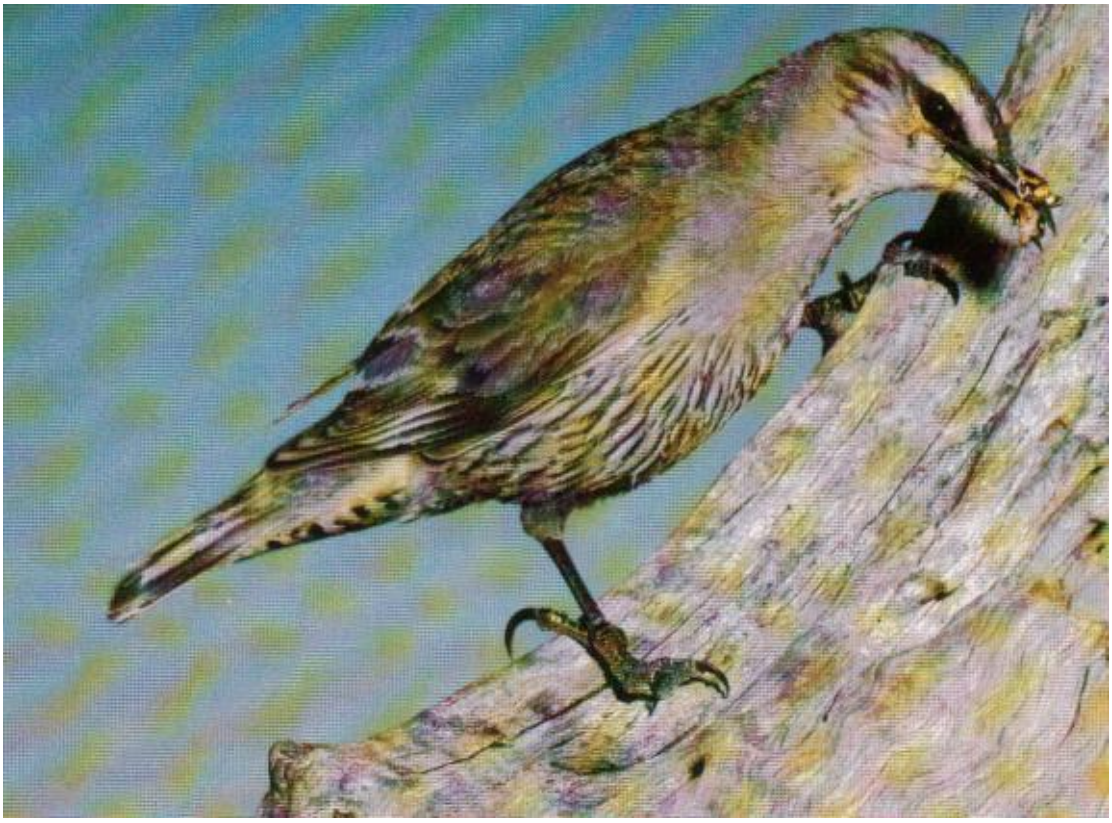
Breeding

Breeds late September to early January in Tasmania.

Conservation

Federally listed under the EPBC Act as Endangered; threatened species listed under the Victorian FFG Act; in Vic it is Endangered.

Species data sheet: BROWN TREECREEPER



Identification

Males and females similar. Grey-brown above, tending to grey on crown; pale buff eyebrow line; breast and belly streaked dull white and dark brown; eye dark brown; bill black; legs dark. Size: 150-185mm.

Habitat

Lowland dry woodlands and wooded farmlands, particularly those dominated by River Red Gum or Yellow Gum in northern Victoria. They probe for insects on tree trunks as well as the ground litter layer.

Nesting

They use hollows for nests. They breed between August and January.

Conservation

The Brown Treecreeper belongs to a community of bird species, the Victorian Temperate-woodland Bird Community. This community has been classified as threatened under the *Flora and Fauna Guarantee Act 1988*.

Species data sheet: Brush-tailed Phascogale or Tuan

Description

A carnivorous marsupial, with grey fur with a black bushy tail. It has a pointed snout. Head body length: 180-230mm Males, 160-190mm Females; Tail length: 175-220mm Males, 170-210mm females; Weight: 175-235g Males, 110-190g Females.

Habitat

Dry forest and woodland, especially box ironbark and stringybark forests. Tree hollows are required for den sites. Preferred hollows are small, approximately 30-40mm in diameter.

Diet

Insects primarily, but can also take baby birds.

Breeding

Births occur in June, July, August

Conservation

The Tuan is a Threatened Species in Victoria and considered Vulnerable. It is also a listed threatened species on the Flora and Fauna Guarantee Act.