Murrindindi
Shire Council

Rural Roadside Code of Practice
Capital and Maintenance Works

August 2014

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Introduction

What is the purpose of this Code of Practice?

The purpose of this Rural Roadside Code of Practice is to assist Council's infrastructure services staff, Council contractors, and/or utility service authorities who conduct works on Council controlled roadsides and other third party entities to comply with environmental legislation and ensure best practice in carrying out maintenance and construction activities on municipal roads or within roadside reserves.

Who and what does it apply to?

This Code of Practice addresses the functional values of roads and roadside reserves, as identified in Council's Rural Roadside Management Plan and applies to sites under construction or maintenance including stack and dump sites. It is the responsibility of all person(s) working on Council or non-Council projects to adopt environmentally responsible work practices.

Why do we need this Code?

Works on roadsides must be undertaken in compliance with environmental legislation. This includes (but not limited to):

- Environment Protection Act, 1970
- Planning & Environment Act, 1987
- Flora & Fauna Guarantee Act, 1988
- Environment Protection & Biodiversity Conservation Act, 1999
- Conservation, Forest and Lands Act ,1987
- Crown Land (Reserves) Act, 1978
- Catchment and Land Protection Act, 1994

How will the Code be used?

It is to be used by Council staff (managers, supervisors, officers and outdoor crews) and Council contractors. It can also be handed, as a resource, to third party entities seeking consent and land manager approval for works on a municipal road or roadside reserve. Severe penalties can apply to any person or organisation that harms the environment.

How should the Code be intrepreted?

The Code is structured in the following ways:

Key Guidelines: The guidelines provide a description for what is expected when planning for and carrying out works.

Project Management Cycle: The project management cycle provides an indication to the user as to whether the guidelines should be adopted during the planning and design stages of a project, and/or the delivery and finalisation stages.

Type of Compliance: The code highlights three types of compliance:

- *Encouraged:* Where always possible these guidelines should be adopted in all Council led infrastructure works.
- *Mandatory:* While it is not a legal requirement, it is compulsory for these guidelines to be adopted for all Council led infrastructure works.
- *By Law:* The guideline is a requirement by law and must be complied with.

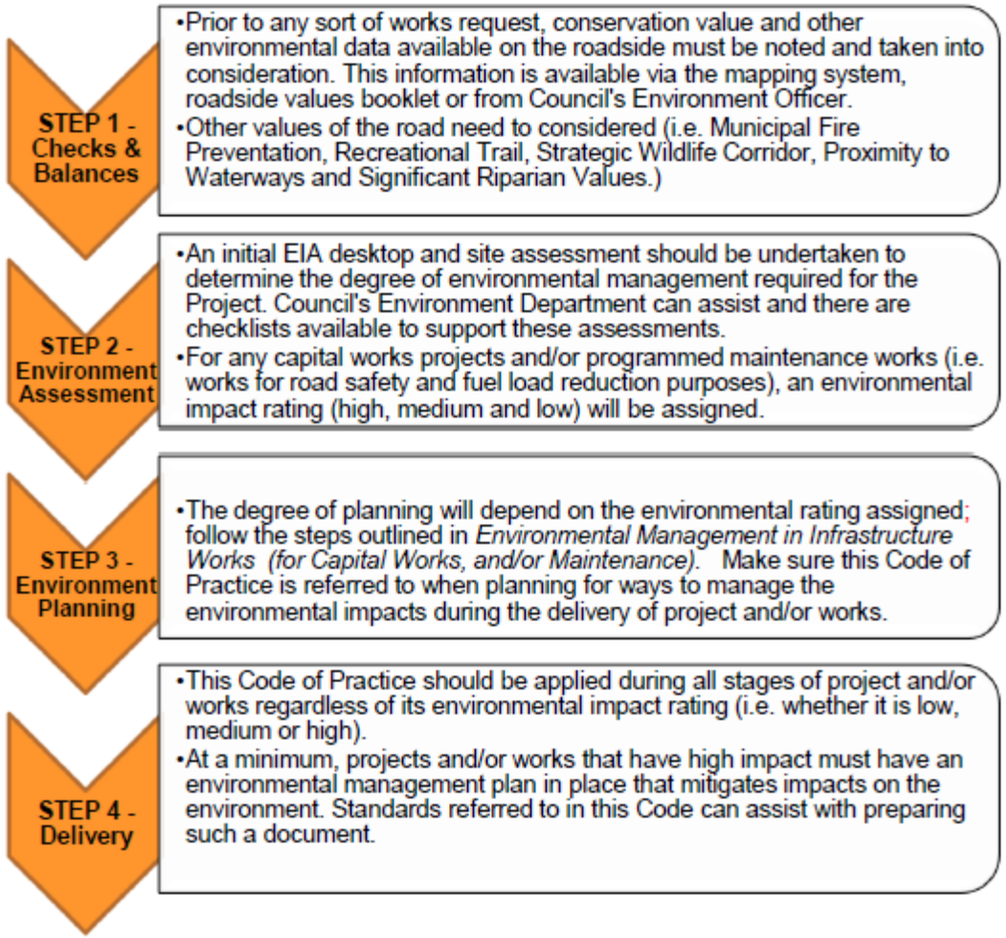
1. General Practices

1.1 Understand the environmental values of your work site.

Before you plan your works know the environmental values of your work site.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Know the environmental values of your work site. Follow Figure 1 on Page 7 to determine the environmental impact of your project.	√			×		
If works are assessed to have high impact, an environmental risk and impact assessment may be required. Use the relevant parts of this Code to assist in developing appropriate mitigation measures to reduce the impact of works.	√			×		
Before works commence, clearly mark out construction or maintenance zone(s) with fluorescent tape and/or signage.		√	×			
Determine, locate and mark off all stockpiles, access roads, machinery parking and turning areas.		√		×		

Figure 1: A summary of the process outlined in Council's Environmental Standards in Infrastructure Policy



1.2 Sites of cultural heritage or environmental significance should be treated with special care.

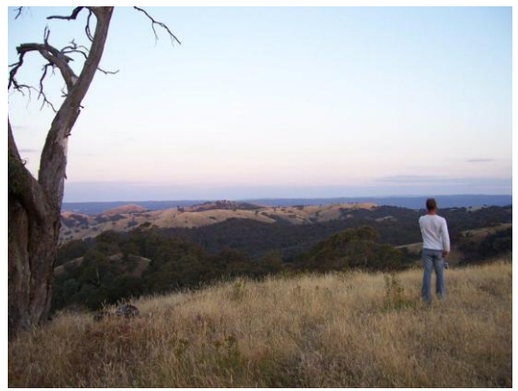
Protect nationally significant habitat suitable for rare, threatened or endangered flora and fauna species, as well as protected aboriginal and/or other non-aboriginal heritage sites.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Prior to any works, permits may be required from the Council or other government agencies at state and federal levels. Contact Council's Planning Department or Environmental Programs Unit for appropriate management advice.	√			×		 *An aboriginal scar tree.*
Sites of environmental, cultural and heritage value are protected under legislation. All registered and unregistered Victorian Aboriginal archaeological sites are protected by the State *Aboriginal Heritage Act 2006* and the federal *Aboriginal and Torres Strait Islander Heritage Act 1995.* All sites of national environmental significance, including threatened, endangered or rare flora and fauna species are protected under the *Environment Protection and Biodiversity Conservation Act 1999.* Permits and management plans may be required.	√				×	
You can also refer to the website of Aboriginal Affairs Victoria to determine whether the proposed activity is in the vicinity of a known aboriginal cultural heritage or in an area of sensitivity. Use the same website to determine if a cultural heritage permit and management plan is required.	√			×		

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Any works in sites of cultural and/or environmental heritage will require a construction management plan in place. Refer to Appendix 2 for minimum standards.	√			×		 *Bridge works on the Toponga River, which is known habitat and breeding grounds for the Spotted Tree Frog.*
For sites of significant environmental value: • Staff should ensure that nests or other fauna habitat is checked for animals and if detected, avoid disturbance to those areas. • Where practicable, trees with hollows should be retained, including dead trees. • Tree felling should not occur during the nesting season (generally spring) unless they pose an immediate risk to safety. • Any animal kills or injuries during construction or maintenance works must be reported to the project manager or Council's Environmental Programs Unit via an incident report process. • During construction and maintenance works, sites should be checked for animals trapped within the 'working zone'.		√			×	
Staff and/or contractors conducting works on-site must be made aware of the protected environmental or heritage values.		√			×	
All machinery should be kept out of areas that have been identified as environmentally or culturally significant.	√	√			×	

1.3 Land sub-division and development

The design of new sub-divisions and developments must maximise retention of remnant vegetation corridors and, where possible, retain and protect scattered paddock trees.

	Project Management Cycle		Type of compliance.			Applicable roadside value classification
Key Guidelines	**Planning & design**	**Delivery & Finalisation**	**Encourage**	**Mandatory**	**By Law**	
At all times designs/development proposals should be in line with the *Murrindindi Shire Planning Scheme* and the *Local Planning Policy* requirements. In order to do this information about flora and fauna existing on roadsides and private land must be obtained and the proposed work site inspected.	√				×	 *Protecting scenic and environmental values is an important outcome to achieve when sub-dividing and developing land.*
Maximise retention of ground storey, mid storey and canopy as well as other components at ground level such as logs, leaf litter and other vegetative materials.	√			×		
Identify opportunities to protect scenic and environmental values such as large to very large scattered paddock trees and remnant native vegetation - include these opportunities into project design.	√			×		
Look for opportunities to utilise remnant vegetation as part of the natural drainage design.	√		×			
In un-vegetated or sparsely vegetated areas identify opportunities for revegetation of potential wildlife corridors.	√			×		

	Project Management Cycle		Type of compliance.			Applicable roadside value classification
Key Guidelines	**Planning & design**	**Delivery & Finalisation**	**Encourage**	**Mandatory**	**By Law**	
Any restoration that can be done should play a significant role in improving habitat.						
Maintain wildlife corridors and linkages to increase plant and animal movement - allowing for dispersal, breeding, gene flow and access to foraging areas.	√			×		

2. Specific Practice

This section provides key guidelines for specific activities which may happen in the course of roadside works.

2.1 Dust, noise and vibration impacts

Reduce the impact of dust, noise and vibration on people, property, fauna, livestock and the natural environment.

	Project Management Cycle		Type of compliance			
Key Guidelines	**Planning & design**	**Delivery & Finalisation**	**Encouraged**	**Mandatory**	**By Law**	
Assess risk for noise and vibration impact and if high, notify affected people before construction commences and work out a plan to reduce noise during construction.	√		×			
Identify mitigation measures for controlling dust and vibration impacts.	√			×		
Where noise is an issue, use the quietest equipment available and/or, where possible, modify equipment to reduce noise (i.e. noise control kits, lining of truck trays).		√		×		
Use equipment during defined operating hours and locations.		√	×			

2.2 Erosion control

Reduce sediment run-off and erosion.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Minimise the amount of disturbance to soil where possible. Where soil movement is high make sure silt fences, traps or diversion banks are installed to prevent soil from moving off site or to high conservation value areas.	√	√	×			
Where disturbance of soil has occurred ensure prompt reseeding of grasses and/or revegetation of plants to the area.		√		×		
If revegetation is not possible, install catch drains that divert runoff to areas that have appropriate sediment control in place i.e. silt fence, jute matting, hay bales etc.		√		×		
If working less than 50m from a waterway silt fences and/traps must be installed and any silt build up is to be removed from the site so as to prevent sediment moving into waterways or streams.		√		×		

2.3 Job waste

Manage, remove and dispose of materials, fuels and job waste responsibly.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Identify if a planning permit is required for temporary storage of job waste at a work site.	√		×			
Identify opportunities to re-use and recycle materials such as mulch or pavement materials. Investigate ways in which surplus bitumen may be used.	√		×			
Ensure waste materials are not disposed of on roadsides and are allocated to sites designated for stockpiling and/or are taken off site to a secure site.		√		×		
Excess aggregate must be removed from roads and drains, and taken off site (unless they are able to be re-used). Do not spread on the roadside reserve. This will smother native vegetation such as regenerating trees, shrubs, grasses and flowers.		√		×		
Ensure fuels and chemicals are contained in appropriate storage tanks, have been checked and serviced for leakages and are kept in safe locations.		√		×		
Provide sealed bins for site waste to discourage animal pests.		√	×			

2.4 Hazardous Trees

Reduce risk to property and life posed by hazardous trees.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Inspections must be undertaken to determine whether or not the tree is a safety hazard. Requirements under the *Murrindindi Planning Scheme* must be observed.	√				×	
Tree assessment must be risk-based with priority placed on reducing hazard to property and human life. Explore options such as pruning, weight reduction and removal. If required seek advice from suitably qualified arborist.	√				×	
Only remove a standing tree that is assessed by a qualified arborist or nominated expert as a risk to property and human life.	√			×		
Council works crews and/or contractors must use the *Australian Standard 4373-2007 Pruning of Amenity Trees* to carry out sound removal and pruning techniques – unless there is an environmental benefit to do otherwise. Council's Environmental Programs Unit can assist on a case by case assessment, but further advice must be obtained from a qualified arborist. Minimal disturbance techniques should be employed on		√	×			

Key Guidelines	Project Management Cycle		Type of compliance			
	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
site to reduce impact on native vegetation.						
Ensure trees are felled into construction and maintenance zone, not into intact native vegetation. Always fell timber in the direction that minimises damage to surrounding vegetation. It may be necessary to remove the tree in sections to avoid disturbance to highly significant sites.		√	×			
If it does not pose a public safety risk, leave stumps for animal shelter.		√	×			
Ensure to make a plan for what will happen with removed timber. A balance is needed between retaining logs and branches (especially hollow ones) for habitat and the need to remove finer fuels from the site to reduce fuel load.		√	×			

2.5 Native vegetation removal

Only the minimum extent of native vegetation must be removed. At all times it is encouraged that avoid and minimise principles are considered.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Native vegetation can only be removed if a permit has been obtained and/or the works are exempted from a permit under the *Murrindindi Shire Planning Scheme.*	√				×	
Works proposing the removal of native vegetation must avoid or minimise impact at all times.	√			×		
All native vegetation removed under Council's public road exemption with DEPI must be recorded in accordance to the managing vegetation on roadsides agreement and sent to Council's Environmental Programs Unit for annual reporting to DEPI. This agreement is a requirement under Clause 52.17 provision of the *Murrindindi Planning Scheme.*	√				×	
Decisions to remove native vegetation will be made according to Council's Road Maintenance Service Plan and the Asset Management Plan's intervention levels.	√			×		
Non-invasive ground covers (especially in table drains) that do not impede road visibility and safety should be	√		×			

Native vegetation is protected under law.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
retained where possible to assist slow run-off in high rainfall events. If removal includes clearance of ground cover (or understory vegetation) in areas of environmental significance, crews or contractors should contact Council's Environmental Programs Unit for advice.			×			
If native vegetation removal involves the need to lop or prune trees branches, the *Australian Standard 4373-2007 Pruning of Amenity Trees* should be used to inform sound removal and pruning techniques that ensure the health of tree is not comprised (unless there is an environmental benefit to do otherwise). Minimal disturbance techniques should be employed on site to reduce impact on native vegetation.[1]		√	×			
Ensure trees are felled into the construction and maintenance zone, not into intact native vegetation. Always fell timber in the direction that minimises damage to surrounding vegetation. It may be possible to remove sections of the tree as opposed to felling an		√	×			

[1] For example, adopt natural target pruning techniques to ensure trees can recover faster from pruning wounds. The technique is a three cut method used to reduce the weight of the branch and prevent tearing of tissue back into the branch collar. Lopping trees to reduce height should be avoided. Instead, techniques such as 'drop-crotch cut' should be used.

Key Guidelines	Project Management Cycle		Type of compliance			
	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
entire tree.						
When removing branches, use hand or mechanical saws and adopt the techniques discussed above. Never use a backhoe bucket or earthmoving machinery to remove branches, unless approved by a suitably qualified arborist or Council's Environmental Programs Unit.		√	×			
Ensure to make a plan for what will happen with removed timber. A balance is needed between retaining logs and branches (especially hollow ones) for habitat and the need to remove finer fuels from the site to reduce fuel load.		√	×			

2.6 Roadside batters

Reduce sediment run-off and erosion from roadside batters.

	Project Management Cycle		Type of compliance.			
Key Guidelines	**Planning & design**	**Delivery & Finalisation**	**Encouraged**	**Mandatory**	**By Law**	
To protect batters from erosion, revegetate with native species (not exotic grasses) or cover batter with geo-textile or fibre matting.	√		×			 *Avoid designing steep batter slopes without appropriate erosion control measures.*
Avoid designing steep batter slops where possible. Where roadside batters exceed recommended incline, consider building a retaining wall or install a rock/wire gabion.	√		×			
To divert run-off down a batter - design a diversion bank across the top of the batter, or away from batter face.	√		×			
Ensure erosion stabilisation measures are installed during and immediately after constructing or upgrading a roadside batter. This would include measures outlined above such as: revegetation, installation of rock/wire gabion, geo-textile or fibre matting, water diversions etc.		√		×		
Take care that grading activities do not undercut the roadside batter.		√	×			
Monitor vegetative growth on batters to ensure it stays low-growing and free of regenerating trees that may interfere with line of sight clearance.		√	×			

2.7 Road drainage design

Road related drainage works should aim to minimise erosion, sedimentation and subsequent impacts on waterways and neighbouring properties.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Wherever practicable, ensure stormwater drainage is planned in accordance with the *Infrastructure Design Manual, the Murrindindi Shire Planning Scheme* and other key guides.[2]	√		×			
Drainage type should be selected for the site based on flood mapping information, proximity to waterways, slope, soil, rock type and environmental values on roadside.	√		×			
Drainage on roadsides subject to flooding or inundation, or within close proximity and connectivity to waterways, should not discharge directly into waterways or wetland areas. Where possible, the following options should be explored: • Swales or cut-off drains should be installed at 100m intervals and at least 50 meters prior to a stream crossing.	√		×			

[2] Examples: *Water Sensitive Road Design* (Wong, Breen and Lloyd 2000) and *Sediment Control on Unsealed Roads: A Handbook of Practice Guidelines for Improving Stormwater Quality* (Cardinia, Casey and Mornington Peninsula Councils and EPA, 2004).

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
• Sediment capture through the use of silt traps, silt fencing, barriers, sedimentation ponds or retaining basins. • Natural drainage reserves or artificial wetland areas to dissipate flow where practical.	√					 *Silt build up means more sediment in waterways (beyond natural levels) which affects hydrology, water quality and habitat values. A number of faunal groups and species are dependent on healthy waterways for survival.*

2.8 Road surface and drainage (table drains and cut off drains) maintenance

Ensure safe and efficient functioning of road while accommodating efforts to minimise impact on waterways, vegetation, and habitat values.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Before maintenance works are undertaken, ensure environmental checks are done as a matter of planning.	√			×		
Remember that drains should only be maintained when necessary to restore proper drainage function and capacity. Regular cleaning produces an erodible surface. Drains that have some obstacles like logs and debris are good to slow flow velocity (providing water is still effectively carried away from road).	√		×			
Ensure maintenance is done in accordance with Council's public road exemption with DEPI and Council's Environmental Standards in Infrastructure Works Policy.		√			×	
Drains may not have received the regular maintenance they require, leading to over grown vegetation or saplings in drains and/or compaction	√			×		

An open drain on Old Murrindindi Rd, susceptible to scouring, releasing sediment into Murrindindi River.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
issues on road surface/shoulder. When resourcing is obtained to undertake drain clearing the following must be considered: • On-site meetings on highly significant roadsides with relevant environment staff are required to ensure work area is defined. • Spreading of spoil is not to occur on highly significant areas of roadsides. • At highly sensitive sites, all spoil should be moved from the site due to its ability to smother/suffocate ground flora and tree roots, clog drains, introduce weeds and increase sediment loads into waterways. • If possible re-use spoil/material on un-sealed roads. Any spoil generated from shoulder or drainage works should be redirected towards the road pavement, and compacted into road shoulder. Spoil should not be left in piles on the roadside or on the road shoulders. • Jobs that redesign drains such as	√			×		 *An example of 'what not to do', in this instance spoil is dumped on top of a stand of mature trees which results in damage to root zone and suffocation.*

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
constructing swale drains or cut off table drains should avoid making drains wider deeper and longer than necessary, and should avoid disturbing adjacent vegetation.	√			×		
In any road maintenance job, machinery should be kept well away from any vegetation such as large trees, small shrubs and native grasses.		√		×		
Road grading should not extend beyond the road formation into the roadside reserve.		√	×			
Where possible, avoid working within the drip lines of trees to reduce damage to roots, trunks or limbs. To understand what the drip line of a tree is refer to Appendix 1.		√	×			

2.9 Road Widening and Upgrading

Avoid and minimise damage to vegetation and wildlife habitat while still accommodating road safety objectives.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Understand the environmental impact of your project by following the steps outlined in Figure 1, Page 7.	√			×		
Ensure compliance with the Murrindindi Planning Scheme for applications to remove, lop and destroy native vegetation and identify ways to avoid clearance where possible.	√				×	
Ensure other departments of Council are consulted so that related issues such as road traffic, vegetation retention, heritage values and utility service locations are factored into the design.	√			×		
Let the degree of environmental planning and approvals required assist in the prioritisation process for setting timelines in the capital works program. For example, consider programming works that have lower environmental impact (therefore less planning and approvals required) earlier in the program, rather than later.	√			×		
For works on *Highly Significant Roadsides or Significant*	√			×		

Road work machinery has a large environment footprint. It is important to understand the environmental values of your site so that appropriate machinery is operated with care.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Areas on a Roadsides, Council's tender and contractual conditions must reference the need to comply with this Code of Practice.						
Rectifying any environmental damage will be undertaken at the service provider's or contractor's expense within two months of damage occurring or as agreed with Council.	√			×		
A contractor must develop a Construction Environment Management Plan if it is determined that the project will have medium to high impact. Construction Environment Management Plans must be monitored and enforced by Council's Project Manager. Factors to consider in the development of such a plan, at a minimum, are listed in Appendix 2. It is important that site monitoring is regularly conducted during construction works with a site inspection 12 months post works.		√		×		

2.10 Site rehabilitation post works

Re-establish areas disturbed by construction and maintenance to an improved condition or at least to their original condition.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
The purpose of revegetation/rehabilitation must be clear; for example is it functional, environmental, visual or cultural. Seek advice from Council's Environmental Programs Unit about revegetation or rehabilitation activities.	√		×			

2.11 Slashing

Be responsible and strategic when slashing vegetation for maintenance or fuel load reduction purposes and organise programs in collaboration with spraying programs.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Slashing should not occur when native grasses or flowers such as orchids and lilies are in flowering season. Where possible alter the timing and/or approach to slashing if works will have a direct impact on the ability of native flora species to flower and set seed.	√	√	×			
To minimise weed spread, slashing should not occur when weeds are seeding.	√	√	×			
Blades on slashers should be set no lower than 150 mm above ground level to prevent damage to vegetation and soil (caused by blades scalping the ground).		√	×			
Where weeds are identifiable or obvious (i.e. St John's Wort, Blackberry, Broom, Phalaris, Chilean Needle Grass), plan slashing works in areas of lowest weed infestation first and then move towards areas of denser weed infestation. Ensure vehicles and machinery are cleaned down at each site before proceeding to the next work site.		√			×	

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Where slashing needs to occur within an entire roadside reserve (i.e. for fuel load reduction purposes); stakes should be hammered into the ground to protect groups of young trees and shrubs - especially when a tractor with slasher in tow is used.		√	×			 *Chocolate Lilies flowering on a roadside. Outside the flowering season this roadside would look like ordinary grass cover. Before you start your slashing works, check with the Environmental Unit at Council.*

2.12 Spraying

Apply herbicides responsibly when undertaking environmental and road maintenance works and organise programs in collaboration with slashing programs.

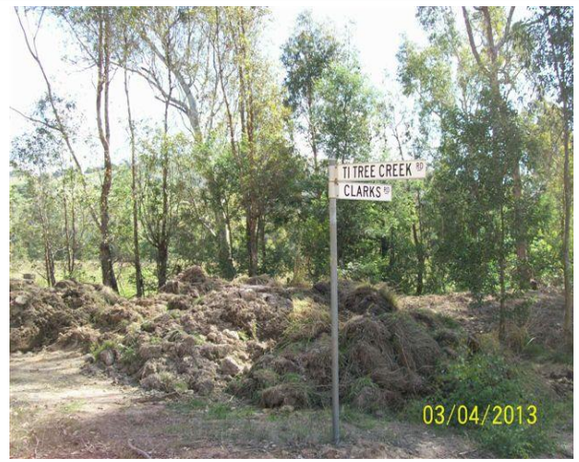
	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
All contractors used for spraying purposes must have undertaken training and preferably have an Australian Chemical Users Permit (ACUP) licence.	√			×		
Spray weeds in the correct season (i.e. when exotic grasses such as Phalaris are distinguishable from native species such as Kangaroo Grass). Preferably before seed set.	√		×			
For Council led infrastructure maintenance, only herbicides authorised by Council's Infrastructure Operations Department can be used. In highly sensitive areas, it is important to apply non-residual or environmentally friendly herbicides where possible, using the minimum amount required to be effective.	√			×		
Contractors or Council staff must ensure they keep appropriate records of including spray times, date, day, weather, wind speed, chemical used, location etc. and meet all other regulatory requirements of the *Agricultural and Veterinary Chemicals Act 1992.*		√			×	

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Where weeds exist in areas of high value native vegetation, it may help to mark native vegetation with highly visible tape. Ensure weed control techniques are specific, for example, drilling and filling, cutting and painting, using spray hoods or in some instances, hand pulling plants. Where possible, explore methods that have lower environmental risk when controlling vegetation along drainage lines/roadside reserves. For example consider brush cutting/power trimming as an alternative option.[3]		√	×			 *Routine spraying is part of Council's road safety obligations, especially for line of sight purposes.*
Use low pressure, large droplet size and spray in appropriate weather conditions to minimise spray drift (i.e. calm and dry conditions).		√	×			
Do not spray directly in dams or watercourses at anytime. If works are undertaken near waterways, frog-friendly herbicides such as Roundup Biactive must be used.		√		×		

[3] Performed incorrectly, spraying could kill all vegetation leaving ground exposed to further weed invasion and ongoing erosion. This has capacity to raise service levels on roads in relation to treating invasive weeds, controlling erosion and maintaining the condition of the road shoulder and surface pavement. Ongoing erosion has capacity to erode road shoulder and degrade road surface.

2.13 Stack and dump sites

Place materials on designated stack and dump sites to avoid impacts on native vegetation, waterways and neighbouring properties.

	Project Management Cycle		Type of compliance.			
Key Guidelines	**Planning & design**	**Delivery & Finalisation**	**Encouraged**	**Mandatory**	**By Law**	
Stack and dumpsites are to be located at sites specified by Council's Environmental Programs Unit during on-site assessments. Preferably, sites must be located on public land of low conservation significance, away from drip lines of trees, drainage lines, floodways and culverts and in areas of low visual amenity or landscape value.	√			×		 *This is an example of inappropriate placement of materials which are directly interfering with stands of native trees. Materials are to be dumped at sites specified by the Environmental Programs Unit.*
Ensure considerations are made for excess materials which cannot be safely retained on the road formation to be stacked at a designated site or alternatively, identify a process for any materials that can be salvaged and re-used.	√			×		
Environmental limits for each stockpile site are to be defined by stakes, coloured tape or fencing to avoid encroachment of weeds and pest animals.		√	×			
Ensure regular monitoring of stockpiles and where required, implement management actions that prevent erosion, weed recruitment, and wind-borne material loss.This can be achieved through methods such as		√	×			

	Project Management Cycle		Type of compliance.			
Key Guidelines	**Planning & design**	**Delivery & Finalisation**	**Encouraged**	**Mandatory**	**By Law**	
enclosing stockpiles with a silt fence, establishing a cut off drain, covering stockpiles in tarpaulin, spraying for weeds, keeping stockpile wet, and/or sealing with spray binder.			×			

2.14 Vehicle and machinery type and movement

Use the most suitable machinery for the job and minimise vehicle and machinery movement on road reserves to avoid disturbance to native vegetation.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Suitable areas for access, parking and turning must be located. If possible, select a low conservation value roadside. Seek advice from Council's Environmental Programs Unit.	√			×		 *A tractor with backhoe and bucket may have a high footprint in smaller jobs such as redesigning cut-off drains. A smaller machine such as bob-cat would be better for more sensitive areas.*
Vehicles and machinery are not permitted on roadside reserves that are very high to high conservation value or have rare, threatened or endangered species present.	√			×		
Ensure all site workers and managers are aware of locations for turning and parking through a job site induction briefing.		√		×		
Machinery must be parked in designated areas only.		√	×			
Where possible, on very high to high conservation value roadsides or significant areas on roadsides opt for the use of smaller machinery that is less likely to disturb native vegetation and is also likely to use less fuel. For example, where jobs allow, consider using ride on		√	×			

Key Guidelines	Project Management Cycle		Type of compliance			
	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
mowers, rather than tractors with slashers in tow.						
When undertaking works, operate machinery from the hard road surface or other cleared areas where possible, to reduce soil compaction, erosion, risk of bogging and subsequent clean-up of equipment.		√	×			
Any contractor engaged by Council who causes any environmental damage by failing to adhere to this Code of Practice will be required to rectify the damage, at the contractor's own expense, within the defect liability period.		√		×		

2.15 Vehicle and machinery servicing

Prevent the risk of oil or fuel spills at work sites.

	Project Management Cycle		Type of compliance.			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Ensure vehicles and/or machinery are parked in designated, marked areas.		√	×			 *Make sure your equipment is regularly checked before and after you leave for a job.*
Ensure machinery and/or storage tanks are adequately serviced before going on-site to prevent spillage of fuel and chemicals.		√	×			
Notify site manager of any fuel or chemical spills that may cause environmental harm.		√		×		
If damage has occurred on-site, the site is to be reinstated to an improved or at least to its original condition at the expense of Council or the contractor engaged.		√		×		

2.16 Vehicle and machinery hygiene

Reduce the spread of noxious and environmental weeds through proper hygiene practices that prevent the movement of soil and plant material between sites.

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
Make sure you can distinguish between declared noxious weeds declared in the *Catchment and Land Protection Act 1994* to be controlled versus native vegetation to be protected. Ask for assistance in identifying such weeds on-site. Contact the Environmental Programs Unit for help.	√				×	
Ensure declared noxious and environmental weed infestations at project sites are identified and made known to outdoor crew and/or contractor(s). Appropriate hygiene measures must be undertaken to control the spread of weeds in any type of job.	√	√			×	
When doing construction or maintenance works across multiple locations, weed control must be integrated into the works planning and delivery process.	√	√	×			
Commence work in areas of low weed infestation then move towards areas of high weed infestation. Always clean down machinery before leaving areas of weed		√	×			

	Project Management Cycle		Type of compliance			
Key Guidelines	Planning & design	Delivery & Finalisation	Encouraged	Mandatory	By Law	
infestation (especially when entering areas which have lower weed or no infestation).						 *Chilean Needle Grass in seed. If weeds are spotted make sure you report them to the Environmental Programs Unit and strictly follow the Code of Practice.*
Slash and mow areas infested with weeds before they seed.		√	×			
Imported topsoil (where required) is to be obtained from a trusted source. Ensure topsoil is spread away from the drainage lines.		√		×		
If works require the removal of soil, sand, gravel or stone containing or likely to contain noxious weeds or the disposal of noxious weeds, ensure excess materials are removed from site in a responsible manner such as depositing them at a secure site, and covering the load in transit.		√		×		

Further information:
Environmental Programs Unit, Murrindindi Shire Council
T: 5772 0716
T: 5772 0702
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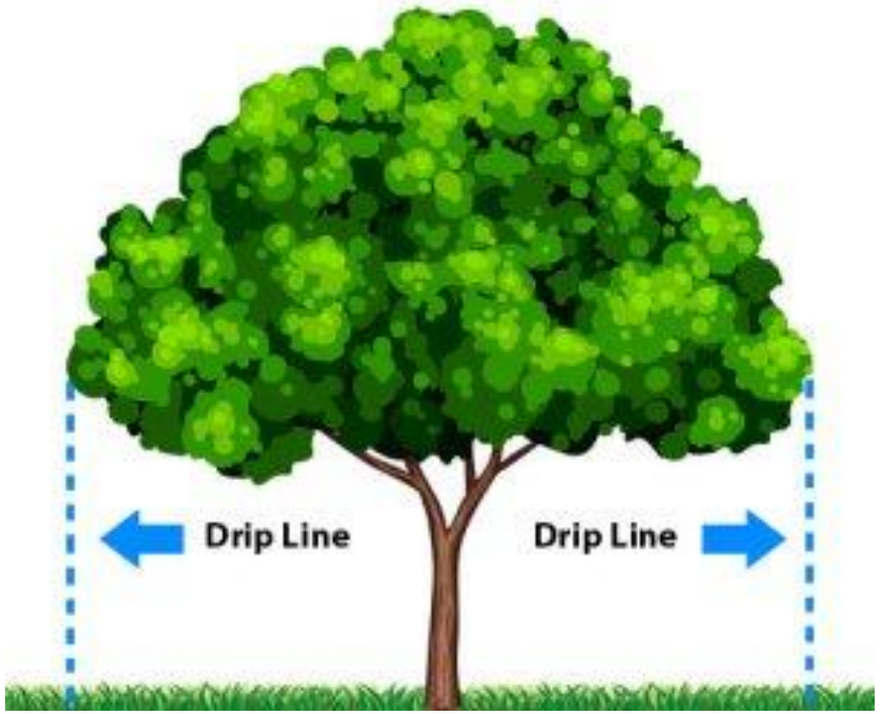
Appendix 1 – Drip line of a tree



Source: Sprinkle Warehouse Accessed 01 October 2014
http://sprinklerwarehouseblog.com/irrigation-blog-author/

Appendix 2 – Minimum Inclusions for a Construction Environmental Management Plan

A plan, at minimum, must:

- Detail work to be undertaken including steps to minimise environmental damage.
- Incorporate rehabilitation budget(s) in any works proposal where the removal or destruction of native vegetation is likely to occur.
- Specify all vegetation to be removed in the plan, identify offsets required and budget for a strategy to secure them.
- Confine activities within the work zone. This can be done with temporary fencing.
- Clearly mark out vegetation in construction zone.
- Work to avoid drip line of trees so root damage and soil compaction is minimised.
- Retain dead trees or limbs to provide habitat unless they pose a significant hazard as specified by Council or the Municipal Fire Prevention Officer. (This may require an arborist's report).
- Consider ways to retain native grasses and herbs.
- Develop a weed control and hygiene strategy in sites known to be highly infested with noxious, regionally controlled and regionally prohibited weeds (as declared in the *Catchment and Land Protection Act 1994).*
- Re-spread topsoil (providing it is weed-free) where excavation has occurred to maximise retention of native vegetation seeds in the soil.
- Carry out jobs in stages, so only a small work area is exposed at any time.
- Ensure stormwater run-off and sediment capture is incorporated in the project as per EPA *Environmental Guidelines for Major Construction Sites 1999*
- Confine vehicles and machinery to designated access tracks and existing road alignments.
- Select appropriate type and size of machine so disturbance and impact to vegetation is minimised.
- Import materials that are not weed or disease contaminated by purchasing from a reputable licensed quarry.
- Monitor new work sites for weed outbreaks, treat any weed/disease outbreaks as soon as they appear and determine sources of infestation.
- Rehabilitate site once works are completed in accordance with approved rehabilitation design and when conditions are favourable; and ensure such a design considers:
    - ✓ Power line clearance requirements
    - ✓ Species selection and methods of establishment are appropriate to site's natural characteristics, features and constraints.
    - ✓ Re-seeding with cover crops such as sterile rye grass to provide interim vegetation cover (where bare soil exposed)
    - ✓ Chip or mulch vegetation (only if it is weed free) and reuse for rehabilitation of affected areas.