ROADSIDE CONSERVATION CODE OF PRACTICE HANDBOOK FOR FIELD SERVICES STAFF AND CONTRACTORS

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1.0 INTRODUCTION

1.1 What is a Roadside?
A road reserve is established to provide a safe and effective network for vehicle movement and access for utility services. The roadside is usually the area between a property boundary and the road drain as detailed in the diagram below.

![Road Reserve Diagram](image)


1.2 Why is Roadside Conservation Important?
- Undisturbed roadides support a high diversity of native animals and plants.
- Native vegetation on roadides often includes some of the few remaining examples of intact habitat in highly developed landscapes.
- Roadides often provide the only wildlife corridors to other vegetation remnants.
- In the Goulburn Broken Catchment, there are native vegetation species known only to remain on roadides, and native wildlife that would otherwise not exist in some areas without roadside habitats.
- Native vegetation is easier to manage than introduced vegetation.
- Native grasses have lower fuel loads and therefore lower fire risk than introduced species.

2.0 GENERAL PRINCIPLES

Trees are good – bush is better!

Native vegetation includes trees, shrubs, grasses and groundcovers. Some vegetation habitats are naturally devoid of some layers such as native grasslands. All layers of bush have equal value.

![Vegetation Types](image)


General principles for roadside conservation include:
- Conserve existing native vegetation.
- Encourage re-establishment of native vegetation by conserving regeneration.
- Revegetate priority roadsides to create wildlife corridors and protect rare and threatened plants and animals.
- Acknowledge the importance roadside vegetation plays in providing habitat for native wildlife.
- Use best practice vegetation management to ensure safety of road users
- Conserve and protect rare and threatened plants and animals.

### 3.0 CONSERVATION VALUE OF ROADSIDES

A vehicle-based assessment of all roads outside townships, for which Council is the responsible authority, has been undertaken to determine a conservation value of high medium or low as outlined in the table below. A Roadside Conservation Values Map for specific roads is available through Council’s Environment staff.

<table>
<thead>
<tr>
<th>High Conservation Value</th>
<th>Rifle Butts Road, Mansfield</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Low disturbance</td>
<td></td>
</tr>
<tr>
<td>- Canopy, mid and lower native vegetation layers present (including regeneration)</td>
<td></td>
</tr>
<tr>
<td>- Low weed presence</td>
<td></td>
</tr>
<tr>
<td>- Native vegetation occurs across majority of roadside</td>
<td></td>
</tr>
<tr>
<td>- Includes a range of habitats</td>
<td></td>
</tr>
<tr>
<td>- May form a wildlife corridor</td>
<td></td>
</tr>
<tr>
<td>- May provide habitat for rare or threatened species</td>
<td></td>
</tr>
<tr>
<td>- Generally requires little maintenance</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medium Conservation Value</th>
<th>Mt Battery Road, Mansfield</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Moderate disturbance</td>
<td></td>
</tr>
<tr>
<td>- Native vegetation occurs mainly in patches</td>
<td></td>
</tr>
<tr>
<td>- Some regeneration</td>
<td></td>
</tr>
<tr>
<td>- Few habitat features</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Conservation Value</th>
<th>Pollards Road, Boorolite</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Substantially disturbed or modified</td>
<td></td>
</tr>
<tr>
<td>- Predominately non-native vegetation</td>
<td></td>
</tr>
<tr>
<td>- Little to nil regeneration</td>
<td></td>
</tr>
<tr>
<td>- Few habitat features</td>
<td></td>
</tr>
<tr>
<td>- Potentially an increased fire risk</td>
<td></td>
</tr>
</tbody>
</table>
4.0 GUIDELINES FOR ROADSIDE ACTIVITIES

4.1 Road Construction and Maintenance

➢ Assess Site Prior Work

An assessment of the road construction/maintenance site will identify areas of environmental significance. A checklist contained in Appendix 3 will assist Council and Contractor staff to conduct an assessment.

Contractors must arrange an initial site inspection with Council’s Engineering and Environment staff.

Council’s Rural Roads Supervisors must conduct an initial site inspection for works undertaken by Council, referring to Environment staff for high conservation value roadsides and as required for other works.

➢ Minimise Disturbance to Native Vegetation

Vegetation Removal

Native vegetation includes trees, shrubs, grasses and ground covers. Native vegetation removal on roadsides may require a Planning Permit. Consult your supervisor to determine if permits are required and if they have been obtained before commencing any proposed native vegetation removal, destruction or lopping.

See Appendix 1 for the vegetation Maintenance Envelope and the tree Branch Lopping Maintenance Envelope. See Appendix 4 Native Vegetation-Technical information sheet.

For non routine works, vegetation approved for removal must be identified by highly visible paint or tape.

Lopping Trees

Careful pruning of overhanging branches can often reduce the need for complete tree removal. Within the Maintenance Envelope up to one third of a trees foliage can be lopped without the need for a permit.

See Appendix 1 for approved routine roadside maintenance tree branch lopping parameters.

Consider the following before undertaking any lopping or pruning of any trees:

▪ safety of staff and road users
▪ the effect of the tree pruning on the appearance of the roadside
▪ the historical significance of the tree (Works Supervisor consult staff from Council’s Planning unit).

Stumps and logs should be retained for animal habitat and decomposition wherever possible on all roadsides of high and medium conservation value. Fine fuels from lopped branches (eucalyptus leaves and fine twigs) can be mulched and spread back over the area for decomposition.

Lopping must only be undertaken using industry standard practices by appropriately qualified staff or a qualified Arborist.

Fill and Spoil

Tree roots need to access water, nutrients and space to grow. Storing fill and driving even small vehicles around trees can damage fine roots and cause soil compaction. This can cause root damage, lack of oxygen and changes to water runoff patterns that can damage or kill trees.
Do not place fill or windrow spoil on native ground covers, grasses or tree roots as it will suffocate them and ultimately cause the vegetation to decline in health and perish. Remove all spoil from high conservation roadsides and dispose of off-site at an approved stockpile site (see Appendix 2)

![Diagram](image)


**Machinery Operation**

Machinery can cause considerable damage to native vegetation in a very short period of time.

In areas of high conservation value, machinery must only be operated on the road surface and property access points. In other areas, machinery must be restricted to the road surface, property access points and areas clear of native vegetation and weed infestations.

Machinery size and type must be suited to the works site. Large machinery working in a small space will increase the likelihood of accidental destruction of vegetation.

**Road design**

![Diagram](image)

Use designs that preserve tree roots

![Diagram](image)


Log, Branches and Timber Debris

Avoid ‘tidying up’ debris timber into piles. Piles harbour pest animals and weeds giving the false impression that trees have been removed. Tree logs and branches left on a roadside in a 'natural' scatter will provide habitat for native wildlife. Consult supervisors on the procedure for managing windfall timber created during extreme storm events.

Chapel Hill Road, Boorolite

Stockpiles

- Minimise the use of stockpiles by utilising best practice work methods to avoid double-handling of materials.
- Only place stockpiles at Council designated locations (Appendix 2); these should have safe traffic access but not effect visual amenity.
- Stockpiles must only be located on roadsides that have a low conservation value.
- Do not store materials within drip lines of existing trees or within drainage lines.
- The limits of each site must be defined by highly visible tape or temporary fencing.

➢ Control Erosion

Erosion is a process where exposed top soil is removed by the elements, such as wind and water movement. This produces sediment which silts drains, creeks and rivers.

The risk of erosion can be reduced by implementing the following management options:

- Minimise the amount of exposed surfaces and areas being actively worked at the same time.
- Minimise the timing between clearing and stripping of the site. Covering exposed surfaces with erosion control materials as each section of the works is complete will protect the soil.
- Installing and maintaining a combination of silt fences, jute matting and water diversion devices, such as catch drains, will maximise erosion control.
- Treat open drains to prevent erosion before adjacent ground is disturbed.
- Cover exposed surfaces such as stockpiles, with mulch or erosion control mats.
- Coordinate work schedules when more than one party is working on a site. This will ensure delays in construction activities are minimised, reducing the time disturbed land remains unstable.
- Keep drainage line soil loose to enable prompt revegetation.
- Program construction activities to avoid periods of severe weather events such as storms and heavy rain, to minimise erosion where soil is exposed
- Continually assess the effectiveness of erosion control measures and make improvements where necessary.

Topsoil stock pile surrounded by a silt fence


- **Prevent Spread of Weeds**

Noxious and environmental weeds can be spread during road construction and maintenance projects via machinery, vehicles, water and movement of soil. Council is obligated under the *Catchment and Land Protection Act 1994* to prevent the spread of noxious weeds.

The spread of weeds must be controlled by:
- Beginning work in areas of high conservation value and then moving to areas of lower conservation value.
- Treating a weed infestation in a project construction zone with a chemical application before the project commences; refer Sections 4.3 and 4.4 Spraying and Slashing.
- Brushing/blowing/washing machinery before leaving areas of weed infestation.
- Brushing/blowing/washing machinery before entering areas which have low weed infestation and/or an area of intact native vegetation in the lower, mid and upper storeys.

Machinery should be washed/blowed/brushed down at least 500m from creeks and vegetation of high conservation value.
Machinery wash-down unit


- **Minimise Disturbance to Native Animals**

  Roadside native vegetation provides a habitat for native wildlife and provides corridors for the movement of animals. Efforts to protect fauna habitats, tend to focus on tree protection; however, many species of native fauna live at ground level. It is important to note that native wildlife includes soil organisms, insects, mammals, birds and reptiles.

  Minimise disturbance by:
  - Avoiding and minimising machinery movement in vegetated areas.
  - Making project site staff aware of the potential presence of fauna.
  - Retaining trees with hollows, including dead trees and fallen logs and branches at ground level.
  - Avoiding tree felling during nesting season, unless the trees are deemed to pose an immediate risk to safety.

- **Minimise Disturbance to Cultural Heritage**

  Road construction and maintenance activities that involve ground disturbance, and/or tree removal, may impact cultural heritage objects and places. Mansfield Shire Council is obligated by legislation to protect both indigenous and non-indigenous cultural heritage sites.

  Identified sites and objects must be marked on a site map that also identifies other significant areas, such as, ‘no go’, ‘construction’ and native vegetation removal and weed infestation zones.

  Work should cease immediately if a cultural heritage site or artefact is found, and the works supervisor must contact the Engineering Manager.

- **Manage Waste and Litter**

  These measures must be implemented for waste management;
  - Wherever possible do not take material packaging on site.
  - Remove waste from site and dispose at a waste transfer station.
  - Storage, transport, use and disposal of hazardous materials must be in accordance; with the manufacturer's guidelines, material safety data sheet and applicable legislation.
- Reuse material such as topsoil, mulch, large logs (for wildlife habitat) on site where possible.
- Weather-proof rubbish and recycling disposal facilities must be available on.

➢ **Emergency Procedure**

If an environmental incident occurs as a direct result of road construction and maintenance works, immediately inform the works supervisor who must then inform Council’s Risk Management Officer.

4.2 **Fencing**

If fencing works are undertaken by Council (for Council managed land) the following works guidelines must be implemented:

- Biodiversity assets and roadside conservation value must be identified and understood by those undertaking the work.
- The fence line should be re-aligned, relocated or vegetation incorporated into the fence design before native vegetation removal is considered.
- A staff member from Council’s Planning or Environment Units must be consulted if native vegetation removal is deemed unavoidable.
- Works and machinery operation must be conducted from the Council managed/owned property side of the road reserve boundary.
- The extent and location of works must be clearly defined and understood by those undertaking the work.
- Waste must not be left on the road reserve.
- Erosion and sediment control measures must be in place.
- A minimum extent of grass can be slashed along the fence line (minimum of 100mm high for native grasses) if impeding work. The area must not be graded or ploughed.

4.3 **Slashing**

Slashing on roadsides has a high risk of removing or destroying native vegetation, incurring loss of, or damage to, habitats and causing accidental spread of weeds.

Due to the potential serious risks to biodiversity, mowing/slashing on roadsides outside of townships should be avoided wherever possible especially on roadsides of high conservation value. Native vegetation removal caused by mowing/slashing or spraying may require a Planning Permit. The works supervisor must consult staff from Council’s Planning or Environment Unit if native vegetation removal, destruction or lopping is likely as a direct result of mowing/slashing.

Native vegetation must be clearly identified by high visible tape or temporary fencing prior to mowing or slashing.

Removal of grass (native or exotic) for fire prevention must comply with Council’s Municipal Fire Management Plan, and be approved by Council Fire Prevention and Environment staff. Slashing/mowing of applicable areas must be undertaken by Council or approved contractor with conditions of machinery hygiene maintained to prevent weed spread. A minimum mowing height of 100mm must be timed just prior to the commencement of the Fire Hazard Period.

Mowing or Slashing must be avoided on high conservation value roadsides wherever possible.
4.4 Spraying
Spraying on roadsides has a high risk of removing or destroying native vegetation, incurring loss of, or damage to, habitats and causing accidental spread of weeds.

Herbicides should only be used to control weeds when other alternatives are not suitable.

Council staff or contractors undertaking herbicide application must have appropriate qualifications (Chemcert/ACUP).

Damaging plants other than weeds can cause greater weed problems due to larger areas of disturbance. This risk must be reduced by:
- Marking native vegetation on a site map and/or with highly visible tape or temporary fencing.
- Spraying weeds from a close distance.
- Using low pressure and large droplet size to minimise drift.
- Spraying in calm and dry weather conditions.

Broad scale spraying targeting all ground cover vegetation must not be allowed on roadsides unless approved by Council’s Environment staff and Engineering Manager.

In instances where weeds sit among native vegetation, make sure weed control techniques are specific, such as:
- Drilling and filling, or cutting and painting.
- Using specific herbicides.
- Using spray hoods where possible.
- Hand pulling (where weed occurrence is minimal).

While conducting weed control works, consideration must be given to managing spread of weeds. This can be controlled by:
- Washing/blowing/brushing down machinery before leaving weed infested areas.
- Washing/blowing/brushing down machinery before entering areas which have low weed infestation.
- Beginning work in areas of low infestation then moving to areas of high infestation.

Dead vegetation created by spraying works can be left to undergo decomposition, or if considered a fire hazard, mulch and spread back over the area rather than being ‘cleaned up’.
Appendix 1 - Maintenance Envelope

Vegetation Maintenance Envelope

Source: the Routine Road Maintenance Envelope Flowcharts have been adapted from the Greater Shepparton City Council Roadside Management Strategy 2008.

ANY other vegetation that needs to be removed that is beyond 1 metre from the lowest point in the drain MUST be approved by Council’s Field Services Coordinator and the Environment Unit.
ANY other vegetation that needs to be removed that is outside the lopping maintenance envelope MUST be approved by Council’s Field Services Coordinator and the Environment Unit.
Appendix 2 – Approved Stockpile Sites

The following sites can be used as temporary storage areas:

- Corner Old Tolmie Road and Mansfield-Whitfield Road
- Corner Barwite Road and Mansfield-Whitfield Road
- Corner Kingston Parade and Maroondah Highway
- Corner Buttercup Road and Mt Buller Road
- Corner Piries-Goughs Bay Road and Mansfield-Woods Point Road
- Mansfield-Woods Point Road just prior to Howqua Inlet township (heading to Jamieson)
- Corner of Midland Highway and Midland Link
- Midland Highway at large sign for Lake Nillahcootie
- Corner Black Swamp Road and Midland Link
- Corner Ancona Road and Maroondah Highway
- Corner of North Creek Road and Maroondah Highway
- 2 kilometres down Mansfield-Euroa Road heading towards Euroa from intersection with Maroondah Highway
### Appendix 3 – Road Construction/Maintenance Environmental Assessment Checklist

<table>
<thead>
<tr>
<th>Major construction works undertaken by external contractor</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Referred to Planning or Environment staff for environmental assessment 3 months prior to project commencement</td>
<td>✓</td>
</tr>
<tr>
<td>On site inspection involving Project Coordinator, Contractor Project/Site Manager - outcomes recorded on file</td>
<td></td>
</tr>
<tr>
<td>Contractor aware of and familiar with Councils Roadside Conservation Management Plan?</td>
<td></td>
</tr>
<tr>
<td>Contractor submitted Environmental Management Plan outlining strategies for:</td>
<td></td>
</tr>
<tr>
<td>• minimising disturbance to native vegetation</td>
<td></td>
</tr>
<tr>
<td>• preventing soil and water pollution</td>
<td></td>
</tr>
<tr>
<td>• erosion control</td>
<td></td>
</tr>
<tr>
<td>• management of excess spoil</td>
<td></td>
</tr>
<tr>
<td>• importation of soil materials</td>
<td></td>
</tr>
<tr>
<td>• preventing spread of weeds</td>
<td></td>
</tr>
<tr>
<td>• minimising disturbance to native fauna</td>
<td></td>
</tr>
<tr>
<td>• minimisation disturbance to cultural heritage</td>
<td></td>
</tr>
<tr>
<td>• waste management – reduce, reuse, recycle</td>
<td></td>
</tr>
<tr>
<td>• planting offsets/rehabilitation of disturbed areas</td>
<td></td>
</tr>
<tr>
<td>• emergency procedure</td>
<td></td>
</tr>
<tr>
<td>• monitoring and evaluation reporting</td>
<td></td>
</tr>
<tr>
<td>Environmental Management Plan referred to Environment staff</td>
<td></td>
</tr>
<tr>
<td>Planning Permit Required? See Planning or Environment staff</td>
<td></td>
</tr>
<tr>
<td>Has a site map been developed by contractor showing</td>
<td></td>
</tr>
<tr>
<td>• ‘vegetation removal zones’,</td>
<td></td>
</tr>
<tr>
<td>• ‘construction zone’</td>
<td></td>
</tr>
<tr>
<td>• ‘no go zone’</td>
<td></td>
</tr>
<tr>
<td>• Identified weed infestation zones</td>
<td></td>
</tr>
<tr>
<td>• rare and threatened species</td>
<td></td>
</tr>
<tr>
<td>Is water being used ‘fit for purpose’?</td>
<td></td>
</tr>
<tr>
<td>Has an onsite inspection been arranged on the finalisation of the project to ensure compliance with the Environmental Management Plan?</td>
<td></td>
</tr>
<tr>
<td>Road construction and maintenance undertaken by Council staff</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>--</td>
</tr>
<tr>
<td>If the roadside has a high conservation value has the construction or maintenance project been referred to Environment staff for environmental assessment?</td>
<td></td>
</tr>
<tr>
<td>Are the staff involved in the works aware of environmental management operational techniques as recommended by the <em>Roadside Conservation Code of Practice for Field Services Staff and Contractors Handbook</em>?</td>
<td></td>
</tr>
<tr>
<td>Has a site map been developed indicating special areas such as rare and threatened species and weed infestations?</td>
<td></td>
</tr>
<tr>
<td>Is any native vegetation removal planned? Does the removal require a planning permit and offsets? – see Planning or Environment staff</td>
<td></td>
</tr>
<tr>
<td>If the roadside has a high conservation value, have methods for excess spoil disposal and management of ground vegetation debris been developed and agreed on?</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 4 - Native Vegetation-Technical Information Sheet
Native Vegetation  
Technical information sheet

Defining an acceptable distance for tree retention during construction works

Native vegetation technical information sheet

This information sheet is provided to clarify and supplement the information contained in Victoria's Native Vegetation Management: A Framework for Action (DNRE 2002) and the Guide Assessment of Referred Planning Permit Applications (DSE 2007).

Defining an acceptable distance for tree retention during construction works

Construction projects that involve earthworks can cause indirect losses of native vegetation. Of particular concern is the longer-term impact of soil compaction and excavation (e.g. trenching for pipelines, cabling, etc) close to trees and the effects on tree health.

To prevent indirect losses of native vegetation it is recommended that Tree Retention Zones (TRZs) be implemented for the duration of construction activities.

A TRZ is a specific area above and below the ground, with a radius 12 x the Diameter at Breast Height (DBH) (see figure 1). The TRZ of trees should be no less than 1 m or greater than 15 m. The TRZ of tree ferns should not be less than 1 m outside the crown projection.

It is recommended that during construction activities, physical barriers be erected to delimitate the TRZ.

During construction, the following activities should be excluded from the TRZ:

- machine excavation including trenching
- directional drilling that is less than 600 mm deep
- excavation for slit fencing
- storage
- preparation of chemicals, including preparation of cement products
- parking of vehicles and plant
- refuelling
- dumping of waste
- placement of fill
- temporary or permanent installation of utilities and signage
- physical damage to the tree.

By default, a tree will be considered lost and require an offset if one of the above activities occurs over more than 10% of the total area of the TRZ. However, if a qualified arborist confirms that the specific works will not significantly damage the tree it will be considered retained and no offset will be required.

In some cases construction works may occur within areas that have been subject to previous soil disturbance through ongoing agricultural activities. Where work within the TRZ results in no additional soil disturbance than has occurred through previous ongoing agricultural activities, such as cropping or cultivation, the trees will not be considered lost and no offset will be required.

Please note, for a tree to be used as an offset for other tree clearing, it must meet the definition of Protection of a tree on page 26 of the Guide for Assessment of Referred Planning Permit Applications (DSE 2007).


1 The Guide for Assessment of Referred Planning Permit Applications (DSE 2007) (pg 28) defines "protection of a tree" to be an area with twice the canopy diameter of the tree fenced and protected from adverse impacts: grazing, burning and soil disturbance not permitted, fallen timber retained, weeds controlled, and other intervention and/or management if necessary to ensure adequate natural regeneration or planting to occur.
Defining an acceptable distance for tree retention

Figure 1 Definitive lost/retained boundary set by Tree Retention Zone.

Further information
For further information on native vegetation, please contact the DSE Customer Service Centre on 136 186 or visit the DSE website at:

References
Department of Natural Resources and Environment (DNR 2002). *Victoria’s Native Vegetation Management: A Framework for Action.*
Department of Natural Resources and Environment, East Melbourne.
