

Guidelines for the Management of Roadside Native Vegetation and Regrowth Vegetation

Under Native Vegetation Regulation 11(23)

Native Vegetation Council

Endorsed 3 July 2019 (amended September 2020)



Government
of South Australia



Native Vegetation
Council

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Introduction

What are the 'Guidelines for the Management of Roadside Native Vegetation and Regrowth Vegetation'?

Native roadside vegetation is considered to be of significant ecological value, as it often contains threatened plant species and vegetation communities, and provides habitat for native wildlife. As such, it is protected in South Australia under both the *Local Government Act 1999* and the *Native Vegetation Act 1991*.

However, this vegetation can create issues for road users, such as impeding vehicle movement, affecting sightlines and presenting possible hazards to errant vehicles. This means there are times when clearing native vegetation is crucial.

Under the *Local Government Act*, any removal or disturbance of roadside vegetation requires the permission of the local council. Under the *Native Vegetation Act*, removal or disturbance of roadside vegetation also requires the permission of the Native Vegetation Council, unless a specific exemption applies.

These Guidelines for the Management of Roadside Native Vegetation and Regrowth Vegetation have been prepared to provide parameters for local councils and the Department of Planning, Transport and Infrastructure (DPTI) to manage native vegetation in road reserves to maintain the safety and visibility of roadsides while retaining important native vegetation values.

The guidelines state the circumstances where approval is required by the Native Vegetation Council and how it is to be obtained, outline a pathway for clearing native vegetation that poses a safety concern, and provide avenues for landholders who are adjacent to road reserves to manage vegetation in particular circumstances.

This document replaces the "Guidelines for the Management of Roadside Vegetation" (NVC, 2012). One significant change is that the management of native vegetation regrowth on roadsides has been extended to allow clearance of regrowth vegetation of up to 20 years of age, whereas previously only regrowth of up to 5 years of age was allowed to be cleared. This change will allow local councils and DPTI to manage the immediate regrowth (1m into verge) along their roadsides without requiring any approval, while allowing clearance of regrowth further from the road (2-3m) through an approval process.

What legislation informs these guidelines?

The guidelines comply with Section 25 of the *Native Vegetation Act 1991*, which relates to Guidelines for the application of assistance and the management of native vegetation.

Specifically, these guidelines have been developed under Part 3, Division 4, Regulation 11(23) to allow the clearance of vegetation that is growing or situated on a road reserve or rail corridor for the purpose of:

- a) ensuring the safety of persons entering or passing the land, or
- b) controlling pests on the land

Under this regulation, clearing vegetation can only occur if:

- i. the clearance complies with these guidelines;
- or**
- ii. the clearance complies with a Roadside Management Plan prepared by the Local Council or DPTI and approved by the Native Vegetation Council
- and**
- iii. the clearance meets all the other requirements of Regulation 11.

Importance of protecting native vegetation

Native vegetation along roadsides is significant for many reasons:

It contains threatened plants species and vegetation communities

The legacy of land clearance in South Australia means that much of the state's remnant native vegetation is located on roadsides and in road reserves. This is particularly true in agricultural zones,

For the most part, this vegetation has never been cleared or grazed, and in some regions it may be the only remnant pre-European vegetation that exists, so it often contains threatened plant species and vegetation communities.

It provides habitat for native wildlife

Native vegetation provides habitat for native wildlife, and often supports populations of threatened species. For example, mature roadside trees contain resources like hollows that are less common in younger, surrounding vegetation.

Roadside vegetation, along with other remnant vegetation and scattered paddock trees, can also help wildlife, particularly birds, move through the landscape.

It also serves as a valuable source for pollinators and can provide seed for revegetation projects. For adjoining landholders, this vegetation also provides a shelterbelt that usually requires little maintenance.

It has aesthetic and amenity values

Roadside vegetation provides a range of social benefits that include both aesthetic and amenity values. It can also be beneficial for road maintenance and safety, including providing shelter from wind and shading sun glare, defining curves in roads and enhancing driver alertness.

It also lowers local water tables that may affect the road formation, stabilising batters and embankments and preventing weeds from becoming established.

Alternatives to clearing vegetation

While these guidelines focus on how to clear regrowth vegetation, the Native Vegetation Council encourages local councils and DPTI to continue to find alternatives to vegetation clearance where practicable. This includes installing guardrails, erecting additional signs or reducing road speed limits.

If a local council wants to undertake management of roadside vegetation in manner that is not consistent with these guidelines, it can develop a Roadside Vegetation Management Plan for their local council area for consideration by the Native Vegetation Council.

Roadside Vegetation Management Plans must be development in accordance with Part 4 of these guidelines and must not result in clearances that would have significant adverse impacts on native vegetation.

Note: Individual Roadside Vegetation Management Plans that have already been endorsed by the Native Vegetation Council will continue to be recognised and will be re-assessed if the local council wishes to continue implementing it past its expiry date. After this date, the plan will be reviewed by the Native Vegetation Council every 5 years.

Understanding the guidelines

The Guidelines for the Management of Roadside Native Vegetation and Regrowth Vegetation is divided into four parts:

Part 1: Management of roadside vegetation.

This section covers clearance activities that can be undertaken on the:

- primary envelope
- secondary envelope
- verge.

It also contains information about any associated processes that require approvals.

Part 2: Framework of public safety

This section covers the process for applying to clear native vegetation for road intersections and roadsides for safety purposes.

Part 3: Other clearance activities relating to roadside vegetation

This section covers any other clearance activities that may occur on a roadside that will impact native vegetation.

Part 4: Developing a management plan

This section covers the information that needs to be included when preparing a management plan for consideration by the Native Vegetation Council.

Definitions

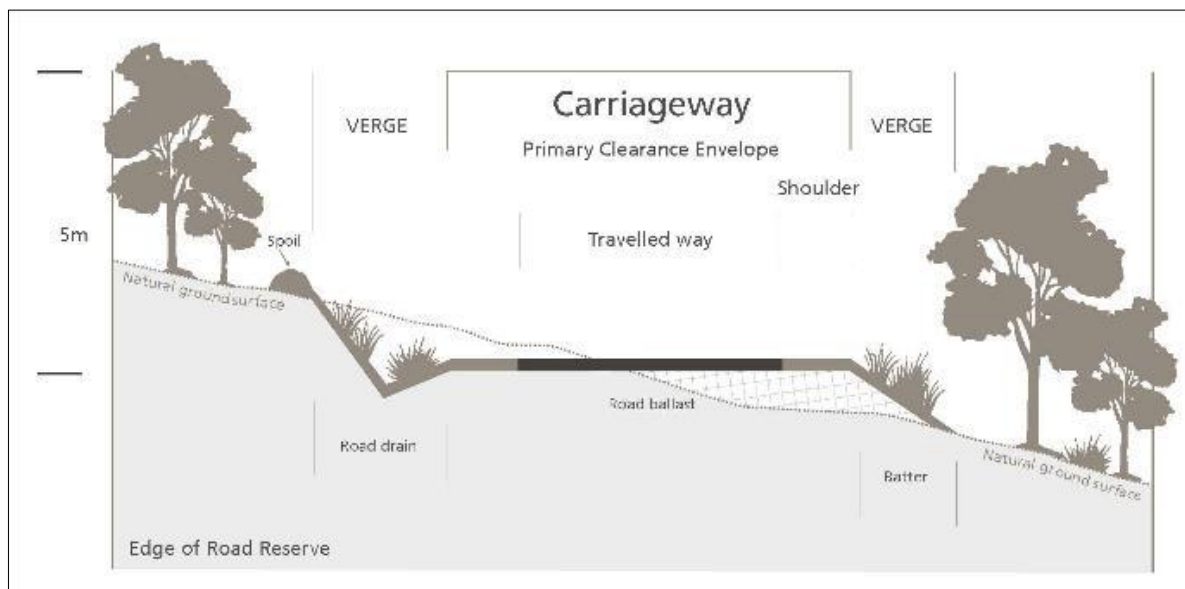


Figure 1. Roadside definitions.

Carriageway – The portion of a road or bridge devoted particularly to the use of vehicles, inclusive of shoulders and auxiliary lanes (Austroads, 2003).

Shoulder – The portion of the formed carriageway that is adjacent to the traffic lane and flush with the surface of the pavement (Austroads, 2010).

Travelled way – The portion of a carriageway ordinarily assigned to moving traffic, and exclusive of shoulders and parking lanes.

Verge – The portion of the formation not covered by the carriageway or footpath (Austroads, 2010). This is typically the strip beyond the shoulder comprising the area cleared when the road was constructed, including drains (excluding mitre drains) and batters. There is usually a small embankment or change in ground surface that identifies the outer edge of the verge.

Example:

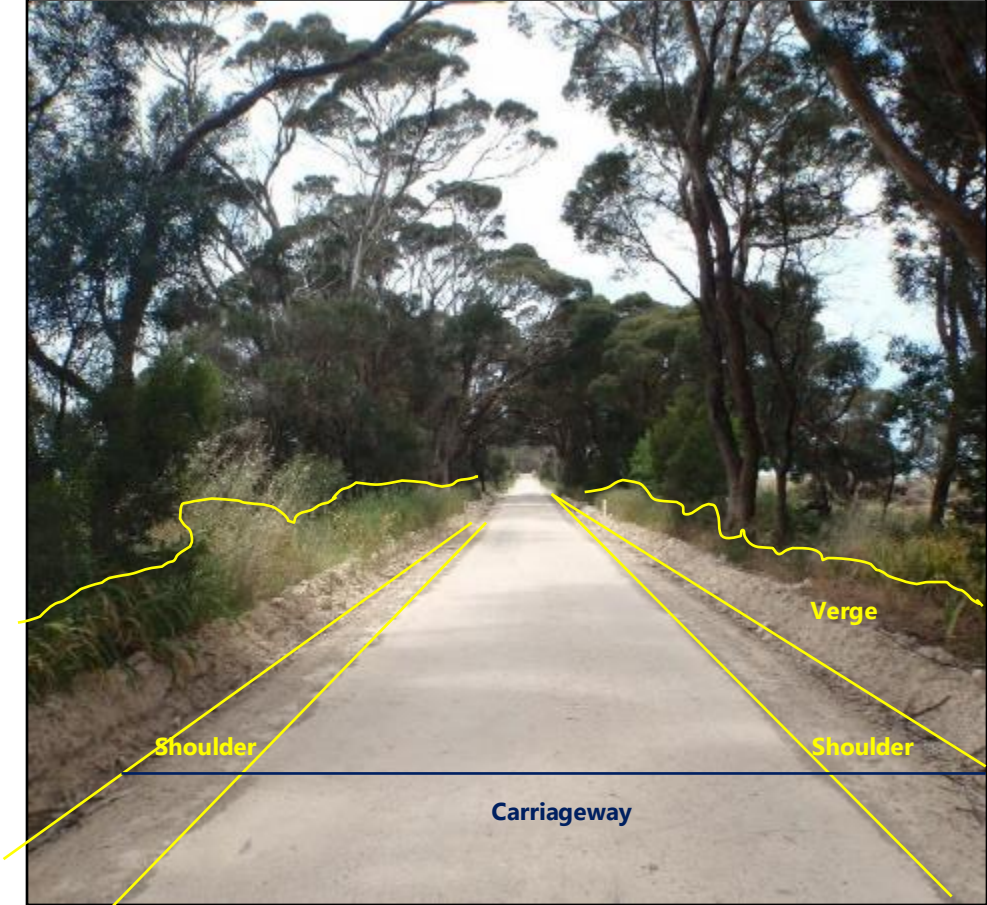


Photo 1. Typical breakdown of a dirt road, where shoulder and verge size do change.

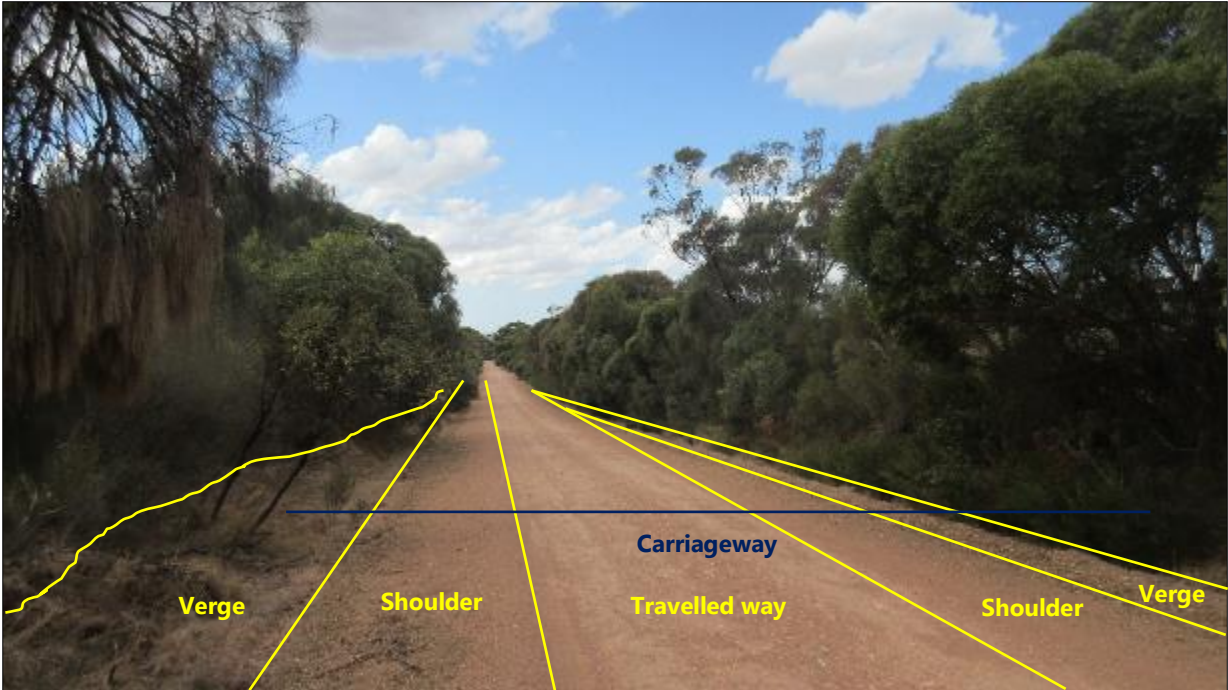


Photo 2. Example of the varying sizes of the travelled way, shoulder and verge.

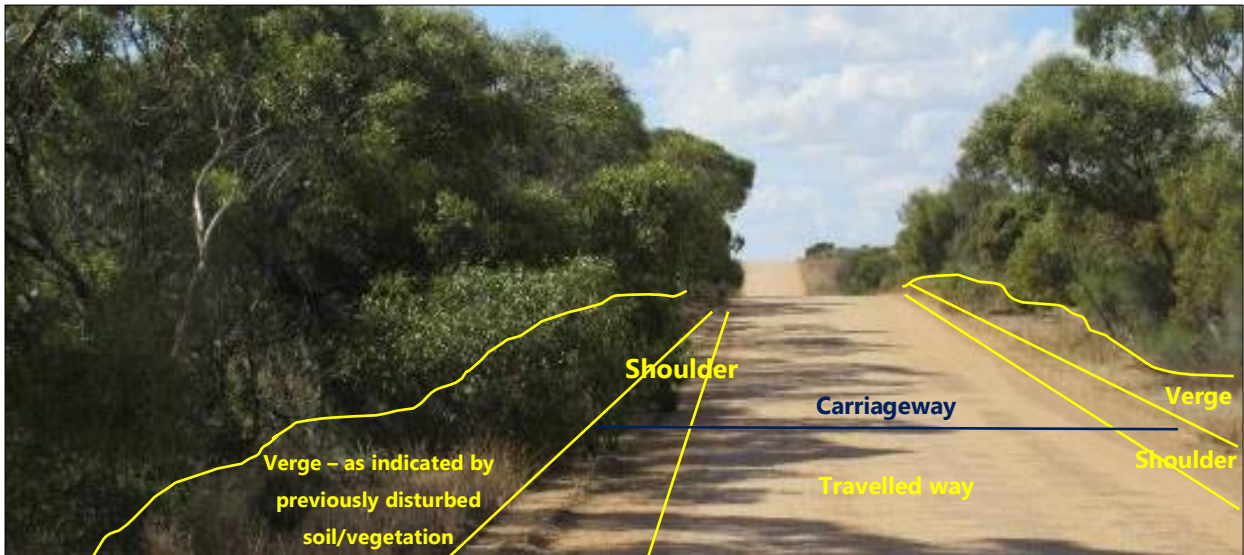


Photo 3. Rural dirt road where the verge is distinctly different on either side of the road.



Photo 4. A rural sealed road, with an obvious shoulder and distinct verge and natural ground surface present



Photo 5. A rural sealed road where a dirt road appears to have been sealed, including the shoulder, therefore the travelled way is directly adjacent the verge.

Mitigation Hierarchy

Prior to any clearance, any clearance activities need to consider the 'Mitigation Hierarchy', a fundamental principle of the Native Vegetation Regulations. It has four requirements:

- **Avoidance** – Measures must be taken to avoid clearing native vegetation wherever possible.
- **Minimisation** – If clearing native vegetation cannot be avoided, measures must be taken to minimise the duration, intensity and extent of impacts of the clearance on biological diversity as much as possible (whether the impact is direct, indirect or cumulative).
- **Rehabilitation or restoration** – If clearing native vegetation cannot be avoided or minimised, measures must be taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been destroyed, as a result of the clearance.
- **Offset** – Any adverse impact on native vegetation or ecosystems that cannot be avoided or minimised must be offset by the achievement of a significant environmental benefit that outweighs that impact.

Operating Requirements

All roadside vegetation management must be undertaken in accordance with these requirements:

1. Where clearance is restricted to regrowth vegetation only, clearing any vegetation that is more than 20 years old will require an application to the Native Vegetation Council.
2. Use the most low-impact methods possible for the given activity. Ensure works cause minimal ground disturbance, cut cleanly rather than breaking branches, and use low-impact methods like slashing, trimming, mowing, or rolling.
3. Limit the use of herbicides to spraying around roadside furniture and for selective weed control.
4. Ensure graders and other high-impact machinery do not intrude beyond the existing carriageway width, as grading a little further each time can have significant impact over a number of years).
5. Position mitre drains in areas devoid of native vegetation (unless clearance approval is given).
6. Ensure that drains do not deposit sediment into native vegetation, waterways or neighbouring private land.
7. Minimise soil disturbance and general intrusion beyond the designated carriageway, as disturbance encourages weeds that compete with native species, leading to potential increases in maintenance costs. More specifically:
 - a. Parking or turning machinery must be at a limited number of designated sites that do not have native vegetation.
 - b. Materials must be stockpiled at a limited number of designated sites that do not have native vegetation;
 - c. Equipment must be cleaned on-site before moving to other sites. . This is particularly important where machinery is operating in weed-infested or infected areas (e.g. land affected by *Phytophthora* spp.);
 - d. Any required tree-trimming must be performed in accordance with recognised arboriculture standards.
 - e. Any debris from trimming operations must not be deposited on or among other native vegetation and must be disposed of in a manner that does not affect native vegetation, unless it is useful as habitat for wildlife, or is scattered sparsely among the remaining vegetation.
8. Threatened plant species on roadsides must be mapped, where possible, and roadworks at those sites must be carefully planned to avoid any impact to those plants. It is recommended that roadside markers are installed to identify sites with threatened plant species, and that best-practice training is undertaken by staff and contractors.
9. Retain native vegetation, including dead timber, wherever possible and integrate it into revegetation programs. Particular care must be taken to preserve areas of native grasses, which can be difficult to distinguish from exotic grasses.
10. Wherever possible, clear exotic vegetation or undertake proposed works on already cleared land in preference to clearing native roadside vegetation.
11. Start works with clean machinery in areas of less degraded vegetation and work towards the more degraded sites. This will help to prevent spreading weeds and, in turn, reduce ongoing maintenance.

Part 1: Management of roadside vegetation

Adequate vertical and lateral clearance of roadside vegetation is needed for legal-height vehicles to safely use the full width of a road's traffic lanes.

Additional clearance is usually needed at intersections, crests, on the inside of curves and around roadside furniture such as signs and delineation devices. The amount of extra clearance required varies according to the standard of the road, the type and amount of traffic, and the characteristics of the vegetation.

Details about the type of clearance that is permitted for roadside vegetation maintenance and the process that needs to be followed is detailed in the following sections:

Section 1 – Primary Clearance Envelope

Section 2 – Secondary Clearance Envelope

Section 3 – Verge clearance.

Section 1 – Primary clearance envelopes

The **primary clearance envelope** refers to the area of the road that will support regular vehicle movement within the carriageway (travelled way and shoulder). Clearance is permitted within the envelope as it is considered important in order to maintain the safety of the road users.

In addition to the Operating Requirements listed on Page 9, specific requirements apply for primary clearance envelopes:

1.1 Operating requirements

Within the primary clearance envelope:

1. Vegetation clearance is required to allow for **legal-height** vehicles (i.e. vehicles measuring 4.6m in height or less) to pass along the full width of the carriageway. To allow for regrowth between pruning and sagging of branches caused by wet or windy conditions, a clearance height of up to 6m may be maintained within the primary clearance envelope.
2. For **sealed roads**, the primary clearance envelope **of up to 6m** is to be measured from the **edge of the shoulder**, which represents the edge of the carriageway.
3. For **unsealed roads**, the primary clearance envelope of **up to 6m** is to be measured from the **edge of the grader line**, which is taken to be the edge of the carriageway. Grading must be kept to the pre-existing width.
4. Any regrowth native vegetation may be cleared within the carriageway where it extends into the primary clearance envelope. In addition, limbs extending into the primary clearance envelope can be trimmed back to the trunk or major limb in a manner to ensure the health of the tree is maintained (see Figure 2). Removal to the base is not permitted.

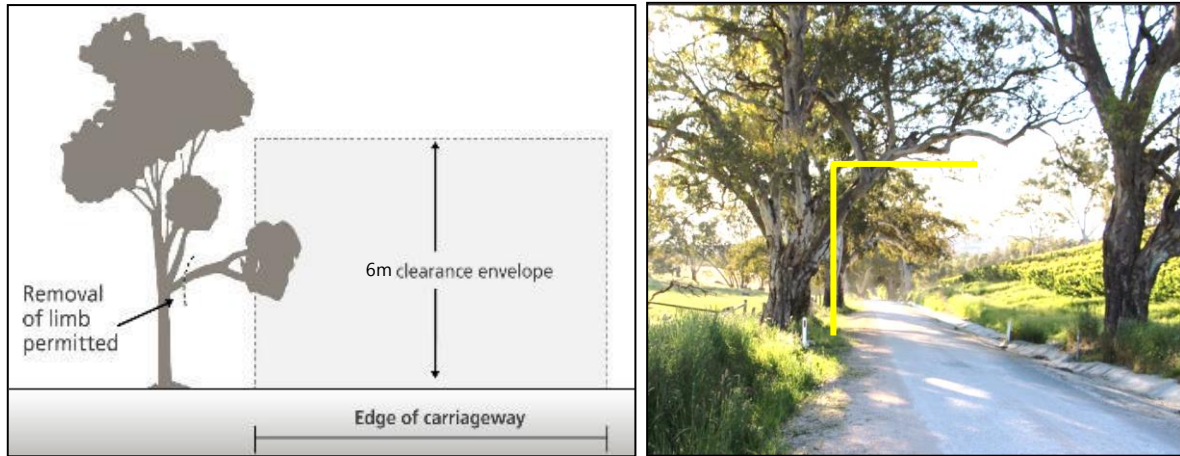


Figure 2. Clearance of vegetation within primary clearance envelope up to 6m high:

- a. (left-hand side) removal of limbs hanging into primary clearance envelope.
- b. (right-hand side) example of possible clearance within the primary envelope.

CONSULTATION AND APPROVAL PROCEDURES FOR THE PRIMARY CLEARANCE ENVELOPE

No approval or consultation with the Native Vegetation Council is required for clearance within the primary clearance envelope.

Section 2 – Secondary clearance envelopes

The **secondary clearance envelope** refers to the area surrounding roadside furniture to allow for sufficient sight lines for road users. The envelope encompasses the vegetation that has regrown and impacts the ability to see upcoming traffic, signs, and roadside furniture. This also includes managing regrowth to maintain guardrails.

Vegetation in this envelope can only be cleared to how it was when the road was constructed or the roadside furniture was installed (i.e. only vegetation that has grown or regrown in areas previously lawfully cleared for the construction, installation or maintenance of the road or associated infrastructure may be cleared).

In addition to the Operating Requirements listed on Page 9, specific requirements apply for secondary clearance envelopes:

2.1 Operating Requirements

Within the secondary clearance envelope:

1. Regrowth vegetation growing up to **500mm around existing roadside furniture** (Figure 3) can be cleared.
2. Regrowth vegetation growing on the **approach side of signs and road delineation markers** can be cleared to ensure these signs and markers are clearly visible from a distance equivalent to the stopping sight distance for the speed environment of the road according to Austroad standards (Figure 4).
3. At road intersections, **existing verge clearance can be maintained** on corners for safe sight distance according to Austroad Guidelines.
4. To maintain mitre and longitudinal drains, **existing clearance can be maintained**. Ensure clearance is confined to the original extent of the drain and that cleared debris is not pushed into native vegetation within the natural ground surface.

Note: Large trees cannot be removed after the installation of roadside furniture, such as guardrails, without Native Vegetation Council approval. No Native Vegetation Council approval is required for clearance within the secondary clearance envelope.

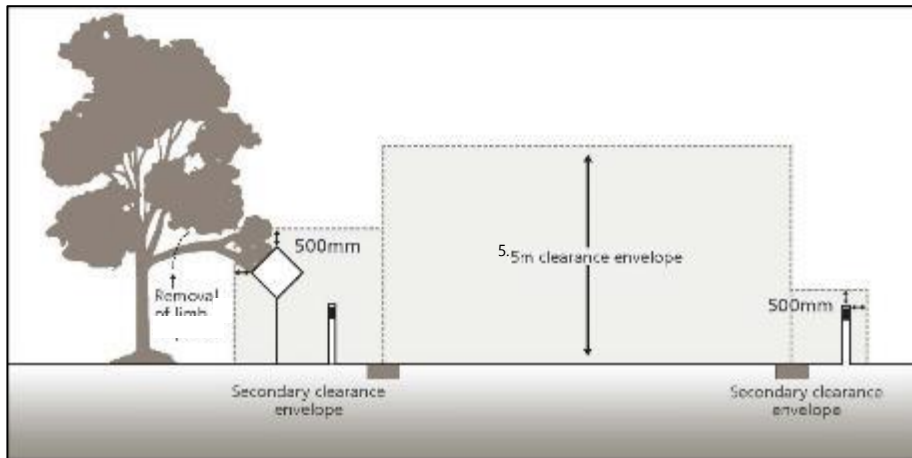


Figure 3. Secondary clearance envelope maintained around existing roadside furniture.

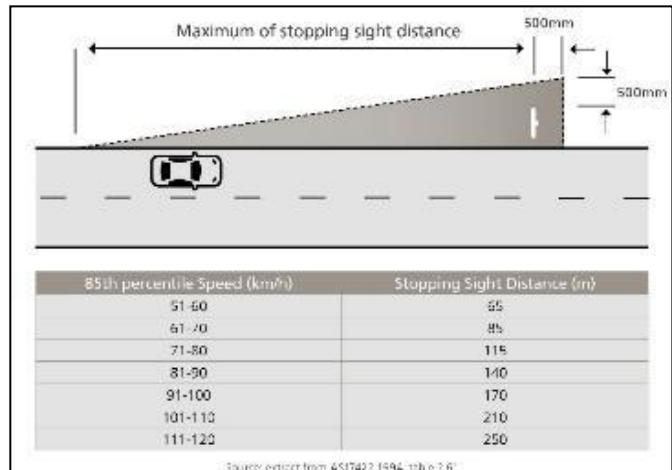


Figure 4. (left): Secondary clearance envelope around a sign (right): Secondary clearance envelope along a road.

CONSULTATION AND APPROVAL PROCEDURES FOR SECONDARY CLEARANCE ENVELOPE

No approval or consultation with the Native Vegetation Council is required for clearance within the secondary clearance envelope.

Section 3 – Verge clearance

It may be necessary for a local council to undertake vegetation clearance within the verge beyond what is permitted in the primary and secondary envelopes due to fast-growing native vegetation within particular roadsides. In these cases, the local council may need to manage the verge vegetation that they had previously cleared which has regrown.

In addition to the Operating Requirements listed on Page 9, specific requirements apply for verge clearance:

3.1 Operating Requirements

Within the verge:

1. Only regrowth vegetation less than **20 years old** that has previously been cleared as part of roadside maintenance (determined from local council works records, by the size of the trees in the regrowth, or by comparing aerial images of various dates) can be cleared.
2. Clearance must use the most **low-impact methods** possible for the given activity. Ensure works cause minimal ground disturbance, cut cleanly rather than breaking branches, and use low-impact methods like slashing, trimming and mowing. (Note: high-impact methods include any activity that disturbs the soil or results in plants being uprooted, such as the use of graders or bulldozers). Retain native vegetation at a minimum height of 10cm above ground-level. Any regrowth trees with a trunk circumference greater than 10cm should be removed by poisoning or cut and stump-grind only, rather than heavy machinery.
3. Clearance can only be conducted within a maximum width of 3m (measured from the edge of the carriageway) for arterial and collector roads and 2m for a local roads, but:
 - a. must be confined to a maximum width of 1m in Type A roadside vegetation (i.e. vegetation with high conservation significance – see Table 1) or
 - b. must be confined to a maximum width of 2 metres in Type B roadside vegetation (i.e. vegetation with moderate conservation significance – see Table 1).

Verges should be managed in a way that does not encourage the growth of introduced plants or fast-growing shrubby natives that lead to worse ongoing management problems (e.g. fire hazards or reduced visibility). This commonly occurs when the soil surface is disturbed using high-impact methods, whereas low-impact methods do not generally affect the soil surface and aim to retain existing vegetation. Use of an offset or articulated mower/slasher/mulcher enables regrowth on the verge to be managed effectively without needing to drive machinery on the verge.

Note: In some instances there is no or little verge, with the natural ground surface extending to the shoulder or edge of the carriageway. This has usually occurred when the carriageway has been widened at some stage after the original road construction. Removal of native vegetation to create a new verge is considered a road upgrade and is not considered by this section of the guidelines.

Table 1. Roadside vegetation quality categories (adapted from Stokes et al 2006). (Stokes A.L, Heard L.M.B, Carruthers S., Reynolds T. (2006) Guide to the roadside vegetation survey methodology in South Australia. DEH, Adelaide).

Vegetation significance categories	Vegetation description
Type A	<ul style="list-style-type: none"> • vegetation is in excellent condition – i.e. very little or no sign of alien vegetation in the understorey, close resemblance to probable pre-European condition, or • vegetation containing a species or communities listed under the National Parks and Wildlife Act 1972, or Environment Protection and Biodiversity Conservation Act 1999, or • vegetation in an Interim Biogeographical Regionalisation of Australia (IBRA) association with vegetation cover of 5 per cent or less • roadside vegetation is less than 5m in width in total (including both sides of the road).
Type B	<ul style="list-style-type: none"> • vegetation is in good condition – i.e. a high proportion of native species and native cover in the understorey, reasonable representation of probable pre-European vegetation, or • vegetation within an area delineated by roadside marker scheme, or • vegetation in an IBRA association with vegetation cover of 10 per cent or less but higher than 5 per cent • roadside vegetation is less than 10m in width in total (including both sides of the road).
Type C	<ul style="list-style-type: none"> • vegetation is in moderate condition – i.e. substantial invasion of aliens, but native understorey persists, for example, there may be a low proportion of native species and high native cover or a high proportion of native species and low native cover.
Type D	<ul style="list-style-type: none"> • vegetation is in poor condition – i.e. the understorey consists predominantly of alien species, although a small number of natives persist.
Type E	<ul style="list-style-type: none"> • vegetation is in very poor condition – i.e. the understorey consists only of alien species.

3.2 Process of clearance assessment and approval

The process to undertake clearance within the verge as permitted by this section is:

1. Determine annual works program

Local council determines which roads are to be managed annually or on an ad hoc basis.

2. Assess regrowth

Local council determines if the regrowth vegetation is less than 20 years of age, either by checking local council works records, measuring the size of the trees in the regrowth, or comparing aerial images from various dates. Where regrowth cannot be determined to an acceptable standard, as determined by the Native Vegetation Council using the methods above, then it will be treated as remnant vegetation.

3. Determine extent of proposed clearance

Local council determines the width of the verge clearance that is required. Although these guidelines permit clearance up to particular parameters, native vegetation clearance should be avoided where there are practicable alternatives.

4. Assessment requirements

If the proposed clearance of the verge is less than 1m from the edge of the carriageway, clearance can occur with no approval.

If the proposed clearance of the verge is greater than 1m from the carriageway, an assessment of the roadside vegetation must be undertaken by the local council with the assistance of a person with specific qualifications, which include:

- tertiary qualifications in botany (or a related field)
- 10 years' experience in a related area
- demonstrated knowledge in plant identification.

If the proposed clearance of the verge is greater than 1m from the carriageway, the Annual Works Form datasheet contained in Appendix 1 also needs to be completed and discussed with the Native Vegetation Council.

Assessing a proposed verge clearance needs to consider its conservation significance, as set out in Table 1. The intent is to allow adequate management of roadside vegetation while minimising impacts on areas of significant and important native vegetation.

To assist this process, the quality of roadside vegetation in many areas has been assessed and mapped by a suitably qualified person during the development of the existing Roadside Vegetation Management Plans (under the 2012 guidelines). In addition, the locations of nationally or state-listed plant species along roadsides have been mapped in many areas, as has the roadside marker scheme.

Environmental information is available through the online database (NatureMaps). NatureMaps allows the user to display environmental attributes for their region and roadsides.

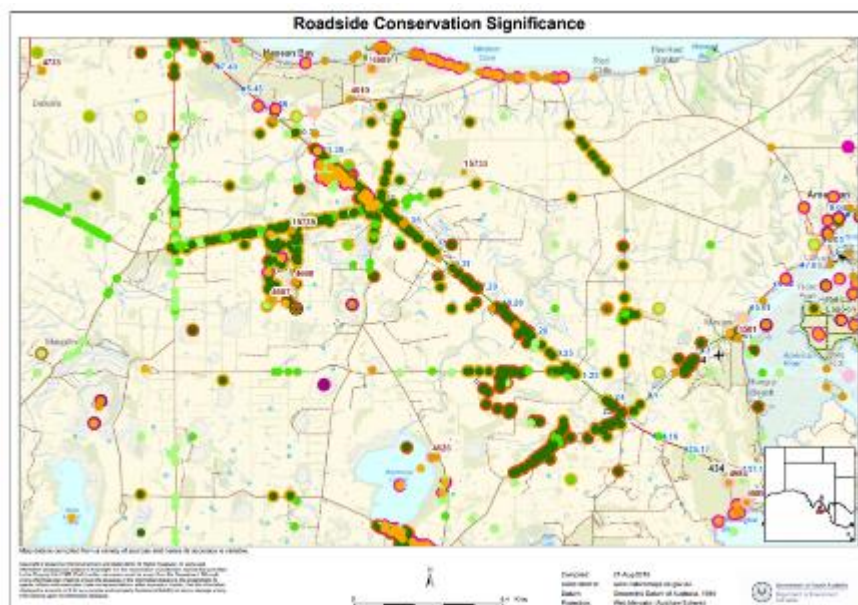


Figure 5. Extract from NatureMaps showing the location of significant native vegetation on roadsides. Source: <https://data.environment.sa.gov.au/NatureMaps/Pages/default.aspx>

This information is then supplemented by an on-ground assessment of the roadside vegetation for the roads to be managed. In undertaking the vegetation assessment, the attributes in Table 1 and the form in Appendix 1 need to be addressed.

5. Submit the form for consideration

Local council must complete and submit the form provided in Appendix 1, for the roads that will be subject to vegetation management, to the Native Vegetation Council. The Native Vegetation Council will consider the

information provided and if approved, Local council can undertake the clearance in accordance with the conditions contained in these guidelines.

6. Undertake record-keeping

To ensure compliance with the guidelines, local council and DPTI are required to take 'before and after' photos of the clearance, with an appropriate scale to indicate the width of the verge clearance. Documenting the clearance works will allow the Native Vegetation Branch to audit the works undertaken and provide evidence of compliance if any concerns are received from the public.

7. Ensure compliance to avoid future limitations

To ensure compliance under the regulations, if a clearance occurs outside of the parameters stated within these guidelines, the Native Vegetation Council may limit any future clearance by the offending local council to vegetation less than 5 years old. Also, any breach will be forwarded onto the Department for Environment and Water Compliance Unit for consideration and action.

CONSULTATION AND APPROVAL PROCEDURES FOR THE VERGE

- Clearance of vegetation greater than 1m into the verge from the edge of the carriageway requires the approval of the Native Vegetation Council.
- Consultation with the Native Vegetation Branch is required if the width of the verge is unclear.
- Clearance can occur without the approval of the Native Vegetation Branch if undertaken in accordance with the requirements of this section (<1m into verge).
- Where approval is required, local council are required to complete and submit the Annual Works form contained in Appendix 1 to the Native Vegetation Branch.

Verge examples

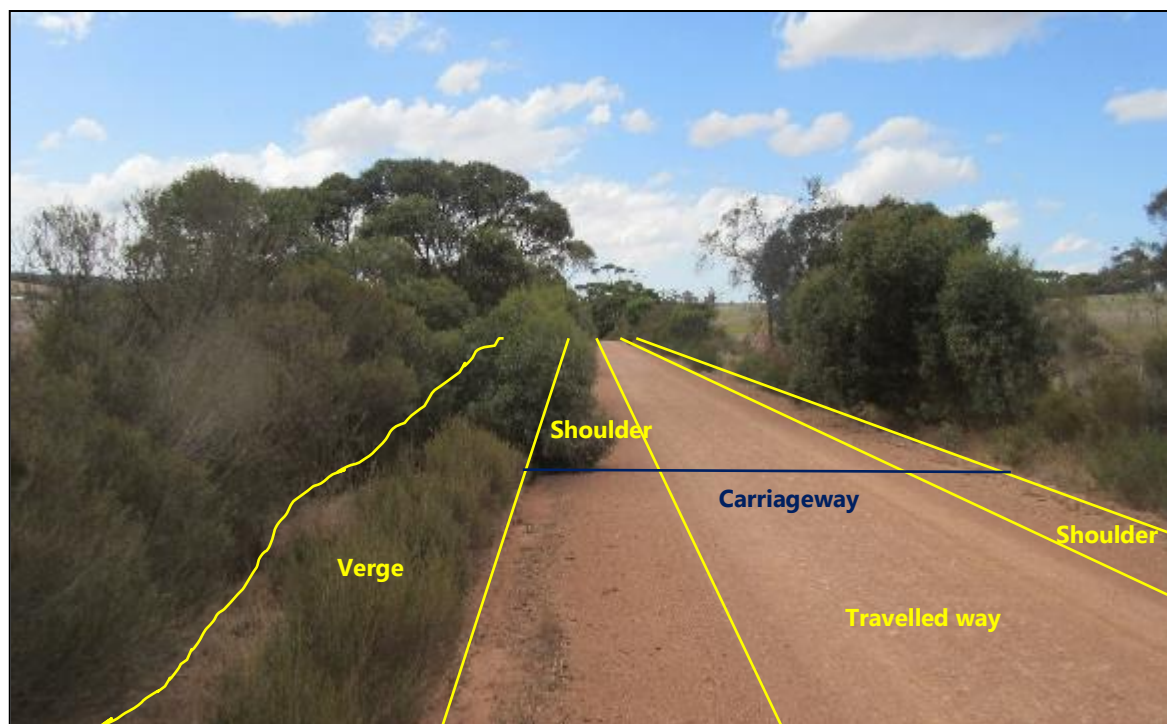


Figure 6: Extent of the verge is indicated by the spoil and regrowth that has grown within it.



Figure 7: Travelled-way and carriageway are the same width in this instance, with verge regrowth clearance restricted to understorey only.



Figure 8: In this instance the carriageway has been created at a width where there is only remnant vegetation remaining on either side of the road. Any clearance beyond the carriageway would require an application.



Figure 9: Verge is directly adjacent to the bitumen, and regrowth clearance is restricted to understorey only in this instance. The large trees would not fall under these guidelines and clearance would require an application as they are not considered regrowth under 20 years old.

Part 2: Framework for public safety

The section covers native vegetation clearances that are permitted to be undertaken if required for public safety, and are therefore beyond the scope of Part 1 – Management of roadside vegetation. This Framework for Public Safety covers clearances that need to be undertaken for safety measures related to sight distances, intersections, clearance adjacent to the travelled-way, or other safety concerns that cause a risk to people or property.

The purpose of this Public Safety Framework is to provide guidance about when to apply for clearance of **frangible¹ vegetation** (i.e. vegetation that can typically bend) and **non-frangible² vegetation** (i.e. vegetation that cannot bend) on roadsides, intersections and rail crossings.

The public safety framework **does not** apply to any clearances associated with new works or upgrades of infrastructure, including intersection realignment/modification, road-widening activities, retrospective upgrade works, new intersections and new road works such as new roads, construction of rest areas, installation of safety cameras, overtaking lanes or weigh stations. Clearances associated with new works or upgrades require an application and approval under Regulation 12(34) Infrastructure.

For the framework to apply, the road authority can clear non-frangible native vegetation within specified distances along sealed and unsealed roads and at rail crossings, intersections and curves with written approval from the Native Vegetation Council. It is a requirement that the road authority, as far as practicable, addresses the Mitigation Hierarchy (see Part 1 General Roadside Maintenance Principles for full explanation) to avoid or minimise the impacts that any proposed actions may have on biodiversity or native vegetation. Clearance can then be approved without the need for a significant environmental benefit.

Some activities may also require approval under other legislation, for example the *Development Act 1993* and the *Environment Protection and Biodiversity Conservation Act 1999*.

Any areas approved for clearance under this framework can subsequently be maintained under Regulation 11(23) either in accordance with the guidelines for the Management of Roadside Vegetation, or incorporated into the Maintenance Section of the local council's Roadside Vegetation Management Plan.

Note: This Framework for Public Safety replaces the previous *Framework for clearance of Native Vegetation under Regulation 5(1)(lb) – Public Safety for Rail crossing, Road intersections and Roadsides (October 2012)*.

Section 4. Public safety categories

In this framework, there are three categories for assessing clearance of native vegetation on roadsides, intersections and rail crossings for public safety purposes.

4.1 Category 1 – Sight distance line/triangles at road intersections and rail crossings

This Category refers to both **frangible** and **non-frangible** native vegetation to address an **existing** risk to public safety along road intersections and rail crossings.

The size of the sight triangle established under the Austroads Guide is dependent upon factors such as traffic volume, designated road speed and daily vehicle and heavy vehicle usage. This approach is easy to implement and transparent in its calculation of approved sight distance lines for vegetation clearance associated with road intersections and rail crossings, and is consistent with a nationally accepted benchmark used by road authorities.

¹ Understorey vegetation or plants with slender stems that give-way, break or uproot on impact

² Plant species with a stem diameter (at maturity) of 100mm or greater with rigid, large or sturdy stems that will not readily break, bend or crush upon impact by a typical passenger vehicle, and could be expected to inflict significant damage to the vehicle and possibly cause injury to vehicle occupants.

Where practicable, calculating the visibility triangle for the clearance of native vegetation should be limited to meet the required standards as outlined in Austroads Guide to Road Design: Part 4: Intersections and Crossings-General (2009). The determination of the offset from the edge of the travel-way is dependent on the stopping sight distance, which in turn increases with speed. Consequently, alternative mechanisms to remove the safety issue must be fully considered.

The clearance of **non-frangible** native vegetation along sight-lines should be limited to targeted removal.

Depending upon the type of vegetation/biodiversity present within the sight triangle, trimming of understorey **frangible** native vegetation (if required) should be limited to a height that sustainably maintains the understorey and not cleared down to bare earth.

4.2 Category 2 – Clearance adjacent to the edge of a travelled-way

This Category refers to the area where non-frangible native vegetation can be cleared adjacent to the edge of the travelled-way for sealed roads, or adjacent to the edge of the grader line as defined in local councils’ infrastructure plans for unsealed roads. It applies differently to the following situations:

- Category 2 (Sealed – ≤80 km/h)
- Category 2 (Sealed – >80 km/h)
- Category 2 (Unsealed)

This section outlines what can be done to manage **non frangible** native vegetation to protect public safety along sealed and unsealed roads based on set widths from **the edge of a travelled way**.

Non-frangible vegetation may be removed with Native Vegetation Council approval if it presents a road safety issue and the road authority first demonstrates that it has considered the Mitigation Hierarchy (see Part 1) to avoid or minimise the impacts that any proposed actions may have on biodiversity or native vegetation. The road authority must show it has considered other safety improvement options as opposed to clearance.

On sealed roads, the Category 2 zone is dependent upon posted road speed (km/hr). On unsealed roads the Category 2 zone is not dependent upon posted road speed (km/hr), rather it is based on set widths from the edge of a travelled-way. The Category 2 zone is based on Austroads Guidelines that demonstrate a 50 per cent probability that a vehicle travelling at speeds specified in *Table 3* (see below), and hitting **non-frangible** native vegetation within that Category 2 zone, would likely result in a casualty or serious injury.

Sealed roads

On sealed roads with a speed design of less than 80km/hr, up to 2m of **non-frangible** native vegetation can be reduced, modified or removed from **the edge of a travelled way** for the purpose of public safety.

On sealed roads with a speed design of greater than 80 km/hr, up to 3m of **non-frangible** native vegetation can be reduced, modified or removed from **the edge of a travelled way** for the purpose of public safety.

Table 3. Sealed roads – Category 2 zone widths adjacent to the edge of a travelled way.

Speed limit (km/hr)	Category 2 zone widths adjacent to the edge of travelled way
≤80 km	2m
>80 km	3m

Unsealed roads

On unsealed roads, up to 2m on either side of the defined carriageway (the edge of the grader line as defined in local councils’ infrastructure plans) can be cleared of **non-frangible** native vegetation for the purpose for public safety. The Category 2 zone is capped at a total width including the carriageway itself of up to 12m.

This option is tailored to take into account varying road widths. It caters for narrow unsealed roads where only 2m of **non-frangible** native vegetation can be cleared either side (i.e. 4m carriageway width plus 2m **non-frangible** clearance either side totals 8m). Conversely a 10m carriageway can only clear 1m either side of the carriageway as the Category 2 zone is capped at 12m (See *Table 4* below).

It caters for wider roads where the road design incorporates an existing safety margin within the carriageway width.

Table 4. Unsealed roads – Category 2 zone widths adjacent to the edge of travelled way.

Carriageway width	Category 2 zone – carriageway width plus 2m either side of carriageway(capped at 12 m)
6m	6m + 2m +2m = 10m
8m	8m + 2m +2m = 12m
10m	10m + 1m +1m = 12m

Category 3 – Clearance beyond Category 1 and 2 zones

This Category refers to the area beyond the areas referred to within Category 1 and 2. If the road authority can demonstrate that the non-frangible native vegetation is a risk to public safety, clearance may be approved.

Category 3 refers to the areas/activities that are out of scope of Category 1 and Category 2 but still may present as a public safety concern, including:

- Beyond Category 1 approved sight distance triangles/lines, or
- Beyond Category 2 specified distances from the edge of travelled way,
- Applies only to safety treatments that result in clearing:
 - Less than 6 scattered trees (**non-frangible**)
 - Less than 0.5 hectare canopy area of non-frangible vegetation, and
- Applies to trees that present a danger of falling, or if a limb or some other part of the plant is in danger of falling, causing a risk to people or property. Any application in relation to this provision will be considered against the requirements of Native Vegetation Regulation 8(6) – Safety of Persons and property.

If the proposed safety treatments do not fall within this threshold, the framework will generally not apply. However, the Native Vegetation Council will consider matters on a case-by-case basis where sufficient justification can be provided.

For the justification of clearing non-frangible native vegetation within this Category, the road authority should demonstrate that they have considered the Mitigation Hierarchy (see Part 1) to avoid or minimise the impacts that any proposed actions may have on biodiversity or native vegetation. The road authority needs to show it has considered other safety improvement options as opposed to clearance.

Table 5. Parameters defining Categories 1, 2 and 3 clearance requirements under the public safety framework.

	Category 1	Category 2	Category 3
	Sight distance line/triangles at intersections and rail crossings	Clearance adjacent to edge of travelled way	Clearance beyond category 1 and 2 zones
Justification	Consideration must be given to: Mitigation Hierarchy and other safety improvement options to be detailed in the application form		
Clearance that can be applied for	<p>Clearance of both frangible and non-frangible native vegetation (if required) for the establishment of safe sight lines at road intersections and rail crossings</p> <p>Clearance must be consistent with clearance guidelines outlined in <i>Austroads Guide to Road Design: Part 4: Intersections and Crossings-General 2009</i>, and AS 1742.7:2007 <i>Manual of uniform traffic control devices, Part 7: Railway Crossings</i>.</p>	<p>Sealed roads</p> <p>Removal of non-frangible native vegetation:</p> <ul style="list-style-type: none"> • ≤80km/hr = up to 2m from the edge of travelled-way • >80km/hr up to 3m from the edge of travelled-way <p>Unsealed roads</p> <ul style="list-style-type: none"> • up to 2m either side of the edge of the grader line, capped at a total width including the travelled-way itself of up to 12m 	<p>Areas or activities beyond the scope of Category 1 and Category 2 but still present as a public safety concern</p> <p>AND</p> <p>Applies only to safety treatments which result in clearing:</p> <ul style="list-style-type: none"> ➢ Less than 6 non-frangible scattered trees ➢ Less than 0.5 hectares canopy area of non-frangible vegetation <p>AND</p> <p>Applies to trees that present a danger of falling, or if a limb or some other part of the plant is in danger of falling, causing a risk to people or property</p> <p>Note: the Native Vegetation Council will consider matters that do not meet the above criteria on a case-by-case basis, should sufficient justification be provided.</p>
Application	Complete application form – refer to Appendix 2		
Written approval	Clearance approved by the Native Vegetation Council or a delegate		

PART 3: Other activities relating to roadside vegetation

Section 5. Clearance for access to adjoining land

5.1 New access points are often needed from the road to adjoining land. For example, a primary producer may need new access to a paddock, possibly to cater for wide farm machinery.

When clearing for access, **the highest priority is safety** of the person accessing the property. The conservation of native vegetation is secondary, but once safety has been addressed, the clearance option that requires the least disturbance of native vegetation of the lowest conservation significance should be selected.

Where clearance of native vegetation is unavoidable, the following standards should not be exceeded:

- **For normal vehicle access:** 5m wide plus minimum clearance of frangible vegetation for sight distance along the road reserve.
- **For wider farm vehicles:** 10m wide plus minimum clearance of frangible vegetation for sight distance along the road reserve.

If rare or threatened plant species³ are present, reasonable care should be taken to protect them. If necessary, contact the Native Vegetation Branch for advice.

These guidelines do not apply to clearance required to establish access for a new development or use (e.g. associated with a new house site) or where an existing access point is available. In these circumstances, an application under Regulation 12(34) Infrastructure is required.

CONSULTATION AND APPROVAL REQUIREMENTS FOR ACCESS TO ADJOINING LAND

- Clearance of roadside vegetation to provide access to adjoining land requires the consent of the local council.
- In addition, approval is needed from the Native Vegetation Council for any proposed clearance of native vegetation for access that exceeds the above standards.

³ Rare and threatened plant species are defined in the Schedule of the *National Parks and Wildlife Act 1972* or the *Environment Protection and Biodiversity Conservation Act 1999*. Removal of plants listed under the *Environment Protection and Biodiversity Conservation Act 1999* may require approval under that Act.

Section 6. Clearance for fence lines

6.1 A landholder who wishes to clear native vegetation on a road reserve to enable **construction or maintenance of a boundary fence** requires local council consent.

In granting any consent, the local council must comply with the following requirements:

- Where the roadside vegetation consists largely of trees, only branches protruding through or overhanging the fence, or trees growing on the actual fence alignment, should be removed.
- Where shrubs or bushes are growing through the fenceline, those plants growing within 1m of the fence alignment can be removed.



Figure 10. Maintenance of the fence by removing a branch growing through the fence.

If rare or threatened plant species⁴ are present, reasonable care should be taken to protect them. If necessary, contact the Native Vegetation Branch for advice.

These requirements take into account that the adjoining landholder can usually clear up to 5m in width on the land abutting the road, allowing for vehicular access to the fence (refer to Regulation 8(14) – Fences).

CONSULTATION AND APPROVAL REQUIREMENTS FOR CLEARANCE FOR FENCELINES

Clearance approval is required for any native vegetation clearance along fencelines that exceeds the above standards. Consultation with the Native Vegetation Branch should occur through the local council. Note:

- In many areas, landholders are relocating new fencing 3m to 5m into their properties to conserve roadside vegetation and reduce construction costs. This is strongly supported.
- An alternative to removing trees in line with the property boundary may include constructing a simple strut arrangement that allows a fence to deviate a short distance around a tree. Wires are not attached directly to the tree, minimising potential damage to the tree (see Figure 8).



Figure 11. Figure 11. Fenceline strut arrangement. Note: this approach may not be appropriate for smaller trees and an effort should be made to avoid structural roots when placing the post hole for the strut next to the tree.

⁴ Rare and threatened plant species are defined in the Schedule of the *National Parks and Wildlife Act 1972* or the *Environment Protection and Biodiversity Conservation Act 1999*. Removal of plants listed under the *Environment Protection and Biodiversity Conservation Act 1999* may require approval under that Act.

Section 7. Pest plant and animal control

7.1 Pest plants and pest animals are commonly known as ‘weeds’ and ‘feral animals’. They can invade rural land or natural habitats and because of their characteristics and/or location they can cause economic, ecological, physical or aesthetic problems, often with significant potential impacts on local and regional biodiversity.

Pest plants and animals can be categorised as those that require control under legislation (i.e. **declared** species) and those that, while still damaging, are not considered significant enough to warrant legislative control at this stage.

The control of declared species on roadsides falls under the jurisdiction of the regional **Natural Resources Management (NRM) Boards** under the **Natural Resource Management Act 2004**. Landholders are responsible for the control of pest species on their land and NRM Boards (or NRM Groups, where they exist) have the responsibility to control declared pest plants or pest animals on road reserves.

Within some local council areas, **landholders** may be required to contribute to the control of pests on adjacent roadsides. Where landholders opt to control the pests on adjacent roadsides they must seek approval of the NRM Board and the local council. Local councils can only give consent if they are acting in accord with the **Native Vegetation Act 1991** and have the relevant approvals or exemptions regarding clearance.

In this instance, any clearance of native vegetation must be compliant with Native Vegetation Regulation 8(15) – Plant and Animal Control. Under this regulation is a guideline that describes the level of impact on native vegetation that is permitted. See the following link for details -

https://www.environment.sa.gov.au/files/sharedassets/public/native_veg/nvc-guideline-plant-animal-control-fact.pdf.

CONSULTATION AND APPROVAL PROCEDURES FOR PEST PLANT AND ANIMAL CONTROL

Clearance approval is required where a proposed animal or plant control program is likely to cause significant damage to native roadside vegetation.

‘Significant’ in this context includes:

- ripping of warrens where native vegetation will be affected
- non-selective spraying in mixed weeds/native vegetation
- burning of native vegetation to assist pest control.

It does not include minor damage, such as removal of branches to gain access to pests.

The Native Vegetation Branch is able to determine whether the proposed clearance is of a sufficiently significant nature to warrant referral on to the Native Vegetation Council for decision.

In districts where there are serious problems with roadside pest control, local councils and NRM Boards are encouraged to develop overall management strategies in consultation with the Native Vegetation Branch. This can avoid the need for consultation with the Native Vegetation Branch on a case-by-case basis. This approach has been adopted in several local council areas.

Where pest control works are planned that could affect roadside native vegetation, the local authorised NRM Officer should be the first point of contact. The need for consultation with the Native Vegetation Branch can then be determined.

Section 8. Removing plant material

Collecting dead timber

8.1 Dead timber generally refers to woody debris from standing or fallen dead trees or branches. It does not usually encompass fine fuels, like grass, leaves, bark and twigs less than 6mm in diameter.

Dead timber on roadsides is not controlled under the *Native Vegetation Act 1991*, except in the case of dead plants in some parts of the state that provide habitat for nationally threatened species, which are defined as native vegetation under Section 3(1) of the Act⁵. Contact the Native Vegetation Branch for further details, including a fact sheet, *Dead trees as native vegetation*, also available at -

http://www.environment.sa.gov.au/Conservation/Native_Vegetation/Managing_native_vegetation/Clearance_guidelines

Local councils are strongly encouraged to **control the collection of dead timber** under the **Local Government Act 1999**. Dead timber, both standing and fallen, provides cover and foraging places for native fauna, it shelters young seedlings and small plants from herbivores, severe sunshine and drying winds, and is also important in the recycling of nutrients.

The development of hollow timber takes many years and is a limited resource for wildlife, and therefore should not be collected for firewood. Retention of dead timber (and fallen leaves, bark and twigs) should also be encouraged so that soil disturbance and the creation of open areas suitable for weed invasion is minimised.

If dead timber collection is permitted, care should be taken to prevent damaging surrounding native vegetation in the process of removal, and where possible should not be permitted in areas of vegetation of high conservation significance.

8.2 Cutting live timber

Cutting any live timber, other than that allowed for roadside management under these guidelines, **requires the consent of the local council** and also **clearance approval of the Native Vegetation Council** under the *Native Vegetation Act 1991*.

8.3 Brush-cutting

Cutting brush (*Melaleuca uncinata*) on roadsides **requires clearance approval** unless it is undertaken in accordance with other sections of these guidelines.

8.4 Seed collecting

Revegetation programs using local native species are strongly supported and roadsides are often ideal sites for seed collection. However, care is needed to minimise the damage to the parent plant and to avoid depleting the seed supply to such an extent that natural regeneration of plants on the roadside is affected.

Collecting **seeds, cuttings and specimens** from roadsides, requires the **consent of the local council**.

⁵ **Dead plants** (under the definition of native vegetation in section 3(1) of the Act), means the class of plants, or parts of plants, comprising trees of a species indigenous to South Australia –

(a) that have a trunk circumference (measured at a point 300mm above the base of the tree) of:

- (i) in the case of a tree located on Kangaroo Island – 1m or more; or
- (ii) in any other case – 2m or more; and

(b) that provide or have the potential to provide, or are a part of a group of trees or other plants (whether alive or dead) that provide, or have the potential to provide, a habitat for animals of a listed threatened species under the *Environment Protection and Biodiversity Conservation Act 1999* of the Commonwealth, is declared to be included in that definition.

A **permit** is also needed under the ***National Parks and Wildlife Act 1972*** and can be requested from the Department for Environment and Water Permit Unit on (08) 8463 4841 or online at http://www.environment.sa.gov.au/Do_It_Online/Plant_permits. The Permit Unit can also provide guidance on seed collection methods.

On private land, seed collection requires the consent of the landholder and, if the plant is a prescribed species under the *National Parks and Wildlife Act 1972*, a permit from the department is also needed. It should be noted that expertise is required to know how and when to collect seed from some native plants to ensure collection of viable seed. Such expertise should be sought from the regional NRM Board.

Collecting seeds, cuttings or other specimens from native plants does not require consent from the Native Vegetation Council provided that damage to the plant is not substantial. As a guide, cutting a substantial branch off a tree or bush to collect seed would not be regarded as exempt, nor would the removal of virtually all harvestable seed from a single plant or plant community.

8.5 Flower harvesting

Harvesting flowers from roadsides requires the **consent of the local council and clearance approval**.

The local council should be the first point of contact. In general, harvesting roadside flowers, particularly for commercial purposes, is not favoured because of its impact on the vegetation and on the landscape or amenity of the area.

CONSULTATION AND APPROVAL PROCEDURES FOR REMOVING PLANT MATERIAL

Removing plant material from roadsides and road reserves requires clearance approval under the *Native Vegetation Act 1991* in the following instances:

- removing 'dead plants' as defined under the *Native Vegetation Regulations 2003*
- cutting live timber (requires separate approval process)
- cutting brush (*Melaleuca uncinata*) unless it is undertaken in accordance with these guidelines or an approved Roadside Vegetation Management Plan

Section 9. Undeveloped road reserves

Throughout South Australia there are many surveyed road reserves that have never been developed as roads. Some are totally cleared and pass, unmarked, through farm paddocks. Although they are of low ecological value, these areas may be suitable for revegetation projects. Other undeveloped road reserves have relatively undisturbed native vegetation and are of high conservation value.

9.1 Leased/Licensed roads

Many undeveloped road reserves are leased to adjoining landholders for **grazing or cropping**. In this situation, any clearance of native vegetation, such as for cropping purposes, would require clearance approval, as would any change in grazing practice that increases the pressure on native vegetation.

Where important native vegetation is identified on leased/licenced roads, it should be protected through a Land Management Agreement⁶ or Heritage Agreement⁷, or through removal of the area from the lease.

9.2 Road closures

Proposed road closures by local councils need careful consideration as these sites are often important for native vegetation conservation or as potential revegetation corridors. Both the opening and closing of roads is controlled in South Australia through the *Roads (Opening and Closing) Act 1991*.

Sale of these areas into private ownership could expose significant vegetation to increased risk of degradation unless provisions for protection are put in place, such as a Heritage Agreement or Land Management Agreement.

CONSULTATION AND APPROVAL PROCEDURES FOR UNDEVELOPED ROAD RESERVES

The consultation and approval requirements of these guidelines apply generally to undeveloped road reserves. In addition, local councils should advise the Native Vegetation Branch about any proposed road closures.

Modification of native vegetation on leased roads, by direct clearance or changed grazing practice, requires clearance approval.

⁶ Under the *Development Act 1993* and *Development Regulations 2008*

⁷ Under the *Native Vegetation Act 1991*

Section 10. Fire management

In certain areas, native vegetation may need to be managed for fire management to assist during times of bushfire, to reduce fuel loads and to encourage ecological processes.

10.1 Ecological purposes:

Bushfire has been part of the Australian landscape for millions of years. Australian ecosystems have successfully adapted to the presence of bushfire on a regular basis. In some cases, native vegetation relies on bushfires for important ecological processes such as reproduction, and land managers have long recognised the value of using prescribed burning to support these processes.

Local council may conduct a prescribed burn in an area of native vegetation if the burn is intended to improve ecological processes. This type of prescribed burn must be undertaken according to a management plan approved by the Native Vegetation Council or a delegate.

This also includes prescribed burning of native vegetation by Indigenous communities as part of ongoing cultural land practices. It is important to also seek advice from the South Australian Country Fire Service (CFS) prior to submitting any plan to the Native Vegetation Council.

10.2 Firebreaks in roadside vegetation

Native vegetation occurring in road reserves has important value and should be protected where possible. Any modification of this vegetation requires the consent of the local council, as well as consent under the CFS clearance controls. Two types of firebreaks may be considered for road reserves:

10.3 Fenceline firebreak

- Where there is native vegetation on a road reserve adjoining cleared land, the firebreak should be established on the cleared land and not on the road reserve.
- Where there is native vegetation on a road reserve adjoining a block of native vegetation a firebreak should only be required on one side of the fence line. In either case, CFS approval is required.
- If a firebreak is placed on a road reserve, approval would need to be obtained from the CFS Chief Officer.

10.4 Transverse firebreak

- A firebreak may be established across a road verge to break a continuous length of roadside vegetation. These breaks may be for firefighting vehicles to access adjoining paddocks.
- Breaks should be established at property access points or, where possible, sections of road reserve that do not contain native vegetation.
- The maximum width of a firebreak should be 20m, which includes the width of the property access track.
- The distance between adjoining firebreaks should not be less than 500m.
- Any firebreaks need to be approved by the CFS Chief Officer.

CONSULTATION AND APPROVAL PROCEDURES FOR FIRE MANAGEMENT

Clearance associated with firebreaks and fuel reduction within the road reserve require approval from the CFS

For ecological burning, CFS advice should be sought prior to submitting a management plan to the Native Vegetation Council.

PART 4: Developing a management plan

Section 11. Roadside Vegetation Management Plan

A Roadside Vegetation Management Plan can be developed by local councils if they need to undertake works outside of the parameters set out in these guidelines, such as for clearances within the primary envelope, secondary envelope or verge. These plans require endorsement by the Native Vegetation Council under the *Native Vegetation Act 1991* in order to fulfil the legal requirements under *Native Vegetation Regulation 11(23)*.

As part of developing a Roadside Vegetation Management Plan, there is a requirement to have sufficient information relating to the condition and conservation values of the vegetation that is present on a local council's roadsides. This allows for appropriate management measures to be put in place to limit any impacts on vegetation of conservation significance.

Previously, this information has been obtained through roadside vegetation surveys conducted as part of developing a Roadside Vegetation Management Plan. However, local councils may not have the time or financial resources to undertake an assessment of their roads initially, particularly in local council areas with a large road network.

In this instance, a Roadside Vegetation Management Plan can be developed to allow this information to be collected over time and only where necessary. This allows for a more targeted, efficient and adaptable approach to roadside vegetation management. It also enables multiple parties to participate and be engaged annually in achieving an effective balance between public safety and native vegetation conservation.

11.1 Purpose of a Roadside Vegetation Management Plan

A Roadside Vegetation Management Plan can:

- allow for the management of vegetation that has regrown within the past 20 years in the area that was cleared when the road was constructed.
- remove the need for case-by-case consultation associated with ongoing or broadly applicable activities, as long as sufficient detail is provided in the plan
- outline the ecological value of roadside native vegetation in the local council area, such as what plant associations are present, their conservation significance and quality, the location of any threatened species, and the distribution of weed species of significance
- promote protection of roadside native vegetation from direct damage, such as roadworks, by:
 - Including processes and procedures like codes of practice, guidelines, fact sheets
 - sourcing roadside vegetation surveys, vegetation mapping, various databases, utilisation of Geographic Information Systems (GIS) and roadside markers for the entire region, OR, on a case-by-case basis council staff, local experts or Department for Environment and Water staff can provide advice on the vegetation;

A Roadside Vegetation Management Plan is not:

- a means of avoiding liability if native vegetation clearance offences occur
- an appropriate mechanism to undertake clearance for new works or upgrades
- for clearing remnant native vegetation
- an approval for all roadside vegetation clearing or a mechanism to obtain approval for bushfire prevention works
- a stand-alone document that operates in isolation to other management structures and controls for activities that occur in road reserves that local councils govern.

11.2 Requirements of a Roadside Vegetation Management Plan

A Roadside Vegetation Management Plan must:

- clearly and precisely describe the actions or activities that the local council is proposing to undertake that are beyond the parameters provided for in Part 1, Part 2 or Part 3 of these guidelines
- provide justification, supported by evidence, for the proposed activities outlined in the plan
- provide information in relation to matters of conservation significance that occur on roadsides in the Council area or the process that will be employed to identify them.
- detail the actions that will be taken to avoid and minimise any impacts on native vegetation as a result of implementing the plan.

If clearance works proposed in a Roadside Vegetation Management Plan is likely to result in residual significant adverse impacts to native vegetation, the Native Vegetation Council cannot legally approve the plan.

11.3 Process to develop a Roadside Vegetation Management Plan

After identifying the need to develop a Roadside Vegetation Management Plan, the process a local council needs to follow to prepare it is:

1. Consider establishing a local consultative group comprising representatives of the local council, such as the Works Manager or planners, relevant state agencies, such as NRM representatives, community members and environmental conservation representative. The group should guide the preparation, development and review of the plan. It should include at least one person with expertise in, or a good understanding of, native vegetation management.
2. Decide who will prepare the plan. It is recommended that a person with qualifications and experience in vegetation management prepare the plan, such as the local council's natural resources officer or a suitably qualified consultant.
3. Identify the issues or activities that may affect roadside vegetation within the council area. Examples include routine road maintenance, such as patrol grading or safety pruning, or things like property access and fence-line construction. Consideration must be given to existing and potential future issues.
4. Establish or identify policies and objectives for the management of roadside vegetation. For example, a roadside vegetation policy may include commitments to prevent harm to the environment, ensure no net loss of vegetation and continually improve vegetation management practices. Different vegetation standards may be required for different types of roads (i.e. major, minor, sealed and unsealed). These standards should be based on the road classification system according to transport, safety and biodiversity protection needs.
5. Define the activities that will be undertaken under the Roadside Vegetation Management Plan, including clear parameters and criteria, and develop procedures for managing activities of the local council, landholders, service authorities etc. where those activities are likely to affect roadside native vegetation. Procedures may involve internal and external referrals and authorisation.
6. Collate any existing information about the area's roadside native vegetation and roadside vegetation management. For example, contact relevant state environment agencies and search all existing databases, surveys, and biodiversity information that is available.
7. Depending on the activity being proposed in the Roadside Vegetation Management Plan, the level of existing information available about the area's native vegetation and the risk of impacts, it may be necessary to undertake a roadside vegetation survey of the road network. Where the size of the road network makes a single survey impractical, a survey program staged over several years may be necessary. Drive-by roadside vegetation surveys are a key tool in the management of roadside vegetation and can be used to determine the type, quality and extent of vegetation along roadsides or road reserves, and the location and extent of key physical impacts. Additional items, such as the presence of Phytophthora and threatened species, can be included in addition to the standard items recorded. Roadside vegetation surveys follow a standard methodology that sets out methods for collecting, entering and analysing data. Refer to Stokes, A.L., Heard

L.M.B., Carruthers, S. and Reynolds T. (2006). Guide to the roadside vegetation survey methodology for South Australia. Department for Environment and Heritage, Adelaide.

8. Clearly detail how any impacts on native vegetation will be minimised. Potential impacts on flora and fauna of conservation significance, including species or communities listed under National Parks and Wildlife Act or EPBC Act, and roadside marker scheme sites or vegetation in good or excellent condition, must be avoided.
9. Identify the roles and responsibilities of council staff for implementing all aspects of the plan, including approval, monitoring and reporting responsibilities.
10. Once a draft Roadside Vegetation Management Plan is complete, make a copy available for public comment and advertise the availability, purpose and intent to the local community.
11. Review and amend the plan, taking into consideration any public comments and feedback from the local consultative group.
12. Submit a copy of the completed draft plan, including the public comments that were received, to the Native Vegetation Branch for assessment prior to consideration by the Native Vegetation Council. Note: the Native Vegetation Branch is available to provide feedback on earlier versions of the plan, prior to local council endorsement. After the draft has been submitted to the Native Vegetation Branch, it will provide feedback on the plan and work with the local council to finalise the plan for consideration by the Native Vegetation Council. When the Native Vegetation Council has considered the plan, the local council will be advised of the outcome via a Decision Letter notification, which outlines any further amendments to be made prior to adopting the plan and specifies the approved period, including the date by which a review of the plan is required.
13. Continued endorsement of a Roadside Vegetation Management Plan depends on the result of periodic reviews. The first review will be conducted after 3 years and subsequent reviews will be conducted at 5-yearly intervals. These reviews enable changes to be made that increase the usability of the plan as well as keep any name or policy changes up-to-date.

11.4 Example of a possible approach

An example of how a Roadside Vegetation Management Plan might be developed in order to address the requirements set out in Section 11.3, points **6, 7, 8 and 9**:

1. The local council undertakes an assessment of its roadside vegetation of conservation significance. Information may be obtained from a range of sources such as NatureMaps, past vegetation surveys and community knowledge. This may be supplemented with targeted on-ground assessments if practical.
2. The local council drafts an annual works program detailing roads to be managed, the method and extent of management, the vegetation present and possible impacts, and proposed actions to minimise impacts.
3. The Native Vegetation Branch considers the annual works program, with regard to proposed methods for vegetation treatment, on a road-by-road basis, taking into account the potential impacts on vegetation, especially vegetation of conservation significance.
4. If plants of conservation significance are considered likely to be impacted, the Department for Environment and Water will request that the local council considers and proposes further mitigation measures, such as alternative methods to reduce clearance impacts or patches/species/communities to avoid or protect.
5. The Native Vegetation Branch reviews the mitigation measures and if acceptable, allows the clearance works to proceed. The local council uses its own standard operating procedure and contract management procedures to undertake the agreed works.
6. If the Native Vegetation Branch determines the mitigation suggestions are not acceptable, the issue is presented to the Native Vegetation Assessment Panel for a decision.
7. The local council provides an update about the completion of the works program to the Native Vegetation Branch after the end of financial year.

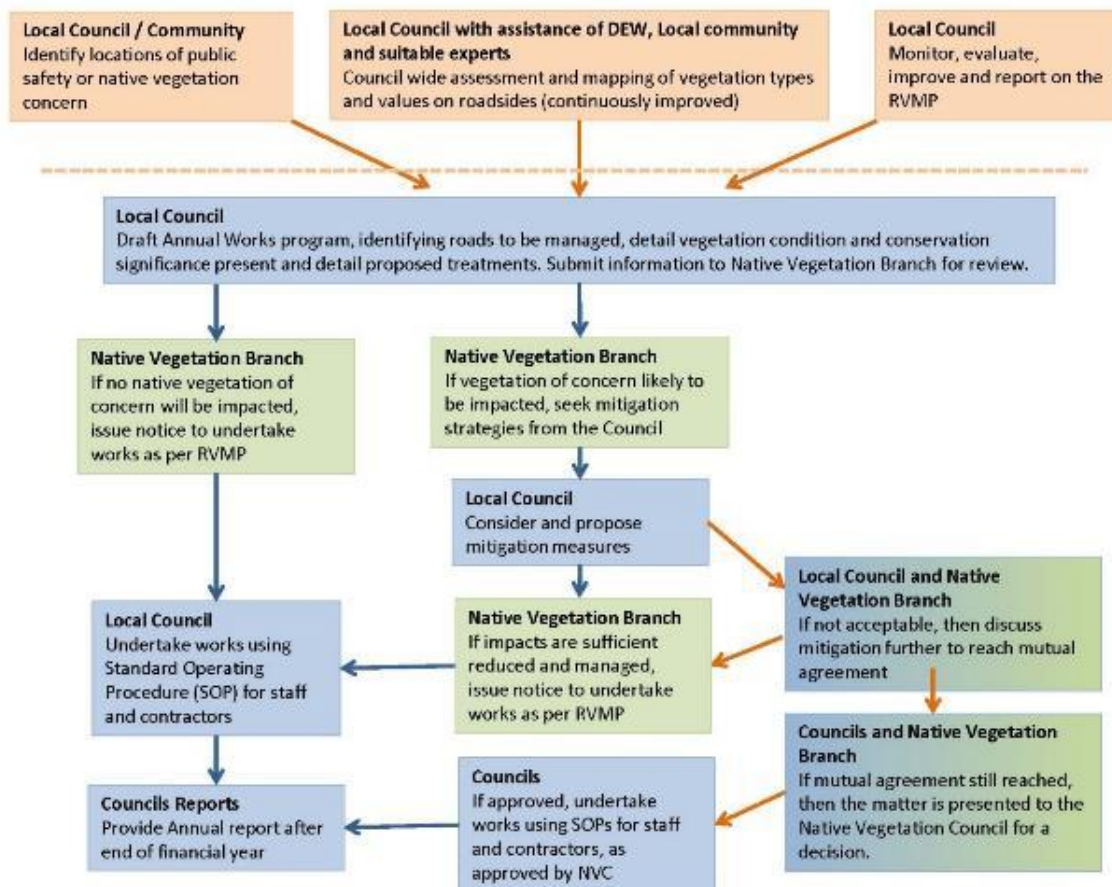


Figure 12. The annual works native vegetation management program approach.

GLOSSARY

Definitions for roadside vegetation

The definition of a road (from *Roads (Opening and Closing) Act 1991*) is:

1. a public road within the meaning of Section 4 of the Local Government Act 1999; or
2. (ab) an alley, laneway, walkway or other similar thoroughfare vested in a council; or
3. in relation to a part of the state not within a council area —
 - a. a road or street delineated and shown on a public map or plan of the state as laid out for public purposes by the Crown; or
 - b. a road or street opened under this Act or any other Act relating to the opening of new roads and streets; or
 - c. a road or street transferred or surrendered to the Minister of Local Government or the Crown by the owner or lessee for use as a public road or street; or
 - d. a road or street declared or dedicated under any other Act to be a public road or street,
4. and includes part of a road.

For the purposes of these guidelines:

Catch drain (cut-off drain) – a surface channel constructed along the high side of a road or embankment, outside the batter to intercept surface water (Austroads, 2003).

Frangible vegetation – plants with slender stems which give way break or uproot on impact.

Large tree – a tree (including a dead tree) where the circumference of the trunk of the tree is 2m or more, when measured at a height of 30cm from the base of the tree.

Mitre drains – drains constructed diagonally to the road for draining water from the road, usually extending into area of natural ground surface beyond the verge.

Natural ground surface – remainder of the roadside not previously cleared for road construction. It may include soil and vegetative debris that has been graded in from the verge.

Non-frangible native vegetation – plants species with a stem diameter (at maturity) of 100mm or greater with rigid, large or sturdy stems that will not readily break, bend or crush upon impact by a typical passenger vehicle, and could be expected to inflict significant damage to the vehicle and possibly cause injury to vehicle occupants. Stem diameter is measured at a height of 1m above natural ground.

Primary clearance envelope – the area of a road that supports regular vehicle movement up to the edge of the shoulder.

Public safety – The safety of persons or property, including the safety of:

- a) occupants in vehicles; and
- b) persons in or in the vicinity of (or likely to be in or in the vicinity of) roads, road infrastructure and public places; and
- c) vehicles and any loads in or on them: (Road Traffic Act 1961)

Regrowth vegetation – any vegetation growing after clearance, including re-growing from root-stock, or germination of new plants, from seed in the area that was previously cleared.

Remnant vegetation – vegetation not impacted since the establishment of the carriageway and verges within the road reserve.

Road authority – in the *Road Traffic Act 1961* this means:

- a) the Minister; or
- b) the Commissioner of Highways; or
- c) a council; or
- d) anybody or person in whom the care, control or management of a road is vested.

Road Furniture – all signs, streetlights and protective devices for the control, guidance and safety of traffic, and the convenience of road users

Roadside – the strip of land between the road formation and the boundary of the road reserve.

Roadside marker scheme – an important and valuable means of identifying, managing and protecting important areas of roadside vegetation. The marker system helps protect these areas from disturbance through activities such as road maintenance and upgrades, weed and pest control programs, or similar. Sites are identified by small blue marker signs at the start and end of important areas.

Methods for identifying native vegetation for the roadside marker scheme include:

- broad or targeted roadside vegetation surveys by trained contractors or staff
- opportunistic observations by local council staff
- database searches e.g. Nature Maps
- desktop assessments e.g. reviewing NRM Board, LandCare or other community group documents
- citizen science programs.

Road reserve – land set aside for the purposes of a public road, whether or not it is being used for that purpose (*Natural Resources Management Act 1999*) that extends from a property boundary on one side to a property boundary on the other side.

Roadside vegetation – any vegetation growing on a road reserve, including vegetation on a roadside (the area adjacent to a formed road), and vegetation growing on an unmade or undeveloped road reserve. It ranges from native vegetation of conservation value to vegetation dominated by introduced species.

Secondary clearance envelope – area where vegetation has regrown and affects the visibility of other traffic, signs, and other roadside furniture.

Sight distance – the distance that a road-user needs to have unobstructed sight to respond to a visual cue or safely avoid a conflict.

Sight triangle – the area of land between two intersecting roadways where vehicles on either roadway are mutually visible.

Undeveloped road – a surveyed road reserve that has never been developed as a road. Some undeveloped roads are totally cleared and pass unmarked through farm paddocks and others retain native vegetation.

Other relevant statutes

- The Local Government Act 1999 (Section 221), which states that any works on road reserves require the permission of the local council.
- The National Parks and Wildlife Act 1972, which prohibits the removal of native vegetation without a permit from reserves, wilderness protection zones, Crown land, public land or forest reserves in South Australia.
- The Commonwealth Environment Protection and Biodiversity Conservation Act 1999, which promotes the conservation of biodiversity by providing strong protection for nationally listed species of threatened indigenous plants and animals and important habitats. Any action that will have a significant effect on these species or habitats requires assessment and Commonwealth approval.

- The Natural Resources Management Act 2004 ,which promotes sustainable and integrated management of the state's natural resources and makes provision for the protection of the state's natural resources.

Numerous other Acts of parliament that may be relevant to roadside native vegetation management include, but are not limited to, the *Fences Act 1975*, *Electricity Corporations Act 1994*, *Fire and Emergency Services Act 2005*, *Occupational Health, Safety and Welfare Act 1986* and *Road Traffic Act 1961*.

Appendix 1.

ANNUAL WORKS CLEARANCE PROPOSAL FORM UNDER REGULATION 11(23) – Verge clearance >1m

Local Council details

Name of Local Council:	Authorised by Name: (CE or Delegated Authority)	Signature:
Local Council Project Supervisor:	Phone:	Email:
Local Council Staff/Contractor undertaking work:	Phone:	Email:
Start date:	Finish date:	

Map reference No.	Road name	Road type (Arterial/Collector local)	Distance of road to be cleared (km)	Photo number	Threatened species present	Threatened communities present
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Continue details from item 1-10 below:

	Vegetation Category (as per Table 3)	Age of the regrowth (years)	Width of roadside vegetation (m) total	Extent of verge clearance (m) from edge of carriage way	Clearance method (High or low method)	Assessor or relevant material*	Date assessed
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

- Provide an aerial map locating where the clearance is proposed (clearance area overlay) to be cross referenced to the table.
- Provide representative photos of section of vegetation proposed to be cleared and where possible indicate photo locations (with coordinates).
- Provide for reasons for requiring the clearance of the verge.

***Note: a vegetation assessment is not required if there is existing information relating to the roadside vegetation, such as past roadside surveys.**

Appendix 2.

CLEARANCE PROPOSAL FORM UNDER REGULATION 11(23)

Public Safety Framework

APPLICANT DETAILS

Name:

Postal Address:

Postcode:

Phone (Business):

Mobile:

Fax:

Email:

Signature (CE or delegated authority):

LOCATION OF WORKS

Give details of where the proposed works are to be conducted:

Location Address:

Parcel Description (or adjacent to):

Hundred:

District Council:

Are the proposed works located in a stretch of road that has been identified as containing significant roadside vegetation (identified by the Roadside Marker Scheme)

Yes No

Is this part of an ongoing or staged project?

Yes No

If Yes, provide details:

DESCRIPTION OF PROPOSED CLEARANCE AREA

Project purpose and description:

Size/length of project area

DESCRIPTION OF VEGETATION TO BE CLEARED

NON-FRANGIBLE VEGETATION: -

- Describe the non-frangible trees proposed to be cleared by filling in the attached *datasheet for non-frangible vegetation* (page 33) for each tree: -
- Provide an aerial map/GIS layer locating where the clearance is proposed (clearance area overlay). This must show as clearly as possible, individual locations of non-frangible trees. Please provide photos of the vegetation at the site.

FRANGIBLE VEGETATION: -

- Describe the frangible vegetation proposed to be modified (by filling in the attached *datasheets for frangible vegetation* (page 34) if information is readily available). Please provide photos of the vegetation at the site.
- Provide an aerial map/GIS layer locating where the clearance is proposed (clearance area overlay). Show as clearly as possible, individual locations of patches of frangible vegetation.

Category 1 clearances only

Is the clearance consistent with clearance guidelines outlined in Austroads Guide to Road Design:

Yes No

Part 4: Intersections and Crossings-General 2009, and AS 1742.7:2007 Manual of uniform traffic control devices, Part 7: Railway Crossings?

(Attach supporting information)

Category 2 and 3 applications only

You must show you have considered other safety improvement options as opposed to clearance. Attach additional information if required. These options may include:

Safety improvement options	Implemented		Reasons why not implemented	Estimated cost of options (\$)
Seal shoulder	Y	N		
Install barrier (wire rope/guard rail)	Y	N		
Install guideposts/cat's-eyes	Y	N		
Reduce speed limit	Y	N		
Install audio-tactile line markings	Y	N		
Improve road surface condition	Y	N		
Signage	Y	N		
Painted edge line	Y	N		
Other	Y	N		

Please note where insufficient information and/or inadequate demonstration of alternative safety improvement options are supplied by the applicant, clearance under the framework may not be approved.

Category 3 applications only

If the risk to public safety is as a result of the danger of a tree falling over or a limb or some other part of the plant falling, causing a risk to people or property, attach a report from a plant health expert.

Yes No

Note; a plant health expert means a person holding a Certificate V in Horticulture (Arbor culture) or a comparable or higher qualification.

Report Attached:

All applications

Demonstrate that the Mitigation Hierachy have been considered (see Introduction, page 9 for greater detail):

Summary Of Minimising Clearance	Discussion
Avoid Clearance	
Minimise Clearance	
Rehabilitate Clearance	
Achieve a Significant Environmental Benefit	No applicable for public safety framework

Please provide photos of the non-frangible vegetation on the proposed site

Please provide photos of the frangible vegetation on the proposed site



Government
of South Australia



Native Vegetation
Council