

SPECIFICATION FOR VEGETATION CONTROL

1. SCOPE

This Specification sets out the requirements and standards for the control of roadside vegetation on State Highways.

Areas in which vegetation control are required include the following:

- (a) unsealed shoulders
- (b) traffic islands
- (c) medians
- (d) highway verges
- (e) areas for sight distance
- (f) surface water channels
- (g) side drains
- (h) batters/embankments
- (i) side slopes
- (j) rest areas
- (k) landscaped areas
- (l) any other area specified

The Contractor shall be responsible for maintaining the level of vegetation control to the specified standards within the specified response times for the duration of the Contract.

Specific work required under the Contract is scheduled separately in the Contract Documents.

2. GENERAL

2.1 Definitions (Refer to Appendix 1 TNZ C/1 Addendum No 1)

Vegetation Control — is defined as all work required to control and maintain vegetation within the Road Reserve and other areas specified in the Contract Documents. Vegetation control and maintenance may be by mowing, trimming, tree-doctoring, non-chemical spray control or chemical spray control as described in this document.

Vegetation — is defined as all plant life growing within the Site including but not limited to grass, weeds, scrub, shrubs, trees, and overhanging branches.

Noxious weeds and scrub — are defined by local Bylaw and include gorse, broom, heather, blackberry, bracken and fern.

Verges — are defined as all side slopes, batters (including embankments), or such other areas detailed in the Schedule of Highway Grass Mowing, Schedule of Vegetation Control or other Schedules attached to the Contract Documents.

Mowing — is defined as the mechanical trimming of grass, weeds and other light vegetation to the required standard.

Trimming — is defined as cutting by appropriate means so as to remove heavy vegetation such as scrub, shrubs and tree growth to the required standard.

Chemical spray control — is defined as the control of vegetation to the required standard by the use of a spray that includes weedicides and/or herbicides.

Non-Chemical spray control — is defined as the control of vegetation to the required standard by the use of a spray that does not include weedicides or herbicides.

2.2 Compliance with Statutes and Regulations

The Contractor shall conform in all respects, including the issuing of all notices and the payment of all fees with the provisions of all relevant Acts, Regulations and Bylaws including those of the Resource Management Act 1991 and the Health and Safety in Employment Act 1992.

The Contractor shall be responsible for obtaining any Consents required for the work to proceed unless specified otherwise in the Contract Documents.

2.3 Traffic Control and Safety

All Traffic control and safety shall comply with TNZ G/1 "Specification for Temporary Traffic Control".

2.4 Control of Dust and Noise

Where the work is in the vicinity of residential property the Contractor shall not use machinery that creates significant noise outside the hours of 0730 to 1800, Monday to Saturday inclusive. Dust caused by the Contractors operations shall be kept dampened down to avoid any nuisance to residents and road users.

2.5 Contractor's Responsibilities

To achieve the objectives of this Specification the Contractor shall:

- (a) undertake detailed inspections of the network to identify and determine the location and extent of required vegetation control work in order to meet response times.
- (b) programme vegetation control work in accordance with Clause 2.6.
- (c) complete and maintain all vegetation control in accordance with the requirements of this Specification and the Contract Documents for the duration of the Contract.
- (d) report on vegetation control work in accordance with the Contract Documents.

2.6 Contractor's Programme

The Contractor shall submit to the Engineer 7 days prior to the commencement of work, a programme in a format detailed by the Contract Documents. No work shall commence until the Contractor and the Engineer have both agreed with the programme.

2.7 Contractor's Work Schedule

All work scheduled by the Contractor shall be in terms of Transit New Zealand State Highway Route Positions as included in the Contract Documents and shall list priority work for particular road groups.

No claims for variations will be considered if the Contractor does not work according to the Schedule of Highway Grass Mowing, Schedule of Highway Vegetation Control, or other Schedules attached to the Contract Documents or carries out work not so scheduled or work in excess of the scheduled areas unless authorised in writing by the Engineer.

2.8 Care of Existing Road Side Furniture

The Contractor shall take all reasonable measures to avoid removal of or damage to roadside furniture as a consequence of the vegetation control operations. The Contractor shall be responsible for the cost of replacement or reinstatement of all such furniture removed, disturbed or damaged during his operations to the

appropriate Transit New Zealand Standards and to the satisfaction of the Engineer.

3. VEGETATION CONTROL

3.1 Mowing

Vegetation control by mowing may include work in the following ground configurations:

- (a) Level or gentle sloping grassed areas, eg traffic islands, medians, and grassed unsealed shoulders.
- (b) Grassed batters not steeper than 3:1.
- (c) Steep batters to a level 2.0 m below or 3.0 m above the edge of seal.
- (d) Both slopes of wide shallow V section waterways.
- (e) Around guardrails, sight rails and safety fences.
- (f) Rest areas.
- (g) Other areas specifically scheduled.

3.1.1 Plant

The plant used for mowing shall be capable of cutting and maintaining vegetation to meet the standards specified in Clause 3.1.2.

3.1.2 Standard of Mowing

The standard of mowing required in specific areas shall be as stated in the Schedule of Highway Grass Mowing attached to the Contract Documents. There are four standards of mowing known as standard types, these are described below.

The grass height in the area specified shall be maintained such that no more than 10% of any one square metre is outside the grass height tolerance as stated by the standard type in Table One.

Table One
Grass height tolerances for standard type

Standard type	Grass height tolerances (mm)
1	20 - 75
2	20 -150
3	25 - 200
4	25 - 300

3.1.3 Standard of Mowing Verges

All verges shall be mown to a line which is a minimum of 0.5 metres behind the edge marker posts.

The Contractor shall mow verges to ensure that all vegetation obstructing sight visibility of all road signs along the highway and intersections, railway crossings and around curves is maintained to the specified standard. The specific areas to be mowed are nominated in the Schedule of Highway Grass Mowing. Diagrams detailing the extent of mowing required at intersections, curves, railway crossings and sign posts are included in the contract documents.

3.1.4 Standard of Mowing Traffic Islands

Traffic Islands shall be maintained to Standard Type Two specified in Clause 3.1.2 above or as nominated in the Schedule of Highway Grass Mowing.

3.1.5 Standard of Mowing Rest Areas

Rest Areas shall be maintained to Standard Type two specified in Clause 3.1.2 above or as nominated in the Schedule of Highway Grass Mowing.

Prior to mowing rest areas, all litter scattered on grassed areas to be mowed shall be picked up and disposed of in rubbish bins.

3.2 Vegetation Trimming

Vegetation control by trimming may include work in some or all of the following areas:

- (a) Highway verges
- (b) Areas where sight distance must be maintained
- (c) Areas bounded by the legal road reserve

- (d) Waterway areas.

3.2.1 Standard of Trimming

The Contractor shall cut and remove to disposal sites any vegetation such as shrubs, scrub or tree growth encroaching to within 500 mm of the line of the edge marker posts or to within 6.0 metres above the sealed pavement.

Unless part of an alternative contract the Contractor shall be responsible for the removal of vegetation to ensure maintenance of an obstruction free state of sight visibility of all road signs along the highway verges at all times. The visibility requirements for signs on State Highways is 160 metres to the sign face.

Vegetation shall also be removed to ensure intervisibility from curves, intersections and railway crossings as detailed in the contract documents.

Where trees require special attention they will be nominated in the Contract Documents and marked on site. Trimming of such trees shall be done by tree surgeons whose qualifications and experience shall be subject to approval by the Engineer prior to commencement of the work.

3.3 Non-Chemical and Chemical Spray Methods of Vegetation Control

3.3.1 General

All non-chemical and chemical spray vegetation control shall be to the lines and standards set out in Clause 3.6 of this document. Areas where a specific method of control is required will be as nominated in the Schedule of Highway Vegetation Control.

3.3.2 Nature of Work

Vegetation control by non-chemical or chemical methods may include work in some or all of the following areas:

- (a) Road shoulders and side slopes.
- (b) Areas around all roadside furniture such as roadside marker posts, kilometre pegs and sign posts.
- (c) Areas around bridge end markers and culvert markers.
- (d) Areas around guardrails, sight rails and culvert headwalls.
- (e) Surface water channels, side drains and culvert waterways.
- (f) Areas with noxious brush or scrub weeds.

- (g) Rest areas
- (h) Other areas specifically scheduled.

3.4 Non-Chemical Spray Methods of Vegetation Control

The Contract specifies end results in the form of minimum standards as detailed in Clause 3.6 .

The Contractor shall select the methods of non-chemical vegetation control. However the method used shall not cause detrimental effects such as breakup or damage to pavement, berms or other formations or give rise to hazards such as fire or risk of injury to persons or property.

3.4.1 Methodology and Control Programme

The Contractor shall submit the following details of the proposed control programme:

- (i) Equipment to be used
- (ii) Methodology including programme

3.4.2 Changes in Methodology

The Contractor shall notify the Engineer prior to any changes in methods from those detailed at the time of tendering.

3.5 Chemical Methods of Vegetation Control

The Contract specifies end results in the form of minimum standards as detailed in Clause 3.6.

All chemicals used for vegetation control shall be approved by the Pesticides Board as suitable for the uses as specified in the contract documents.

The Contractor shall forward evidence of the approval, by citing Product Name, Proprietor and Pesticide Registration Number, to the Engineer prior to commencement of work.

The Contractor shall select the least toxic chemicals consistent with effectiveness, taking into account possible detrimental effects arising both within and beyond the limits of the Site from the use of these chemicals. Detrimental effects may arise from the transportation of chemicals through the water course system. The inclusion of medium to long term sterilants must be controlled to prevent leaching of the chemicals and damage to desirable growth elsewhere. Chemicals for use on or near bridges, guardrails or other concrete painted or galvanised surfaces shall be inert in their action on these surfaces.

Hormone or arsenical weed killers shall not be used.

Chemicals shall be prepared and applied in accordance with manufacturers recommendations and Codes of Practice and in strict compliance with all relevant Acts, Regulations and Bylaws governing their use.

The Contractor shall use equipment designed to minimise contamination of applicators, the general public, wildlife and the environment.

It is the Contractor's responsibility to ensure that non-targeted species of vegetation or non-targeted areas are not affected or damaged.

The Contractor shall be liable for any damage to non-targeted species or property from use of chemicals.

3.5.1 Registration of Applicators

All Contractor's staff engaged in the application of chemicals for the purposes of this Contract shall hold a current Class IB, Total Vegetation Control Chemical Applicator's Registration Certificate for commercial application of chemicals, issued by the New Zealand Agrichemical Education Trust. The Certificates of Registration shall be forwarded to the Engineer with a copy for the Engineers records prior to commencement of work. This requirement applies to any change in applicators during the Contract Period.

3.5.2 Methodology and Chemical Control Programme

The Contractor shall supply the following details of the proposed chemical control programme:

- (i) Type of chemicals and application rates to be used for each area,
- (ii) Methodology including programme for chemical application,
- (iii) Equipment to be used for chemical application.

3.5.3 Changes in Methodology

The Contractor shall notify the Engineer prior to any change in chemicals, planned application rates and methods from those detailed at the time of tendering.

During spraying operations application rates may be varied at the Contractor's discretion to achieve the specified standard of vegetation control.

Changes to daily application rates shall be recorded by the Contractor on his diary sheet.

3.5.4 Chemical Diary

The Contractor shall complete a daily diary detailing all work undertaken including application rates and chemicals used, wind direction and rainfall and any other relevant information. The diary sheets are to be submitted to the Engineer with each monthly payment claim.

3.5.5 Mixing Water for Dilution of Chemicals

The method used in obtaining water for mixing chemicals shall ensure that contamination of the source of water supply is prevented. This also applies to a piped system where there can be a danger of back-syphoning. A back-flow preventer shall be attached to any hose used for mixing.

3.5.6 Prevention of Chemical Drift

The Contractor shall prevent chemical drift when spraying.

Spraying operations shall only be carried out under calm wind conditions.

3.5.7 Control of Contamination

The Contractor shall ensure that no toxic or contaminating substances are allowed to spill or drift onto non-targeted land or water during the work.

The Contractor shall also take precautions to prevent the contamination of water courses by chemical run-off from sprayed areas. No spraying shall be done in the rain or when rain is forecast to fall before the manufacturer's labelled drying times.

Edible fruits and berries (for example blackberry) shall not be sprayed between the period 1 October and 28 February.

Waste or surplus chemicals shall be disposed of in a safe manner.

In the event of contamination caused by any action or inaction of the Contractor, the Contractor shall comply with all Acts, Regulations and By Laws governing the remedy and mitigation of any adverse effects on the environment. All costs associated with such remedial or mitigatory work shall be borne by the Contractor.

3.5.8 Work Within National Parks, Forest Estates and Reserves

When working within National Parks and Reserves and other land administered by the Department of Conservation or other Authority, the Contractor shall strictly adhere to the following:

- (a) Chemical spraying shall only be done on the written approval of the Authority controlling the Park, Reserve or other land.

- (b) The Contractor shall submit a copy of such written approval to the Engineer prior to commencement of work and shall implement any measures set by the Controlling Authority.
- (c) In areas where chemical use has been allowed no spray tanks shall be emptied or sluiced out or any other equipment cleaned anywhere within the boundaries.
- (d) Where chemical use has been allowed the Warden or other concerned authority shall be notified immediately following any accidental chemical spillage within the boundaries that may endanger the flora and fauna of the area.

3.6 Standard of Non-Chemical and Chemical Spray Vegetation Control

The Contractor shall carry out vegetation control in all areas scheduled in the Schedule of Highway Vegetation Control to the standards specified below or as nominated in the Schedule.

3.6.1 Unsealed (Metal) Shoulders

Unsealed (metal) shoulders shall be treated to provide a vegetation-free or near vegetation-free condition within the specified tolerances at all times. The maximum area of vegetation growth permissible at any time shall be 10% of any area of one square metre of unsealed (metal) shoulder and the height of growth shall not exceed 50 mm. The required control standard is illustrated in Appendix 1 attached to this Specification.

If grading of the unsealed (metal) shoulders is to be carried out in conjunction with vegetation control the Contractor may be required to coordinate the vegetation control activities with the grading programme.

3.6.2 Roadside Marker Posts and Sign Posts

The area surrounding sign posts and roadside marker posts, including culvert marker posts, shall be treated to provide vegetation control as illustrated in Appendix 1. The control standard requires that this area shall be treated to produce a vegetation-free or near vegetation-free condition.

The method used for control shall not create or promote erosion and shall be such that a tidy appearance is maintained.

3.6.3 Bridge End Markers

The area surrounding bridge end markers at bridge abutments shall be treated to ensure clear driver visibility of the markers. The control standard requires that this area shall be treated to produce a vegetation-free or near vegetation-free condition.

The control method used shall be such as not to destroy growth on adjacent cut or fill batters.

3.6.4 Guardrails, Sight Rails and Culvert Headwalls

The areas around guardrails, sight rails and culvert headwalls, that is all the area in front of and the area immediately surrounding to a minimum distance of 1.0 metre shall be treated to ensure clear driver visibility. The control standard requires that vegetation shall not exceed 150 mm in height or, in the case of guardrails and sight rails, that vegetation shall be to such height as not to obscure any part of the horizontal railing when viewed by approaching traffic, whichever is the lower, at any time.

Any special plantings in these areas shall be protected.

3.6.5 Surface Water Channels, Side Drains and Culvert Waterways

The control standard requires that surface water channels shall be maintained in a vegetation-free condition at all times, consistent with the need to retain the structural cohesion of the surface water channel.

The vegetation-free condition shall be that the area of permissible growth shall not exceed 10% of any area of one square metre of surface water channel and the height of growth shall not exceed 100 mm. However, should any surface water channel become subject to erosion the Contractor shall cease work and seek direction from the Engineer.

Side drains, culvert waterways and cutout drains shall be treated to ensure the free flow of water by the elimination of rank growth and aquatic plants. Treatment shall be such as not to jeopardise the stability of banks, sides and batters.

All surface water channels or side drains shall be treated for their entire length. "U" shaped waterways shall be treated for their entire width including the vertical, or near vertical sides. "V" shaped waterways shall be treated for 500 mm on either side of the drain invert.

All culvert inlet and outlet drains shall be treated to the adjacent fence-line or to a minimum of five metres from the culvert, whichever is the lesser.

The required minimum control standards are illustrated in Appendix 2 attached to this Specification.

3.6.6 Kerb and Channel

The area for 150 mm immediately behind the kerb (including mountable kerb) shall be treated to control growth of vegetation over the top of the

kerb. The area immediately in front of the kerb or channel at the joint with the seal shall also be treated to produce a vegetation free condition.

3.6.7 Noxious Brush or Scrub Weeds

The standard for control of noxious and scrub weeds and their locations shall be as nominated in the Schedule of Highway Vegetation Control. Where unscheduled the responsibility for the clearance of noxious weeds up to the highway centre line lies with the occupier or owner of adjacent land.

In such cases the control of noxious and scrub weeds shall be carried out at the direction of the Engineer.

Areas at the toe of steep batters shall be spot sprayed only as directed by the Engineer.

3.6.8 Rest Areas and Other Specially Designated Off-Road Areas

Vegetation growth shall be controlled throughout all gravelled and sealed areas, around all furniture, fire places and rubbish bins, landscaped areas and fences and such other items which are listed in the Schedule of Highway Vegetation Control. The standard of control shall be as nominated in the Schedule.

3.6.9 Excluded Areas

The Contractor shall note and strictly adhere to the following unless otherwise specified by the Engineer:

- (a) Where the highway runs adjacent to Rest Areas or through Reserves only the unsealed (metal) shoulders, sight rails and marker posts shall be treated. Properly maintained grassed verges shall not be treated, eg all urban areas, maintained grassed areas on islands behind kerbs or in front of private residences, schools etc.
- (b) Landscape Maintenance of any garden planted Traffic Islands and/or medians in urban areas will be the responsibility of the respective Local Authority and shall not be treated.

3.7 Non-Compliant Work

The contractor agrees that where work has not been completed or maintained to the standard specified in the contract agreement then the engineer may deem that work to be non-compliant. The contractor acknowledges that from time to time during the term of this contract agreement, the engineer will be inspecting the work to check whether any work should be deemed as non-compliant. On the first occasion that the engineer deems work to be non-compliant, the engineer

will so advise the contractor and no payment shall be made to the contractor for the non-compliant work for the month in which the non-compliant work occurred. Should the engineer deem any work to be non-compliant at any time after that first occasion then the engineer shall be entitled on each occasion that any work is deemed by the engineer to be non-compliant to estimate the duration and extent of non-compliant work over the whole of the relevant roading network covered by this contract agreement for the month or months in question and, appropriate deductions shall be made from payment due or to become due to the contractor. The contractor agrees that the exercise of the engineer's rights under this clause shall not limit the rights of Transit New Zealand or the engineer in respect of the contractor's default set out elsewhere in this contract agreement.

4. PERFORMANCE CRITERIA

The Contractor's performance shall be judged on the following basis:

- (a) That the requirements of this Specification are met.
- (b) That compliance to the contract documents is maintained throughout the contract.
- (c) That roadside furniture damaged by the Contractor is either replaced or repaired promptly to an acceptable standard.

5. BASIS OF PAYMENT

5.1 Payments

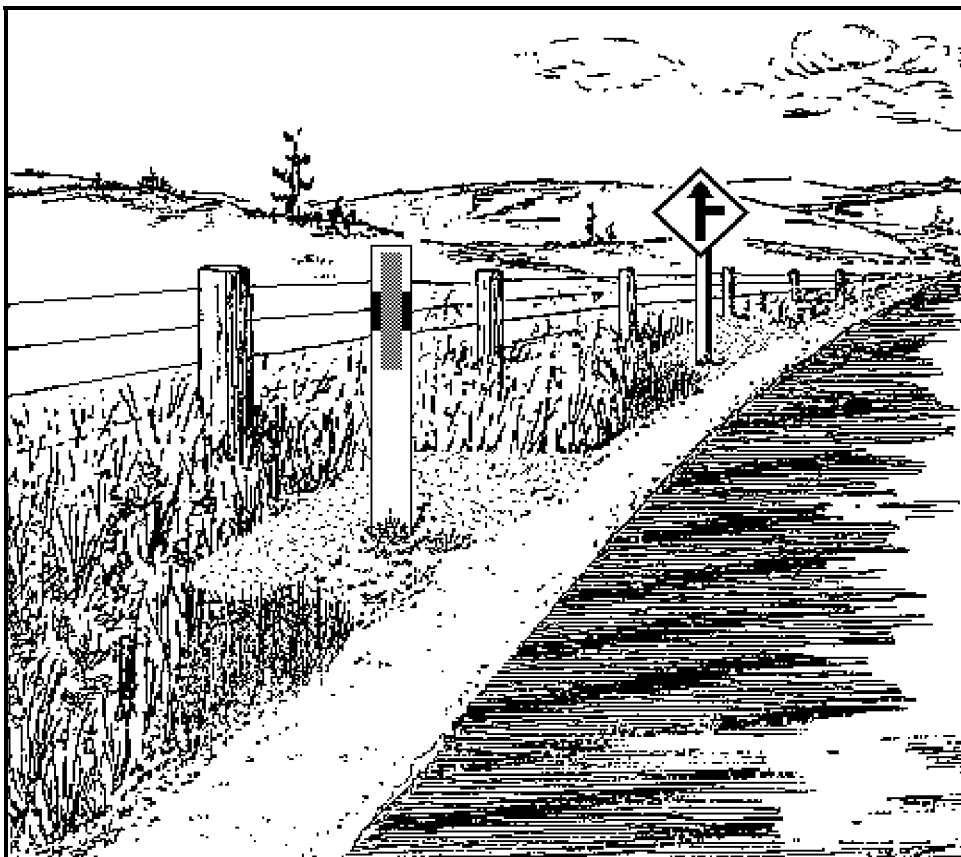
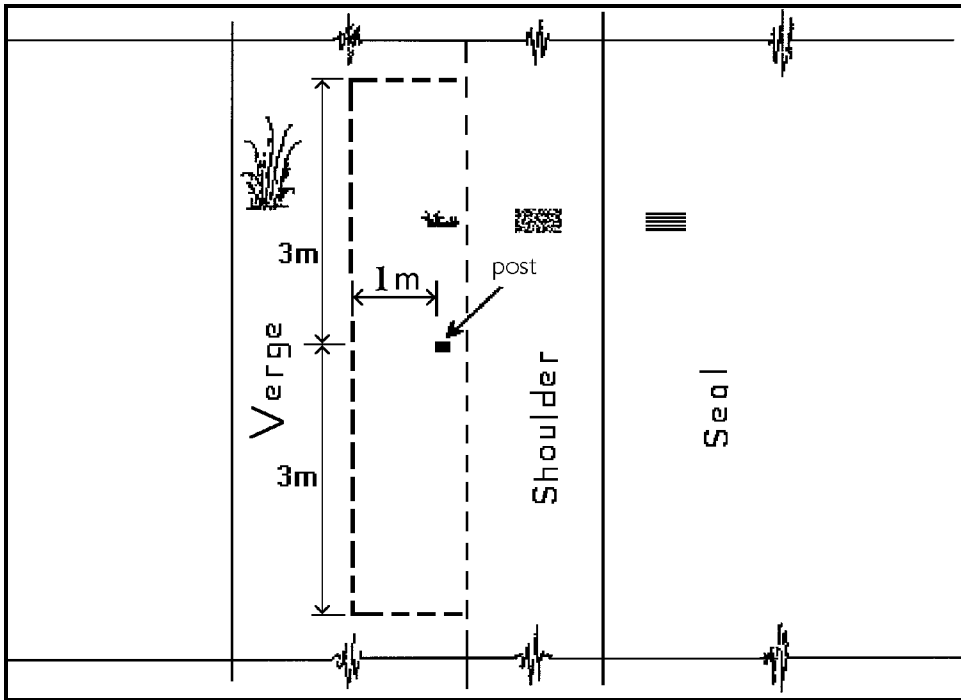
Payment for each class of vegetation control carried out in accordance with the Specification will be as follows:

Rates shall include for all work required for the control and maintenance of vegetation as required in the Schedule of Highway Grass Mowing and the Schedule of Highway Vegetation Control or other Schedules attached to the Contract Documents.

- | | |
|-------------------------------------------------------|----------------------------------------------------------------|
| (a) Mowing | All inclusive rate for each scheduled km of highway per month. |
| (b) Vegetation Trimming | All inclusive rate for each scheduled km of highway per month. |
| (c) Non-chemical or
Chemical
Vegetation Control | All inclusive rate for each scheduled km of highway per month. |

- (d) Noxious and Scrub Weed Control All inclusive rate for each scheduled km of highway per month.

APPENDIX 1



APPENDIX 2

