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## Introduction

**NOTE: ALL WORDING IN GREEN IS TO BE REPLACED OR REMOVED BEFORE THE TECHNICAL SPECIFICATION IS ISSUED**

The following specification template can be used for weed control works where a lump sum contract is required for works on Sydney Trains lands. Note this specification should not be used in sensitive sites or where there is native vegetation. In these cases bush regeneration should be undertaken using a qualified bush regeneration contractor. See EMS-06-TP-0064 *Bush Regeneration Technical Specification Template*.

The target weed list to be included in the specification should be appropriate to the local area and include weed species that are being targeted by other regional land managers and the local council, as well as weeds likely to cause operational issues for Sydney Trains. Seek advice regarding preparation of the target weed list in Appendix A).

A schedule of rates similar to the table below should also be requested in the schedule.

The rates (not subject to rise and fall) are; -

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Services or Works Description** | **Unit****(hour/each etc)** | **Rate****($ per unit)** |
| 1 | Supply and plant locally indigenous tubestock | Each with minimum 50 plants | $ per plant |
| 2 | Maintain plants - weed control and water | Each week to minimum 50 plants | $ per plant |
| 3 | Supply and spread eucalypt mulch to 75mm deep. | 5 x cubic metre | $ per cubic m |
| 4 | Perform Bush regeneration and supply all materials and equipment required | Man hour - minimum 4 hours | $ per man hour |
| 5 | Perform bush regeneration/ weed control and supply all materials and equipment required with a team of three (3) bush regenerators (inc one qualified and experienced supervisor) and one worksite protection officer on site at all times | Per team per hour (minimum 4 hours) | $ per team per hour |
| 6 | Supply worksite protection officer minimum PO1 qualification | Hour - minimum 4 hours | $ per man hour |
| 7 | Waste disposal | Tonne  | $ per tonne |
| 8 | Chip branches | Cubic metre(chipped) | $ per cubic m |
| 9 | Brushcutting | Hour - minimum 4 hours | $ per hour |
| 10 | Supply and spray glyphosate | Square metre- minimum 20m2 | $ per sq m |

*Note: The rate is the cost for each unit not the cost for the minimum number. E.g. For item 1, the rate will be a $ cost for each plant and not the $ cost of 50 plants.*

### Introduction and Scope

The current specification is for Weed control in non native vegetation areas (using a mix of herbicide spray methods and low impact methods, such as the cut and paint technique)

The contract area is as per Schedule XX and the attached drawings and covers the rail corridor from -----------to---------- administered by the Sydney Trains xxxxx District.

Tenderers shall fully inspect the contract area prior to submitting their tender. No claim shall be accepted if due to failure to adequately inspect the area.

The contract area is defined as the railway corridor along both sides of the track(s), and strips of land between tracks where the land is not ballasted, as highlighted on the attached sketch(s). Lateral boundaries are the existing boundary fencing along each length of line. Where there is no extant boundary fence, the boundary of the contract area is to be taken as a line parallel to the track, joining the nearest ends of the existing boundary fencing, or a lateral distance of forty (40) metres out from the nearest rail, which ever line is closest to the track. Other boundaries are shown on the sketch(s) by dot-dash-dot lines.(delete if sketches or maps not provided)

Areas of ballasted track, areas inside electrical transformer yards, station platforms, areas inside fenced depots, formally landscaped areas, and areas inside leased properties, are excluded from the contract area, as are areas marked as “excluded” on the attached drawings and sketches.

### Timing

The standards given in these specifications must be achieved by the Practical Completion (PC) and other critical dates outlined in the following table. (or in the schedule XX)

|  |  |
| --- | --- |
| Completion Date | Item |
| \_\_ / \_\_ / 20\_\_ | Release of specification |
| \_\_ / \_\_ / 20\_\_ | Site (or office) meeting with tenders at …………… |
| \_\_ / \_\_ / 20\_\_ | Close of Tenders at 10.00am at …………….. |
| \_\_ / \_\_ / 20\_\_ | Projected start on site date |
| \_\_ / \_\_ / 20\_\_ | Complete all initial weed control at all areas covered by the contact |
| \_\_ / \_\_ / 20\_\_ | Complete all follow up weed control (second control session) and cutting down and mulching of all woody material as specified for all areas covered by the contract (Delete if not required or only two weed control sessions possible over the area) |
| \_\_ / \_\_ / 20\_\_ | Complete next pass of complete weed control over all areas covered by the contract – Practical completion. |
| \_\_ / \_\_ / 20\_\_ | Final tidy up on any identified works not yet completed – Contract Completion |

### Materials

The Contractor shall provide all materials, plant, equipment, tools, water, herbicides, and additives, transport, labour etc. necessary for performing the works of this contract. The Contractor shall equip all work units with a mobile phone, and advise Sydney Trains of the phone numbers prior to starting work. Team supervisor should advise Sydney Trains of their work location each day.

All herbicides used shall be registered for their intended use in NSW (or a current permit for use issued) and herbicides shall be used strictly according to directions on their labels. The contractor must choose the most effective herbicide for use on each target species as recommended by the Department of Primary Industries in the most current version of Noxious and Environmental Weed Control Handbook. Herbicides intended for use (and the intended target species) shall be listed in the Tender. Only herbicides approved by the Principal and listed in EMS-11-RG-0073 *Sydney Trains Pesticides Register* shall be used for this contract.

A compatible vegetable based dye must be used with all herbicide applications that result in a distinct colour that will clearly indicate where herbicide has been applied to foliage or stumps.

### Records

The Contractor shall submit a written report to Sydney Trains by the twenty fifth (25th) day of each month outlining; date of visits, work completed and general comments on progress in relation to the submitted management plan.

The contractor must have available for review upon request by the Supervisor EMS-11-FM-0057 *Daily Pesticide Application Forms* (or equivalent EPA compliant pesticide application forms) and *Pre-work briefings* for each day’s activity for a period of three years after completion of contract. Pesticides application records as per the Sydney Trains pesticides procedures.

### Legislation

The Contractor shall be fully responsible for complying with all relevant legislation and will be fully liable for any off-target damage arising out of the works of this contract.

This rail corridor contains several areas of environmental sensitivity listed under the *Threatened Species Conservation* Act 1995 or other acts . Which include; XXXXXXXXXXXXXXX at XXXXXX locations. All staff working on the contract must be briefed on recognition of these occurrences prior to commencement of works. Any damage to threatened species, populations or communities will be dealt under the associated Act, and the contractor shall be fully responsible and liable for any such damage. (Delete this section if there are not known sensitive areas in the contract area)

Any spills, accidents, incidents, etc shall be immediately cleaned up in accordance with Environmental Protection Authority guidelines, and reported to Sydney Trains as soon as possible. Spill response guidelines and kits shall be maintained at all sites where herbicide is being used.

## Work Practices

### General

All work will be in compliance with a Work Method Statement prepared by the contractor prior to commencement of work onsite.

Works shall only be carried out during daylight hours.

Should the Contractor have to remove any fencing for access into the site(s), the fencing shall be reinstated to its original condition prior to completion, at the sole cost of the contractor. All fencing shall be reinstated to its original condition whenever the contractor is not on the site(s). All areas where fencing is removed must be manned to prevent public entry whilst the contractor’s works are in progress.

Where work may potentially obstruct a running line, or require contract staff to come within 3.0 metres of the nearest running rail, “track possession” &/or “full worksite protection” will be required. The Contractor shall advise at the earliest time any such areas not already identified by Sydney Trains, and work is not to commence until appropriate Safe-Working mechanisms are in place, as assessed by a Safeworking Protection Officer.

### Waste Disposal

All litter, empty containers and other debris shall be removed from the site at the end of each day’s operation and disposed of in an approved manner.

### Erosion

No area shall be left exposed to erosion from wind or water. All areas of cleared or poisoned vegetation not immediately protected by mulching and pose an erosion risk should be reported to Sydney Trains and if advised have appropriate sediment control measures installed at all egress points around the sites as outlined in the Office of Environment and Heritage’s, *Erosion and Sediment Control Technical Handbook* or Field Guide. If deemed appropriate.

Areas subject to erosion shall be identified and notified to Sydney Trains as soon as practical.

## Weed Control

All supervisory staff engaged on work of this contract shall have qualifications acceptable to the Principal. eg, Technical and Further Education (TAFE) Bush Regenerator’s Certificate, Horticultural Trade Certificate or equivalent. A qualified site supervisor must be on site at all times when any work is undertaken on the work site. Documentary evidence of accreditation and qualifications and experience of supervisors shall be submitted with the tender.

Any staff using pesticides must hold the correct ChemCert accreditation for the herbicides used and are bound by the requirements of the *Pesticides Act 1999*, associated regulation and the Sydney Trains Pesticides Procedures.

All those plants nominated in Table A (attached) that are visible during the period of the contract must be controlled by the method outlined for that species in Table A. The Contractor shall continuously search diligently for all plants of the nominated species, and control all that are found.

Woody weeds, to be treated by the cut stump and paint method or the scrape and paint method, must be treated with herbicide immediately (application within 10 seconds).

Weeds to be treated by foliar spraying of herbicide, and any stumps generated by other methods, shall be cut off as close as possible to flush with ground level after the herbicide has thoroughly translocated and the plant is obviously dead.

Weeds specified in Table “A” growing over/through/under perimeter fences, shall be physically cut back to the railway side of the fence line.

Vines to be treated shall be cut-off close to ground level. Immediately after cutting, the portion of vine that is attached to the roots shall be dipped into a concentrated solution of the selected herbicide, for a sufficient length of time to allow an adequate volume of the herbicide to be taken up by the plant. The portion of vine hanging in the tree or on boundary fences may be left in-situ. Where Madera vine is a target species all parts of the vine is to be removed from site including aerial tubers that should be collected in a tarp for disposal off site.

Cut material shall be chopped into pieces no longer than 1.0 metres long and scattered over well-drained areas on-site as a mulch no more than 200mm deep. Pieces shall not be placed so as to obstruct drainage, impede access to infrastructure (including drains and fences), create a fire hazard, or detract aesthetically from the corridor appearance.

Where Sydney Trains deems that the material is not suitable for mulching (such as containing weed propagating material) or a suitable location is not available on-site, then the cut material shall be chipped on site or removed from site and disposed of at an approved landfill site. This cost of disposal off site will be treated as a variation to the contract after consultation and approval from Sydney Trains.

Unless otherwise indicated in the timing section or Schedule XX Practical Completion shall be deemed to be reached when all primary weeding has been completed and at least 95% of all existing plants of all the nominated weed species has been killed and mulched within the whole of the contract area. Sydney Trains will consider 95% as being achieved when weeds of the target species are no longer observed on normal inspection.

The maintenance period (secondary weeding) shall start when practical completion has been achieved and certified accordingly by Sydney Trains, and shall extend to the completion of the contract.

During the maintenance period all target weeds are to be continually suppressed and prevented from seeding or reaching maturity. A maintenance report is to be submitted to Sydney Trains after each maintenance run is completed outlining the time spent and the works undertaken.

## References

EMS-11-WI-0053 *Noxious and Environmental Weed Herbicide Application Work Instruction*

EMS-11-RG-0073 *Sydney Trains Pesticides Register*

EMS-11-FM-0057 *Daily Pesticide Application Forms*

LANDCOM “Bluebook” *Soils and Construction*, Vol 1. March 2004.

*Pesticides Act 1999*

## Appendix A: Weed Species and Control Methods

**TABLE A: WEED SPECIES and required CONTROL METHODS**

**Insert a suitable and manageable weed species list determined from the District Biodiversity Management Plan and in consultation with the local weeds committees, local council requirements and adjoining landholder weed control works. The following tables include most possible target species.**

**For recommended weed control measure see “Identification of Common Rail Corridor Weeds”**

**TABLE A1 Cumberland Plain and coastal areas (Newcastle to Nowra)**

|  |  |
| --- | --- |
| *Acacia saligna* - Cut and paint#African Boxthorn - Cut and PaintAfrican Olive - Cut and Paint#African lovegrass - spot sprayAlbizia- Cut and Paint#Arundo - Cut and Paint (spray regrowth only)Asthma weed - Spot sprayAsparagus fern - crown outBalloon vine - Cut and PaintBamboo species - Spray large clumps\* or Cut and PaintBitou Bush and Boneseed - Cut and Paint or hand pull only#Blackberry - Spray October to March only#Bridal Creeper - hand weed in sensitive areas or sprayBrush box - {where less than 5 metres} Cut and PaintCape Ivy - scrape and paintCamphor laurel - {where less than 5 metres high} Cut and Paint#Canary Island Date Palm - cut down and removeCytisus species - Cut and Paint or hand pull only#Castor Oil Plant - Cut and Paint only#Cats Claw Creeper - SprayClimbing Asparagus – hand remove by crowningCoolatai grass- spray (notify any new infestations to Sydney Trains)#Coral Tree {where less than 5 metres} - Cut and PaintCotoneaster species - (where not deliberately planted) Cut and Paint Dolichos pea - Cut and paintFennel - grub out individuals or spot sprayGenista species - cut and paint only#Green cestrum - Scrape and Paint only# | Gorse - spray large clumps\* or cut and paint#Hackberry (Celtis trees under 5 metres tall) - Cut and Paint#Harrisia Cactus - Cut and Paint (remove all material off site)Honeysuckle vine - sprayJacaranda - {where less than 5 metres} Cut and PaintLantana camara – spray#Large Leaf Privet - cut and paint#Ludwigia – spray (only aquatic registered herbicide)Maderia vine – dig up tuber and remove all material off site, Spray large clumps if no off target damage possibleMorning Glory vine - spray (if off target damage likely remove by hand and spray regrowth)#Moth vine – cut and paintMulberry – Cut and PaintOchna serrulata- scrape and paintPampas Grass- foliar spray or grub out#Pinus radiata {where less than 5 metres} - cut and Paint#Prickly pear- cut and paint stump and remove from site manuallyPyracantha species- cut and paintRhus Tree- cut and paint (using PPE)Senna species- Cut and PaintSilky Oak – cut and PaintSmall Leaf Privet- Cut and Paint#St. John’s Wort- spot sprayTurkey rhubarb - sprayWild tobacco- Cut and PaintWillow trees – Cut and Paint |

***\**** Note that clumps of weed are classed as ten (10) or more individual plants grouped together in as high a density that there is no understorey growth. Under no circumstances are individually occurring specimens of woody weed be sprayed with herbicide if another technique is listed as the control method.

**TABLE A2 Blue Mountains**

| **Common Name** | **Common Name** |
| --- | --- |
| African boxthorn- Foliar spray | Lantana- folia spray |
| African love grass – spot sprayOptional target species | Longstyle feather grass – hand removal only |
| African olive- cut and paint# | Ludwigia – foliar spray with aquatic registered herbicide |
| Asparagus fern- crown out | Madiera Vine- hand removal only and dispose of to landfill |
| Balloon Vine- scrape and paint | Micky Mouse Plant (Ochna sp)- scrape and paint |
| Barberry- cut and paint | Montbretia- Optional target species for sensitive native areas – spot spray between flowering and fruiting |
| Bathurst Noogoora- spot sprayCalifornian Cockle burrs | Morning Glory vine- scrape and paint or folia spray for large\* clumps# |
| Bitou bush and Boneseed- cut and paint only# | Moth Vine- hand remove or scrape and paint |
| Blackberry- foliar Spray (Oct to Feb)# | Mother-of-millions- hand removal and dispose of |
| Black-eyed susan- hand remove or spot spray | Mount Morgan Wattle- cut and paint |
| Blue Periwinkle- foliar spray | Nodding thistle- chip out scattered plants or spot spray |
| Box Elder- cut and paint | Pampas grass- grub out small plants or foliar spray# |
| Bridal Creeper- hand remove  | Paterson’s curse Optional target species- spot spray |
| Briers (various)- foliar spray | Polygala- cut and paint |
| Buddleia Butterfly bush- cut and paint# | Portuguese Heath- hand weed small plants or spot spray large\* clumps |
| Camphor laurel (only trees less than 5 metres tall)- cut and paint# | Prickly pears- Remove from site manually and dispose of at landfill |
| Cytisus sp (brooms)- cut and paint# | Privet – broadleaf- cut and paint# |
| Senna sp. (cassia)- cut and paint | Privet – small leaf- cut and paint# |
| Castor Oil Plant- cut and paint# | Pyracantha- cut and paint |
| Cherry laurel- cut and paint | Radiata Pine (treat trees less than 5 metres)- cut down only# |
| Columbus grass- spot spray# | Rhizomatous bamboo- Note only treat clumps that are exclusively on the rail corridor- cut and paint or foliar spray regrowth |
| Coolatai grass- spot spray# | Rhus tree- cut and paint (Using PPE as this plant is toxic) |
| Cootamundra wattle- cut and paint | Scotch Illyrian Stemless thistles- spot spray |
| Cotoneaster- cut and paint | Scurf Pea- cut and paint |
| Crofton weed Optional target species for sensitive sites- spot spray or hand removal | Seaside Daisy- hand remove or spot spray large\* clumps |
| Dodder Optional target species- hand remove from desirable vegetation | Serrated tussock- spot spray |
| English Ivy Optional target species only in sensitive native areas- hand remove or spot spray | Silverleaf nightshade – hand pull or spot spray large\* clumps |
| Genista sp (Brooms)- cut and paint only# | Spiny burr grass- spot spray |
| Giant Parramatta grass- spot spray | St John's wort – spot spray in warmer months only |
| Giant reed Elephant grass- cut and paint and foliar spray regrowth | Star thistle- spot spray |
| Gleditsia- cut and paint# | Tree Lucerne/ Tagasaste- cut and paint# |
| Gorse- cut and paint or foliar spray for large\* clumps# | Tree of heaven- cut and paint |
| Green cestrum- Scrape and paint# | White Jasmine- scrape and paint |
| Harrisia cactus- Grub out and remove to landfill | White/silver Poplar- (treat trees under 5 metres only)- cut and paint |
| Hemlock- spot spray | Wild radish Optional target species for sensitive areas- spot spray |
| Himalayan Honeysuckle- scrape and paint | Wild tobacco- cut and paint# |
| Holly- cut and paint | Willows- (treat trees under 5 metres only)- cut and paint |
| Irish strawberry tree (only treat trees under 5 metres)- cut and paint | Zebra Grass- spot spray# |
| Jacaranda-(only treat trees under 5 metres)- cut and paint |  |
| Japanese Honeysuckle- scrape and paint (Oct to Feb only) |  |
| Johnson grass- spot spray |  |
| Kikuyu Optional target species for sensitive native areas – spot spray |  |

 Minimal disturbance, best practice bush regeneration techniques must be used at all times.

\* Note: Clumps of weed are classified as twenty (20) or more individual plants grouped together in as high a density that there is NO understorey growth.

# Appendix B: Site Plan

**INSERT MAPS OR PLANS OF THE EXTENT OF THE WORK AREA. (If Required)**

*Ensure that the boundaries of the work area can be fully defined by kilometrege or suitable landmarks*.