

Main Roads WA – Revegetation Plan for Pastoral Areas

Conditions: 13(a,b,c,e); 14(c); - CPS 818/7

Date: Unknown. **Project:** Onslow Road SLK 74 – Strategic Materials Pit – Construction and Ongoing Maintenance

Manager: Main Roads, Gascoyne, WA.

Location and size of clearing: For the clearing of native vegetation for the extraction and use of road building materials from material pits in the vicinity of Onslow Road, Shire of Ashburton; GPS & shape files included

Location and size of revegetation: This revegetation plan will be used to rehabilitate the areas that were cleared for searching and extracting road building materials relating to this project; GPS & Shape files included

Clearing description: Machine clearing.

Revegetation description: Replacement of topsoil material regeneration.

Reason for revegetation: Revegetation of temporary cleared areas, in accordance with conditions 13 & 14 of clearing permit CPS 818.

Revegetation / rehabilitation requirements:

Site preparation: All vegetation will be cleared from the works area and non-weed infested vegetation is stockpiled. Stockpiled vegetation will be placed in a manner that will prevent damage to adjacent vegetation by machinery. Weed infested vegetation will be disposed of at an appropriate site and not used for revegetation purposes. Burning of the cleared vegetation will not be permitted.

Topsoil will be stripped to a maximum depth of 100mm, and will be stored in a weed free (as far as possible) area, as close as possible to the area to be rehabilitated. Topsoil will be placed in windrows of less than 1.5m in height and reinstated as soon as practicable to maintain viability of in-situ seeds.

Weed control: Appropriate weed control will be carried out when weeds are present, both prior to topsoil stripping and where weeds become established on or between the stockpiled materials. Weed control will take place prior to the respreading of topsoil to ensure weeds are killed and not transported to other areas.

Control measures include the removal of weeds to an approved dumpsite, or treatment of weeds such as by using herbicides mixed in accordance with manufacturer's instructions and applied by a licensed operator. Where practicable, weeds will be removed prior to or when they are in flower, and prior to seeding.

All machinery will be cleared of soil build up and vegetative material before entering and leaving the site to help minimise the transportation of weeds and their seeds.

Exposed areas such as bare batters and borrow pits shall be promptly rehabilitated to reduce the potential for weed establishment. Where works are adjacent to good quality vegetation, where weeds from within the project area are likely to spread to and result in environmental harm to the adjacent area, those weeds will be controlled annually until **12 Dec 2018**.

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Regeneration / direct seeding / planting at an optimal time:

The following rehabilitation works are undertaken on areas of disturbed earth requiring rehabilitation:

- Topsoil is uniformly respread to a typical depth of 100mm over the project area. In project areas where topsoil has not been removed and/or is not available, other substrate, such as gravel, may be substituted as a growth medium.
- Project areas will be ripped to a minimum depth of 200mm deep with rip lines approximately 300mm apart. Where slopes are present, rip lines shall follow natural contours.
- Additional seeding will be undertaken as necessary. The flora species lists that are outlined in GHD's two related reports; "Report For Onslow Road: Vegetation and Flora Survey, September 2011" and "Environmental Impact Assessment and Environmental Management Plan : Onslow Material Pits, November 2011" (see attached) will be used to identify required flora species for the seed mix.

The following rehabilitation works are undertaken at borrow / gravel pits:

- Overburden and then topsoil will be uniformly and evenly spread over the disturbed areas of the pit. Depending on the slope of drainage lines within the pit, small swales from the topsoil will be formed to reduce erosion velocities and encourage the deposition of seeds.
- The whole of the existing pit floor, including drainage lines, will be ripped to a depth of 300-500mm deep with rip lines between 500-800mm apart (if the material in the pit is able to be ripped).
- All stockpiled vegetation will be spread along the contour and the pit floor to help promote seed deposition and to reduce erosion velocities.

Vegetation establishment period:

The vegetation establishment period is for at least twelve months following the completion of the works. During this period, maintenance and monitoring will be undertaken (see below).

Ongoing maintenance and monitoring:

After revegetation works, revegetated areas will be inspected annually for a minimum of two years to monitor and control weeds and to measure the effectiveness of revegetation works.

When unwanted weed foliage cover exceeds 25% after the initial two year period, further actions will be implemented to monitor and control these weeds. The additional monitoring and weed control will be conducted annually until **12 Dec 2018** or until the unwanted weed foliage cover falls below 25%, whichever is sooner.

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Monitoring commitments:

Post revegetation site inspections will be carried out annually for a minimum of two years to monitor unwanted weeds and measure the effectiveness of revegetation works. Monitoring of sites where unwanted weed foliage cover exceeds 25% after the initial two year period will continue annually until **12 Dec 2018** or until the unwanted weed foliage cover falls below 25%, whichever is sooner.

Criterion	Target	After three months	After one year	After three years
Mean vegetation foliage cover (%) excluding weeds.	>50	0	20	40
Mean weed foliage cover (%).	<20	<20	<20	<20
Amount of bare soil areas >4m ² (%).	<30	<100	<80	<50

Management commitments:

Undertake weed control of unwanted weeds annually until **12 Dec 2018** or until the unwanted weed foliage cover falls below 25%, whichever is sooner.

Agencies consulted and submissions received:

Nil.