

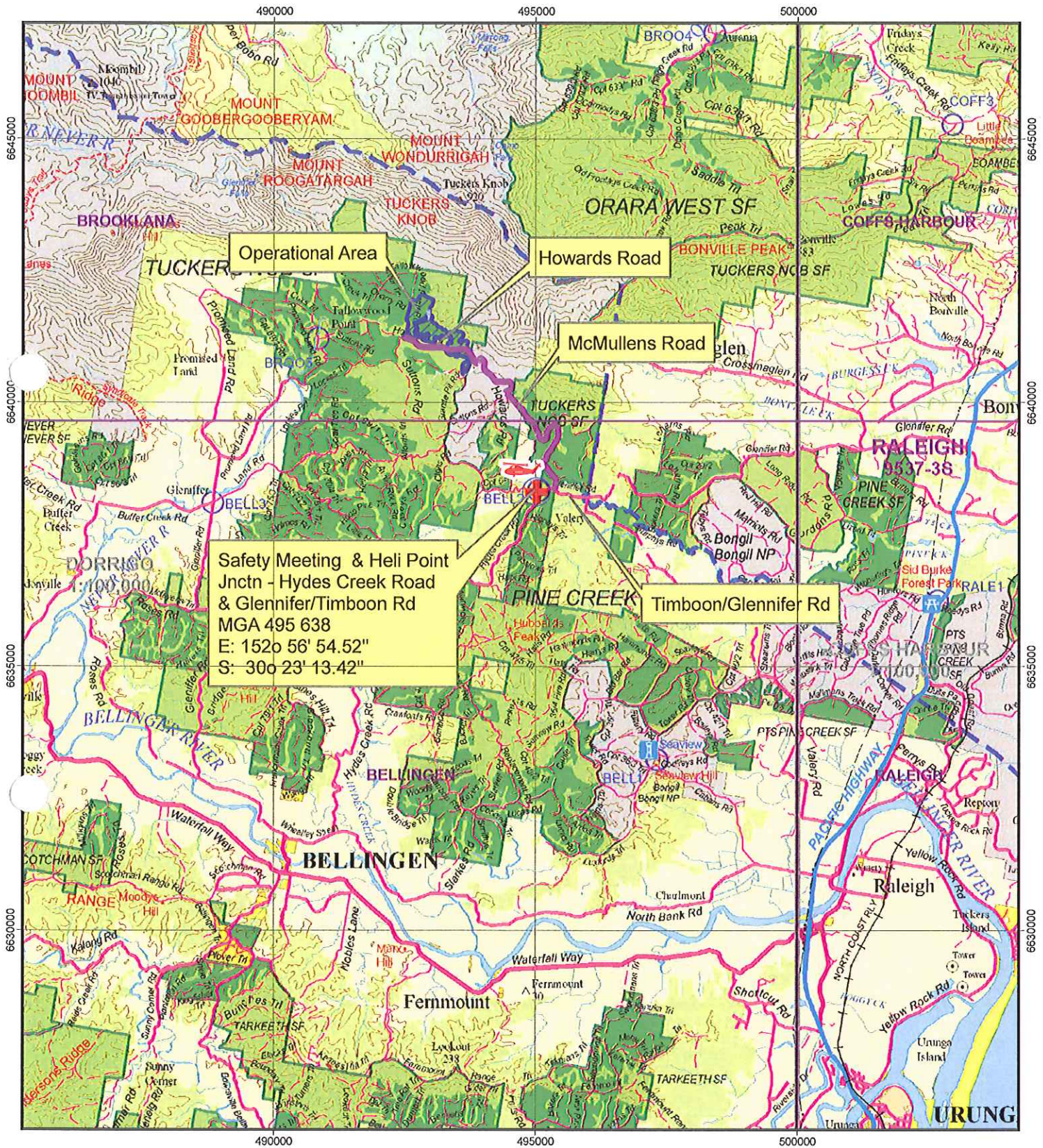


Map Sheets:

1:25,000 - Bellingen - 9437-2S
1:25,000 - Brooklana - 9437-2N
1:100,000 - Dorrigo - 9437
Scale: 1:100,000

North East Region - Urunga MA

Locality Map
Compartments 61 & 65
Tuckers Knob State Forest



MAP FEATURES

-  Subject Area
-  Emergency Meeting Point (Safety Point)
-  Helicopter Landing Point
-  State Forest
-  1:25000 Map Sheet
-  1:100000 Map Sheet
-  National Park Estate
-  Haulage route



Prepared by... Bob Aspden
Date: 2.9.2010

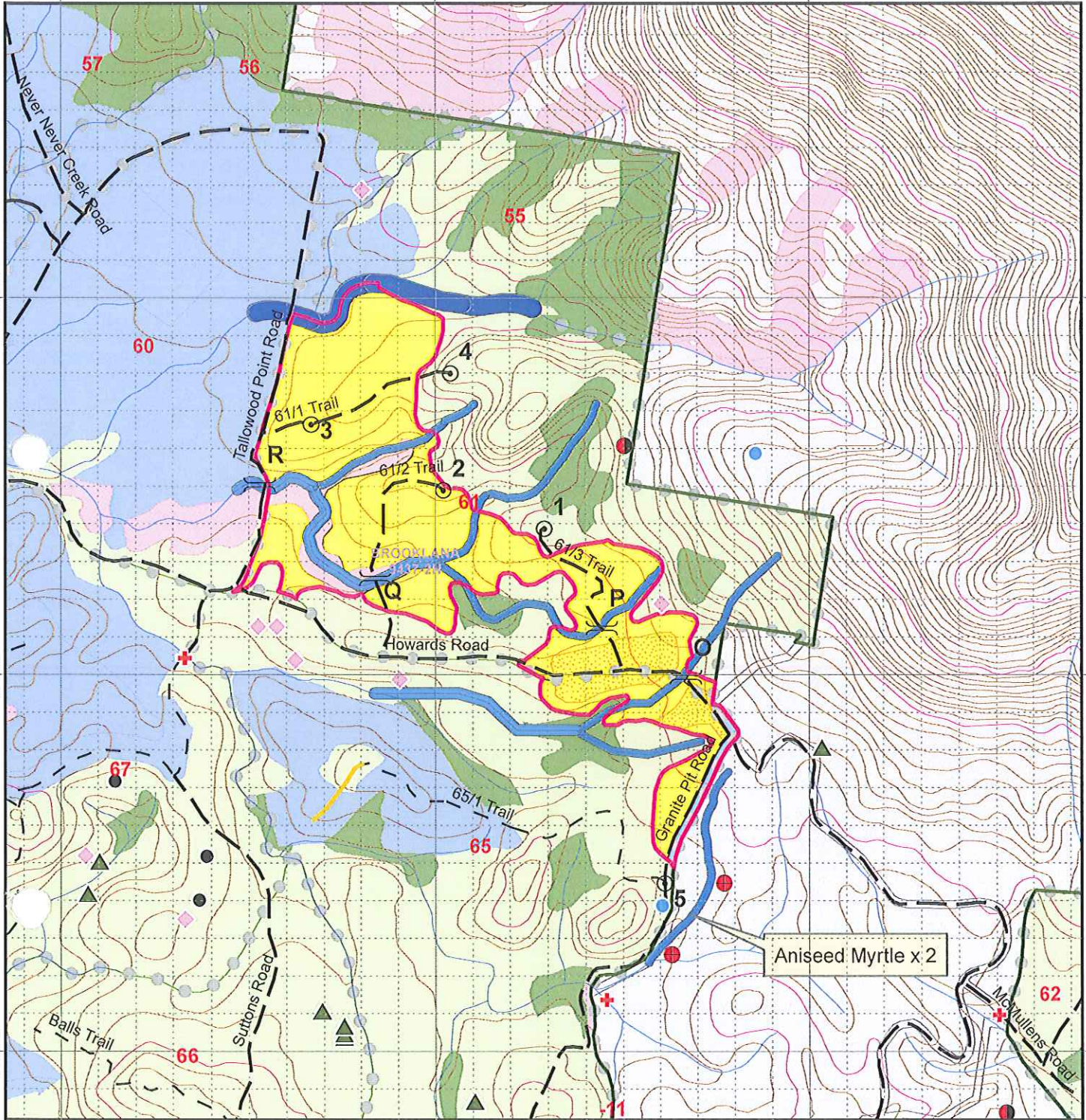
clearfall

N
 Map Sheets:
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 1:100,000 - Dorrigo - 9437
 Scale: 1:15,000

North East Region - Urunga MA
 Harvest Plan Operational Map
Compartments 61 & 65
 Tuckers Knob State Forest



492000 493000 494000
 6642000 6641000 6640000



MAP FEATURES

- State Forest Boundary
- Compartments Boundary
- 1 Km Grid
- 10 / 100 m Contour
- State Forest
- National Park Estate
- Slopes > 30 degrees
- Aboriginal Sites
- Non Aboriginal Heritage
- Crossing
- Dump/Turnaround
- Plantation Authorisation Boundary (GR0706)

Flora & Fauna

- Other Fauna Species
- Sooty Owl
- Glossy Black-Cockatoo
- Koala
- Giant Barred Frog
- Anetholea anisata (Aniseed Myrtle)
- Hicksbeachia pinnatifolia
- Amorhospermum whitei

HARVESTING PRESCRIPTIONS

- Harvest Area
- Harvest Area (Indicative Wet Weather Area)

ROADS

- Sealed
- All Weather, Unsealed
- Dry Weather, Unsealed
- 4WD Track

HARVESTING EXCLUSIONS

- Special Management Zone (FMZ 2 & 3A)
- Mapped Rainforest
- Other State Forest (FMZ 4)
- Other Plantation

RIPARIAN BUFFER ZONES

- 1st Order (10m either side)
- 2nd Order (15m either side)
- 3rd Order (25m either side)

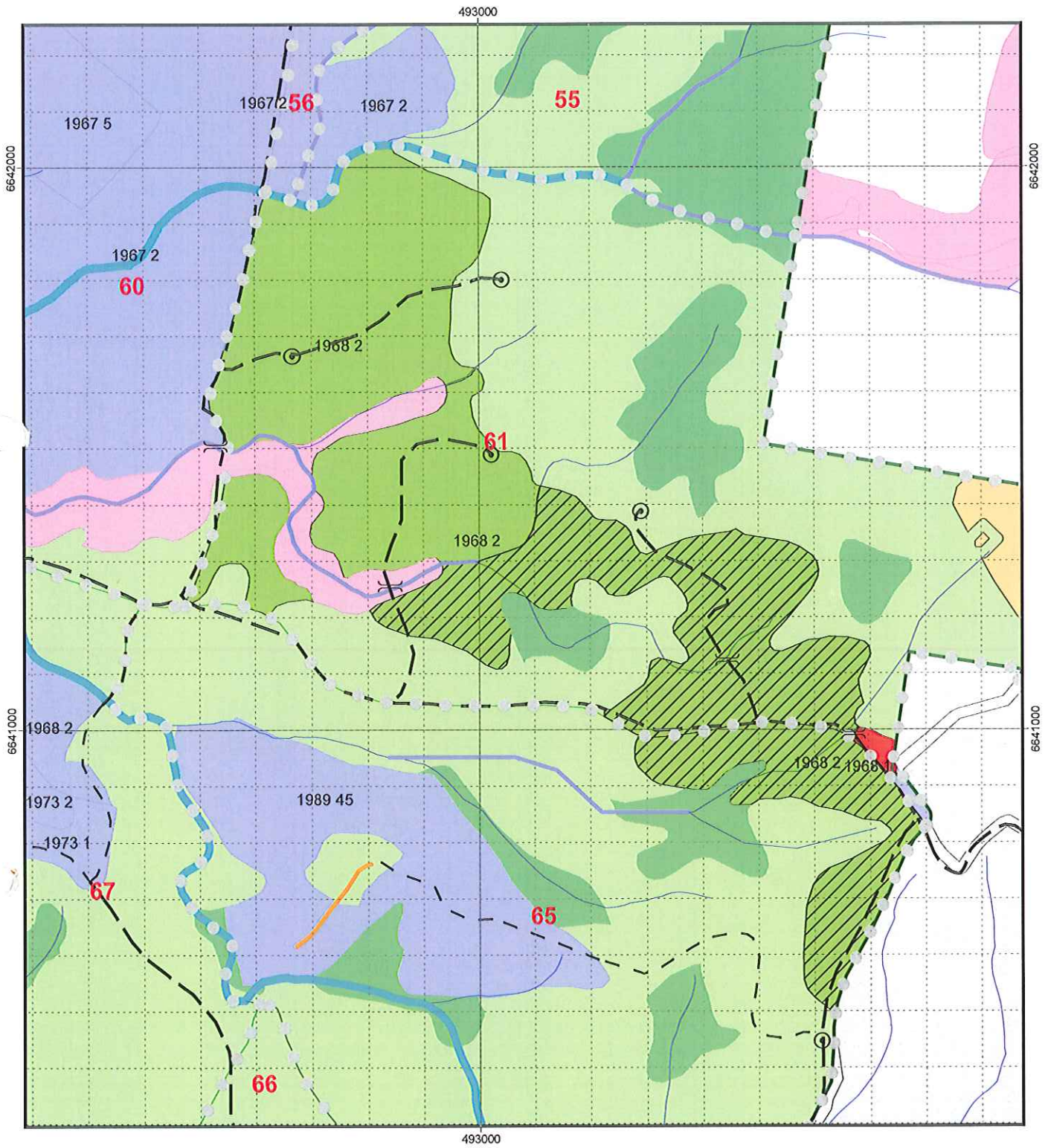


Prepared by: Bob Aspden
 Date: 4th February 2010



Map Sheets:
 1:25,000 - Brooklana - 9437-2N
 1:100,000 - Dorrigo - 9437
 Scale: 1:10,000

North East Region - Urunga MA
 Forest Type Map
 Compartments 61 & 65
 Tuckers Knob State Forest



- MAP FEATURES**
- State Forest Boundary
 - Compartments Boundary
 - 1 Km Grid
 - 10 / 100 m Contour
 - State Forest
 - National Park Estate
 - Slopes > 30 degrees
 - Aboriginal Sites
 - Non Aboriginal Heritage
 - Crossing and/or Turnaround

- ROADS**
- Sealed
 - All Weather, Unsealed
 - Dry Weather, Unsealed
 - 4WD Track
 - New Construction
 - Non Haulage Roads
 - Roads not to be used
 - Forwarder use only

- FOREST TYPES**
- Flooded Gum - 1968 AC
 - Blackbutt - 1968 AC
 - Heavily Thinned (~10m2 BA)

- HARVESTING EXCLUSIONS**
- SMZ Visual (FMZ 3B)
 - SMZ (FMZ 2 & 3A)
 - Mapped Rainforest
 - Other Plantation
 - Other State Forest
 - National Park & Nature Reserve




Prepared by... Bob Aspden
 Date: 4 2 2010




OPERATIONAL HARVESTING PLAN PLANTATION CLEARFELL

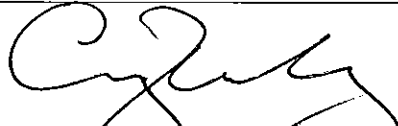
Region	North East
Management Area	Urunga
State Forest	Tuckers Knob
Compartments	61 & 65
Harvest plan No.	HP_3568
Harvest Plan Name	U_61_65

Plan Certification

Harvest planner		Date: 21/10/2010
Bob Aspden		

Harvest planning Manager		Date: 21/10/2010
Steve Pickering		

Regional Planning Manager		Date: 23/8/2011
John Murray		

Regional Manager		Date: 28/8/11
Craig Busby		

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HARVESTING DETAILS

1. Area Identification

Region North East
 Management Area Urunga
 State Forest Tuckers Knob
 Compartment/s 61 & 65

Cmpt	Gross Area (ha)	Net Area (ha)	Pricing Area	Op Type	Avg. Yield (contract)	Avg. Removal (contract)
61	110	49	Urunga Costal	Clearfall	120	0.3
65	143	9	Urunga Costal	Clearfall	120	0.3

2. Description of Proposal

2.1 Integrated harvesting of Plantation Areas

Clearfelling of 1968 age class Flooded Gum (*E.grandis*) ~ 98% and some Blackbutt (*E.pilularis*) ~2% plantation

2.2 Other

	Proposed	Details
Roadworks	Yes	Roadworks Plan (attached)
Post harvest Burning	Yes	Plan to be prepared separately
Re-establishment (2R)	Yes	Plan to be prepared separately

3. Safety Considerations

See attached Hazard Assessment and Medical Emergency Evacuation Plan.

4. Plantation Condition and Silvicultural Prescription

4.1 Plantation Description

- **Age Class:** 1968
- **Species/Area:** Flooded Gum ~ 57.5 ha
 Blackbutt ~ 0.5 ha
- **Stand Health:** Flooded Gum – Varying quality from moderate to poor (most stems are expected to exhibit internal defect in the form of pithy heart).
 Blackbutt – Excellent form.

4.2 Silvicultural History and Product Types

Approximately half of the area of existing plantation has been heavily thinned (two thinnings). Areas that have been thinned twice have a basal area of approximately 10-12m², compared with 15-20m² for areas that have been thinned once. Blackbutt has performed better than Flooded Gum in terms of volume increment. There is a mixture of good and poor form within the plantation.

Harvesting at this time should produce poles from the small area of Blackbutt, a reasonable quantity of high quality sawlogs, low quality sawlogs and pulp grade material

4.3 Silvicultural Objectives and Prescriptions

Clearfall and re-establish with local native species within 12-18months.

5. Legal Conditions

The area to be harvested is an authorised plantation under the provisions of the Plantations and Reafforestation Act (1999) (Registration no. GR0706P).

As such, the operation must comply with:

- Plantations and Reafforestation Act (1999)
- Plantations and Reafforestation (Code) Regulation (2001)

Legislation relating to the operations on State forests & Other Crown-Timber Lands is detailed in FNSW Forest Practices Codes. In addition this operation must specifically comply with:

- Forests NSW Forest Practices Code part 1 (Timber Harvesting in Forest NSW Plantations 2006)
- Forests NSW Forest Practices Code part 4, Forest Roads and Fire Trails (February 1999)
- Licence Conditions issued by Forests NSW under the Forestry Act (1916)

6. Special Conditions

6.1 Non-harvest areas

The Operational Map indicates the non-harvest areas in the compartment, as detailed in the legend.

- Harvesting disturbance is not permitted in non-harvest areas except as authorised under this plan.
- Limited harvesting activities may take place within the first 5m of all riparian zones as outlined in section 10.2.
- No harvesting or other disturbance may take place within 20m of 3rd order (or greater) drainage lines, wetlands or rivers. No machinery may enter this area and no trees are to be removed.

6.2 Boundaries

- For boundary locations refer to the operational map.
- Where there is uncertainty as to the location of any critical boundary, advice must be sought from North East Region Resources Unit.

Bindarri National Park

The eastern boundary of the harvest area adjoins Bindarri National Park. The boundary is offset 20m from the centreline of Howards Road and Granite Pit Road. No harvesting or other activities are to occur on the eastern side of these roads where the offset occurs

- Harvesting must not impact upon the National Park

Other Critical Boundaries

The remaining boundaries are adjacent to State forests. No special Conditions Apply

6.3 Wet Weather Operational Area

Areas on the operational map have been identified as indicative wet weather harvesting areas (marked as yellow with brown dots). These areas are close to 'All Weather' roads and are comprised of ridge-tops and mid-slopes. Areas around drainage lines have been avoided.

6.4 Public Recreational Use

Areas adjacent to the harvesting area and within the vicinity of the harvest area are frequently used by locals for recreation. Valery Trails Equestrian Centre sometimes ride through the area. Operators must remain alert to the potential presence of members of the public.

6.5 Rainforest

Rainforest has been mapped within the compartments and is to be excluded from harvesting activities. Areas of unmapped rainforest are to be identified and excluded from harvesting activities as described in the Forests NSW Forest Practices Circular 2005/02.

6.6 Haulage Route – Closed Roads

The main haulage route is along Howards Road, onto McMullens Road, then to Timboon/Glennifer Road. The Harvesting Forester must close Howards Road and McMullens Roads to the public during haulage operations utilising B-double trucks. The Harvesting Forester must advise NPWS of the closure and ensure appropriate signage is in place. When closed this route may only be used by holders of a permit issued by FNSW.

The Harvesting Forester is to notify DECCW prior to haulage and closure along the NP sections of road and to ensure appropriate measures are undertaken before and after haulage operations. All road maintenance within the National Park is to be conducted in accordance with the current REF (Review of Environmental Factors) – see Roadworks Plan.

6.7 Flora & Fauna

A desktop review has highlighted that two threatened species may occur within the operational area. The descriptions and diagrams of the species listed below (see attached appendix) are to be used by the SFO and operators to identify any individuals within the operational area. If individuals are identified during operational activities – the harvesting forester must be notified immediately. The operations must be halted until the Regional Ecologist has determined the extent of the population and determined conditions under which operations can continue without impacting on known populations.

- The **Giant-Barred Frog** (*Mixophyes iterates*) occurs in moist Eucalypt forest and rainforest, usually found close to permanent running water. Ten observations of this species have been made within a 2km radius of the harvest area but have not been detected in the harvest area. One individual has been located within 200m of the harvest area (see operational map). This species has a wide geographical range through the north coast and northern tablelands of NSW to southern QLD, however is rare within its range.
- **Cryptic Forest Twiner** (*Tylophora woollsii*) occurs in moist Eucalypt forest, moist sites in dry eucalypt forest and rainforest margins. One observation of this species has been made within a 5km radius of the harvest area but has not been detected in this compartment. This species has a wide geographical range through the north coast and northern tablelands of NSW to southern QLD. However it is very rare within that range. It is unlikely for this species to occur within the harvest area as this area is highly disturbed and is dominated by lantana and other weed species that tend to out-compete other flora.
- **Anetholea anisata** (Aniseed Myrtle, Ringwood) - Mature specimens of *Anetholea anisata* are to be protected where practicable
- **Bell Miners** The SFO is to record the location and extent of any Bell Miners detected during harvesting operations

7. Forest Management Zoning And Approvals

7.1 Forest Management Zones

The compartments include the following FMZs as indicated on the operational map:

- **Zone 2 & 3A (Special Management Zones)** Shown as deep green on the operational map, these areas protect rainforest and are not available for harvesting and are to be excluded from harvesting activities.

- **Zone 4 (General Management – Other State Forest)** is native forest and is not available for harvest under this plan.
- **Zone 5 (Native Species Plantation)** Shown as yellow and purple on the operational map. The areas shown as yellow are available for harvesting in this operation – follow silvicultural prescriptions as outlined in section 4.

8. Cultural Heritage

8.1 Aboriginal Cultural Heritage

There are no known Aboriginal sites or other heritage items in the compartments. The Local Aboriginal Land Council has been consulted in regard to the proposed harvesting and the Regional Aboriginal Cultural Heritage Officer has inspected the compartments. No issues were identified at the inspection.

8.2 Non Aboriginal Cultural Heritage

No sites of non aboriginal cultural heritage were identified in these compartments.

9. Soils and Water

	Compartment 61	Compartment 65
Inherent hazard level	1	1
Dispersible Soils	No	No
Seasonality	Yes (See special conditions below)	Yes (See special conditions below)

9.1 Seasonality

Harvesting activities are to be excluded from 1st January till 30th April inclusive.

Prescribed wet weather areas as per the P & R Code (see Section 6.6) are to be preferentially used during wet periods of the operation.

9.2 Wet Weather Controls

Conditions 14.1-14.5 of Forests NSW's Forest Practices Code Part 1 – Timber harvesting in Forests NSW Plantations apply.

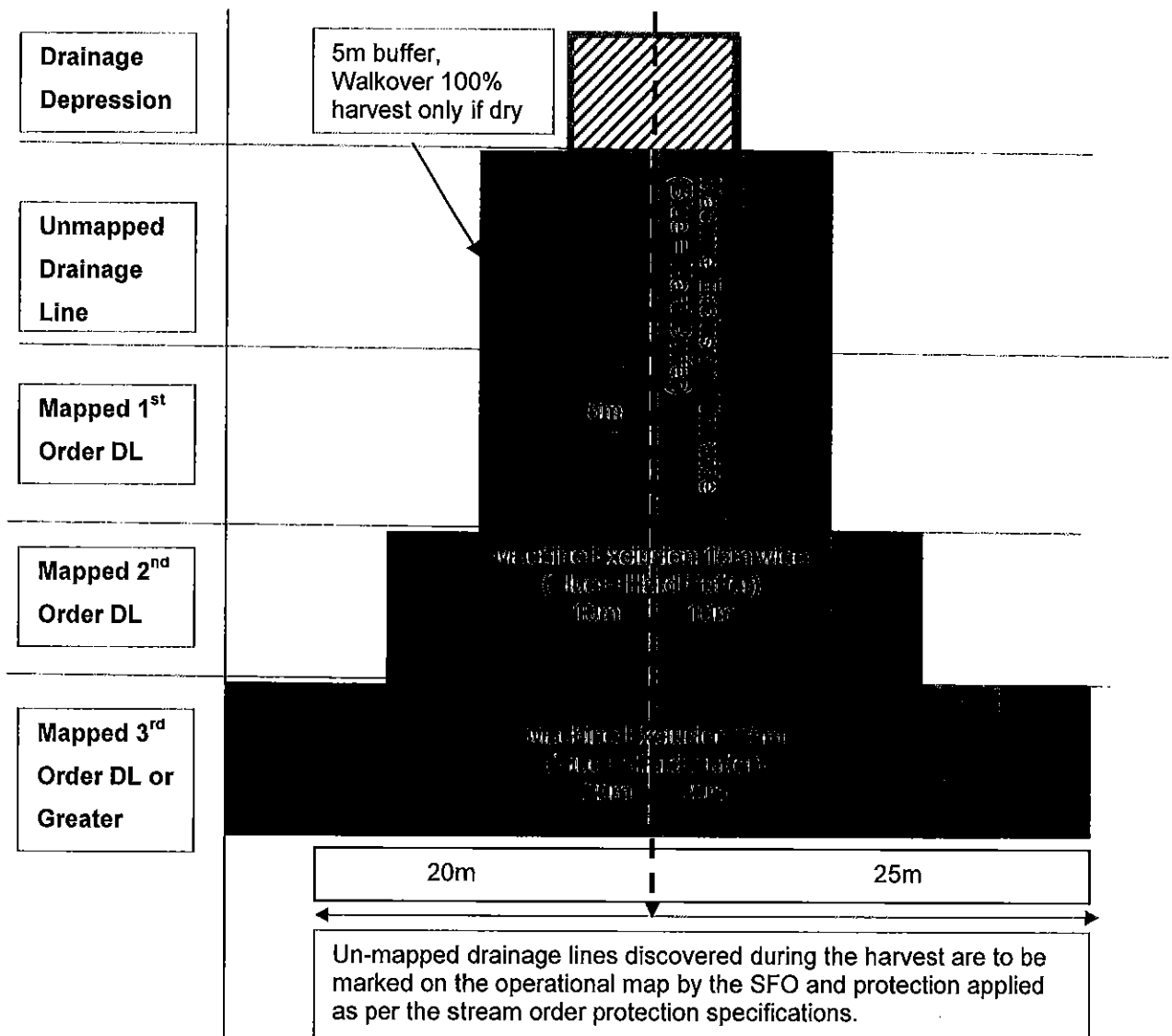
- Automatic Closures apply to forwarders and loaders when water is running on extraction tracks
- Automatic closures apply to loaders when there is run-off from the landing surface
- Automatic closures apply to the use of natural surface roads when there is runoff from the road.
- Machinery must not exceed acceptable rutting limits (see Condition 14.4 and condition 50 of the P&R Code)
- Harvesting is only permitted to continue within drainage feature protection areas if the top 200mm of soil is dry enough to avoid soil erosion.

10. Drainage features

10.1 Drainage feature protection

- The Operational Map indicates known mapped drainage features and widths of protective measures. Un-mapped drainage lines discovered during the harvest are to be marked on the operational map by the SFO and protection applied as per table below.
- (note: some of the drainage features indicated on the Operational Map with buffer zones may, at the time of marking, be determined as depressions.)
- The minimum buffer zone width for each side of drainage features is shown below.

Stream Order	Buffer Zones each side of drainage feature – Green areas (Machine exclusion)	Total Exclusion (No Disturbance) each side of drainage feature (Hard Buffer)
Drainage Depression	5 (if wet)	0
Unmapped drainage lines	10	5
1st order	10	5
2nd order	15	10
3 rd order or greater	25	20



10.2 Operational Conditions For Drainage Features

- Harvesting within buffer zones must comply with conditions 16, 63(a) of the Plantations and Reafforestation (Code) Regulation 2001.
- Harvesting within the first 5m of a buffer zone of a depression can only occur when:
The person carrying out the harvesting operation is satisfied that the top 200mm of soil is dry enough to allow operations without risk of soil erosion to the edge of the drainage feature.

11. Tree Marking Conditions and Code

- All exclusion zone and buffer zone boundaries must be marked in the field - except where specified forestry activities will not come within 50 metres of such boundaries. Where thick or impenetrable understorey obstructs marking UHF radio communication with operators may be used to indicate filter strips and boundaries. The SFO must document and justify such situations as it becomes apparent during compartment mark-up

STANDARD MARKINGS/SYMBOLS: Markings/Symbols that deliver key requirements on a state wide basis

Description	Symbol
Compartment boundary (Where not defined by clear features eg. Road, trail, creek)	"O" or Yellow tape
Exclusion zone (Line not to be crossed or disturbed by fallers or harvesting machinery at any time)	Three horizontal lines / rings OR Blue tape
Edge of net harvest area (eg unmerchantable) Retained trees and critical boundaries to be marked within 30m beyond the boundary Tree heads may fall across the line, provided they comply with boundary and tree retention rules (eg 5m debris)	"⊙"
Buffer Zone Areas where machinery is not permitted but there may be trees to be felled	Two horizontal lines / rings (indicate distance if required)
Drainage depression buffer strip	Not marked
Extraction System, OR Road/Track line	"I" or white tape
Dump site (with optional dump number reference)	"D" or red tape
Approved crossing site	"β"
Slope angle indication (commences here)	eg "25°"
Individual tree	"•" or dots
Directional felling mark	"←" over "•"
Retained trees not to be removed or damaged (eg grower)	One horizontal line or ring
Cancellation Mark (Mark to formally cancel previous marks)	"X"

12. Roads and Crossings

- There are a number of non-haulage roads as indicated on the operational map that are not to be used by haulage traffic. They may be used with SFO approval for snigging or extraction provided they are drained to the appropriate specifications (as per Schedule 5 of the Non-IFOA EPL). They may be used for vehicular access where they have been assessed by the SFO prior to use, and are in a stable condition unlikely to cause environmental harm. (See Regional Policy No. 6 – Use of Non-Haulage Roads in Harvest Areas).
- Harvesting machinery may cross drainage lines at authorised crossings as per conditions Conditions 57 to 83 of Schedule 4 of the EPL (Snig tracks - crossings). The SFO must give authorisation prior to crossing drainage lines.
- Crossings must be drained using drainage structures within 5-30m either side of the crossing
- Wetlands must not be crossed under any circumstances.

Road Maintenance/Road Construction– See Roadworks Plan

13. Log Dumps

13.1 Location

- Log dumps and landings that require construction must be located outside buffer zones and areas of native vegetation except where otherwise approved.
- Log stockpile areas within native forest areas must be approved by the Regional Manager prior to establishment and should be located so as to minimise disturbance to understorey elements. Approved stockpile areas are shown on the operational map (Dumps 1, 4).
- Log stockpile sites (no construction required) are permitted along all sections of road within the plantation area unless marked as 'No Loading Permitted' zones on the Harvest Plan Operational Map.

13.2 Treatment

- Conditions 17.2 – 17.4 of the Forest Practices Code (FPC) 2005 must apply.
- Debris accumulated during processing at log dumps and landings must be located outside the boundary of buffer zones. Even distribution of slash and debris across running tracks is required. This will alleviate ground compaction and reduce exposure of soil to erosion and run-off.
If any area used as a log dump or landing for harvesting operations ceases to be so used for more than one week, measures to minimise soil erosion must be put in place.

14. Extraction Tracks

14.1 Conditions 9.1-9.4 and 14.1 - 14.4 of the FPC (Forest Practices Code 2005) apply.

14.2 Walkover extraction:

Walkover extraction to be used where practicable

Soil erosion from tracks must be minimised by:

- Retaining groundcover using slash and leaf litter. Slash must be placed evenly across the track to divert water.
- Special attention must be paid to the placement of slash over ground area of any concentrated machinery movement. Such areas will include the exits of extraction tracks onto roads, at the intersection of running tracks in the harvest area and at log landings.
- Using natural cross-fall drainage.
- Forwarders must use either the road or road verge when forwarding to Dumps 1 or 4 within the native forest.
- The construction of new forwarder tracks must not involve side cuts of greater than 2m
- Drainage structures must be constructed if concentrated water flow occurs for distances exceeding those in the following table.

14.2 Extraction track drainage:

Maximum distance of water flow or potential water flow along snig tracks or extraction tracks (metres measured along the ground surface).

Track grade (degrees)	Maximum distance (metres)
0-5	100
5-10	60
10-15	40
15-20	25
20-25	20
25-30	15

15. Product Specifications and Accounting

All timber products must be graded and required accounting procedures initiated prior to the products being removed from the dump.

16. Yield Estimates

Compartments 61 & 65

Compartment	Op Type	Net Area (ha):
61	CF	49
Products	Volume/ha (m ³ /ha)	Total Volume (m ³)
Poles (BB only)	1	49
Veneer	5	245
HQL	15	735
HQS	15	735
E-logs	5	245
Salvage grade 1	60	2940
Salvage grade 2	30	1470
Pulpwood	30	1470
TOTAL	161	7889

Compartment	Op Type	Net Area (ha):
65	CF	9
Products	Volume/ha (m ³ /ha)	Total Volume (m ³)
Poles (BB only)	0	0
Veneer	5	45
HQL	10	90
HQS	10	90
E-logs	5	45
Salvage grade 1	50	450
Salvage grade 2	20	180
Pulpwood	30	270
TOTAL	130	1170

Total Volume (m ³)	9059
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17. Pre operation briefing

- I acknowledge that I have received a copy of the Harvesting Plan for Compartment 61 & 65 in Tuckers Knob State Forest and that I have been briefed on the conditions of the Plan and understand the supervision and operational control requirements as explained to me by the Forest Planner or his/her delegate.

Signature:		Name:	
Position	Supervising Forest Officer	Date:	

Signature:		Name:	
Position:	Relieving Supervising Forest Officer	Date:	

Harvesting Contractor Acknowledgment

- I acknowledge that I have received a copy of the Harvesting Plan for Compartment 61 & 65 in Tuckers Knob State Forest and that I understand the conditions of the Plan as explained to me by a Forests NSW officer. I will brief other operators not present at this briefing prior to them starting operations and ensure that risk assessment for the Safety Management Plan is completed for this area prior to operations commencing

Signature:		Name:	
Position:	Principal Contractor / Other (explain)	Date:	

Personnel attending Induction

Contractor Personnel	Date	FNSW Personnel	Date

This pre operation briefing must be separated from the harvesting plan once the briefing is complete the signed copy of this must be filed with the official copy of the plan.

NEW SOUTH WALES FLORA ONLINE

*Anetholea anisata* (Vickery) Peter G. WilsonFamily **Myrtaceae**

Common name: Ringwood, Aniseed Tree, Aniseed Myrtle

Anetholea anisata (Vickery) Peter G. Wilson APNI*

Synonyms: *Backhousia anisata* Vickery APNI*
Syzygium anisatum (Vickery) Craven & Biffin APNI*
Anetholea anisata (Vickery) Peter G. Wilson APNI*
Backhousia anisata Vickery APNI*

Description: Medium-sized to large tree with somewhat soft and corky bark; young branchlets glabrous.

Leaves lanceolate to elliptic, 5–12.5 cm long, 1–2.5 cm wide, apex acuminate, base attenuate, margins undulate, glabrous, upper surface glossy, lower surface dull and paler; lateral veins numerous, prominent, intramarginal close to margin; oil glands large, numerous, distinct, crushed leaves with an aniseed smell; petiole 5–6 mm long.

Flowers white. Hypanthium glabrous. Sepals 1–1.5 mm long. Petals c. 3 mm long. Stamens c. 5 mm long.

Fruit c. 5 mm long; summit flat, level with the hypanthium.

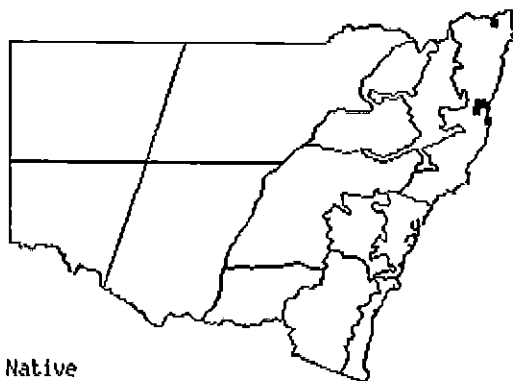


Other photo
Photo T.M. Tame

Flowering: Oct.–Nov.

Distribution and occurrence: Grows in subtropical rainforest, often along streams or on lower slopes; confined to the Nambucca and Bellinger Valleys; rare.
NSW subdivisions: NC

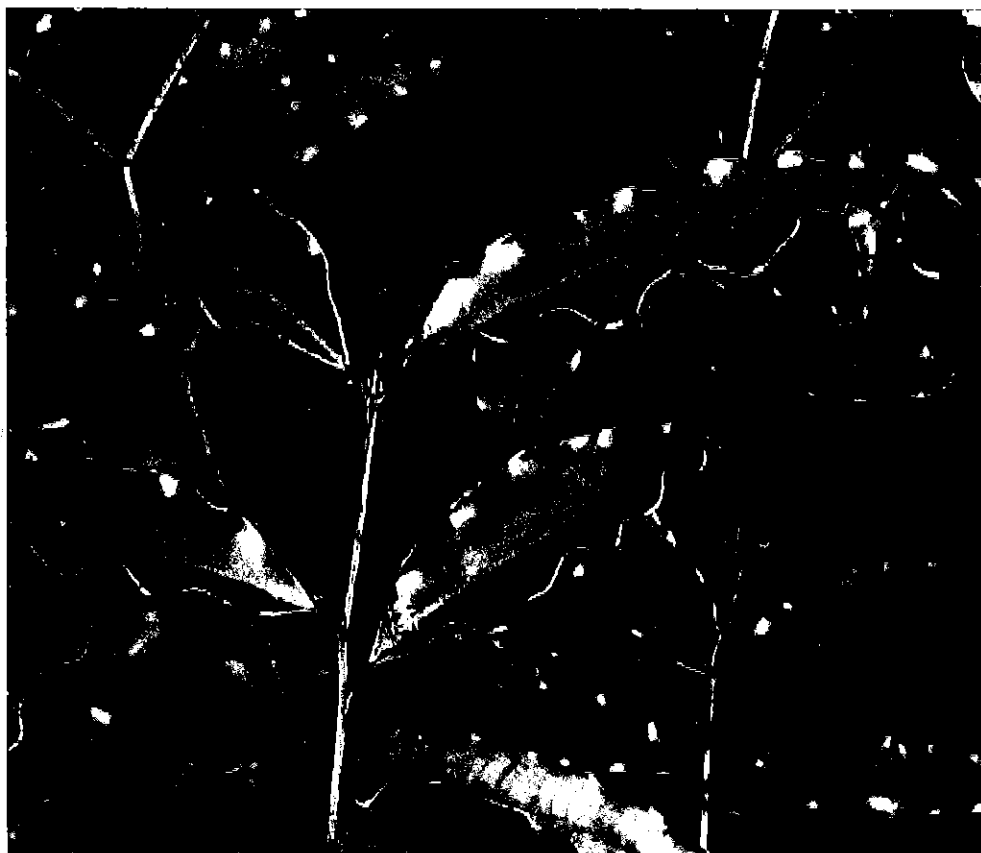
Threatened species: ROTAP: 2RCa



Craven & Biffin (2005) transferred this species to *Syzygium*. This transfer seems premature given the present lack of detailed knowledge of embryology in the tribe Syzygieae.

Text by Peter G. Wilson
Taxon concept: Flora of NSW 2 (1991); updated 2006.

NEW SOUTH WALES FLORA ONLINE



Anetholea anisata (Vickery) Peter G. Wilson Myrtaceae

Photo T.M. Tame ©Royal Botanic Gardens & Domain Trust, Sydney Australia



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This page URL:

<http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&photo=30&file=35/191/Anetholea%20anisata1%20cult.JPG>

ROAD WORKS

Plantation CF – Cpts 61 & 65

Tuckers Knob State Forest
North East Region



Prepared by: Planner

[Handwritten Signature]

Signature

Date: 2/10/2010.

Endorsed by: Works Program Supervisor

[Handwritten Signature]

Signature

Date: 12-8-2011

Approved by: Regional Manager

[Handwritten Signature]

Signature

Date: 26/8/11

GENERAL INFORMATION FOR MAINTENANCE CREW

Compartments 61 & 65 Tuckers Knob State Forest

1 Need for the proposal

This proposal is required to service plantation harvesting operations within the above compartments. These compartments are scheduled for harvest in mid 2010 onwards.

2 Costs, Benefits and Material & Plant Requirements

A full breakdown of the costs, benefits and material & plant requirements is given in the Financial Analysis spreadsheet, on file in the North East Region office.

3 Specifications/Legal Conditions

- All roadworks must comply with:
 - Technical Guidance Note 2005-1B unless otherwise specified.
 - FNSW Forest Practices Codes part 4, Forest Roads and Fire Trails (February 1999).
 - Technical Guidance Notes for Roadworks.
 - Plantations and Reafforestation Act (1999)
 - Plantations and Reafforestation (Code) Regulation (2001), subject to the conditions described in Attachment 1 of the Authorisation for the timber plantation.

4 Special Conditions

Feature	Conditions
Cultural Heritage	No
Threatened Species Licence	No
Dispersible Soils Hazard -	No
Mass Movement Hazard -	No
Seasonality	Yes- Roadworks are not to be carried out from the 1 st January – 30 th April except to restore drainage.
Engineering Design	No
Environmental impacts ie Dust, Noise, Water, Visual	No
National Park	No
Private Property	No
Permit To Enter required	No
Quarries and Gravel Pits	No
Underground/Overhead Utilities	No
Safety Issues (includes hazards, public use of roads)	Yes – Tallowood Point Road, Howards Road and McMullen's Road are regularly used by members of the public. Operators must remain aware of other road users at all times.
Flora	<i>Anetholea anisata</i> (Aniseed Myrtle, Ringwood) - Mature specimens of <i>Backhousia anisata</i> are to be protected where practicable (see attached description).

5 General Conditions

- Remove trees in accordance with FNSW Safety Standard 1.3.9; and
- Remove vegetation within 3m of the road prism only where required to maintain safe sight distance and passage of trucks.

Note: Clearing is generally permitted within 3m of the road prism for all roads. Ground disturbance and tree debris may impact outside this 3m either side of the road prism as is required to effect clearing within 3m of the road prism. Conditions 5, 6 and 47 Schedule 5 of the EPL must apply.

- Install drop down fluming/Rock dissipater on outlet side when batters >1m in height and <70% ground cover.
- Install silt trapping at end of drainage within filter strips of drainage lines

Road Maintenance/Upgrade

Road Name TALLOWOOD POINT ROAD

Category Permanent

Location OFF HOWARDS ROAD to 61/1 Trail

Length (m) 470

	WORKS	YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS
Site Info	Works >30 Slopes	<input type="checkbox"/>	
	Mass Movement	<input type="checkbox"/>	
	Dispersible	<input type="checkbox"/>	
Pavement	Upgrade	Widening	<input type="checkbox"/> Location NA Formation Width (m) NA Curve Widening NA Upgrade Length (m) 0 Upgrade Spoil
		Grade Lowering	<input type="checkbox"/> NA
		Realignment	<input type="checkbox"/> NA
	Maintenance	Reopening	<input type="checkbox"/> NA
		Clear veg/debris	<input checked="" type="checkbox"/> FULL LENGTH Maintenance Length (m) 470
		Repair surface	<input type="checkbox"/> NA
		Crown/Crossfall	<input checked="" type="checkbox"/> FULL LENGTH
Gravel	<input type="checkbox"/> NA Gravel Length (m) 0		
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/> Remove trees only in accordance with section 5 - General condition	
	Remove trees <20 cm	<input checked="" type="checkbox"/> Clearing outside the road prism: No	
	Batter Repair/Upgrade	<input type="checkbox"/> NA	
Drainage	Culverts	<input type="checkbox"/> NA Size: Sets:	
	Mitres	<input checked="" type="checkbox"/>	
	ROD/Spoon	<input type="checkbox"/> Sets:	
	Belts/Channels	<input checked="" type="checkbox"/> Sets: 1	
	Drop Downs	<input type="checkbox"/> Sets:	
	Silt Trapping	<input type="checkbox"/>	

Comments: REQUIRES LIGHT GRADE & REMOVE VEGE FROM ROAD PRISM

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name 6111 TRAIL

Category Temporary

Location OFF TALLOWOOD POINT ROAD TO DUMP 4

Length (m) 530

		WORKS	YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS	
Site Info	Works >30 Slopes		<input type="checkbox"/>		
	Mass Movement		<input type="checkbox"/>		
	Dispersible		<input type="checkbox"/>		
Pavement	Upgrade	Widening	<input type="checkbox"/>	Location NA Formation Width (m) NA Curve Widening NA Upgrade Length (m) 0 Upgrade Spoil	
		Grade Lowering	<input type="checkbox"/>	NA	
		Realignment	<input type="checkbox"/>	NA	
		Reopening	<input type="checkbox"/>	NA	
	Maintenance	Clear veg/debris	<input checked="" type="checkbox"/>	FULL LENGTH	Maintenance Length (m) 530
		Repair surface	<input checked="" type="checkbox"/>	FULL LENGTH	
		Crown/Crossfall	<input checked="" type="checkbox"/>	FULL LENGTH	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove trees only in accordance with section 5 - General condition		
	Remove trees <20 cm	<input checked="" type="checkbox"/>	Clearing outside the road prism: No		
	Batter Repair/Upgrade	<input type="checkbox"/>	NA		
Drainage	Culverts	<input type="checkbox"/>	NA	Size: Sets:	
	Mitres	<input checked="" type="checkbox"/>			
	ROD/Spoon	<input checked="" type="checkbox"/>	Sets: 2		
	Belts/Channels	<input checked="" type="checkbox"/>	Sets: 5		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: REQUIRES LIGHT GRADE & REMOVE VEGE FROM ROAD PRISM & REPLACE 3 X ROD'S WITH RF					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name 6113 TRAIL

Category Temporary

Location OFF HOWARDS ROAD

Length (m) 530

		WORKS	YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS	
Site Info		Works >30 Slopes	<input type="checkbox"/>		
		Mass Movement	<input type="checkbox"/>		
		Dispersible	<input type="checkbox"/>		
Pavement	Upgrade	Widening	<input type="checkbox"/>	Location NA Formation Width (m) NA Curve Widening NA Upgrade Length (m) 0 Upgrade Spoil	
		Grade Lowering	<input type="checkbox"/>	NA	
		Realignment	<input type="checkbox"/>	NA	
		Reopening	<input type="checkbox"/>	NA	
	Maintenance	Clear veg/debris	<input checked="" type="checkbox"/>	FULL LENGTH	Maintenance Length (m) 530
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input checked="" type="checkbox"/>	FULL LENGTH	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove trees only in accordance with section 5 - General condition		
	Remove trees <20 cm	<input checked="" type="checkbox"/>	Clearing outside the road prism: No		
	Batter Repair/Upgrade	<input type="checkbox"/>	NA		
Drainage	Culverts	<input type="checkbox"/>	NA	Size: Sets:	
	Mitres	<input checked="" type="checkbox"/>			
	ROD/Spoon	<input checked="" type="checkbox"/>	Sets: 1		
	Belts/Channels	<input checked="" type="checkbox"/>	Sets: 3		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: REQUIRES LIGHT GRADE & REMOVE VEGE FROM ROAD PRISM & REPLACE 5 X ROD'S WITH RF					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name 6112 TRAIL

Category Temporary

Location OFF HOWARDS ROAD

Length (m) 620

		WORKS	YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS	
Site Info	Works >30 Slopes	<input type="checkbox"/>			
	Mass Movement	<input type="checkbox"/>			
	Dispersible	<input type="checkbox"/>			
Pavement	Upgrade	Widening	<input type="checkbox"/>	Location NA Formation Width (m) NA Curve Widening NA Upgrade Length (m) 0 Upgrade Spoil	
		Grade Lowering	<input type="checkbox"/>	NA	
		Realignment	<input type="checkbox"/>	NA	
		Reopening	<input type="checkbox"/>	NA	
	Maintenance	Clear veg/debris	<input checked="" type="checkbox"/>	FULL LENGTH	Maintenance Length (m) 620
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input checked="" type="checkbox"/>	FULL LENGTH	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove trees only in accordance with section 5 - General condition		
	Remove trees <20 cm	<input checked="" type="checkbox"/>	Clearing outside the road prism: No		
	Batter Repair/Upgrade	<input type="checkbox"/>	NA		
Drainage	Culverts	<input type="checkbox"/>	NA	Size: Sets:	
	Mitres	<input checked="" type="checkbox"/>			
	ROD/Spoon	<input type="checkbox"/>	Sets:		
	Belts/Channels	<input checked="" type="checkbox"/>	Sets: 1		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: REQUIRES LIGHT GRADE & REMOVE VEGE FROM ROAD PRISM					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name HOWARDS ROAD

Category

Location GRANITE PIT ROAD TO T'WOOD PT RD

Length (m) 1470

WORKS		YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS		
Site Info	Works >30 Slopes	<input type="checkbox"/>			
	Mass Movement	<input type="checkbox"/>			
	Dispersible	<input type="checkbox"/>			
Pavement	Upgrade	Widening	<input type="checkbox"/>	Location NA Formation Width (m) NA Curve Widening NA Upgrade Length (m) 0 Upgrade Spoil	
		Grade Lowering	<input type="checkbox"/>	NA	
		Realignment	<input type="checkbox"/>	NA	
		Reopening	<input type="checkbox"/>	NA	
	Maintenance	Clear veg/debris	<input checked="" type="checkbox"/>	FULL LENGTH	Maintenance Length (m) 1470
		Repair surface	<input type="checkbox"/>		
		Crown/Crossfall	<input checked="" type="checkbox"/>	FULL LENGTH	
	Gravel	<input type="checkbox"/>		Gravel Length (m) 100	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove trees only in accordance with section 5 - General condition		
	Remove trees <20 cm	<input checked="" type="checkbox"/>	Clearing outside the road prism: No		
	Batter Repair/Upgrade	<input type="checkbox"/>	NA		
Drainage	Culverts	<input type="checkbox"/>	NA	Size: Sets:	
	Mitres	<input checked="" type="checkbox"/>			
	ROD/Spoon	<input checked="" type="checkbox"/>	Sets: 2		
	Belts/Channels	<input checked="" type="checkbox"/>	Sets: 1		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: MAINTENANCE GRADE & MAINTAIN 2 X SPOON DRAINS WITH 2 X LOADS OF ROCK					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name GRANITE PIT ROAD

Category

Location OFF HOWARDS ROAD

Length (m) 430

	WORKS	YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS	
Site Info	Works >30 Slopes	<input type="checkbox"/>		
	Mass Movement	<input type="checkbox"/>		
	Dispersible	<input type="checkbox"/>		
Pavement	Upgrade	Widening	<input type="checkbox"/> Location NA Formation Width (m) NA Curve Widening NA Upgrade Length (m) 0 Upgrade Spoil	
		Grade Lowering	<input type="checkbox"/> NA	
		Realignment	<input type="checkbox"/> NA	
		Reopening	<input type="checkbox"/> NA	
	Maintenance	Clear veg/debris	<input checked="" type="checkbox"/>	FULL LENGTH Maintenance Length (m) 430
		Repair surface	<input type="checkbox"/>	
		Crown/Crossfall	<input checked="" type="checkbox"/>	FULL LENGTH
	Gravel	<input type="checkbox"/>	NA Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove trees only in accordance with section 5 - General condition	
	Remove trees <20 cm	<input checked="" type="checkbox"/>	Clearing outside the road prism: No	
	Batter Repair/Upgrade	<input type="checkbox"/>	NA	
Drainage	Culverts	<input type="checkbox"/>	NA Size: Sets:	
	Mitres	<input checked="" type="checkbox"/>		
	ROD/Spoon	<input type="checkbox"/>	Sets:	
	Belts/Channels	<input checked="" type="checkbox"/>	Sets: 3	
	Drop Downs	<input type="checkbox"/>	Sets:	
	Silt Trapping	<input type="checkbox"/>		
Comments: REPAIR RUTTING AND ARMOUR WITH 5 LOADS OF GRAVEL & INSTALL 3 X RUBBERFLAPS				

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

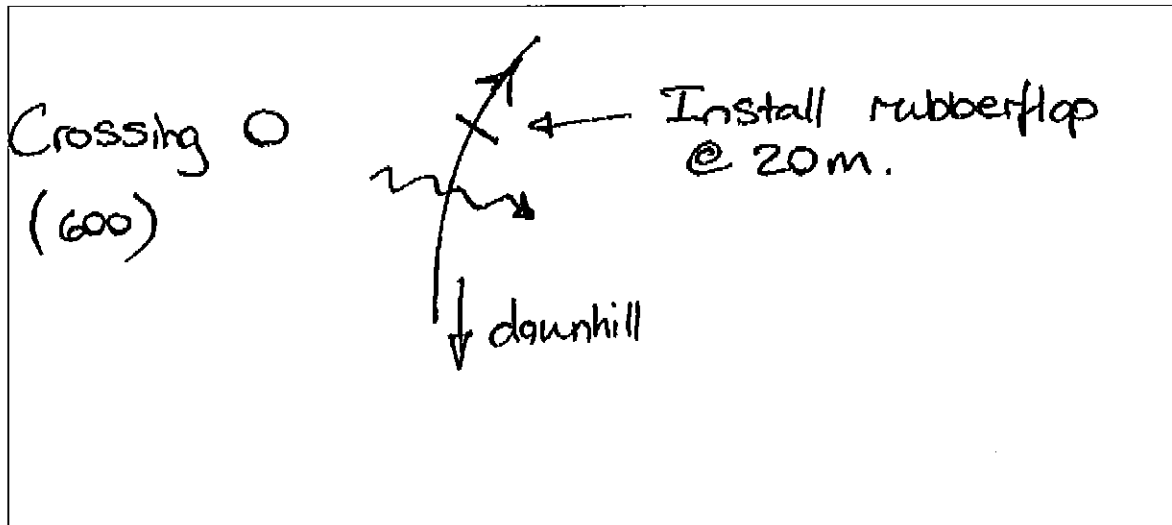
Crossing Works

Crossing Name **O** Road Name **HOWARDS ROAD** Location **SEE OPERATIONAL MAP**

Drainage Feature **UNMAPPED DL** Stream Permanency **Intermittent**

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Pipe Culvert	600	Stable (NO maintainan	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	INSTALL RF @ 20M	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Falls away
Inlet	Nil	5-30m Upstream Right	Bel/channel
Outlet	Nil	Practices where no 5-30	NA
Stabllisation	Nil	OutletControl	Rock armouring
ErosionControl	Nil	TableDrain	Natural vegetation



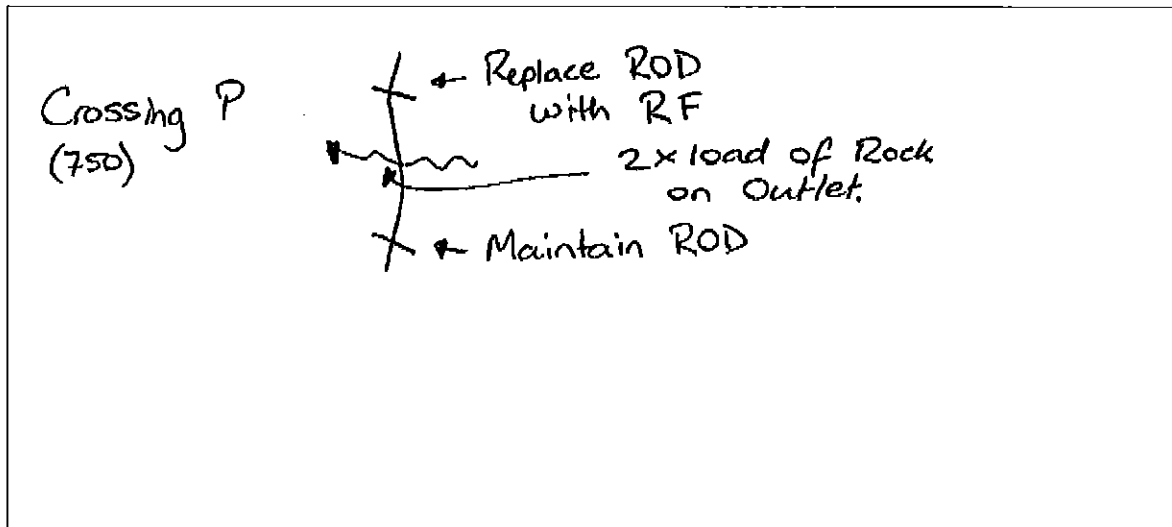
Start Date: Finish Date: Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Crossing Name P Road Name 61\3 TRAIL Location SEE OPERATIONAL MAP
 Drainage Feature 1st order DL Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Pipe Culvert	750	Unstable (maintainance)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	2 X LOADS OF ROCK ON OUTLET HEADWALL	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Belt/channel
Inlet	Nil	5-30m Upstream Right	Rollover
Outlet	Repair headwall	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation



Start Date: Finish Date: Soil Stabilisation Date (must be within 5 days):

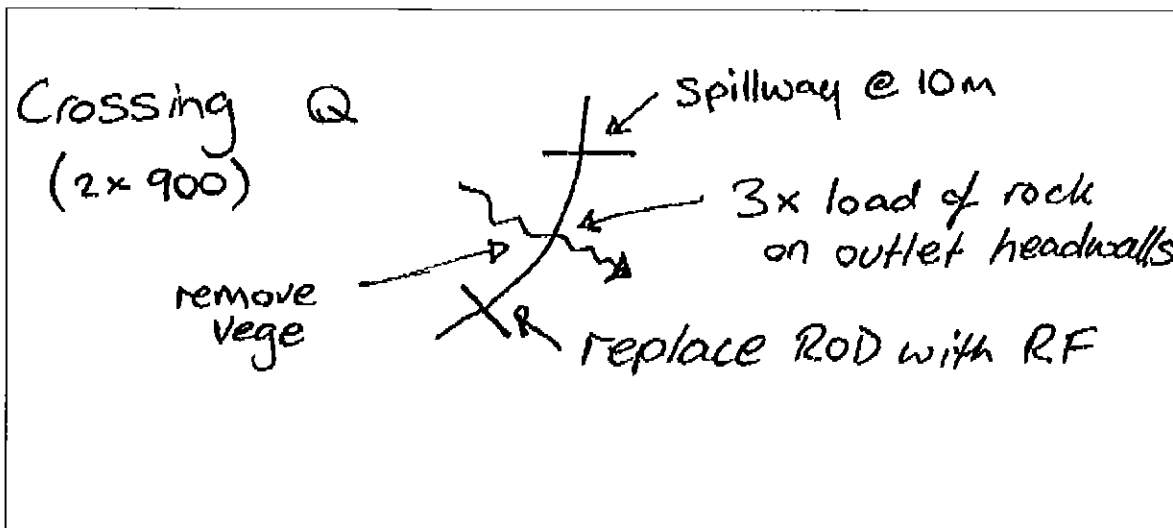
Date	Event	Initial

Crossing Name Q Road Name 6112 TRAIL Location SEE OPERATIONAL MAP

Drainage Feature 2nd order DL Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Pipe Culvert	2 X 900	Stable (maintainance)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	3 LOADS OF ROCK ON OUTLET HEADWALLS & REPLACE RODS WITH RUBBER FLAP & REMOVE VEGE FROM ROAD	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Belt/channel
Inlet	Nil	5-30m Upstream Right	Spillway/Overflow
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Rock armouring
ErosionControl	Nil	TableDrain	Natural vegetation



Start Date: Finish Date: Soil Stabilisation Date (must be within 5 days):

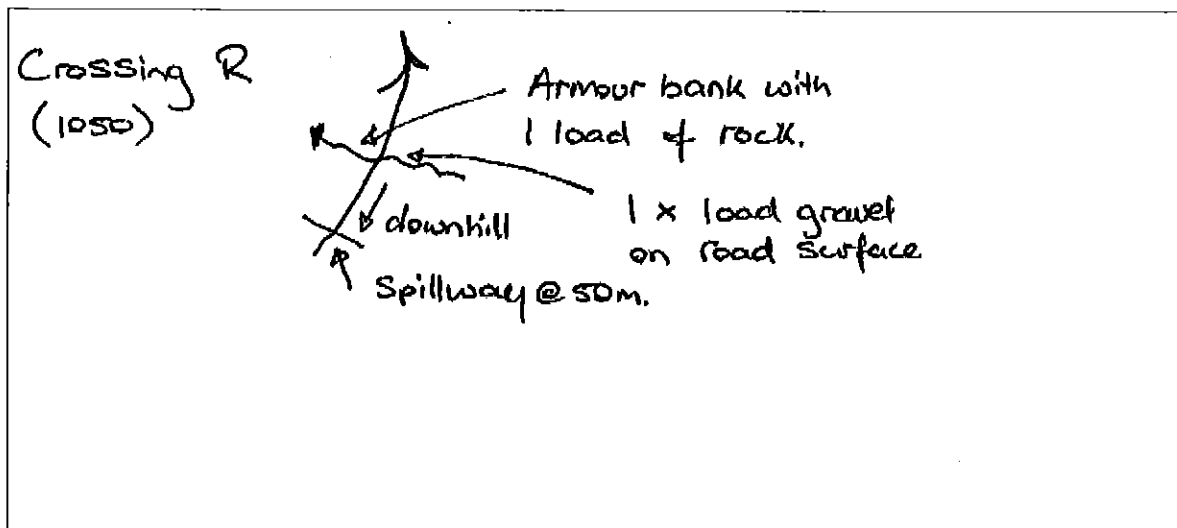
Date	Event	Initial

Crossing Name R Road Name TALLOWOOD POIN Location SEE OPERATIONAL MAP

Drainage Feature 2nd order DL Stream Permanency SEMI - Permanent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
CULVERT	1050	Stable (maintainance)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	1 LOADS OF ROCK ON OUTLET HEADWALL & 1 LOAD OF GRAVEL ON ROAD SURFACE	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Mitre
Inlet	Nil	5-30m Upstream Right	Falls away
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Rock armouring
ErosionControl	Nil	TableDrain	Natural vegetation



Start Date: Finish Date: Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial