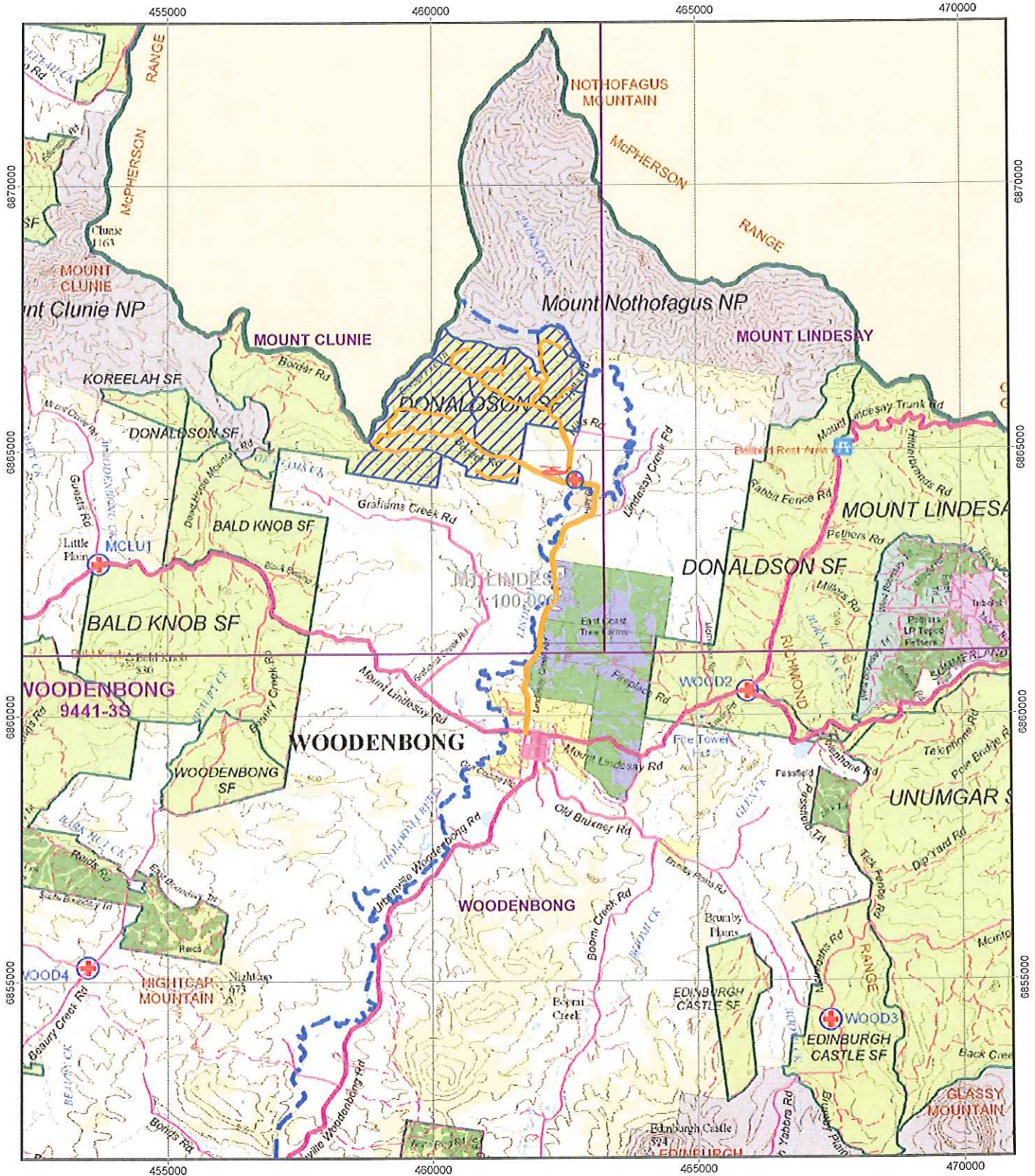




Map Sheets:  
 1:25000 Mount Clunie 9441-3NW  
 1:100000 Mount Lindsay 9441  
 Scale 1:100000

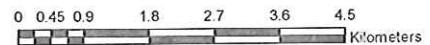
North East Region - Urbenville MA  
 Locality Map  
 Compartments 44-49  
 Donaldson State Forest

MGA 56



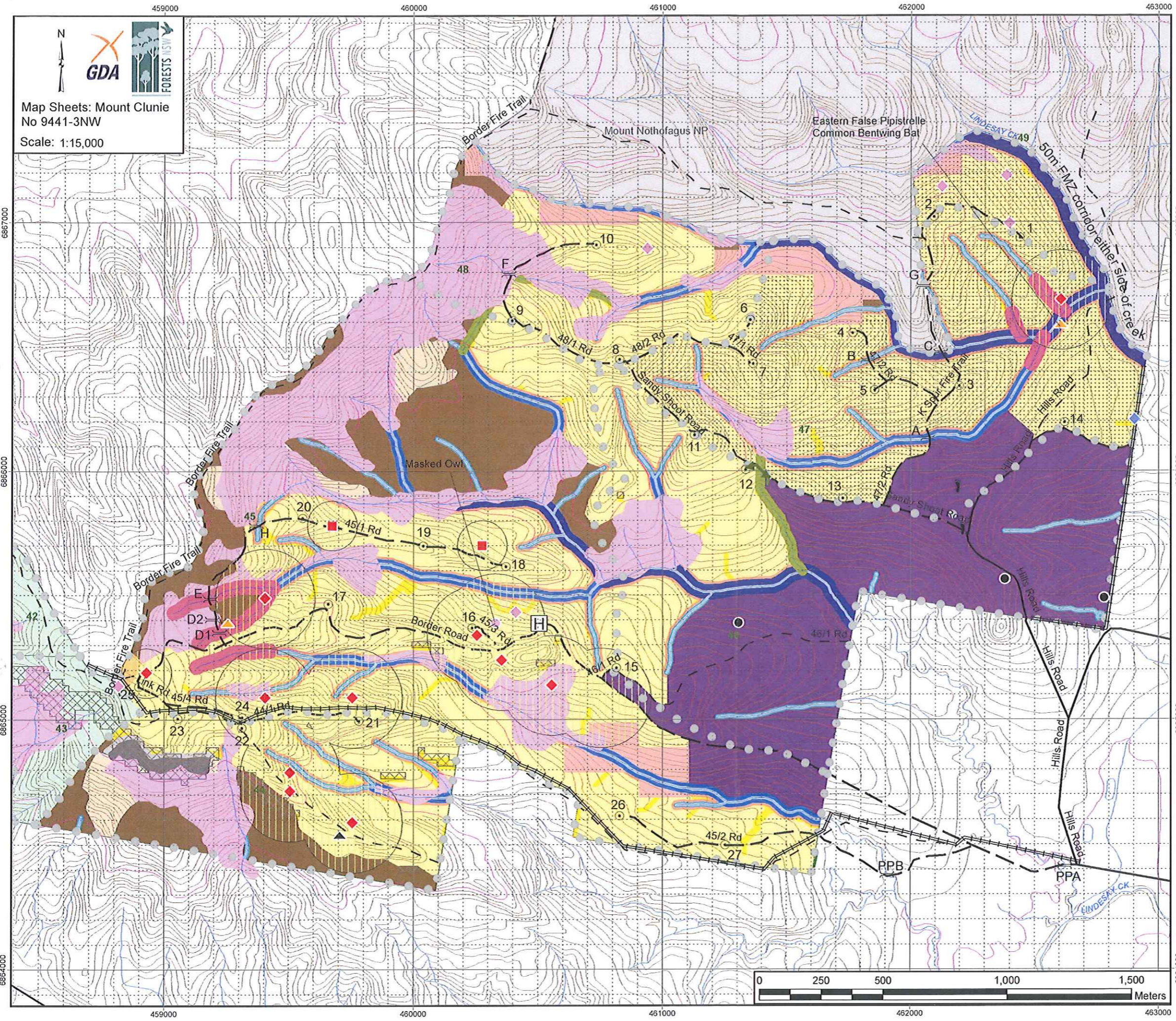
MAP FEATURES

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



Prepared by... Flavio Bugno  
 Date: 27 Nov 2009

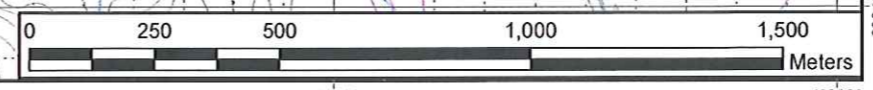




Map Sheets: Mount Clunie  
No 9441-3NW  
Scale: 1:15,000

# North East Region - Urbenville MA Harvest Plan Operational Map Compartments 44-49 Donaldson State Forest

- MAP FEATURES**
- State Forest Boundary
  - Compartments Boundary
  - 1 Km Grid
  - 10 / 100 m Contour
  - State Forest
  - National Park Estate
  - Swd Plt (Z6) / Non Forest (Z7)
- ROADS**
- Sealed
  - All Weather, Unsealed
  - Dry Weather, Unsealed
  - 4WD Track
- HARVESTING PRESCRIPTIONS**
- General Management (FMZ 4)
  - Areas for Further Assessment (FMZ 8)
  - Visual Zone 50% retention (FMZ 3B)
  - BMAD Trial Area (Harvesting Exclusion)
  - Unviable Steep (Harvesting Exclusion)
- RIPARIAN PROTECTION ZONES (TSCL, EPL & FL)**
- Filter 5m either side
  - Protection 5m either side
  - Protection 15m either side
  - Protection 25m either side
  - Protection 45m either side
  - Operational zone 10m either side
- FOREST MANAGEMENT PROTECTION ZONES**
- High Conservation Value Old Growth
  - Rock
  - Rock buffer (20m from edge of rock)
  - Rainforest - Crafti + RN17
  - Dunns Gum EEC
- RIDGE & HEADWATER HABITAT**
- 40m wide exclusion
  - 80m wide exclusion
  - Slopes > 30 degrees
- DUMPS, CROSSINGS & OTHER FEATURES**
- Temporary Dry
  - Temporary Wet
  - Approved Crossing
  - Fenceline
  - Approved IFOA exclusion crossing
  - Approved RHWd crossing
  - Aboriginal Sites
  - Non Aboriginal Heritage
- TSL PRESCRIPTIONS / ZONES**
- Black-striped Wallaby 50% Canopy Retention
  - YBG Tree Retention Zones (200m)
  - GT Bat Protection 30m either side
- THREATENED SPECIES LOCATIONS**
- Yellow-bellied Glider
  - Koala
  - Black-striped Wallaby
  - Glossy Black Cockatoo
  - Golden-tipped Bat
  - Little Bentwing Bat
  - Masked Owl
  - Yellow-bellied Glider Feed Tree



Prepared by... Dan Allen, edited by F Bugno  
Date: 25 July 2011 Version 4



North East Region - Urbenville MA  
Forest Type Map

**Compartments 44-49**  
Donaldson State Forest

MAP FEATURES

- State Forest Boundary
- Compartment Boundary
- 1 Km grid
- / / 10/100 m Contour

- State Forest
- National Park Estate

ROADS

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

Drainage - LIC (ordered)

- drainage line centre
- 1
- 2
- 3
- 4 PLUS

RN17 FOREST TYPE

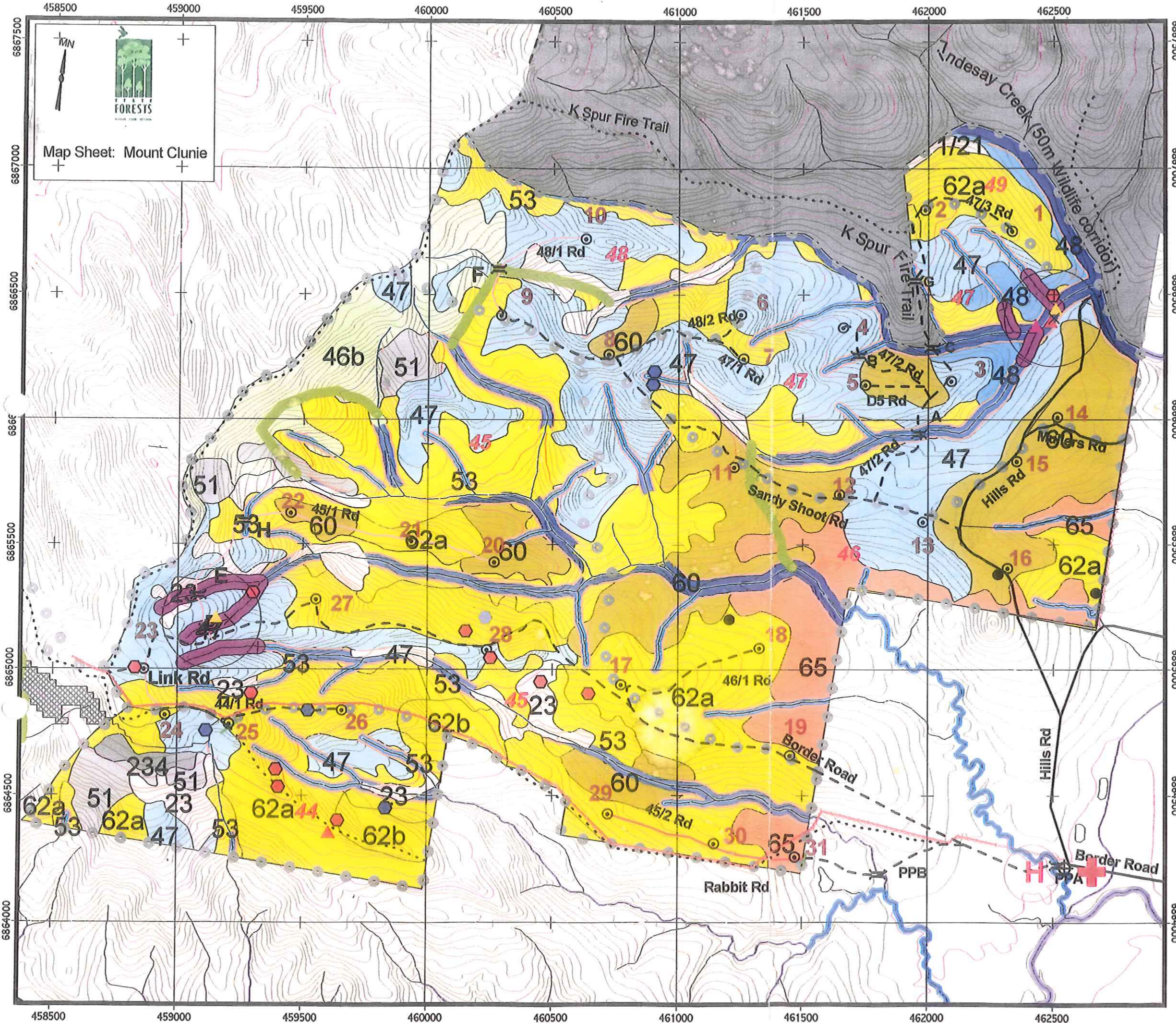
- Type 1 Booyong
- Type 23 Myrtle
- Type 46 Sydney Blue Gum
- Type 47 Tallowwood - Sydney Blue Gum
- Type 48 Flooded Gum
- Type 51 Dunn's White gum
- Type 53 Brush Box
- Type 60 Narrowleaved White Mahogany - Red Mahogany - Grey Ironbark - Grey Gum
- Type 62 Grey Gum - Grey Ironbark - White Mahogany
- Type 65 Forest Red Gum
- Type 234 Rock

THREATENED SPECIES LOCATIONS

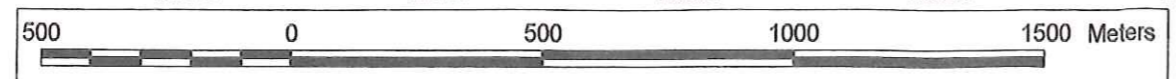
- Koala
- Yellow-bellied glider
- Glossy Black Cockatoo
- Masked Owl
- ▲ Common Bent-wing Bat
- ▲ Golden-Tipped Bat
- ▲ Eastern False Pipistrelle Bat

TSL EXCLUSIONS

- Bat Buffer (30m either side)



Map Sheet: Mount Clunie



PSt.C 290703



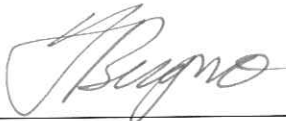
**FORESTS NEW SOUTH WALES - NORTH EAST REGION**  
**HARVESTING PLAN No. HP\_1651**

**Donaldson State Forest - Compartments 44, 45, 46, 47, 48 & 49**

**1. Certification**

This plan has been prepared in accordance with the Integrated Forestry Operations Approval issued under the Forestry and National Park Estate Act 1998 and addresses significant aspects and impacts in the planning process. The **Standard Harvest Plan Conditions for Native Forest Operations in North East Region** apply to this operation.


Prepared by:

Harvest Planner		Date: 13/9/2010
Flavio Bugno		


Endorsed by:

Harvest Planning Team Leader		Date: 13/9/2010
Steve Pickering		

Endorsed by:

Regional Planning Manager		Date: 21/9/2010
John Murray		

Approved by:

Regional Manager		Date: 29/9/10
Craig Busby		

Note: Approval includes the Harvest Plan Operational Map (HPOM) version 1.

**2. Description of Proposal**

Selective harvesting of regrowth native forest stands, using Single Tree Selection and Thinning.

Other

	Proposed	Details
Roadworks	Yes	Roadworks Plan (attached)
Post harvest Burning	Yes	Plan to be prepared seperately
Rehabilitation	Yes	Incorporated into this plan

### 3. Area Identification and Yield Estimates

Region	North East Region
Management Area	Urbenville
State Forest	Donaldson
State Forest No.	121
Pricing area	Urbenville
Other Tenure Details (if applicable) For Lease & other non State Forest tenure (Lot/DP)	N/A

Compartments	44	45	46	47	48	49	Total
Gross Area (ha)	86.5	321.4	167.6	151.2	71.3	22.2	820.2
Net Harvest Area (ha)	43.1	153.9	41.3	107.0	36.5	15.3	397.1
Estimated Yield (m3/ha)	23.5	23.5	23.5	23.5	23.5	23.5	23.5 (Ave)
Volume m3	1013	3617	971	2515	852	360	9328

Products	Total
High Quality Large	4766
High Quality Small	1191
Low Quality	2383
Veneer	194
Poles	397
Pulp	397

### 4. Silviculture and Harvesting Prescriptions

#### Forest Type: (See Forest type map)

- Forest Red Gum (FT65) occur on lower flatter slopes on heavier soils.
- Stands of Mixed species (FT60 & FT62) of White Mahogany, Red Mahogany, Grey Gum, Grey Ironbark dominate on sandier soils and drier ridgeline spurs and Northern facing
- Tallowood-Blue Gum (FT47), Brush Box (FT53) and Rainforest (FT1 and 23) occur in sheltered aspects on deeper richer soils and in steep gullies.
- In the very deep soils along the main drainage line there are two patches of Flooded Gum (FT48). High on the volcanic soils along the Border Fence are occurrences of Sydney Blue Gum (FT46) and Dunns White Gum (FT51).

#### Harvest History:

- Much of the area was burnt in the large wildfires of 1968/69.
- Compartment histories indicate that compartments 44, 45 & 46 were last harvested in 1980-2, and cpts 47, 48 and 49 just prior to this in 1976-1980.
- A sawmill site existed at the Eastern end of Sandy Shoot Rd for a number of years following the last quota harvesting.

- A Bell Miner Associated Dieback (BMAD) trial area was treated with a variety of methods including, burning, mechanical disturbance and herbicide application in 2006.

**Stand Description:** Two main stand types exist:

- Drier Forest Types 60, 62 & 65 consisting of residual mature/overmature trees with sparse regrowth.
- Mixed aged moist Forest Types 47 & 53 consisting of residual mature/overmature trees with sapling/pole regrowth from fire & harvesting events.

**Site Quality**

- Poorer forest type and quality for drier forest types with site heights <25m.
- Generally good site quality for FT 47 & 53 with site height 30m.

**Stand health**

- Canopy assessment across the compartments varies from healthy to being severely affected by dieback. The areas most severely affected by dieback are generally contained within the Bell Miner Associated Dieback trial area as indicated on the operational map.
- Dieback is evident in various levels across parts of the harvest area. In affected areas the site is understocked and trees have thin crowns. There are numerous dead stags scattered across the harvest area. In affected areas understorey is predominately lantana under more open canopy and there is little healthy regrowth or potential for regrowth in the current state.
- Crown health is generally better in FT 47 & 53 and poorer in FT 60, 62 and 65

**5. Silviculture and Harvesting Prescriptions**

Notwithstanding the prescriptions detailed below, all conditions of the IFOA, including General and Species Specific conditions of the Threatened Species Licence, the Environment Protection Licence and the Fisheries Licence are to be applied, where they are described in this plan or in the respective licences.

**Objectives:**

- Maximise the removal of merchantable sawlog and high quality products from the mature age/size cohort within the constraints contained within this plan.
- Conduct harvesting in accordance with the provisions of the IFOA and to implement regeneration promotion treatments leading to improvement in forest health in BMAD affected stands.
- Maintain BMAD trial area

	Stand Description			
	Mix-aged moist FT 47 & 53	Mixed age Dry FT 60, 62 & 65 Dieback Affected areas	BMAD Trial Area	Unviable/ Steep
<b>Treatment – current ops</b>	Heavy STS(1)	Heavy STS (2)	Exclude from harvesting	Exclude from harvesting
<b>Est. % of NHA</b>	28%	30%	22%	20%
<b>Expected BA Removal (%)</b>	50%	50%	Nil	Nil
<b>Future Ops 15-20 years</b>	STS	Thinning/STS	STS	Nil
<b>Other treatments (BMAD areas and heavy lantana)</b>	Top disposal burn	<ul style="list-style-type: none"> <li>• Retain seed trees</li> <li>• Mechanical disturbance</li> <li>• Enrichment seeding/planting</li> </ul>		
<b>Every 3-5 years</b>	Nil	<ul style="list-style-type: none"> <li>• Regular fire</li> </ul>	As per Trial plan	Nil



**Single Tree Selection prescription:**

- Tree removal and ground disturbance must also maximise regeneration opportunities.
- Single Tree Selection must remove no more than 40% of the basal area across the net harvest area. Trees with dbhob <20cm must not be selected for harvesting under STS (1.5.10 IFOA).
- In areas designated for STS it is expected that the basal area removal across the tract will fall below 40 %. BA removal may exceed 40% in some localized areas of dieback affected forest. This will be offset by non viable areas, BMAD Trial Area, large areas of steep and inaccessible terrain and general seed and habitat tree retention across the tract.

**Rehabilitation of dieback affected areas:**

**Assessment**

Forests NSW Crown Dieback classification system and Forest Dieback Survey Form is used to identify areas for treatment. Area with severe crown dieback to be targeted for the following treatments

**Treatment**

Treatment is to be developed on a site specific basis as operations progress by the Harvesting Team Leader and may involve a combination of harvesting, seed tree retention, mechanical disturbance, planting, weed control, and reintroduction of a low intensity fire regime. Treatments to be applied as required to obtain satisfactory regeneration event..

SFO must mark on the HPOM areas of each treatment applied and note areas requiring follow up mechanical disturbance, burning and/or planting treatment.

**Harvesting**

- i. Retain seed trees (see below)
- ii. Retain trees as required under the IFOA (see Section 11 Flora and Fauna prescriptions).
- iii. Remove unhealthy merchantable trees.
- iv. Remove merchantable trees containing high quality logs where not required to meet i & ii above.

**Seed Tree Retention**

Seed trees should

- Be healthy (crown score of 0-1)
- as tall as possible (~30-40m),
- have good form, and
- generally be spaced at 1 1/2 x tree height but not more than 2 x tree height. (trunk to trunk) where available.
- Trees in retention areas may also serve as seed trees.
- Seed trees may also fulfill tree retention requirements of the TSL.

**Mechanical Disturbance**

- Ensure ground disturbance is sufficient to create suitable seedbed for regeneration
- Encourage knocking over of as much non-vigorous unmerchantable material as possible.
- SFO to map areas requiring additional tractor clearing of weed infested understorey and unmerchantable dieback affected trees.
- Use a stick rake to minimise topsoil in windrows and heaps
- Rip openings along the contour where practicable where planting is proposed.
- Within areas shown for treatment the following must not be cleared
  1. Riparian Protection Zones and Operational Zones applying around mapped and unmaped incised drainage lines.
  2. Areas of healthy regeneration.



3. Any rainforest
4. Any developed rainforest trees
5. Slopes over 18 degrees
6. Areas required not to be cleared in accordance with prescriptions of the TSL prescriptions (see Section 9, including the prescription for Black-striped Wallaby)

**Burning**

1. Burn heaps and broad area burn where required. Refer to Burning Plan.
2. After planting/regeneration, low intensity fire regimes will be used to maintain a grassy understorey in all treated areas of FT60 and, FT62 (narrow-leaved white mahogany), FT65 (Forest red gum), FT46 (blue gum) and any adjacent untreated areas of these types. It will be also used in any adjoining areas of FT47 (tallowwood – blue gum) that do not have a well developed rainforest understorey.

**Planting and forest regeneration**

- Planting will be used in appropriate areas where adequate natural regeneration is not expected as determined by the Harvesting Team Leader. Species will be selected according to the original forest type with an emphasis on dieback resistant species.
- Where seeding is required, seed is to be collected during the harvest operation and dispersed over suitably disturbed and/or burnt areas, preferably during the wet season (January/February).

**6. Special Conditions**

**6.1 Seasonal Harvesting and Burning Restrictions** **No**

**6.2 Leases, Permits, Plots**

	Occurs	Details	Conditions
Crown Leases	No		
Occupation Permits (grazing)	No		
Occupation Permits (apiary)	No		
Occupation Permits (other)	No		
PGP's	No		
Research Plots/Plus Trees	No		
Special Purpose Permits	No		

**6.3 Noise & Dust**

Residences along Hills Road are likely to be affected by noise and dust, mitigation measures to lessen the impact on those residences will apply. These measures are to be determined on a site specific basis by the SFO and should be discussed with the Harvesting Forester.



#### 6.4 Critical Boundaries

**Queensland State Border** Mount Barney NP as well the NSW/Queensland Border and tick fence adjoins the area to the West. This boundary is fenced.

**National Park:** Mount Nothofagus NP is located to the north. This boundary is formed by Lindesay Creek and a tributary and a section from Lindesay Creek to the 1<sup>st</sup> order that requires survey if harvesting approaches within 100m.

**Private Property:** adjoins the compartments to the East and South. These Boundaries are fenced.

**Other critical boundaries:** compartment boundaries are defined by drainage lines, roads or ridgelines.

- If there is any doubt about the location of a critical boundary, assistance must be requested from the harvesting forester to adequately determine the boundary location and mark it in the field.
- Harvesting must not impact on private property or National Park or any functional fence line.
- Any damage to a fence must be immediately repaired by the contractor.

#### Moreton Rabbit Board

The location of the Rabbit Fence is shown on the Harvest Plan Operational Map. The gate on Border Road must be closed at all times. The Moreton Rabbit Board have indicated they will work co-operatively with FNSW to install 3 temporary gateways through the fence on 45/2 Rd, Link Rd and 44/1 Rd. It is the Boards preference that trees within the net harvest area with propensity to fall on the Rabbit Fence be removed. To facilitate their removal the contractor's excavator or harvester will assist in removal of harvestable trees along this fence line. No tree heads or debris to be left along fence line. The SFO will supervise the contractor to undertake works required by the Rabbit Board Officer whilst along the fence line and jointly with the contractor effect immediate repairs to the fence if accidentally damaged.

#### 6.5 Haulage Considerations

- Haulage is planned to access the Mount Lindesay Highway via Lindesay Creek Road. This route is not suitable for B-doubles.
- Additional signage should be used on Hills Road and Border Road to notify traffic of turning trucks.

#### 6.7 IFOA Required Approval Of Forestry Activities

No approvals have been obtained.

- NOTE: Any additional crossings of Rainforest, HCVOG and Riparian Protection Zones require prior Regional Manager (or NPWS) approval before can be undertaken.
- It is the responsibility of the SFO to identify any additional areas that need to be crossed, the location of any such crossings without approval and to contact the Planning Unit to obtain the necessary approval.

#### 6.6 Unmapped Rainforest

- Unmapped rainforest is to be identified and marked for retention in accordance with Forest Practices Circular 2005/02



## 7. Forest Management Zoning Conditions

The following Forest Management Zones and conditions apply:

FMZ	Type	Notes
Zone 2	Special Management	Rainforest and High Conservation Old Growth (HCVOG). FMZ wildlife corridors 50m either side of Lindesay Creek.
Zone 3A	Harvesting Protection	Rainforest, High Conservation Old Growth (HCVOG) and Rocky outcrop.
Zone 3B	Special prescription	Visual protection along the Border Ranges (western boundary). Harvesting operations must aim at retaining the visual amenity of the forest along the range and canopy removal must not exceed 50% in visible areas. Snig tracks and soil disturbance to be minimized within visible areas.
Zone 4	General Management	Available for harvesting in accordance with the conditions of this harvest plan.
Zone 8	Further Assessment	Consist of: Modelled IHC 4 areas, mapped drainage features, modelled drainage lines requiring further assessment: Further assessment of the modelled streams is to be undertaken by the SFO. Appropriate prescriptions are to be applied and noted on the harvesting operational map.

## 8. Cultural Heritage Conditions

### Aboriginal Cultural Heritage

The Githabul People (Native Title Holders) and the local Land Council have been consulted in regard to the proposed logging and the Regional Aboriginal Cultural Heritage Officer has inspected the compartments. No issues were identified at the inspection.

There are two known Aboriginal sites in the compartments. Both are contained within the BMAD Control area which will not be harvested in this operation.

### Non Aboriginal Cultural Heritage

Assessment of the State Heritage Inventory and Section 170 databases and field assessment found one site of non aboriginal cultural heritage in these compartments. The site is the Rabbit Fence (see condition 6.4).



## 9. Flora and Fauna Conditions

Refer to Technical Guidance Note 2005-3A March 2005 for conditions (TSL Booklet)

### Mark-up Conditions

The SFO must search for threatened species and mark-up the block as per Conditions **5.1 (General)**, and **5.2 (Koala)** of the TSL. The Tree Marking code is shown in the Standard Harvest Plan Conditions for Native Forest Operations in North East Region.

### Tree retention Conditions applying:

Prescription	TSL Condition
Hollow bearing and recruit trees	(Regrowth Zone) 5.6c,d
Greater Glider density > 1 per ha?	No – 6.9 d does not apply
Stag Retention	5.6e
Significant Food Resources	5.6f
Protection of Retained Trees	5.6g
Black-Striped Wallaby Condition	See Table 2 below

### Species Known or Likely to Occur

- Recent and reliable records exist within, or within close proximity of the compartments for the following threatened species. These species require species-specific or site-specific prescriptions if further records or habitat features are identified during mark-up.

Species Group	Common Name	Scientific Name
Amphibians	Giant Barred Frog	<i>Mixophyes iteratus</i>
Mammals	Koala	<i>Phascolarctos cinereus</i>
	Long-nosed Potoroo	<i>Potorous tridactylus</i>
	Yellow-bellied Glider	<i>Petaurus australis</i>
	Black-striped Wallaby	<i>Macropus dorsalis</i>
	Golden-tipped Bat	<i>Kerivoula papuensis</i>
Birds	Masked Owl	<i>Tyto novaehollandiae</i>
	Glossy-black Cockatoo	<i>Calyptorhynchus lathami</i>
Flora		<i>Plectranthus alloplectus</i>
		<i>Senna acclinis</i>



**Site-Specific Conditions, Exclusion Zones & Modified Harvest Areas**

Table 1: General Prescriptions

TSL Condition	TSL Condition No.	Record Details	Prescription Summary
Koala Mark-up Searches	5.2.2	6 KOAL detection records in cpts Ur_45,48,49  5 previous KOAL detection records in cpt Ur_44,45,47	These compartments contain preferred forest types, marking-up must be conducted at least 300m in advance of harvesting operations. In the event that a koala or scats (as noted in 5.2.2(i)) are found, a koala star search will be conducted to determine koala use area/s.
Tree Retention	5.6 (f),(g)	2 YEBG feed trees recorded in cpt Ur_45	Retain all yellow-bellied glider and squirrel glider sap feed trees.
Burning	5.16	Threatened species have been recorded in these cpts.	The habitat requirement of threatened species must be taken into account when instigating hazard reduction burns to promote and maintain an understorey mosaic, significant areas of dense understorey vegetation and to minimise impact on large fallen logs.
Ground Habitat Protection	5.17 (b)  5.17 (d)	Nil Records – continue search  BSWA recorded in Ur_47 Larger CWRV	Commercial Firewood collection is not permitted  Firewood licences state that timber with hollows and/or over 40 cm diameter must not be collected or damaged.

Table 2: Species Specific Prescriptions (record and survey based)

TSL Condition	TSL Condition No.	Record Details	Prescription Summary
Masked Owl ( <i>Tyto novaehollandiae</i> )	6.9	1 previous MOWL record within 2km of cpt boundaries	Search gully lines and heads of gullies for roost and nest sites. Condition 5.13 may be applicable to protect any roosts or nests found. Landscape approach as specified in 6.9.2 will be used.
Koala ( <i>Phascolarctos cinereus</i> )	6.14	6 KOAL detection records in cpts Ur_45,48,49  5 previous KOAL detection records in cpt Ur_44,45,47	Evidence of koalas was found in the compartment, but pre-logging surveys did not detect intermediate or high use areas. Compartment mark-up 5.2.2 must be completed.
Yellow-bellied Glider ( <i>Petaurus australis</i> )	6.17	2 YEBG feed trees detected in cpt Ur_45  1 previous YEBG observation record in cpt Ur_45  10 previous YEBG call detection	Protection of 50m on dens. Retention of all sap feed trees. Within 100m of above and observation records, 15 mature/late mature feed trees must be retained. Within 200m of call detection site, 15 feed tree must be retained. Retained trees must be of same species as tree with den, feed marks or observation or should be species that shed their bark in long strips.



		records in cpts Ur_44,45,47	
Black-striped Wallaby ( <i>Macropus dorsalis</i> )	1.2 - Interim site- specific prescription  5.16  5.17  5.18	1 BSWA detection record in cpt Ur_47 BSW condition to be applied within compartment 49 also.	Removal of no more than 50% canopy cover in the net harvest area. Incorporate the area as a priority site for the regional pest control program. To the greatest extent practical, protect ground habitat from SFA. Ground habitat includes understorey vegetation, ground cover vegetation, leaf litter and fallen timber. Hazard reduction work must consider the species ecology, promote and maintain understory mosaic, minimize impact on fallen logs >40 cm diameter.
Golden-tipped Bat ( <i>Kerivoula papuensis</i> )	6.20	3 previous GOTB records at same location in cpt Ur_47  3 previous GOTB records at same location in cpt Ur_45	Protection zones of 30m on all 1 <sup>st</sup> and 2 <sup>nd</sup> order streams within 200m of all records as mapped.

Table 3: Species Specific Prescriptions (default IFOA condition)

Issue, Feature or Record	Presence	Management Prescriptions
EEC: Grey Box – Grey Gum Wet Sclerophyll Forest in the NSW North Coast bioregion.	Searches to date have not detected the presence of this EEC and it is determined as unlikely to be present - continue search.	Search for, identify and mark in field to exclude specified forestry activities. Contact FNSW ecology unit for guidance if required.
EEC: White Gum Moist Forest in the NSW North Coast bioregion.	Highly likely to be present. Forest type 051 (Dunn's White Gum) present in compartments Ca_44,45 - continue search.	Exclude Forest Type 51 from harvest.  Search for, identify and mark in field to exclude specified forestry activities. Contact FNSW ecology unit for guidance if required.

**In addition to Forest Management Zone Exclusions, the following exclusion zones occur and are shown on the operational map.** Boundary marking conditions for each exclusion zone are described on the HPOM and in the tree marking code.

Riparian Protection (TSL Condition 5.7)  
Ridge and Headwater Habitat (TSL Condition 5.8)

Boundary marking conditions for each exclusion zone are described on the HPOM and in the tree marking code (see Standard Harvest Plan Conditions for Native Forest Harvesting in North East Region).

#### 10. Fisheries Licence Conditions

Refer to Technical Guidance Note 2005- 02 March 2005 (Fisheries Licence Booklet)

Class 1 Aquatic Habitat (Eastern Freshwater Cod) has been identified as occurring within these compartments. Conditions of the Fisheries Licence apply.



Condition 7.9 of the Fisheries Licence apply to snig track crossings of mapped and unmapped drainage lines.

- A pre-logging aquatic habitat assessment of the site of each proposed crossing may be required prior to use. Consultation with the harvest planner is required prior to construction and use.
- Crossings must be approved and marked in the field prior to use
- Crossings may only be used where it is not reasonably practicable to use another route or site.
- Conditions 8.3 and 8.4 of the Fisheries Licence may apply to crossings.

**11. Soils and Water Protection Conditions**

Refer to Technical Guidance Note 2005- 1C (Environment Protection Licence Booklet) & Standard Harvest Plan Conditions for Native Forest Harvesting in North East Region

Site-specific EPL conditions –

Elements	Conditions
Unmapped Drainage Lines	EPL applies
Drainage Feature Protection	See HPOM for Riparian Protection widths
Inherent Hazard Class	2
Dispersible Soils	NO
Mass Movement	NO
Log Dumps	Refer relevant conditions for IHL
Snig Tracks	Refer relevant conditions for IHL
Roads	See schedule 5 of EPL Booklet
Non-Haulage Roads	May be used for extraction EPL applies Remove debris on completion of operations

*How does this apply to snig snigs?*

## **12. Legal Conditions**

This operation must comply with:

- Standard Harvest Plan Condition for Native Forest Operations in North East Region
- Licence Conditions issued by Forests NSW under the Forestry Act (1916)
- State Forests of NSW Forest Practices Code - Part 2 Timber Harvesting in Native Forests February 1999 and Forest Practices Code Part 4 Forest Roads and Fire Trails (February 1999).
- Integrated Forestry Operations Approval issued under part 4 of the Forestry and National Parks Estate Act 1998 (IFOA) as amended May 2003 including the associated licences:
  - Threatened Species Conservation Licence (TSL) issued under the Threatened Species Conservation Act (1995) as amended May 2003
  - Licence issued under section 220ZW of the Fisheries Management Act 1994 (FL) as amended May 2003
- This operation is a non-scheduled operation under the Environment Protection Licence issued under section 55 of the Protection of the Environment Operations Act 1997. Rooding and harvesting operations are not licenced. All EPL conditions will apply to harvesting and rooding operations .

## **14. Attachments**

- Attachment 1: Locality Map
- Attachment 2: Harvest Plan Operational Map
- Attachment 3: Forest Type Map
- Attachment 4: Site Safety Plan prescribes describes safety requirements and Medical Emergency Evacuation Plan for this harvesting operation.
- Attachment 5: Rooding Plan prescribes rooding requirements for this harvesting operation.
- Attachment 6: NER EEC Field Guide (dated: 15/06/10)



**15. Pre-Operational Briefing**

I acknowledge that I have received a copy of the Harvesting Plan for Compartments 44, 45, 46, 47, 48 & 49 in Donaldson State Forest and that I have been briefed on the conditions of the Plan. I understand the supervision and operational control requirements as outlined in the plan.

Position	Name	Signature	Date

# ROAD MAINTENANCE PLAN

Cpts 44-49

Donaldson State Forest

North East Region

Cost Code H38



<b>Prepared by:</b> Planner Name: <i>F. Bugno</i> Signature: <i>[Signature]</i> Date: <i>9/9/09</i>	<b>Endorsed by:</b> Works Program Supervisor Name: Signature: Date:
<b>Endorsed by:</b> Harvest Planning Manager Name: Signature: <i>[Signature]</i> Date: <i>9/9/09</i>	<b>Expenditure Approved by:</b> Planning and Resources Manager (<\$2,500), Regional Administration Manager (<\$10,000) or Regional Manager Name: <i>Craig Burby</i> Signature: <i>[Signature]</i> Date: <i>14/9/09</i>

### Duration of Approval

- The above approval is valid for 12 months following the signed date.
- FNSW internal plans only – This is a once off approval for expenditure. Additional maintenance works will require a separate approval.



## 1. Overview of Proposal

### 1.1 Need for the proposal

- This proposal is required to provide access for harvesting in compartments 44-49. These compartments are scheduled for harvest in November 2009.
- Roadworks are planned for September 2009 to enable vehicular access for harvest planning surveys.
- See attached operational map for road locations and details

### 1.2 Alternatives Evaluated

No practical alternatives.

### 1.3 Financial Analysis

- The estimated total cost of the proposed road works is approximately **\$49,000**.
- The net revenue from this proposal will be gained by marketing of wood products from harvesting operations, estimated at **\$390,000**.
- These roads form part of the Regions strategic permanent road and trail network.
- A full breakdown of the costs and revenue estimates are given in appendix 1A, on file in the North East Region office.

## 2. Specifications/Legal Conditions

- This operation is not licenced under the EPL. However all roadworks must comply with Schedule 5 of the EPL unless otherwise specified.
- All works must comply with roading standards set out in Forest Practices Code 4 "Forest Roads and Fire trails" and Technical Guidance Notes for Roadworks.
- Crossing Maintenance:
  - Approach drainage must comply with the requirements of the EPL unless otherwise specified.
  - Where approach drainage cannot be installed within 30m of mapped drainage line crossings, the Roothing Supervisor must develop appropriate site specific techniques to prevent water pollution eg retain vegetation on road surface/table drains, armour the table drain, seeding/mulching the table drain, installing silt/sediment traps – the details must be recorded in the notes section attached to this plan.

## 3. Road Maintenance Plan Restrictions

- This plan authorises the maintenance within the existing road prism and up to 3m outside of the existing road prism. 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.
- This plan **does not authorise** any road construction or road upgrade (including road widening, road realignment, curve widening) or road re-opening where trees over 20cm DBHOB are required to be removed.
- If vegetation control >3m outside of the existing road prism is required (with the exception of works on mitre drain outlets) or if trees >20cm dbhob require removal, a site assessment of flora and fauna is required.
- If any road construction, road upgrade or road re-opening is required a full roadworks plan must be prepared and approved by the Regional Manager.

- If any road construction or upgrade is required on road where the ground slope is >30° an engineering design must be completed by a suitably qualified person. In this case a full roadworks plan is required to be approved by the Regional Manager.
- This plan does not authorise any crossing construction or upgrading where a moderate risk of water pollution may occur.
- Notwithstanding the above, work on crossings must not occur where there is significant risk of water pollution. All crossings must be assessed for stability and the likely impacts of the proposals. Where there is a significant risk of pollution, license coverage under the EPL may be required. In these cases the proposed works must be documented and forwarded to the Planning Manager for approval prior to any work being undertaken.
- If dredging or reclamation works are required on crossings of streams classified as waterway type class 1,2 or 3 under the Fisheries Management Act, they must be documented and forwarded to NSWF prior to any work being undertaken.

#### 4. Special Conditions

Feature	Conditions
Cultural Heritage	Yes No works until consultation with Githabuls is undertaken.
Threatened Species Licence	Yes Minimise disturbance within protection zones
Dispersible Soils Hazard -	No
Mass Movement Hazard -	No
Environmental impacts ie Dust, Noise, Water, Visual	<p>Yes <b>Along Hills Road.</b> Where residences are likely to be affected by noise and/or dust (as determined by the Roading Supervisor), mitigative measures to lessen the impact on those residences should be applied. These measures are to be determined on a site specific basis by the Roading Supervisor and should be discussed with the Operations Forester. Measures may include;</p> <ul style="list-style-type: none"> <li>• Liaising with neighbours regarding noise and dust issues.</li> <li>• Changes to the activity that would reduce the noise impact or disturbance.</li> <li>• Graveling of sections of road near residences.</li> <li>• Restricting hours of operation (e.g. 6am to Sunset)</li> </ul>
National Park	Yes Section of K-Spur Fire Trail runs through Mt Nothofagus NP between crossings C & G. Minimise disturbance in this section.
Private Property	Yes 45/2 Rd and Crossings PPA & PPB are within Michael & Rhonda O'Neill's PP.
Permit To Enter required	Yes No works in above PP until permit to enter is signed
Quarries and Gravel Pits	No
Underground/Overhead Utilities	No
Safety Issues (includes hazards, public use of roads)	Yes See Hazard Assessment in the Site Safety Pack



## 5. Authorised Works

### 5.1 Authorised Works – Road maintenance

See attached road maintenance sheets.

### 5.2 Authorised Works – Crossing maintenance

See attached crossing work sheets for crossings A, B, C, D1, D2, E, F, G, H, PPA & PPB.

## Pre Operational briefing

**This Section is only to be completed on the Roothing Supervisors CONTROL copy of the road maintenance plan. The CONTROL copy of the plan must be returned to the North East Region for filing.**

- I acknowledge that I have received a copy of the road maintenance plan (as stated in Footer) and that I have been briefed on the conditions and understand the supervision and operational control requirements as explained to me by a Forests NSW officer.

Signature:		Name:	
Position	<b>Roothing Supervisor</b>	Date:	

### Staff/Contractor Acknowledgment

- I acknowledge that I have received a copy of the road maintenance plan (as stated in Footer) and that I understand the conditions of the Plan as explained to me by a Forests NSW officer.

### Personnel attending Induction

Contractor Personnel	Date	FNSW Personnel	Date

# Road Maintenance/Upgrade

Road Name 44/1 Road

Category Temporary

Location From Link Road to dump 21

Length (m) 750

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"/>	Blade off grass cover (all road) and regrowth in last 50m	Maintenance Length (m) 750
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input checked="" type="checkbox"/>	All road	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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: 5		
	Belts/Channels	<input type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial



Road Name 45/1 Road

Category Temporary

Location From Border Road to dump 18

Length (m) 1600

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"/>	All road	Maintenance Length (m) 1600
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
		Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: SFO to mark location of existing belts & channels					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name 45/2 Road

Category Temporary

Location From SF BOUNDARY to dump 24

Length (m) 850

		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"/>	All road Maintenance Length (m) 850
		Repair surface	<input type="checkbox"/>	NA
		Crown/Crossfall	<input type="checkbox"/>	NA
Gravel	<input type="checkbox"/>	NA Gravel Length (m) 0		
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only	
	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 type="checkbox"/>	Sets:	
	Drop Downs	<input type="checkbox"/>	Sets:	
	Silt Trapping	<input type="checkbox"/>		
Comments: SFO to mark location of existing belts & channels				

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

Date	Event	Initial



Road Name 46/2 Road

Category

Location From Border Road to dump 15

Length (m) 100

		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"/>	All road	Maintenance Length (m) 100
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
		Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0
	Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only	
		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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name 47/1 Road

Category Temporary

Location From 48/2 Road to dump 7

Length (m) 150

		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"/>	All road	Maintenance Length (m) 150
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
		Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Slit Trapping	<input type="checkbox"/>			
Comments: Nil					

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

Date	Event	Initial



Road Name 47/2 Road

Category Temporary

Location From Sandy Shoot Road to dump 4

Length (m) 1000

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"/>	All road	Maintenance Length (m) 1000
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0		
Roadside/Batters	Remove trees >20 cm	<input type="checkbox"/>	Remove Dangerous trees/stags only		
	Remove trees <20 cm	<input 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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: SFO to mark location of existing belts & channels					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name 47/3 Road

Category Temporary

Location From K Spur Rd to dump 1

Length (m) 550

		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"/>	All road	Maintenance Length (m) 550
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
		Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: SFO to mark location of existing belts & channels					

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

Date	Event	Initial

Road Name 48/1 Road

Category Temporary

Location From Sandy Shoot Road

Length (m) 1100

		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"/>	All road	Maintenance Length (m) 1100
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
		Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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: 5		
	Belts/Channels	<input checked="" type="checkbox"/>	Sets: 2		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: SFO to mark location of existing belts & channels					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial



Road Name 48/2 Road

Category Temporary

Location From Sandy Shoot Road

Length (m) 550

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/debrls	<input checked="" type="checkbox"/>	All road	Maintenance Length (m) 550
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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: 5		
	Belts/Channels	<input checked="" type="checkbox"/>	Sets: 2		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: SFO to mark location of existing belts & channels					

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

Date	Event	Initial

Road Name Border Road

Category Permanent

Location From SF boundary to Link Road

Length (m) 3200

		WORKS	YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS	
Site Info	Works >30 Slopes		<input checked="" 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 type="checkbox"/>	NA	Maintenance Length (m) 3200
		Repair surface	<input checked="" type="checkbox"/>	Sections of rutting & wash	
		Crown/Crossfall	<input checked="" type="checkbox"/>	All road	
		Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	Remove trees <20 cm	<input checked="" type="checkbox"/>	Clearing outside the road prism: No		
	Batter Repair/Upgrade	<input type="checkbox"/>	NA		
Drainage	Culverts	<input checked="" type="checkbox"/>	Clean existing	Size: Sets:	
	Mitres	<input checked="" type="checkbox"/>			
	ROD/Spoon	<input checked="" type="checkbox"/>	Sets: 10		
	Belts/Channels	<input type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name Dump 5 Road

Category Temporary

Location From 47/2 Road to dump 5

Length (m) 50

		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"/>	All road	Maintenance Length (m) 50
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
		Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil					

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

Date	Event	Initial



Road Name Hills Road

Category Permanent

Location Boundary grid to Mullers Road

Length (m) 900

WORKS		YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS		
Site Info	Works >30 Slopes	<input type="checkbox"/>			
	Mass Movement	<input type="checkbox"/>			
	Dispersible	<input checked="" 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/debrls	<input type="checkbox"/>	Maintenance Length (m) 900	
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
	Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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 type="checkbox"/>			
	ROD/Spoon	<input type="checkbox"/>	Sets:		
	Belts/Channels	<input type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Road Name K Spur Road

Category Temporary

Location From 47/2 Road to 47/3 Road

Length (m) 750

		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"/>	All road	Maintenance Length (m) 750
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: SFO to mark location of existing belts & channels					

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

Date	Event	Initial

Road Name Link Road

Category Temporary

Location Border Road to 44/1 Road

Length (m) 250

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/debrls	<input checked="" type="checkbox"/>	All road	Maintenance Length (m) 250
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>	Remove Dangerous trees/stags only		
	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 type="checkbox"/>	Sets:		
	Drop Downs	<input type="checkbox"/>	Sets:		
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial



Road Name Mullers Road

Category Permanent

Location From Hills Road to dump 14

Length (m) 150

		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/debrls	<input type="checkbox"/>	NA	Maintenance Length (m) 150
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
Gravel		<input type="checkbox"/>	NA	Gravel Length (m) 0	
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>		Remove Dangerous trees/stags only	
	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 type="checkbox"/>			
	ROD/Spoon	<input type="checkbox"/>		Sets:	
	Belts/Channels	<input type="checkbox"/>		Sets:	
	Drop Downs	<input type="checkbox"/>		Sets:	
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil works required					

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

Date	Event	Initial

Road Name Sandy Shoot Road

Category Temporary

Location From Hills Road to 48/1 Road

Length (m) 2150

		WORKS	YES	INSTRUCTIONS/SITE SPECIFIC CONDITIONS	
Site Info	Works >30 Slopes		<input checked="" 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/debrls	<input checked="" type="checkbox"/>	All	Maintenance Length (m) 2150
		Repair surface	<input type="checkbox"/>	NA	
		Crown/Crossfall	<input type="checkbox"/>	NA	
Gravel	<input type="checkbox"/>	NA	Gravel Length (m) 0		
Roadside/Batters	Remove trees >20 cm	<input checked="" type="checkbox"/>		Remove Dangerous trees/stags only	
	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:	
	Belts/Channels	<input checked="" type="checkbox"/>		Sets: 5	
	Drop Downs	<input type="checkbox"/>		Sets:	
	Silt Trapping	<input type="checkbox"/>			
Comments: Nil					

Start Date:

Finish Date:

Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

# Crossing Works

Crossing Name **A** Road Name **47/2 Road** Location **350m from Sandy Shoot Rd**  
 Drainage Feature **2nd order DL** Stream Permanency **Intermittent**

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

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Armour with rock & gravel	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Existing Rollover
Inlet	Nil	5-30m Upstream Right	Existing Rollover
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial



Crossing Name B      Road Name 47/2 Road      Location 900m from Sandy Shoot Rd  
 Drainage Feature 1st order DL      Stream Permanency Intermittent

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

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Armour with rock & gravel	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	New Rollover
Inlet	Nil	5-30m Upstream Right	Existing Rollover
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial

Crossing Name: C      Road Name: K Spur Road      Location: 250m from 47/2 Road  
 Drainage Feature: 3rd order DL      Stream Permanency: Intermittent

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

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Armour with rock & gravel	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Existing Rollover
Inlet	Nil	5-30m Upstream Right	Existing Rollover
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial

Crossing Name D1      Road Name 45/1 Road      Location 50m from Border Road  
 Drainage Feature 1st order DL      Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Gully stuffer	NA	Stable (no works)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Nil	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	New Rollover
Inlet	Nil	5-30m Upstream Right	Existing Rollover
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial

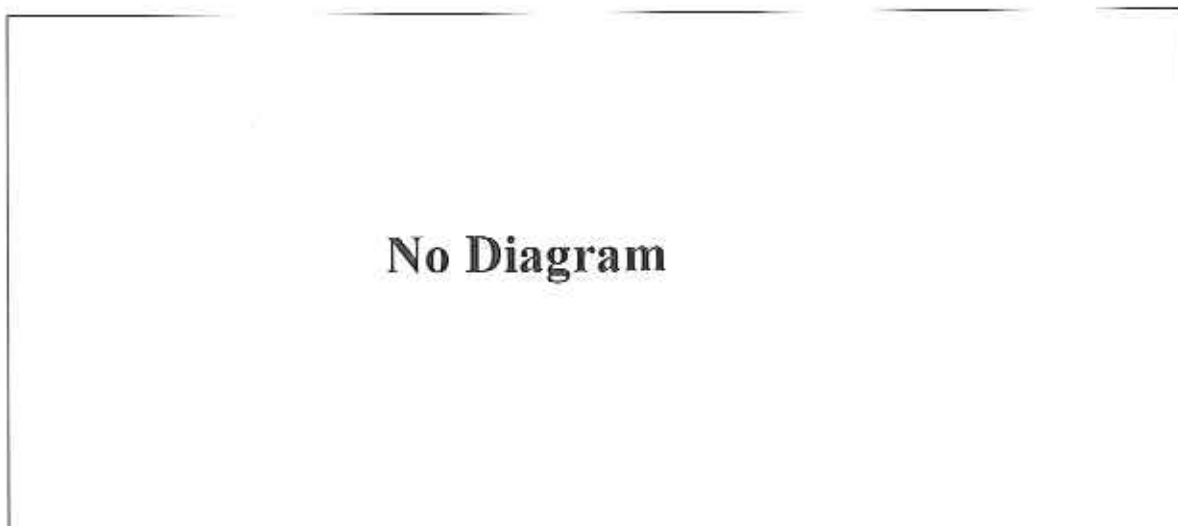


Crossing Name D2 Road Name 45/1 Road Location 100m from Border Road

Drainage Feature Unmapped Drainage line Stream Permanency Intermittent

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

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Armour with rock	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	Existing crest
Outlet	Nil	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 E Road Name 45/1 Road Location 200m from Border Road  
 Drainage Feature 1st order DL Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Steel Bridge	9	Stable (no works)	Existing	NA	Temporary

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Remove bridge on completion of haulage. Leave banks undisturbed.	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	New Rollover
Inlet	Nil	5-30m Upstream Right	New Rollover
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial

Crossing Name F Road Name 48/1 Road Location 700M from Sandy Shoot Road  
 Drainage Feature 1st order DL Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Gully stuffer	NA	Stable (no works)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Nil	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Existing Rollover
Inlet	Nil	5-30m Upstream Right	Existing Rollover
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial

Crossing Name G Road Name K Spur Road Location 550 m from 47/2 Road

Drainage Feature 1st order Depression in field Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Causeway	NA	Stable (no works)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Nil	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	Existing Belt/channel
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial



Crossing Name H Road Name 45/1 Road Location 600m from Border Road

Drainage Feature 1st order Depression in field Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Causeway	NA	Stable (no works)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Nil	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Existing Rollover
Inlet	Nil	5-30m Upstream Right	Existing Rollover
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

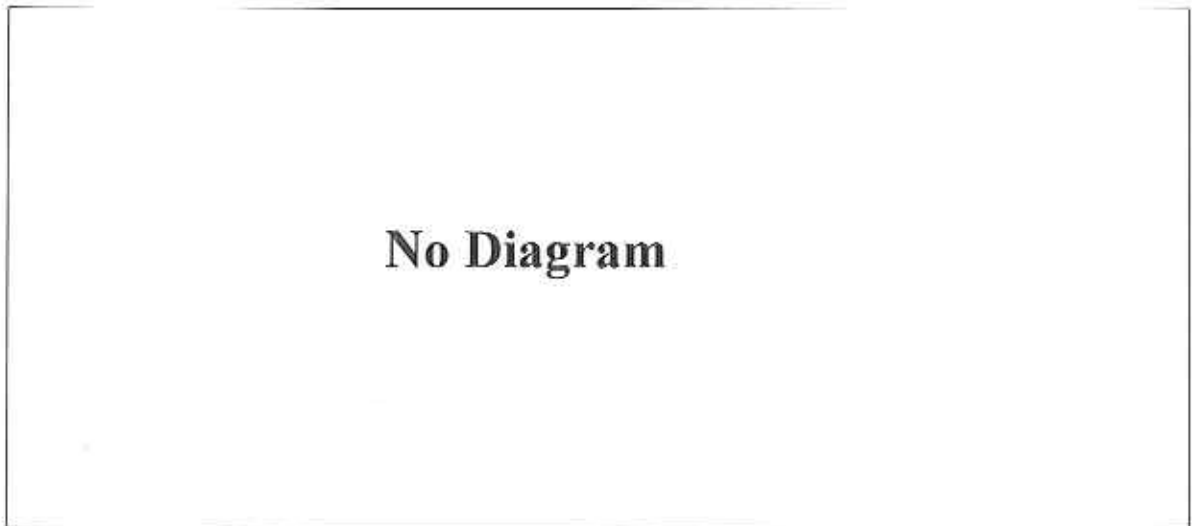
Start Date: Finish Date: Soil Stabilisation Date (must be within 5 days):

Date	Event	Initial

Crossing Name PPA Road Name Border Road Location 50m from Hills Road  
 Drainage Feature 3rd order DL Stream Permanency Intermittent

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

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Install additional stringer Additional gravel fill	Approaches	Nil
Reshape Bed/banks	Nil	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Mitre
Inlet	Nil	5-30m Upstream Right	Mitre
Outlet	Nil	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 PPB Road Name 45/2 Road Location 400m from Border Road  
 Drainage Feature 2nd order DL Stream Permanency Intermittent

Existing Crossing	Size	Stability Status	Crossing Required	Size (mm/m)	Future
Causeway	NA	Unstable (upgrade)	Existing	NA	Permanent

Crossing Works		Approaches and Road Drainage	
Pavement/Structure	Armour with rock	Approaches	Gravel
Reshape Bed/banks	Reshape causeway	Temporary Drainage	Nil
Disposal of Spoil	NA	5-30m Upstream Left	Mitre
Inlet	Nil	5-30m Upstream Right	Mitre
Outlet	Nil	Practices where no 5-30	NA
Stabilisation	Nil	OutletControl	Natural vegetation
ErosionControl	Nil	TableDrain	Natural vegetation

**No Diagram**

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

Date	Event	Initial