

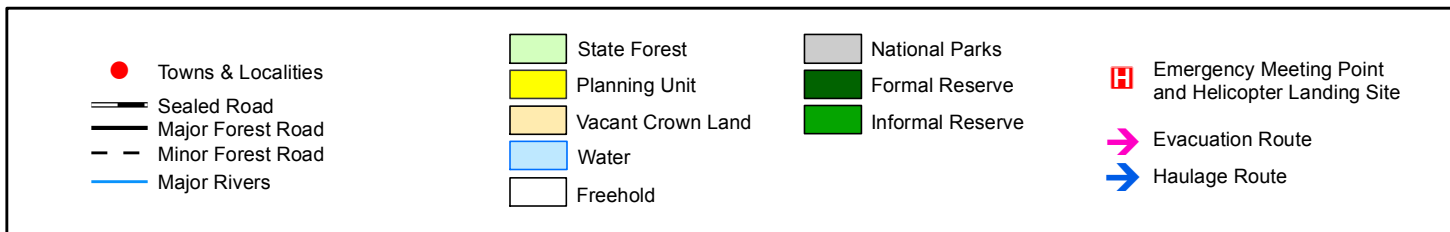
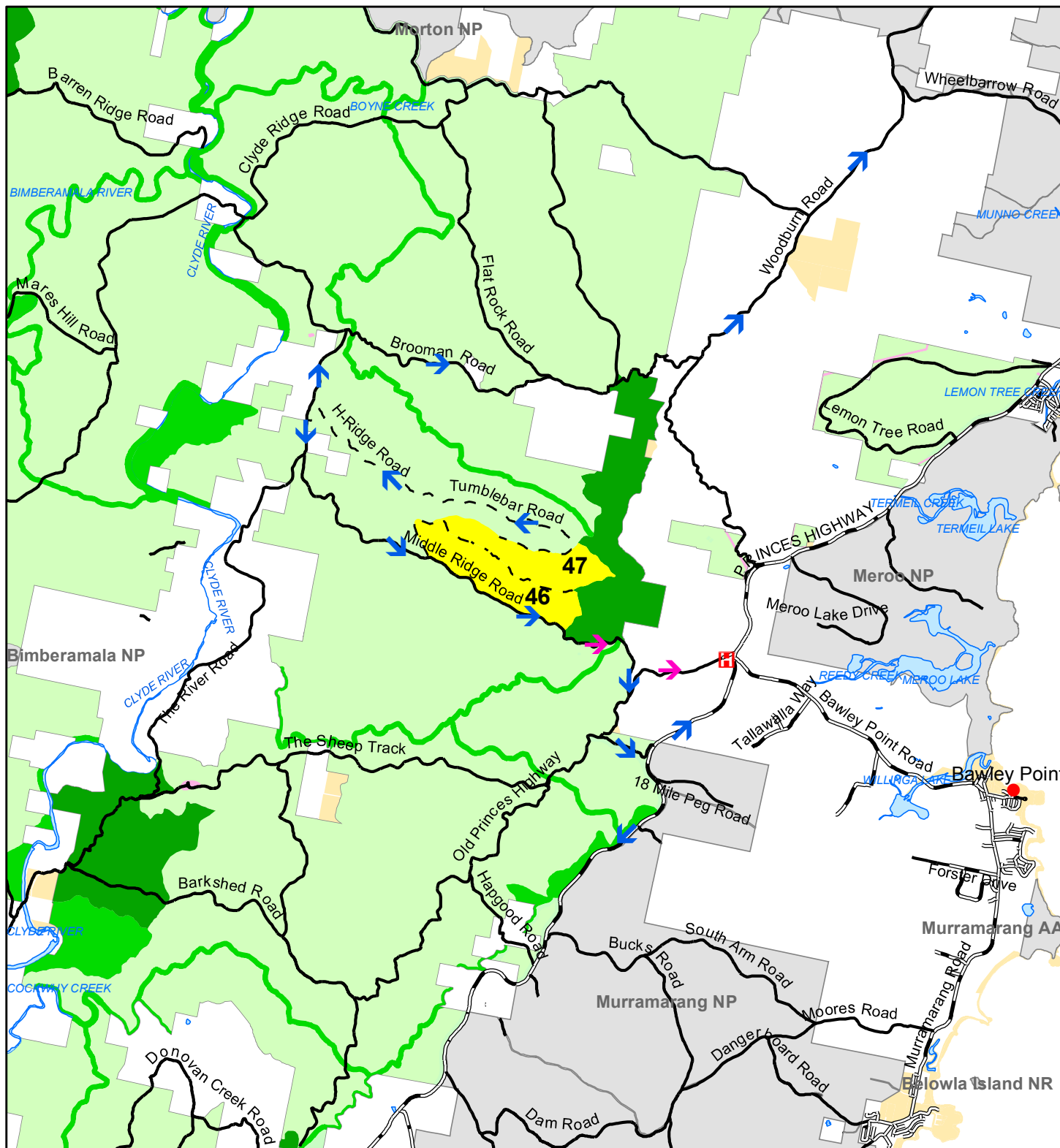
LOCALITY MAP

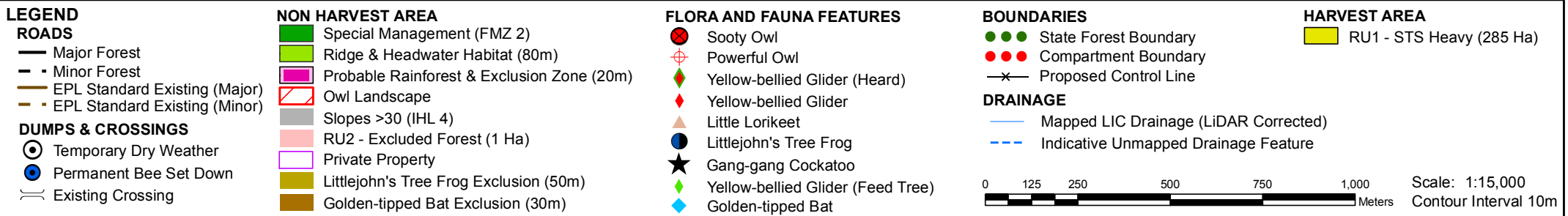
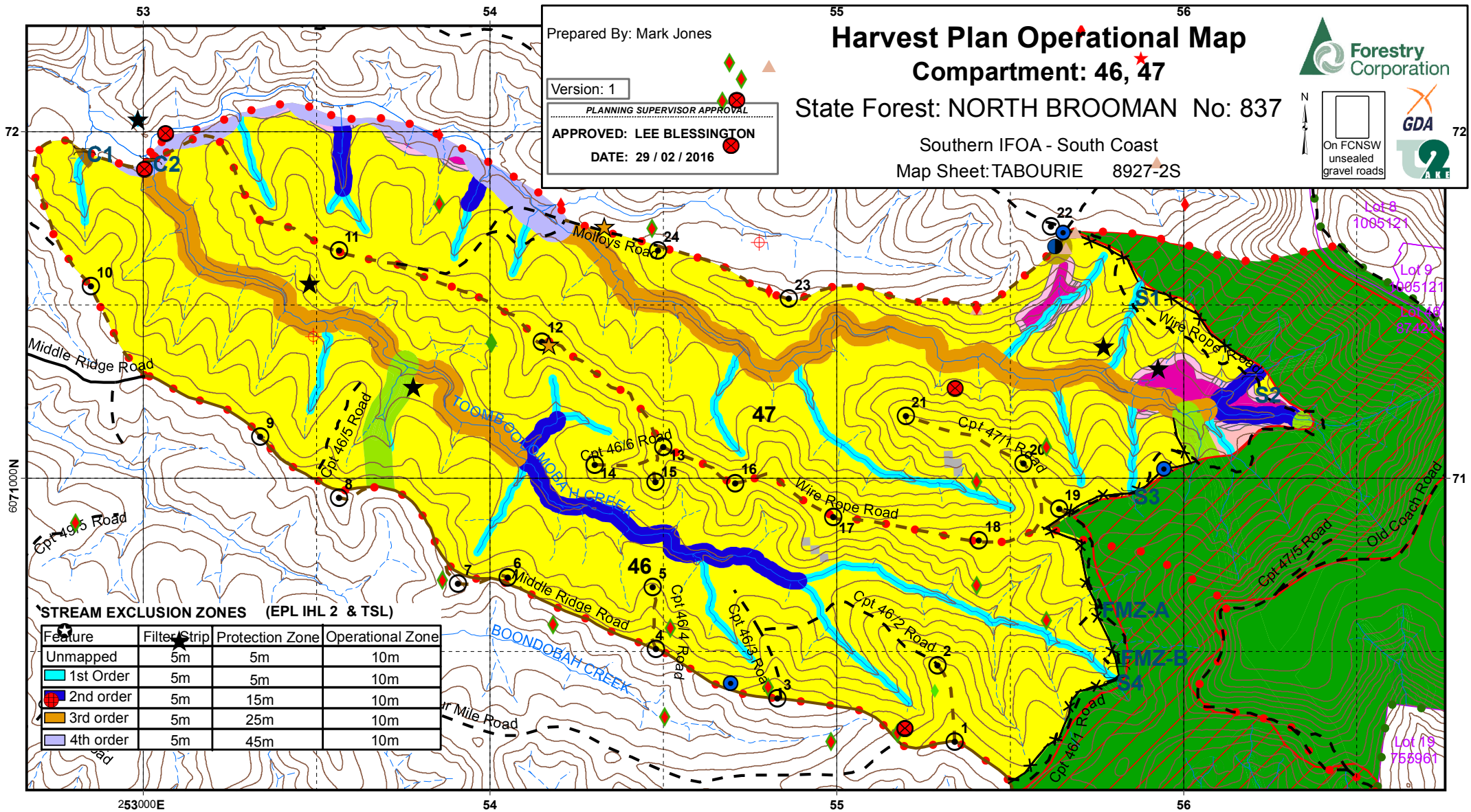
Compartments: 46 & 47

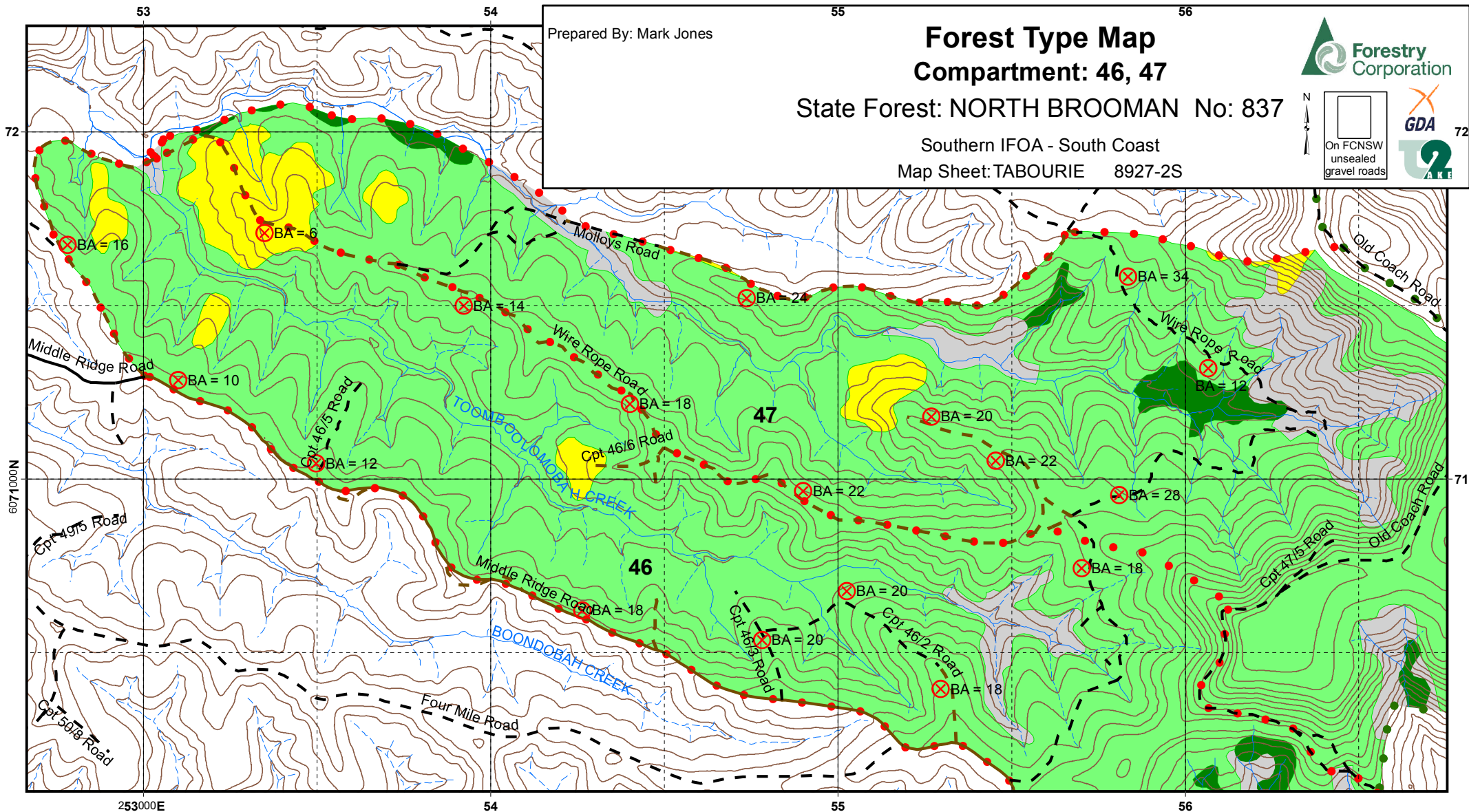
State Forest: North Brooman No: 837

Southern IFOA - South Coast

Scale: 1:100,000







LEGEND

ROADS

- Major Forest
- Minor Forest
- EPL Standard Existing (Major)
- EPL Standard Existing (Minor)

OTHER FEATURES

- Basal Area Plot

BOUNDARIES

- State Forest Boundary
- Compartment Boundary

DRAINAGE

- Mapped LIC Drainage (LiDAR Corrected)
- Indicative Unmapped Drainage Feature

FOREST TYPES

- Coastal Moist Forest (42 Ha)
- Spotted Gum (461 Ha)
- Coastal Dry Forest (22 Ha)
- Rainforest (12 Ha)

0 125 250 500 750 1,000 Meters

Scale: 1:15,000
Contour Interval 10m



HARDWOOD FORESTS- SOUTHERN IFOA SOUTH COAST HARVESTING PLAN

North Brooman State Forest – Compartments 46 & 47

Certification

This plan has been prepared in accordance with the Integrated Forestry Operations Approval issued under the Forestry and National Park Estate Act 1998. The Harvest Plan Standard Conditions for Hardwood Forest Operations in South Coast apply to this operation.

Prepared By:	Mark Jones	Approved By:	Lee Blessington
Harvest Planner		Planning Supervisor	
Signature	Mark Jones	Signature	Lee Blessington
Date	29/02/2016	Date	29/02/2016

Note: Approval includes the Harvest Plan Operational Map (HPOM) with the corresponding approval date displayed on the map, verifying final approved version. Other maps included with this plan are Locality and Forest Type maps

Description of Proposal

Harvesting of Hardwood forest

Harvesting of Hardwood forest, using Single Tree Selection Silviculture subject to the Southern IFOA requirements will be undertaken within this planning unit. **Timber harvesting and road construction will not be licensed under the EPL.**

The primary product of the harvesting is high quality large sawlogs (quota logs), small high quality sawlogs, veneer logs, girders, poles & piles where timber markets are available. Parts of felled logs that do not meet high quality log specifications are segregated and graded into other classifications such as salvage sawlogs, pulp logs & miscellaneous timbers e.g. split & round posts, firewood, mining timbers & craftwood. The availability of miscellaneous timbers depends mainly on forest types, log defectiveness & market conditions at the time of harvesting.

Clause 22 – Integrated Forestry Operations Approval (IFOA) Consideration

All relevant factors have been reviewed taking into account the volume and monetary value of each forest product to supply Term Agreement Holders. The harvesting operation also complies with Clause 22 of the IFOA.

Attachment 1: Site Safety Plan prescribes safety requirements and Medical Emergency Evacuation Plan for this harvesting operation.

Attachment 2: Roading plan prescribes roading requirements for this harvesting operation.

Abbreviations used in this plan

FT = Forest Technician, HC= Harvesting Coordinator, PtS= Protection Supervisor, HS = Harvesting Supervisor, RC = Roading Coordinator, IFOA = Integrated Forestry Operations Approval.

Area Identification and Yield Estimates

State Forest	Compartments	IFOA Region	Management Area	Certification
North Brooman	46 & 47	Southern	Batemans Bay	AS4708:2007 ISO 14001

	Cpt 46	Cpt 47	Total
Plan Compartment ID	22256	22257	NA
Gross Area (ha)	243	296	539
Net Harvestable Area (ha)	173	123	296
Harvest Area (ha)	167	118	285
Poles, Piles, Veneer & Girders	60m ³	60m ³	120m ³
Quota Logs (HQL)	2234m ³	1490m ³	3724m ³
High Quality Small	540m ³	360m ³	900 m ³
Salvage	380m ³	260m ³	640m ³
Pulp E1	2250t	1500t	3750t
Firewood/Misc	750t	500t	1250t

Note: The yield estimates in the table above are derived from the Plan of Operations.

Slope Classes (percent of harvest area)

Slope Class	Cpt 46 % of harvest area	Cpt 47 % of harvest area
0-20°	96	94
20-25 °	3	5
25-30 °	1	1



ATTACHMENT 1: SITE SAFETY PLAN

Worksite Information	
Is this a Declared Hunting Area: No	Comments: A permanent hunting exclusion zone exists in North Brooman State Forest
Have Exclusion Zone signs been erected or checked prior to starting work daily.	N/A
Comments:	
Description of Work to be undertaken on site: - Refer to description of proposal above.	
Site Supervisor	
Name:	Contact number:
Communication	
Radio channel number	VHF: UHF
Other (e.g. hand signals):	
Traffic management (describe) e.g. Signage, Road closure, Traffic control	
<p>This plan identifies haulage of timber from the northern half of compartment 47 as north via Molloy's Road (FCNSW Owned) turning left onto Tumblebar Road (FCNSW Owned) turning left onto H-Ridge Road (FCNSW Owned) turning right onto Brooman Road (Shire Owned 100km/hr road becoming FCNSW Owned then Shire Owned again where State Forest ends) turning left onto Woodburn Road and continuing on to the Princes Highway.</p> <p>This plan identifies haulage of timber heading south from the northern half of compartment 47 as north via Molloy's Road (FCNSW Owned) turning left onto Tumblebar Road (FCNSW Owned) turning left onto H-Ridge Road (FCNSW Owned) turning left onto Brooman Road (Shire Owned 100km/hr road) turning left onto Middle Ridge Road (FCNSW Owned) turning right onto the Old Princes highway (RMS Controlled Road becoming FCNSW Owned) turning left onto Boardinghouse Road (FCNSW Owned) and turning right onto the Princes Highway (RMS Controlled Road).</p> <p>This plan identifies haulage of timber from compartment 46 and the southern half of compartment 47 as west via Wire Rope Road (FCNSW Owned) turning left onto Molloy's Road (FCNSW Owned) turning left onto Middle Ridge Road (FCNSW Owned) turning right onto the Old Princes highway (RMS Controlled Road becoming FCNSW Owned) turning left onto Boardinghouse Road (FCNSW Owned) and turning left or right onto the Princes Highway (RMS Controlled Road).</p> <p>The following haulage restrictions on haulage routes must apply:</p> <ul style="list-style-type: none"> In order to cause minimal disruption to the residences along the RMS controlled section of the Old Princes Highway, trucks may travel to the compartments (empty) via Princes Highway (from Termeil), turning west onto The Old Princes Highway then right (north-west) onto Middle Ridge Road. However when hauling from the compartments, loaded trucks must not travel east along Old Princes Highway to the Princes Highway/Termeil. <p>Consideration of sight distances at Intersections</p> <p>The intersection of Boardinghouse Road and Princes Highway has been assessed as having a sight distance of >250m on northern approach and 220m on southern approach. The southern approach already has truck warning signage installed. Additional signage or a Road Occupancy Licence is not required at this intersection.</p> <p>The intersection of Middle Ridge and The Old Princes Highway roads has been assessed as not achieving a minimum of 120m sight distance on both approaches. Permanent signage in accordance with "TCP195_ Middle Ridge Old Princes Hwy Intersection" is erected at this intersection. No additional signage is required.</p>	

The intersection of H-Ridge Road and Brooman Road does not meet the minimum sight distance for a 100km/hr road for vehicles travelling along Brooman Road in either a northerly or southerly direction. Therefore prior to haulage commencing, a suitably qualified person must implement "TCP_195_BroomanRd/H-Ridge Rd_Cpt46&47" (attached to this harvest plan) at this intersection.

Road intersections outside the control of FCNSW are not covered by this plan or any FCNSW Traffic Control Plan. Haulage contractors must abide by NSW road laws and standard operating procedures in relation to haulage routes outside the control of FCNSW.

Traffic management/road closures

When harvesting within 2 tree lengths of Middle Ridge Road, the road must be temporarily closed in accordance with "TCP78_57_MiddleRidgeRd_Cpt46_47" attached to this plan. Forestry Corporation will provide suitably qualified personal to carry out the traffic control.

Dust, noise and school bus routes

Dust and noise – Where log haulage routes pass close to rural housing along natural surface/gravel roads dust and noise must be minimised to the greatest extent practicable. Trucks should reduce speed, restrict use to daylight hours and minimise the use of engine brakes through these areas.

School bus route - School buses run up and back along Woodstock Road and Woodburn Road to the intersection of Woodburn Road and Clyde Ridge Road (where there is a drop off/pick up point) between the hours of 7:30am to 8:30 am and 3:30pm to 4:30pm. On weekdays, to the greatest extent practicable, log haulage should avoid school bus times on the above roads.

Name of on-site safety first aider/s

Location of first aid kit

SITE HAZARD & RISK ASSESSMENT NO.	CONTROL	WHO	IMPLEMENTED
1. Vehicle collision at adjoining roads of various traffic levels	Warning signs at FCNSW intersections, road closure on FCNSW roads. Implement Traffic Control plans (where specified in this harvest plan). 60km/hr speed limit on all State Forest gravel roads unless otherwise signposted. Compliance with FCNSW lights on policy.		
2. Cliff lines & rocky very steep terrain	Operators to assess work site within two tree lengths to identify immediate hazards. Communicate to other operators and mark sites.		
3. Hazardous or dead trees	Refer to FCNSW WHS procedure 4.26. Assess area within two tree lengths of work site. Assess risk, mark any Distinctly Dangerous Trees with the symbol Ø & if necessary remove hazard or move work site. Use machinery to assist with hazard removal if possible Contractor is responsible for implementing control strategies during harvesting.		
4. Overhead hazards associated with dumps	Refer to FCNSW WHS procedure 4.26. Assess overhead hazard within two tree lengths of the dump. Assess risk, & if necessary remove hazard or relocate dump site. Contractor is responsible for implementing control strategies during harvesting.		

SITE HAZARD & RISK ASSESSMENT NO.	CONTROL	WHO	IMPLEMENTED
5. Dust from passing vehicles along dirt haulage routes	Restrict speed to minimise dust generation, slow down when passing vehicles. Turn on driving and hazard lights to increase visibility.		
6. Trucks colliding with oncoming school buses on Woodstock and Woodburn Roads	School buses run up and back along Woodstock Road and Woodburn Road to the intersection of Woodburn Road and Clyde Ridge Road (where there is a drop off/pick up point) between the hours of 7:30am to 8:30 am and 3:30pm to 4:30pm. On weekdays, to the greatest extent practicable, log haulage should avoid school bus times on the above roads.		
7.			

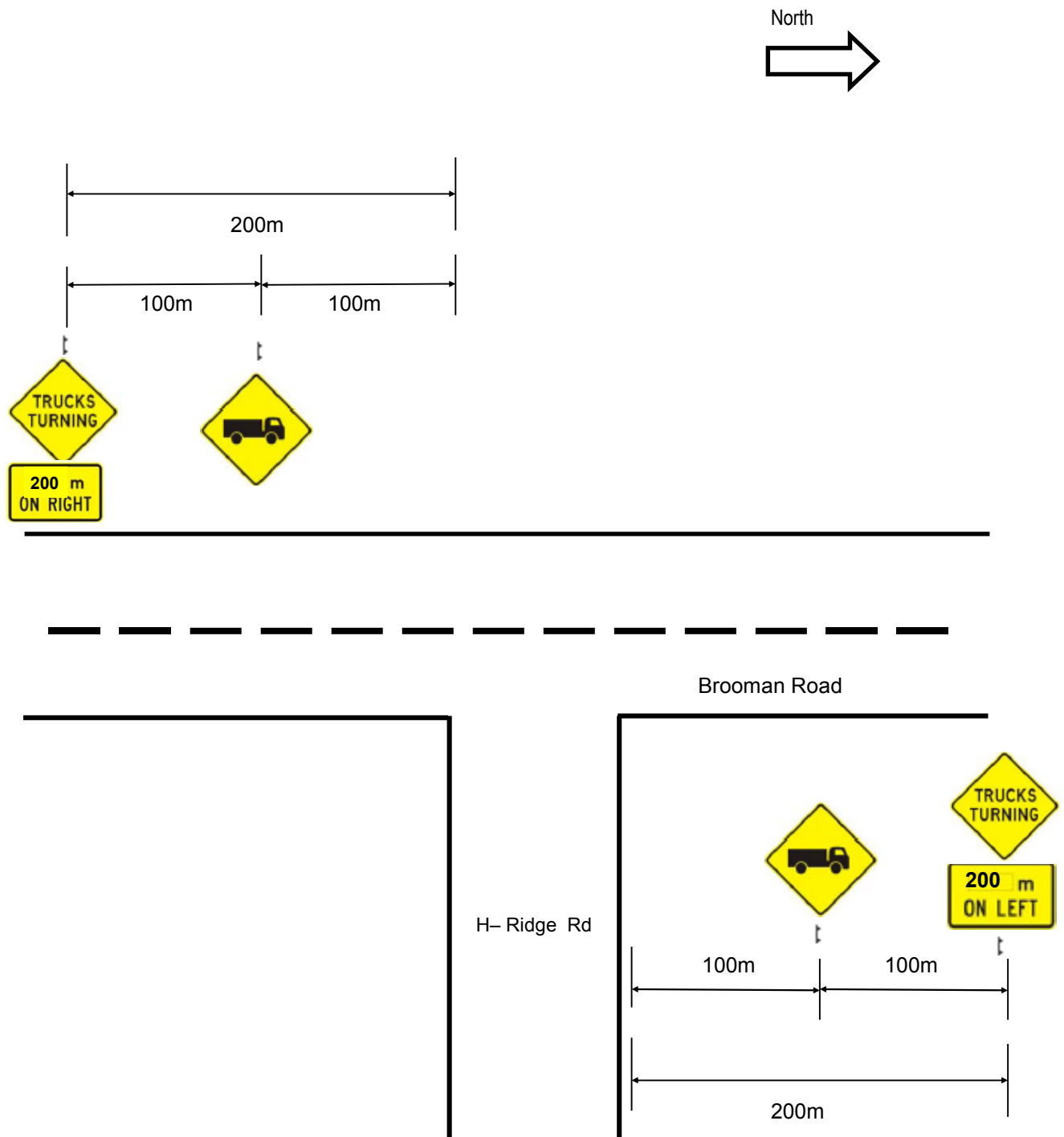
- **All** visitors, contractors and employees **must** be fully **inducted** onto the worksite by the workplace supervisor e.g. the Principal Contractor or the Forestry Corporation supervisor. This must be recorded on the attached induction sheet.
- Relevant **Safe Work Procedures** are available and understood for the type of work to be undertaken.
- A **Risk and Hazard Assessment Worksheet** must be completed if site specific hazards are identified that are not covered by a **Safe Work Procedure**. The top (pink sheet) is to be attached to this site safety plan.
- Operators in training must be supervised by the site supervisor.
- All appropriate Personal Protective Equipment (PPE) must be worn on the worksite at all times



MEDICAL EMERGENCY EVACUATION PLAN

Nearest reliable mobile phone reception (describe location)			
Next G Network: Poor		GSM: N/A	
GPS Lat/Long: -35° 28' 16.28"E / 150° 16' 40.42"S		MGA: 253005E 6071296N	
Datum: GDA 94		Zone: 56	
Location description: Intersection of Molloy's Road and Middle Ridge Road.			
Emergency meeting point for ambulance / police (refer to attached locality map)			
GPS Lat/Long: 35° 29' 7.98"E / 150° 20' 20.21"S		MGA: 258589E 6069854	
Datum: GDA 94		Zone: 56	
Location description: Termeil Shop opposite the intersection of Bawley Point Road and Princes Highway			
Helicopter landing place (refer to attached locality map)			
GPS Lat/Long: 35° 29' 5.31"E / 150° 20' 20.18"S			
Location description: Paddock to the north of Termeil Shop opposite the intersection of Bawley Point Road and Princes Highway			
Procedures to obtain ambulance assistance			
<ol style="list-style-type: none"> 1. Dial 000 2. If there is no mobile coverage, dial 112 (which will work on any mobile phone system). 3. If no response on 112: <ul style="list-style-type: none"> • use a radio link (TARA, be discrete with personal information) • move to an area with mobile coverage • find a landline • use another network (e.g. a contractor's VHF radio) 		<p>Contact nearest Forestry Corporation office on:</p> <p>Channel: 236</p> <p>Telephone: 1300 880 548</p> <p>Give details of the situation and ask for a 000 call to be placed.</p>	
000 operator question:		Response:	
1. Police, Fire, Ambulance?		NSW Ambulance,	
2. Suburb?		State Forest name: North Brooman Nearest town or locality: Termeil Nearest ambulance station: Batemans Bay	
3. Address?		Intersection of Bawley Point Road and Princes Highway	
4. Nearest road junction/cross street?		Intersection of Bawley Point Road and Princes Highway	
5. Local government area?		Shoalhaven	
6. Nature of the problem?		Describe the accident, number and condition of casualties	
7. Where is the accident?		Refer to safety meeting point above	
Directions to navigate from nearest ambulance station to the emergency meeting point. From Batemans Bay head North on the Princes Highway travel approx. 33km to intersection with Bawley Point Road (on right). Park at the Termeil shop on the left.			
8. 4WD ambulance required N		CB radio channel to use:	
9. Injuries?		Give detailed information about the condition of the casualty (do not mention names over radio system)	
10. Your name and call back number:			

**Forestry Corporation TCP_195_BroomanRd/H-Ridge Rd_Cpt46&47:
Intersection of H-Ridge Rd (FCNSW owned) with Brooman Road
(Shoalhaven Shire Council owned-not signposted 100km/hr)**



Notes:

- ① Log Haulage - Intersection of H-Ridge Road with Brooman Road. Sight distance restricted to <200m on both approaches to intersection.

LONG TERM USE
ADT < 1500, <20 Truck Movements, Sight Distance Restricted
Prepared by Kate Halton, Red Card Certificate No. 5192055074 on 10/02/2016

**Forestry Corporation NSW (FCNSW) Traffic Control Plan 78 & 57: Harvesting within 2 Tree Lengths of Middle Ridge Rd
(FCNSW Rd) (modified from RTA Traffic Control at Work Site TCP 78 & 57)
Speed limit on FCNSW Roads 60km/hr**

5

Work Site: Forest Harvesting
within 2 Tree Lengths of
Middle Ridge Rd



Middle Ridge Rd

END
ROADWORK

T2-16



R4-212

T1-34



2 3 4



PREPARE
TO STOP

T1-18



T1-5

NEXT
2km

T1-28



G9-79

60m

Repeater RA-212 sign every 500m

30m 60m 60m 60m 180m

Max. 2km

Notes:

FREQUENTLY CHANGING WORK AREA
2 LANE/2 WAY
ADT < 3000
Prepared by Kate Halton,

Red Card Certificate No. 5192055074 on 04/02/2016

1. Each stoppage less than 5 minutes.
2. Traffic controllers to stop traffic for duration of work and then direct traffic past work area, once tree falling has ceased and any debris has been cleared from road.
3. Traffic controllers and tree faller to maintain radio contact so that no tree felling is occurring while traffic is let through.
4. Traffic controller must have sight distance to oncoming traffic of at least 150m.
5. Traffic control plan must be mirrored for traffic approaching from the opposite direction.
6. If worksite is kept less than 500m long, repeater RA-212 (60 Road Work) signs are not required.
8. Ensure dumps or other road intersections are not within the traffic control area, by either placing the traffic controller at the intersection/dump or erecting a road closed barricade.
9. Please advice Red Card Holder when TCP is in place.

Silviculture and Harvesting Prescriptions

Year	TSI	HR Burning	Wildfires	Logging
1937	X	X	X	√
1939	X	X	X	√
1944	X	X	√	X
1947	X	X	X	√
1949	X	X	X	√
1951	X	X	√	X
1953	X	X	√	X
1956	X	X	√	√
1959	X	X	X	√
1960	X	X	X	√
1960	X	X	√	√
1964	X	X	√	X
1965	X	X	√	√
1968	X	X	√	√
1976	X	X	X	√
1990	X	X	√	X
1994	X	X	√	X
1997	X	X	X	√
1998	X	√	X	√
1999	X	√	X	√
2003	X	√	X	X
2004	X	X	√	X
2008	X	√	X	X
2013	X	√	X	X

√ - applies, X – not applicable

Compartment	Resource Unit	No. of Sweeps	BA Average (m ² /ha)	BA Range (m ² /ha)
46 & 47	1	18	18.5	6 - 34

Silvicultural Planning

Single Tree Selection

The STS tract for IFOA purposes includes the 285Ha harvest area (resource unit 1) of Compartments 46 & 47 as indicated on the HPOM. The STS tract is a predominantly mixed aged forest and will be harvested under a heavy single tree selection (STS) regime. The objective within the STS tract for this operation is to remove 45% of the basal area to create canopy openings for regeneration, whilst retaining and minimising damage to young regenerating stems, seed trees, habitat and recruitment trees.

Resource unit 2 (1 Ha) is a predominantly mature forest that will be excluded from harvesting due to viability and access constraints.

It is envisaged that the next harvesting operation in this compartment would be on average 30 years time.

Single Tree Selection (STS) must remove no more than 45% of the basal area (BA), while retaining a minimum BA of 10m² per hectare within the tract.

Resource Unit (Refer to HPOM for detail)	Species Composition	Stand Structure and Condition
1	Overstorey dominated by spotted gum (<i>Corymbia maculata</i>). Other species include blackbutt (<i>Eucalyptus pilularis</i>), grey ironbark (<i>E. paniculata</i>) and turpentine (<i>Syncarpia glomulifera</i>)	Uneven-aged forest, highly variable over short distances. Isolated clumps of mature to over-mature trees associated with gully lines and/or steep inaccessible terrain. Regrowth predominantly associated with ridges. Stand contains commercially mature trees.

Harvesting Prescription

Resource Unit (Refer to HPOM for detail)	% of Harvest Area	Silvicultural Treatment
1	100%	<p>STS heavy:</p> <ul style="list-style-type: none"> Retain and protect from harvesting/fire damage: <ul style="list-style-type: none"> - poles/advanced growth (<40cm DBHOB) with good form and vigour, - habitat and recruitment trees as per TSL, Retained trees should be evenly spaced throughout the resource unit. Ensure no more than 45% of the BA within the resource unit is removed, while retaining a minimum BA of 10m² per hectare within the tract. All other products should be removed markets permitting. If this objective cannot be achieved the following options should be considered: <ul style="list-style-type: none"> -reject tree felling (HC must first obtain approval from HS), -defer harvesting until ideal market conditions prevail, -consider harvesting under a light or medium STS regime

Note: The area of each silvicultural treatment must be mapped and recorded in the Post logging information section of this plan.

Special Requirements

Noxious Weeds/Disease/Pests Hygiene Requirements

Compartments 46 & 47 are within Shoalhaven Shire Council which is a designated red zone for Myrtle Rust. In order to prevent the spread of Myrtle Rust all harvesting machinery, equipment and vehicles heading west from Shoalhaven Council or south into Victoria must be inspected for vegetation containing Myrtle Rust. If present, the vegetation must be removed from the harvesting machinery, equipment or vehicle prior to leaving the compartment.

Research Plots

Any inventory plots located during the harvesting operation are to be treated the same as the surrounding area.

Road Works

Within the compartment boundaries only roads that are shown on the HPOM as EPL standard or sealed may be used for haulage.

Private Property

Private property occurs adjacent to the eastern boundary of the compartments, as indicated on the HPOM. Private property owners have been notified of the scheduled harvesting and post-harvest burning. The table below lists neighbours who adjoin Compartments 46 & 47:

Name	Lot/DP Number (s)	Postal Address	Contact number (& email if available)	Was harvest plan notification letter returned to sender?
	Lot 8 DP 1005121			
	Lot 9 DP 1005121			
	Lot 46 DP 874241			
	Lot 3 DP 634561			
	Lot 46 DP 755961			
	Lot 22 DP 755961			
	Lot 4 DP 823192			
	Lot 19 DP 755961			

- No harvest disturbance is permitted on private property.
- Harvesting debris must not be left within five metres of the boundary fence lines.
- Any damage to fences must be repaired by the contractor.
- Access roads must be maintained free of debris and in a trafficable state.

Occupation Permits

Apiary

6 apiary sites provided in the table below are located within the planning unit. Contact details are available from the Batemans Bay office.

Name	Site Number	Contact number
	28.33	
	28.34, 29.34, 30.34, 29.33 & 30.33	

- The HC must provide the apiary permittees with at least two weeks advance notice when bee boxes need to be removed or relocated.
- Permanent apiary set down sites are located 150m to the west of Dump 3, 330m ENE of Dump 19 and 40m ESE of Dump 22 (see HPOM), must be levelled and free of debris at the completion of logging.

Underground Cables

A dial before you dig request query of the compartments indicates that no underground Telstra cables are present within the compartments.

Forest Management Zoning

FMZ 2 Special Management and FMZ 4 General Management (normal harvesting prescriptions apply) occur within the compartments. Refer to HPOM for more detail.

FMZ 2 - Logging operations are restricted as per condition 18(b) of the IFOA. Refer to Harvest Plan Standard Conditions for Hardwood Forest Operations in South Coast for detail of what logging operations are permitted in this zone.

FMZ 2 - Prescribed burning is only permitted in these areas where fire does not conflict with underlying protection zones e.g. rainforest, cultural heritage etc. (Refer to cultural heritage flora and fauna sections of this plan and the standard harvest plan conditions for more detail).

IFOA Required Approval of Forestry Activities

Planning Supervisor approvals have been obtained for snigging along Wire Rope Road and Cpt 46/1 Road within FMZ 2. Two existing snig tracks that enable access from the harvest area through 10m of FMZ to Cpt 46/1 Road have also been approved for use. The points at which the snig tracks cross the FMZ have been marked in the field with white tape and are indicated on the HPOM as FMZ-A & FMZ-B.

Planning Supervisor approvals have been obtained for routine road maintenance and log haulage along Middle Ridge Road in FMZ 2. No other crossings of the FMZ are approved. Forestry Operations within the plan area must minimise impacts to the exclusion zones and meet the requirements of the EPL and General Exclusion Zones in section of this plan.

Construction or re-opening of roads or snig tracks may occur with prior approval in the following exclusion zones:

- Planning Supervisor approval required for Stream Exclusion Zones or Rainforest.

During the harvesting operation the HC must identify any crossings required in these exclusion zones and contact the Planner to obtain required approvals.

Cultural Heritage

Cultural Heritage - All relevant representatives have been consulted & / or inspected Compartment 46 & 47.

Flora and Fauna

Species adequately covered by general prescriptions:

The following species have been recorded in or around the compartments and are adequately covered by the general prescriptions. No further protection measures are required for these species:

Common Bent-wing Bat (*Miniopterus schreibersii*), **Eastern False Pipistrelle** (*Falsistrellus tasmaniensis*), **Gang-gang Cockatoo** (*Callocephalon fimbriatum*), **Glossy Black-Cockatoo** (*Calyptorhynchus lathami*), **Grey-headed Flying Fox** (*Pteropus poliocephalus*), **Little Lorikeet** (*Glossopsitta pusilla*), **Square-tailed Kite** (*Lophoictinia isura*), **Sooty Owl** (*Tyto tenebricosa*)

Tree Retention

Zone	Hollow bearing Trees/ha	Recruitment Trees /ha	Protection of Retained Trees	Dead Standing Trees (only if safe)	Significant Food Resource*
Regrowth	Up to 5	1 for every tree retained under 5.6d	0	0	0
TSL condition	5.6d	5.6e	5.6h	5.6f	5.6 g

0 - Condition applies

*0 Glossy black cockatoo feed trees & 1 Yellow-bellied Glider/Squirrel Glider sap feed trees, occur within compartment 46 at locations shown in the table below.

Species	Feature	Zone	GDA Easting	GDA Northing	Comments
Yellow-bellied Glider <i>Petaurus australis</i>	Feed Tree	56	255283	6070388	

General exclusion zones

General exclusions as listed below are shown on the HPOM.

Feature/Condition	TSL cond'n	Occurs within Planning Unit
Rainforest	5.4	Has been assessed as a risk that Warm Temperate/Cool Temperate/Depauperate (Dry) may occur in the field. May require further investigation#.
Riparian Protection Zones	5.7	Yes
Ridge & Headwater Habitat	5.8	Yes
Wetlands	5.9	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Heath and Scrub	5.10	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Rocky Outcrops and Cliffs	5.11	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Endangered Ecological Community	NA	Has been assessed & is unlikely to occur in the field. May require further investigation#. Harvesting, harvesting machinery and post harvest burning must be excluded from all areas of EEC.

#FT/HC will continue to conduct on the ground mark-up & searches and report back to foresters/ecologists any features requiring further investigation.

General Threatened Flora and Fauna Prescriptions

Feature	Records in Cpt 46 & 47	Licence conditions under the TSC Act
Threatened Frog General Protection Measures	No	5.12
Bird Nest and Roost Site Protection	No	5.13
Tree Bat Roost Protection	No	5.14.1
Subterranean Roost Protection	No	5.14.2
Protection of flying-fox Camps	No	5.14.3
Burning	Net planned area	5.16
Ground Habitat Protection	Net planned area	5.17

Species & Site-Specific Threatened Flora and Fauna Prescriptions

The following species have been recorded within or nearby the area and the associated prescriptions must be implemented:

Threatened species and habitat features within trigger distance	Records in 46 & 47	Licence conditions under the TSC Act or relevant Site-specific prescription
Littlejohn's Tree Frog <i>Litoria littlejohni</i>	No (50m exclusion required around record)	6.2B
Powerful Owl <i>Ninox strenua</i> , Barking Owl <i>Ninox connivens</i> Masked Owl <i>Tyto novaehollandiae</i>	Yes No No	6.4 <i>Owl Landscape Exclusion Zones occur in compartment 46&47.</i>
Swift Parrot <i>Lathamus discolor</i>	No	6.5
Spotted tailed Quoll <i>Dasyurus maculatus</i>	No	6.10
Squirrel Glider <i>Petaurus norfolcensis</i>	No	6.12
Yellow-bellied Glider <i>Petaurus australis</i>	Yes	6.13
Golden-tipped Bat <i>Kerivoula papuensis</i>	No (30m exclusion on 1 st and 2 nd order streams within 200m of record)	6.14

Fisheries Licence Conditions

Compartments 46 & 47 contain Class 2 Aquatic Habitat as defined by the Southern IFOA Fisheries Licence. Therefore the conditions of the fisheries licence are triggered for this operation.

Unmapped drainage lines must not be harvested within the compartment.

Riparian Exclusion Zones, Buffer Zones and Special Operational Zones must be established as per condition 7A.1 – 7A.3 of the Fisheries Licence. Operations within these zones must comply with restrictions detailed in conditions 7A.4 – 7A.10.

If a need for “in-stream works” within Class 2 Aquatic Habitat is identified during the operation (additional to any works already described within the harvest plan) the HC must inform the Planner immediately. “In-stream works” are defined as *any activity being carried out within the incised channel or, where there is no defined bank, between the apparent edges of the watercourse.*

All “in-stream works” within Class 2 Aquatic Habitat must comply within condition 8 of the Fisheries Licence.

Soils and Water Protection**Refer to EPL Booklet & Standard Plan Conditions****Site-specific EPL Conditions**

Elements	Conditions
Unmapped Drainage Lines	EPL applies: refer to drainage feature protection below.
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	2
Dispersible Soils	No
Seasonality Harvesting Exclusions	No
Seasonality Burning Exclusions	No
Log Dumps	Refer relevant conditions for IHL
Snig Tracks	Refer relevant conditions for IHL
Roads	See Schedule 5 of EPL Booklet
Slope limits for harvesting	Refer to Schedule 4B.3 of EPL

Drainage Feature Protection

Filter strips (EPL), Protection Zones (EPL), Operational Zones (EPL), Exclusion Zones (FL), Buffer Zones (FL), Special Operational Zones (FL), Protection Zones -hard (TSL) and Protection Zones -soft (TSL) must be retained along all drainage lines, prescribed streams and watercourses within the net planned area of the compartments at minimum widths as stated in the Table below.

Table 1: Minimum filter strip, protection zone and operational zone widths for mapped and unmapped drainage lines, prescribed streams and watercourses in hardwood forests in Inherent Hazard Level 2 (metres – measured along the ground surface)

Stream Order	EPL Filter Strip FL Exclusion Zone TSL Protection (hard)	EPL Protection Zone FL Buffer Zone TSL Protection (soft)	EPL Operational Zone FL Special Operational Zone	Drainage Feature Protection: FT/HC marking instruction
Unmapped	5	5	10	10m (Pink)
1st order	5	5	10	10m (Pink)
2nd order	5	15	10	20m (Pink)
3rd order	5	25	10	30m (Pink)
4th order +	5	45	10	50m (Pink)

Log Dump Location

24 log dumps are indicated on the HPOM. Field location of log dumps must utilise the most level site available consistent with the location indicated on the HPOM

Inherent hazard level 2 Conditions 26, 27, 28, 30, 31 and 33 of Schedule 4 of the EPL must apply.

Drainage Feature Crossings

Four snig track crossings (S1, S2, S3 & S4) and 2 road crossings (C1 & C2) are approved for use on drainage features (Refer to HPOM). Road crossing details are contained in Attachment 2 of this Plan. Snig track crossing details are provided below:

Crossing Name & Coordinates	Crossing details	Required Works
S1-Existing Easting 255855 Northing 6071495	Mapped 1 st order drainage line, occurs as a drainage line in the field. Natural Causeway crossing. Class 2 Fisheries Licence aquatic habitat. Class 4 fish passage class: unlikely fish habitat.	Armour depression with corduroy if required in wet conditions. Remove corduroy and install cross banks/rollovers on completion of use within timeframes and spacing's specified in EPL.
S2-Existing Easting 256201 Northing 6071298	Mapped 2 nd order drainage line, occurs as a drainage line in the field. Natural Causeway crossing. Class 2 Fisheries Licence aquatic habitat. Class 4 fish passage class: unlikely fish habitat.	Armour depression with corduroy if required in wet conditions. Remove corduroy and install cross banks/rollovers on completion of use within timeframes and spacing's specified in EPL.
S3-Existing Easting 255852 Northing 6070958	Mapped 1 st order drainage line, occurs as a drainage line in the field. Natural Causeway crossing. Class 2 Fisheries Licence aquatic habitat. Class 4 fish passage class: unlikely fish habitat.	Armour depression with corduroy if required in wet conditions. Remove corduroy and install cross banks/rollovers on completion of use within timeframes and spacing's specified in EPL.
S4-Existing Easting 255802 Northing 6070420	Mapped 1 st order drainage line, occurs as a drainage line in the field. Natural Causeway crossing. Class 2 Fisheries Licence aquatic habitat. Class 4 fish passage class: unlikely fish habitat.	Armour depression with corduroy if required in wet conditions. Remove corduroy and install cross banks/rollovers on completion of use within timeframes and spacing's specified in EPL.

Mass Movement

Compartments 46 & 47 are not in an area identified as having a potential for mass movement. No specific prescriptions relating to mass movement/snigging are required.

Suitability of existing log dams and gully stuffers

There are no known log dams or gully stuffers on snig track or road crossings in the compartments.

Condition 47 of Schedule 4 of the EPL must apply.

Post Log Burning Control Lines

To assist the post log burning crews prevent fire from entering areas to be excluded from burning, control line construction must be undertaken concurrently with harvesting. Where possible snig tracks patterns should be designed to double as control lines. Control lines must be located as close as reasonably practical to the feature to be excluded from burning. The HC must assess the areas harvested, snig track network and existing roads to determine if there are sufficient control lines in place and where required instruct the contractor to construct additional mineral earth control lines to supplement these. The HC must record instances where it was not possible to construct a suitable control line close to the feature to be excluded and recommend harvest areas which should be excluded from the post log burning operation due to inadequate control lines.

The table below lists critical boundaries in compartments 46 & 47. Where possible design snig track patterns so they double as bare earth containment lines as close as possible to these boundaries. Where this is not practical, it is NOT necessary to construct a bare earth break along boundary of the exclusion; the practice of no direct ignition will be followed.

Critical boundary	Completed Yes /No
FMZ 2	
Owl Landscape	
Ridge and Headwater Habitat	
Probable Rainforest and Exclusion Zone	
Littlejohn's Tree Frog Exclusion	
Golden-tipped Bat Exclusion	

Pre-Operational Briefing

I acknowledge that I have received a copy of the Harvesting Plan for Compartments 46 & 47 in North Brooman 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 HS or his/her delegate.

Position	Name	Signature	Date

Post Harvest Mapping Features Confirmation Checklist

Feature	Planning Updates	Reason (Error/New)	GIS update tool completed?	Harvesting Updates	Comments
Soil Regolith	No				
Mapped Drainage	No				
Rainforest	No				
Rocky outcrops	No				
Wetlands	No				
Cultural Heritage	No				
Existing Roads	No				
New Roads	No				
Heath	No				
Powerlines etc	No				
Other (state what it is)					

HC Feature Usage Record

Dates of commencement and cessation of logging

Date of commencement of logging: _____

Date of cessation of logging: _____

DUMP USAGE RECORD

- Record the commencement and completion of harvesting at each dump
 - Record the occurrence of temporary stopping of harvesting at each dump.

[illegible]

*At completion of snig track/dump, track drainage must be completed within **2** days unless soil is saturated.

*At temporary cessation of snig track use, track drainage must be completed within **5** days unless soil is saturated.

Situations where drainage could not be completed due to saturated soils must be recorded in HC/FT Notes.

HC/FT Notes

[illegible]

HC/FT Notes (continued)

[illegible]

HC/FT Notes (continued)

[illegible]

HC/FT Notes (continued)

[illegible]

HC/FT Notes (continued)

[illegible]

Clearance Certificate

COMPARTMENTS: 46 & 47, NORTH BROOMAN STATE FOREST

ToHC

I request approval for me to move my logging crew and all associated machinery from the above-mentioned area to the next compartment in accordance with Section 3.5 of the Forest Practices Code.

I certify that:

- (a) all permanent roads, trails and mitre drains have been cleared of harvesting debris;
- (b) butt damage to retained trees has been kept to acceptable limits;
- (c) all trees marked for removal have been felled;
- (d) utilisation limits have been satisfactorily met;
- (e) stump heights conform to requirements;
- (f) all hanging trees have been felled and brought down;
- (g) all log dumpsites have been satisfactorily restored as required;
- (h) harvesting debris is not accumulated around retained trees;
- (i) all accumulated litter has been disposed of properly;
- (j) all filter and buffer strip requirements have been complied with;
- (k) all snig track, extraction track and temporary logging road drainage has been installed satisfactorily and other required rehabilitation work has been completed;
- (l) all necessary repairs to damaged roads, signs, fences and other structures have been carried out.
- (m) **..... (insert quantity) rubber flaps have been recovered in a satisfactory condition and reported to Roding Coordinator for collection.**
- (n) all machinery, equipment and vehicles have been checked and are free of noxious weeds, diseases and pests.

I believe that I have met all my obligations under the conditions of the Contractors Licence, the EPL and TSL which apply to the compartment just completed, as stated in this Harvesting Plan.

Signature.....Name.....Date
Contractor

As a result of inspections of the logging operations made in accordance with this Harvesting Plan, I am satisfied that, to the best of my knowledge, the contractor responsible for this harvesting operation has satisfactorily completed all work and approval is given for her/him to remove her/his machinery and equipment and leave the area/commence operations in another compartment.

This clearance does not release the contractor from any obligation to undertake any remedial work if subsequent deficiencies are shown to result from inadequate practices during the harvesting operation, which are found during any inspections of the area made within 12 months of the date of this post-harvesting inspection.

Last inspection was made on(Date)

Signed(Date).....
HC

Post Logging Information

Record any circumstances of significance relating to the harvesting of this compartment. Please draw or include any annotations on the attached operation scale map.

Summary of silvicultural treatment

Treatment type	Area (ha) subject to treatment (HC estimate)	Number of AGS gaps created	Comments
Australian Group Selection			
Single Tree Selection			
Thinning/Spacing			
Post Harvest Silviculture			

Actual area harvested (record on attached HPOM) Give reasons for harvestable areas that were not harvested (eg. Too steep, defective timber). Make reference to map.

Post Logging Basal Area sweeps

Sample point	GPS (GDA 94)	Pre-harvest (B) BA m ² /ha	Post-harvest(A) BA m ² /ha	Difference (D) (B – A) m ² /ha	% BA removed D/B x100	Comments
1	E N					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
Total averages						

Comply with maximum STS BA removal of 45% or Thinning BA removal of 60%

Y/N

Possible next cut (tick appropriate boxes)

Main product type	Anticipated volume		
	H	M	L
Girders			
Veneer			
Poles/piles			
Quota			
Smalls/Thinnings			
Salvage			
Pulpwood/chipwood			

Time to next harvest	
0 to 5 years	
5 to 10 years	
10 to 20 years	
20 to 30 years	
30 plus years	

ATTACHMENT 2	ROADING PLAN
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Summary of Roding Requirements

Feature	Details	Works Required
Existing roads to be used.	11725m/11	Yes
New roads to be constructed	0	NA
Existing crossings used	2	No
New crossings to be constructed	0	NA
Length of road >10°	0m	NA
Borrow pits and gravel pits	0	NA
Mass movement prescriptions apply	No	NA
Dispersible soil conditions apply	No	NA
Seasonality provisions apply	No	NA

Note: Maintenance works not completed by Roding Coordinator must be recorded and passed onto the HC for completion during harvesting and documentation.

The start and finish dates of all maintenance and construction must be recorded on the individual roding sheets along with other relevant changes or explanations.

All rubber flaps on minor forest roads must be removed and replaced with trafficable rollover banks on completion of operation.

CHECKLIST OF WORKS REQUIRED ON ROADS & CROSSINGS

Road/Crossing Name	Works Required	Date Started	Date finished	Signature
Middle Ridge Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>Clearing as required</p> <p>RC/HC Comments:</p>			
Molloys Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>Clearing as required</p> <p>RC/HC Comments:</p>			
Wire Rope Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>Clearing as required</p> <p>RC/HC Comments:</p>			

Road/Crossing Name	Works Required	Date Started	Date finished	Signature
Cpt 46/2 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			
Cpt 46/4 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			
Dump 6 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			
Dump 7 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			

Road/Crossing Name	Works Required	Date Started	Date finished	Signature
Dump 8 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			
Cpt 46/6 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			
Dump 15 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			
Cpt 47/1 Road	<p>Reshape road & maintain existing drainage structures, install new drainage as required and to meet EPL standard;</p> <p>Spacing of drainage on this road was not assessed by the planner;</p> <p>RC/HC Comments:</p>			

Road/Crossing Name	Works Required	Date Started	Date finished	Signature
C1	<p>Reshape road approaches and maintain existing drainage structures. Install new drains as required and to meet EPL specification</p> <p>RC/HC Comments:</p>			
C2	<p>Reshape road approaches and maintain existing drainage structures. Install new drains as required and to meet EPL specification</p> <p>RC/HC Comments:</p>			