

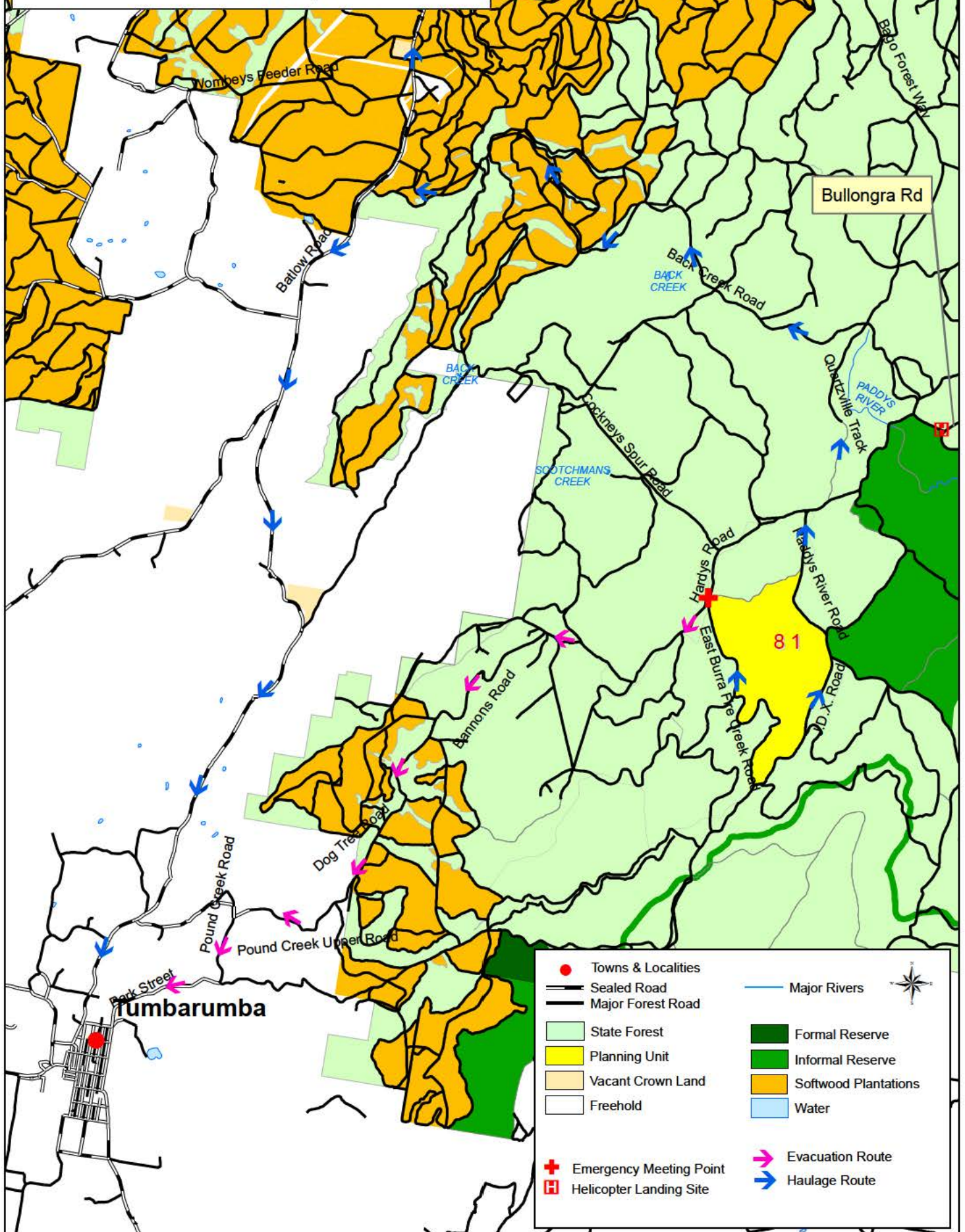
LOCALITY MAP

Compartment 81

Bago State Forest No 560

SOUTHERN REGION: TUMUT MANAGEMENT AREA

Scale: 1:75,000



Prepared By: Shane Clohesy
Variation By: Lee Blessington

Harvest Plan Operational Map

Compartment: 81

State Forest: Bago No: 560

Southern Region - Native Forests

Map Sheet: Courabyra 8526-4S

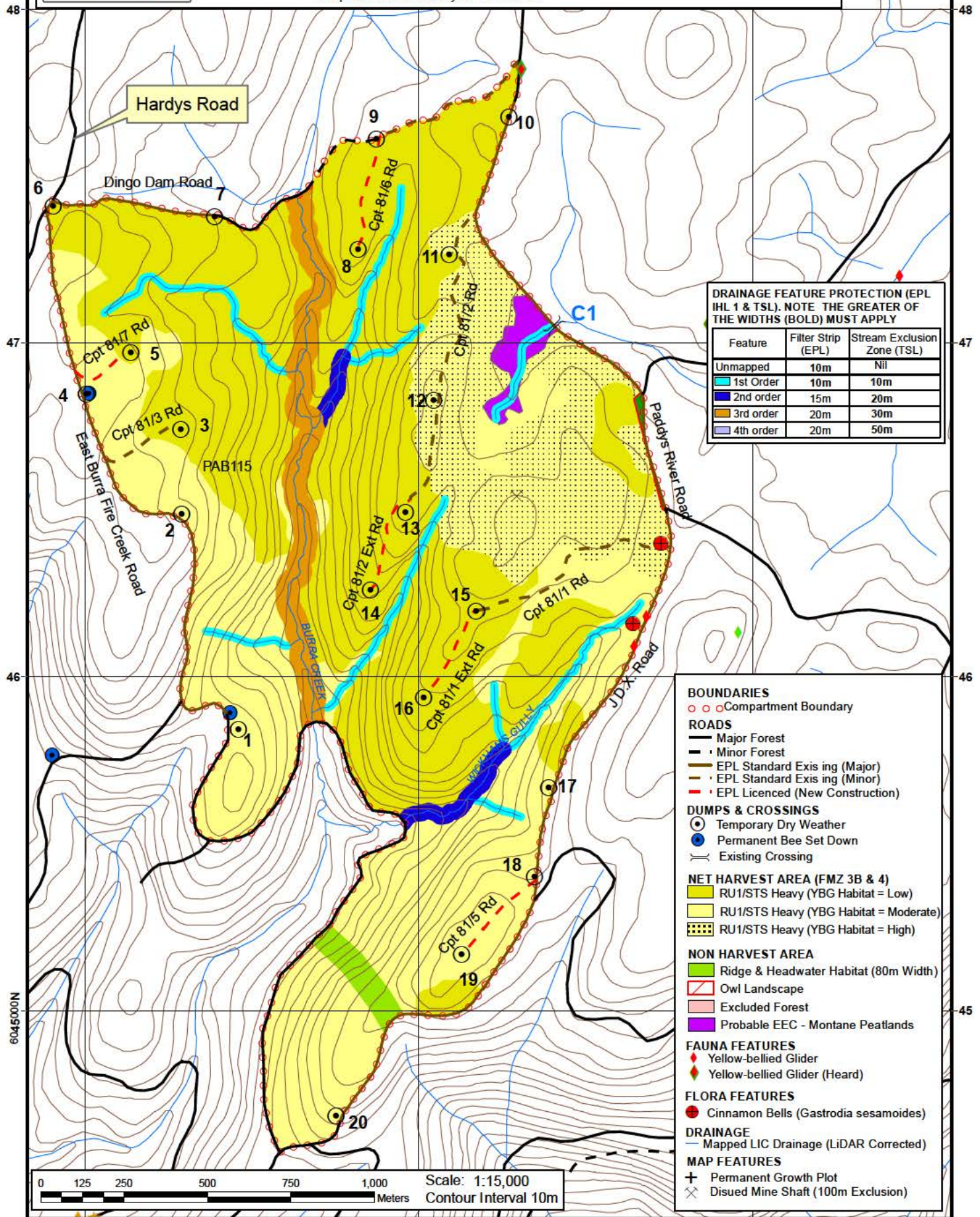


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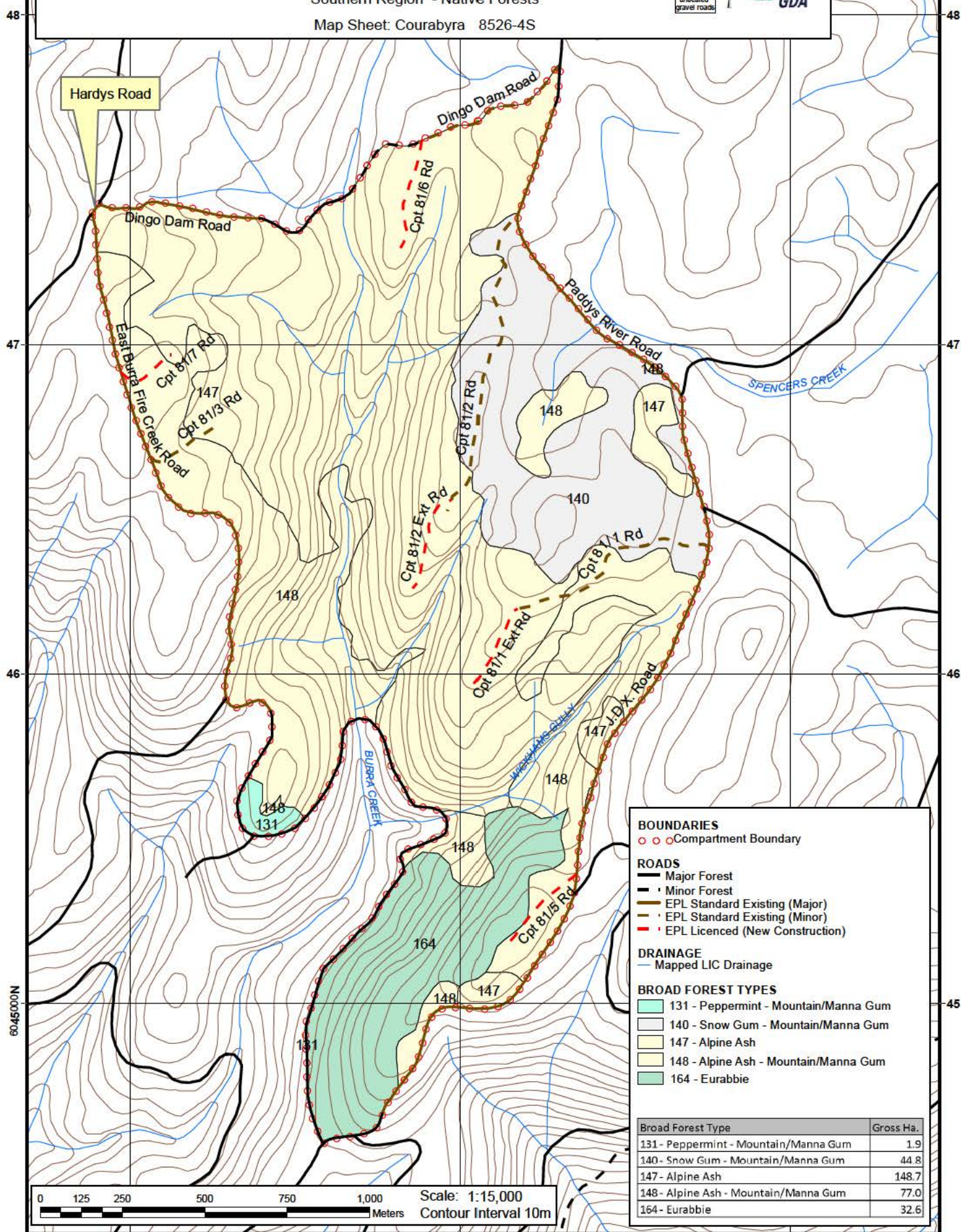
PLANNING MANAGER APPROVAL

APPROVED: Lee Blessington

DATE: 21/08/2015



Map Sheet: Courabyra 8526-4S





HARDWOOD FORESTS- SOUTHERN IFOA TUMUT HARVESTING PLAN

Bago State Forest - Compartment 81

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 Standard Harvest Plan Conditions for Hardwood Forest Operations in Tumut apply to this operation.

Prepared By: Senior Planner	Shane Clohesy	Approved & Updated By: Planning Supervisor	Lee Blessington
Signature	Shane Clohesy	Signature	Lee Blessington
Date	04/03/2014	Date	21/08/2015

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, forest type, roading, and cultural heritage (limited distribution).

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

PA = Production Assistant, HC= Harvesting Coordinator, PtS= Protection Supervisor, HS = Harvesting Supervisor, RC = Roading Coordinator, IFOA = Integrated Forestry Operations Approval.

Area Identification and Yield Estimates

State Forest	Compartment	IFOA Region	Management Area	Certification
Bago	81	Southern	Tumut	AS4708:2007 ISO 14001

	Cpt 81
Plan Compartment ID	20059
Gross Area (ha)	307.8
Net Harvestable Area (ha)	281
Harvest Area (ha)	281
Quota Logs (HQL)	9500 m ³
High Quality Small	1400 m ³
Salvage	2800 m ³
Pulp E1	7000 t

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

Slope Classes (percent of harvest area)

	Cpt 81
Slope Class	% of harvest area
0-20°	91
20-25 °	8
25-30 °	1



ATTACHMENT 1: SITE SAFETY PLAN

Worksite Information			
Is this Declared Hunting Area: Yes		Comments: Hunting exclusion in place	
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 from the compartment will be north via J.D.X. Road, Paddys River Road or East Burra Fire Creek Road turning right onto Hardys Road, then left onto Quartzville Track, then left onto Back Creek Road (all FCNSW owned roads), then left or right onto Batlow Road (Shire road). The intersection of Back Creek Road and Batlow Road has been assessed as achieving a minimum of 200m sight distance on both approaches. Therefore at this intersection additional signage in accordance with a Traffic Control Plan is not required.</p> <p>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.</p>			
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.		

Southern IFOA – Compartment 81, Bago State Forest, Tumut Management Area

3. Mine shafts/quarries	Assess snig track routes and tree felling paths prior to operating. Identify and mark site accordingly.		
4. Hazardous or dead trees	Refer to FCNSW operational safety standard OSS010. 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.		
5. Overhead hazards associated with dumps	Refer to FCNSW operational safety standard OSS010. 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.		
6. 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.		
7. Brumbies: May pose a threat if groups isolated and unable to regroup. Horses moving onto haulage roads, into harvesting areas	Cease work until brumbies have moved on; Maintain awareness of animal movements when hauling.		
8.			

- **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: Nil		GSM: N/A	Satellite: N/A
GPS Lat/Long: 35° 43' 44" S / 148° 04' 26" E		MGA: 597132E 6045584N	Datum: GDA94 Zone: 55
Location description: Higher points on Bannons Road			
Emergency meeting point for ambulance / police (refer to attached locality map)			
GPS Lat/Long: 35° 42' 43" S / 148° 06' 55" E		MGA: 600893E 6047419N	Datum: GDA 94 Zone: 55
Location description: Junction of Hardys Road & East Burra Fire Creek Road.			
Helicopter landing place (refer to attached locality map)			
GPS Lat/Long: 35° 41' 20" S 148° 09' 15" E			
Location description: Junction of Back Creek Road & Bullongra Road.			
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: 101</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: Bago Nearest town or locality: Tumbarumba Nearest ambulance station: Tumbarumba	
3. Address?		Paddys River Road	
4. Nearest road junction/cross street?		Paddys River Road and J.D.X Road	
5. Local government area?		Tumbarumba	
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 Tumbarumba: Head East on Park Street for approx. 2km. Turn left onto Pound Creek Road and travel North for approx. 1km. Turn right onto Pound Creek Upper Road and travel east for approx. 1.9km until road becomes Dog Tree Road. Travel north along Dog Tree Road for approx. 3.4km. Turn right onto Bannons Road and travel north-east for approx. 2.5km. Turn Right onto Hardys Road and travel east for approx. 3.5km to Emergency Meeting point.			
8. 4WD ambulance required Y / 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:			

Silviculture and Harvesting Prescriptions
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Year	1940	1959	1961	1962	1963	1965
TSI	√	X	X	X	X	√
HR Burning	X	X	X	X	X	X
Wildfires	X	X	X	X	X	X
Logging m ³	0	500	1,035	2,128	2,409	0

√ - applies, X – not applicable

Compartment	Resource Unit	No. of Sweeps	BA Average (m ² /ha)	BA Range (m ² /ha)
81	1	7	20	13 - 26

Silviculture Prescription

Single Tree Selection

Forest stands of mixed age cover 281ha of the STS tract (281ha) and will be harvested under a heavy single tree selection (STS) regime with the objective of removing approximately 35% of mature trees and defective trees containing a sawlog, while minimising damage to young regenerating stems, and creating canopy openings where appropriate for regeneration.

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

The STS tract for IFOA purposes includes the entire net harvest area of compartment 81 as indicated on the Operational Map.

Single Tree Selection (STS) must remove no more that 35% of the Basal Area (BA) within the tract, nor more than 50% of the canopy while retaining a minimum BA of 10m² per hectare within the tract. High volume areas (as indicated on the Resource Unit map) may require careful tree marking to ensure that minimum BA is retained.

Resource Unit (Refer to HPOM for detail)	Species Composition	Stand History	Stand Structure and Condition
1	Overstorey dominated by Alpine Ash (<i>E. delegatensis</i>). Other species include Mountain Gum (<i>E. dalrympleana</i>) and Manna Gum (<i>E. viminalis</i>).	<ul style="list-style-type: none"> Entire NHA has undergone selective logging (targeting sawlogs), in the late 50's/early 60's. Entire NHA has undergone Timber Stand Improvement operations in 1940 and again in 1965. 	<ul style="list-style-type: none"> Entire NHA is made up of High quality Alpine Ash stands. Mature – predominately even aged (2 age classes – primarily younger cohort with some larger trees throughout).

Harvesting Prescription

Resource Unit (Refer to HPOM for detail)	% of NHA	Silvicultural Treatment
1 (FMZ 3B and 4)	100%	<p>STS heavy:</p> <ul style="list-style-type: none"> • Tree selection should be evenly spread over the FMZ 3B area and ensure no more than 50% of the canopy is removed. • 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. ○ Additional dominant and co-dominant trees of good form & vigour so that: <ul style="list-style-type: none"> -the total BA removed across the nha is no more than 35%, -a minimum BA of 10m² within the NHA is retained.

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

Special Requirements**Noxious Weed Hygiene Requirements**

The noxious weed Blackberry (*Rubus fruticosus*) is known to occur within the compartment & surrounding area. In order to prevent the spread of Blackberry from this area all harvesting machinery, equipment and vehicles coming in contact with the weed must be inspected prior to leaving the compartment and cleaned of seed and any other plant matter.

Permanent Growth and Research Plots

Permanent Growth Plots – A PGP (PAB 115) is located south of dump 3 (see HPOM). The PGP is to be treated the same as the surrounding harvested area. The PA must collect all metal measurement tags from trees fallen during harvesting and return them to the Resources Team Leader Batemans Bay.

Any other inventory plots located during the harvesting operation which are not shown on the HPOM or described above are to be treated the same as the surrounding area.

Occupation Permits**Apiary**

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

Name	Boundary Location
[REDACTED]	[REDACTED]
[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- The PA must provide the apiary permittees with at least two weeks advance notice when bee boxes need to be removed or relocated.
- 2 Permanent apiary set down sites are located adjacent to East Burra Fire Creek Road (see HPOM) and coincide with dumps 4 and 1. They must be levelled and free of debris at the completion of logging.
- Permanent sites must not be ripped.

Grazing

1 grazing permit occurs within the planning unit detailed in the table below. Contact details are available from the Batemans Bay office. *Note that at the time of writing this grazing permit was suspended indefinitely.*

Permittee
[REDACTED]

No special conditions apply to harvesting.

Specimen Trees

Trees of dbhob greater than 130 cm suitable for retention as specimen trees of outstanding size must be retained.

Forest Management Zoning

FMZ 2 - Special management, FMZ 3B – Special Prescription (Catchment) and FMZ 4- General Management-occur within the compartment. Refer to HPOM for more detail.

FMZ 2 – Special Management – A small area of FMZ 2 overlays a section on the eastern side of the compartment. Harvesting and harvesting machinery are not permitted within FMZ 2 Areas.

FMZ 3B – Special Prescription (Catchment) – A special prescription zone exists across the majority of the NHA of the compartment in order to protect values associated with the Tumbarumba Water Supply catchment. Harvesting is permitted in this zone under the following modified conditions:

- No more than 35% of the basal area (BA), nor more than 50% of the canopy is to be removed while retaining a minimum BA of 10m² within the NHA;
- Tree selection should be evenly spread over the FMZ 3B area; and
- Harvesting of unmapped drainage lines is not permitted.

Additionally, post-harvest burning will not be carried out in the FMZ 3B areas.

FMZ 4 - Only 8 ha of the NHA is FMZ 4. Therefore the FMZ 3B prescriptions detailed above and in the harvesting prescription table are to be applied the FMZ 3B and FMZ 4 areas.

IFOA Required Approval of Forestry Activities

Approvals have not been obtained for snig track construction and/or use, road construction, road re-opening, routine road maintenance and log haulage in FMZ 2. If the PA identifies the need for harvesting related activities to occur within FMZ/2 during the operation, the Planner must be contacted to seek Planning Supervisor approval.

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

- Stream Exclusion Zones, Planning Supervisor approval required.

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

Cultural Heritage

Cultural Heritage - [REDACTED]

Flora and Fauna

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

Olive Whistler (*Pachycephala olivacea* and **Gang Gang Cockatoo** (*Callocephalon fimbriatum*).

8.2 Tree Retention

Zone	Hollow bearing Trees/ha	Recruitment Trees /ha	GG density >1/ha + Habitat/ha	Protection of Retained Trees	Dead Standing Trees (only if safe)	Significant Food Resource*	YPG PMP additional hollow bearing tree retention/ha (in addition to TSL requirements): High Quality Habitat	YPG PMP additional hollow bearing tree retention/ha (in addition to TSL requirements): Moderate Quality Habitat
Regrowth	Up to 5	1 for every tree retained under 5.3d	+3	√	√	√	√ +5	√ +3
TSL condition	5.3d	5.3e	6.1d 6.10f	5.3h	5.3f	5.3 g	N/A refer to PMP	N/A refer to PMP

√ = condition applies to planning unit.

General exclusion zones

General exclusions as listed below are shown on the HPOM.

Feature/Condition	TSL cond'n	Occurs within Planning Unit
Stream Exclusion Zones	5.4	Yes
Ridge & Headwater Habitat	5.5	Yes (80m total width)
Wetlands	5.6	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Heath and Scrub	5.7	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Rocky Outcrops and Cliffs	5.8	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Endangered Ecological Community	NA	Has been assessed as a risk that <i>Montane Peatlands & Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands & Australian Alps Bioregions</i> EEC may occur in the field (as shown on HPOM). May require further investigation#. Has been field verified at planning stage (but was not marked), PA to mark boundary as shown on HPOM. Harvesting, harvesting machinery and post harvest burning must be excluded from all areas of EEC.

#PA 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 81	Licence conditions under the TSC Act
Threatened Frog General Protection Measures	No	5.9
Bird Nest and Roost Site Protection	No	5.10
Tree Bat Roost Protection	No	5.11.1
Subterranean Roost Protection	Yes	5.11.2 100m exclusion applies around disused mine shaft shown on HPOM. It is within and adequately protected by probable EEC exclusion.
Protection of Flying-fox camps	No	5.11.3
Burning	Net planned area	5.13
Ground Habitat Protection	Net planned area	5.14

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 81	Licence conditions under the TSC Act or relevant Site-specific prescription
Yellow-bellied Glider <i>Petaurus australis</i>	Yes	6.8 Population Management Plan Bago Plateau applies to this compartment. In addition to conditions specified in the TSL, the following conditions from the Population Management apply to this compartment (refer to HPOM for detail): - High quality habitat (additional tree retention conditions apply) - Moderate quality habitat (additional tree retention conditions apply) - Forest types not considered suitable for YBG habitat (no additional tree retention conditions apply).

Fisheries Licence Conditions

There are no known records of threatened fish species or class 1 or 2 aquatic habitat relevant to this operation. The conditions of the fisheries licence are not triggered for this operation.

Soils and Water Protection

Refer to EPL Booklet & Standard Plan Conditions

Spatially Corrected LIC Drainage

Spatially corrected LIC drainage has been built using LiDAR derived drainage in compartment 81. Stream Exclusion Zones have been rebuilt based on spatially correct LIC drainage and an additional median stream bed width included for each stream order. The PA is to mark all unmapped drainage lines and all first order Stream Exclusion Zones.

Site-specific EPL Conditions

Elements	Conditions
Unmapped Drainage Lines	EPL applies – harvesting of unmapped drainage lines is prohibited
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	1
Dispersible Soils	No
Seasonality Harvesting Exclusions	No
Seasonality Burning Exclusions	No – however post-harvest burning will not be carried out in conjunction with this

	harvesting operation.
Log Dumps	Refer relevant conditions for IHL
Snig Tracks	Refer relevant conditions for IHL
Roads	See Schedule 5 of EPL Booklet

Drainage Feature Protection

Filter strips (EPL), Buffer Strips (EPL) and Stream Exclusion Zones (TSL) must be retained along all drainage lines and watercourses within the net planned area of the compartments at minimum widths as stated in the Table below. The width of protection features highlighted in **bold** in the Table below have been shown on the HPOM. The minimum protection feature widths for each side of drainage features is described below.

Stream Order	Inherent Hazard <u>Level 1</u> Filter Strip (EPL)	Stream Exclusion Zone (TSL)
Unmapped drainage lines	10	0
1st order	10	10
2nd order	15	20
3 rd order	20	30
4 th order or greater	20	50

(**Bold** indicates widest zone (metres) to apply)

Log Dump Location

20 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 1 Conditions 26, 27, 30, and 33 of Schedule 4 of the EPL must apply.

Expected Felling/ Extraction & Loading Method

The expected felling method is mechanical, extraction method by skidder, and loading method is by excavator.

Drainage Feature Crossings

One road drainage line crossing (C1) is approved for use on drainage features. (Refer to HPOM). Crossing details are contained in Attachment 2 of this Plan.

Mass Movement

Compartment 81 is 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 crossings in the compartments.

The suitability of any existing log dam or gully stuffers must be determined by a suitably qualified person, the determination enclosed in the compartment/stand history file and any recommendations for use prescribed in the harvest instructions before the log dam or gully stuffer is used for extraction. Condition 47 of Schedule 4 of the EPL must apply.

Pre-Operational Briefing

I acknowledge that I have received a copy of the Harvesting Plan for Compartment 81 in Bago 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 PS 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	Yes	New	Yes		
Heath	No				
Powerlines etc	No				
Other (state what it is)					

[illegible]

[illegible]

[illegible]

[illegible]

PA Notes (continued)

[illegible]

Clearance Certificate

COMPARTMENT: 81 BAGO STATE FOREST

ToPA

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).....

PA

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 (Contract Coordinator 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	xxxxxxE xxxxxx 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	Work Required
Length of existing roads/trails to be maintained	8,450m (7)	Yes
Length of new roads to be constructed	1,450m (5)	Yes
Number of existing crossings to be maintained	1	Yes
Number of new crossings to be constructed	Nil	NA
Length of road >10°	Nil	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 Contractor must be recorded and passed onto the HCC Harvesting for completion 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
J.D.X Road (Length = 2240m)	<p>Reshape entire length.</p> <p>Clear up to 3m either side, except in areas of EEC.</p> <p>Gravelling may be required in lower lying areas – PA to monitor during operation.</p> <p>Reinstate mitre drains where necessary.</p> <p>Install additional drainage as per EPL requirements – refer to attached Roding Map.</p> <p>PA/Roding Coordinator Comments:</p>			
Paddys River Road (Length = 1460m)	<p>Reshape entire length.</p> <p>Clear up to 3m either side, except in areas of EEC.</p> <p>Gravelling may be required in lower lying areas – PA to monitor during operation.</p> <p>Reinstate mitre drains where necessary.</p> <p>Install additional drainage as per EPL requirements – refer to attached Roding Map.</p> <p>PA/Roding Coordinator Comments:</p>			
East Burra Fire Creek Road (Length = 1820m)	<p>Reshape entire length.</p> <p>Clear up to 3m either side.</p> <p>Gravelling may be required in lower lying areas – PA to monitor during operation.</p> <p>Reinstate mitre drains where necessary.</p>			

	<p>Install additional drainage as per EPL requirements – refer to attached Roding Map.</p> <p>PA/Roding Coordinator Comments:</p>			
<p>Hardys Road (Length = 20m)</p>	<p>Nil works required.</p> <p>PA/Roding Coordinator Comments:</p>			
<p>Cpt 81/1 Road (Length = 670m)</p>	<p>Reshape entire length.</p> <p>Clear up to 3m either side, except in areas of EEC.</p> <p>Reinstate mitre drains where necessary.</p> <p>Install additional drainage as per EPL requirements – refer to attached Roding Map.</p> <p>PA/Roding Coordinator Comments:</p>			
<p>Cpt 81/1 Ext Road (Length = 300m)</p>	<p>Refer to attached New Road Construction form</p> <p>PA/Roding Coordinator Comments:</p>			
<p>Cpt 81/2 Road (Length = 980m)</p>	<p>Reshape entire length.</p> <p>Clear up to 3m either side, except in areas of EEC.</p> <p>Reinstate mitre drains where necessary.</p> <p>Install additional drainage as per EPL requirements – refer to attached Roding Map.</p> <p>PA/Roding Coordinator</p>			

	Comments:			
Cpt 81/2 Ext Road (Length = 250m)	Refer to attached New Road Construction form PA/Roading Coordinator Comments:			
Cpt 81/3 Road (Length = 250m)	Reshape entire length Clear up to 3m either side to facilitate truck movements. Install additional drainage as per EPL requirements. PA/Roading Coordinator Comments:			
Dingo Dam Road (Length = 1010m)	Reshape entire length. Clear up to 3m either side to facilitate truck movements. PA/Roading Coordinator Comments:			
Cpt 81/5 Road (Length = 310m)	Refer to attached New Road Construction form PA/Roading Coordinator Comments:			
Cpt 81/6 Road (Length = 340m)	Refer to attached New Road Construction form PA/Roading Coordinator Comments:			

Cpt 81/7 Road (Length = 190m)	Refer to attached New Road Construction form PA/Roading Coordinator Comments:			
C1 E602403 N6047052	Refer to attached Crossing form PA/Roading Coordinator Comments:			

NEW ROAD CONSTRUCTION

Road Specific Conditions:

Road Name	Road Length (m)	Max. width of road prism (m)	Max. road grade (length road > 10 degrees?)	Max. ground slope (length road > 30 degrees?)	Estimated Max. height of cut / fill batters (m)	Estimated Max length of batters (m)	Mass movement / dispersible soils	Final road use	Responsibility	Start Date	Finish Date
Cpt 81/1 Ext Rd	300	7	6°	8°	<0.5	~50	No	Retain	FCNSW		
Cpt 81/2 Ext Rd	310	7	10°	18°	<1.5	~150	No	Retain	FCNSW		
Cpt 81/5 Rd	310	7	8°	0°	N/A	N/A	No	Retain	FCNSW		
Cpt 81/6 Rd	340	7	6°	0°	N/A	N/A	No	Retain	FCNSW		
Cpt 81/7 Rd	190	7	7°	0°	N/A	N/A	No	Retain	FCNSW		

General Instructions for road construction:

Features	Road Specifications	Additional instructions / Materials
Type of sediment trapping / soil erosion/ sediment control device to be used during construction	Natural surrounding vegetation supplemented with silt fencing, seed and mulch as required.	HCC to monitor during road construction and assess requirements.

Recommended road drainage type	Recommend rubber flaps if >5 degrees. Rollovers or mitres if < or = 5 degrees. HCC to measure & mark in the field in accordance to Sch. 5 Table 1 of the EPL. Trafficable rollovers to be installed upon harvest completion	Rubber flaps during operation. Permanent trafficable rollovers to be installed upon completion of use.
Spacing of road structures to be installed	As per EPL Sch. 5, Section C, Table 1	
Soil erosion / sediment control techniques	Drainage outlets must drain onto stable surface which provides efficient sediment trapping & energy dissipation. Upon harvest completion, logging debris is to be removed from table and mitre drains so they are left in effective working order	Seed & mulch as required
Stabilisation assessment intervals	As per EPL Sch. 5, Clause 5, 15, 17, 19 & 20	
Drop down & dissipater required	Required where fill batter >1m as per EPL Schedule 5 Clause 36	HCC to monitor. Mitres with rock dissipater recommended.
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	

Note: Maintenance works not completed by Roding Coordinator must be recorded and passed on to the Production Assistant

CROSSING NAME: C1

Waterway Classification: Class 4 – unlikely fish habitat
 Fisheries Licence Aquatic Habitat: Not class 1 or 2

Assessors Name: Clohesy

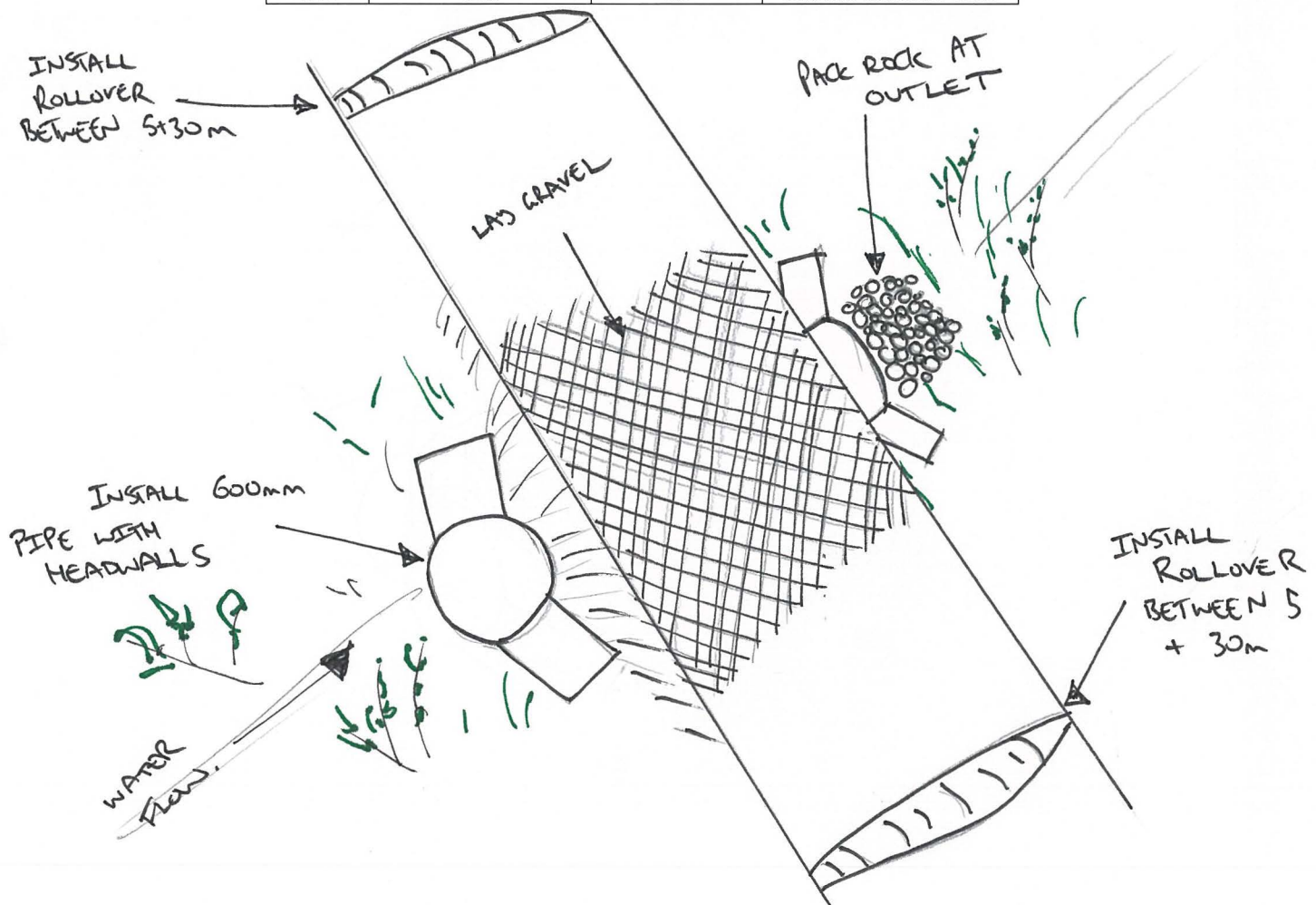
Crossing Type: Currently 370mm Pipe – upgrade to 600mm Pipe with headwalls

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Remove existing pipe and install 600mm pipe with headwalls. Add minimum of 50cm fill over and lay gravel to form road pavement. Lay 250mm diameter rock at pipe outlet.	600mm Pipe 250mm diameter rock Gravel Excavator Dozer
Bed and Banks	Nil works required.	
Erosion and Sediment Control	Seed and mulch on disturbed areas.	Seed & Mulch
Disposal of excess spoil	All excess spoil must be removed from drainage line and exclusion zone.	Dozer/Excavator
Soil Stabilisation within 20m	Seed and mulch disturbed areas. SFO to monitor for additional soil stabilization requirements.	Seed & Mulch
Road drainage within 5-30m <ul style="list-style-type: none"> Type outlet control 	Install rollover drains on both approaches. Natural vegetation, Seed & Mulch as required.	Dozer Seed & Mulch

Date of Assessment: 15/11/2012

Final Crossing Use: Retain

Event	Min. pipe size(mm)	Min. Fill (cm)	Outlet Protection
1:10	600	50	250mm diameter rock



Soil stabilisation must be completed within 5 days

Record implementation date here: _____

