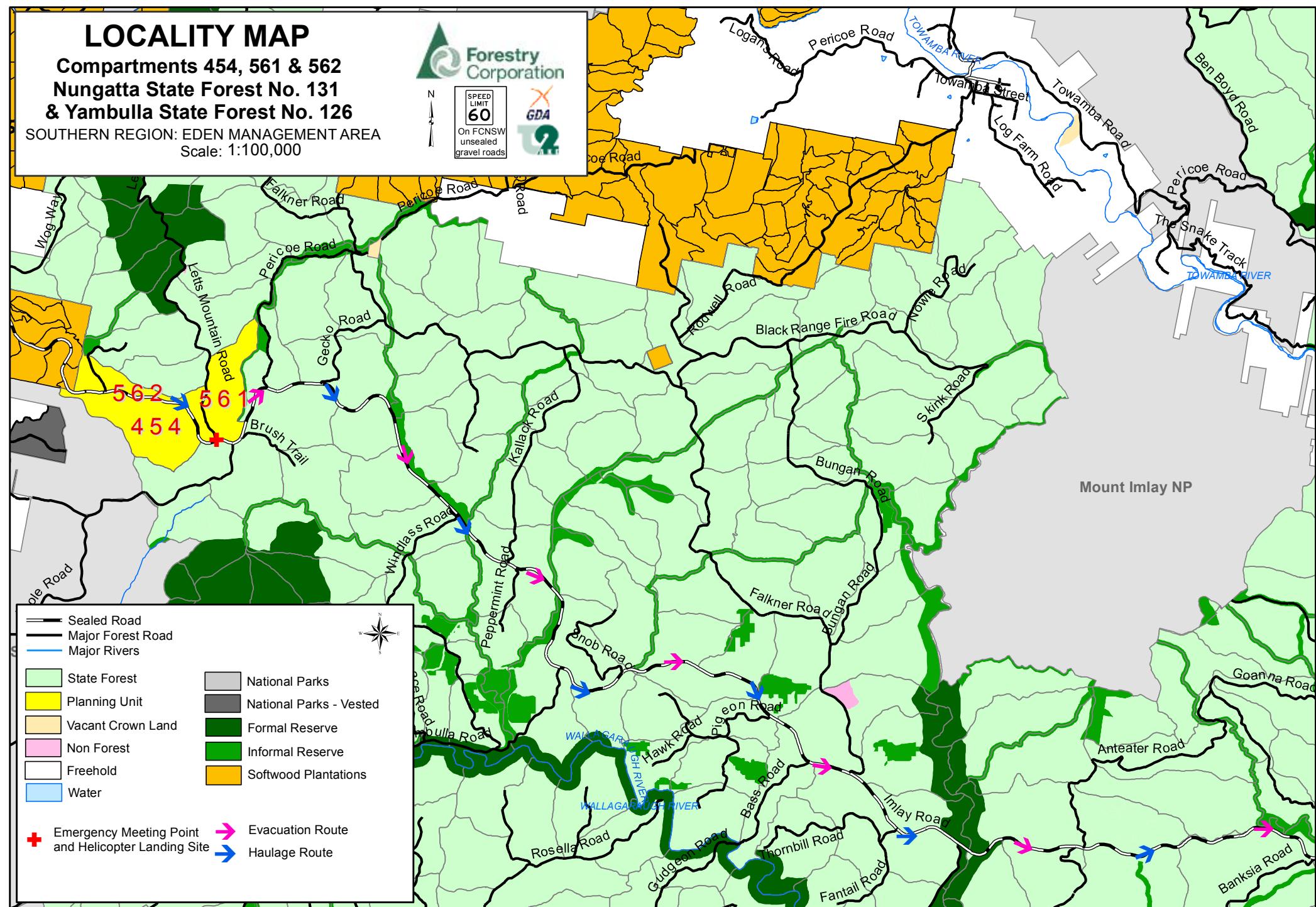
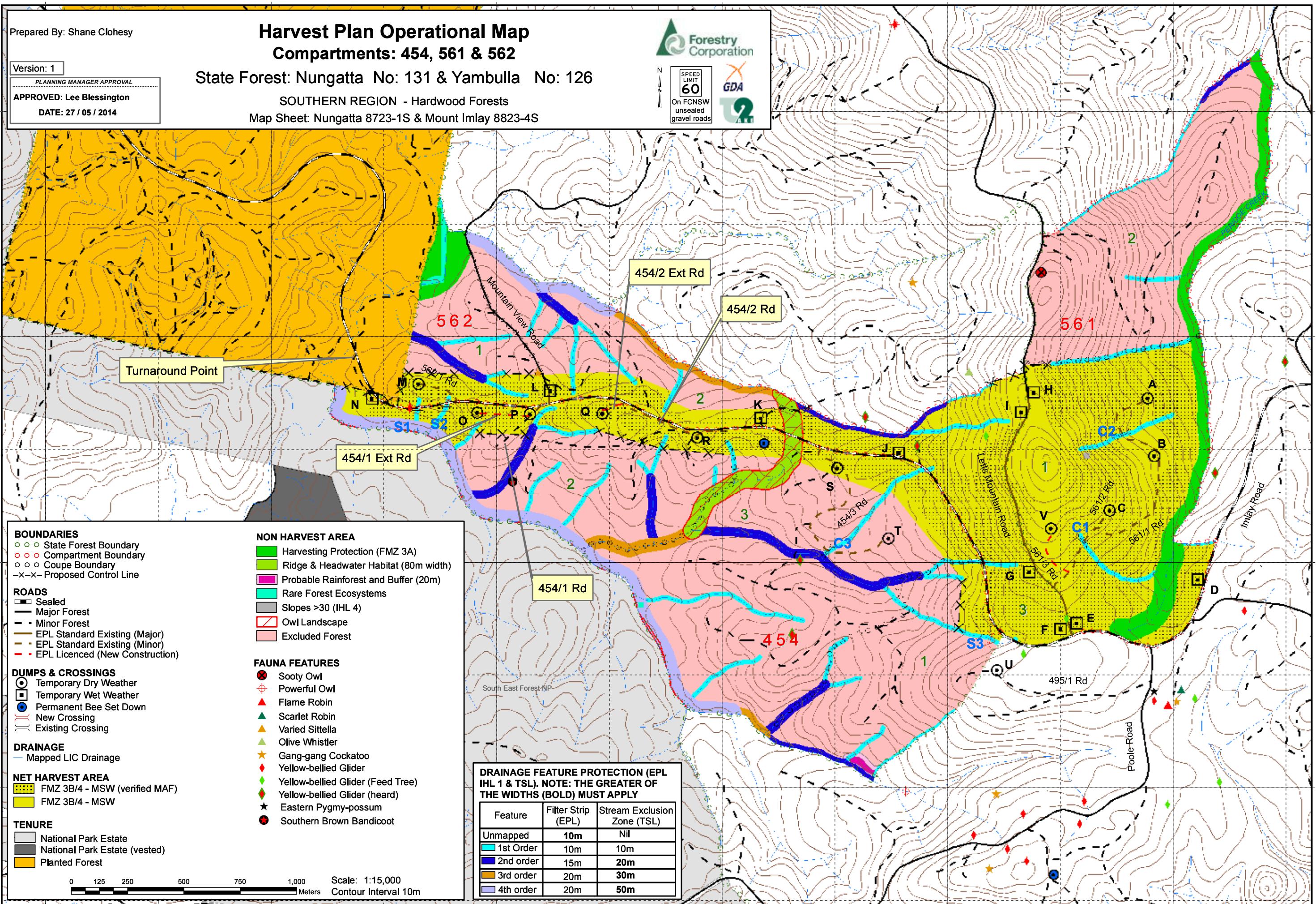


LOCALITY MAP

Compartments 454, 561 & 562
Nungatta State Forest No. 131
& Yambulla State Forest No. 126

SOUTHERN REGION: EDEN MANAGEMENT AREA
Scale: 1:100,000





19

720

21

22

23

24

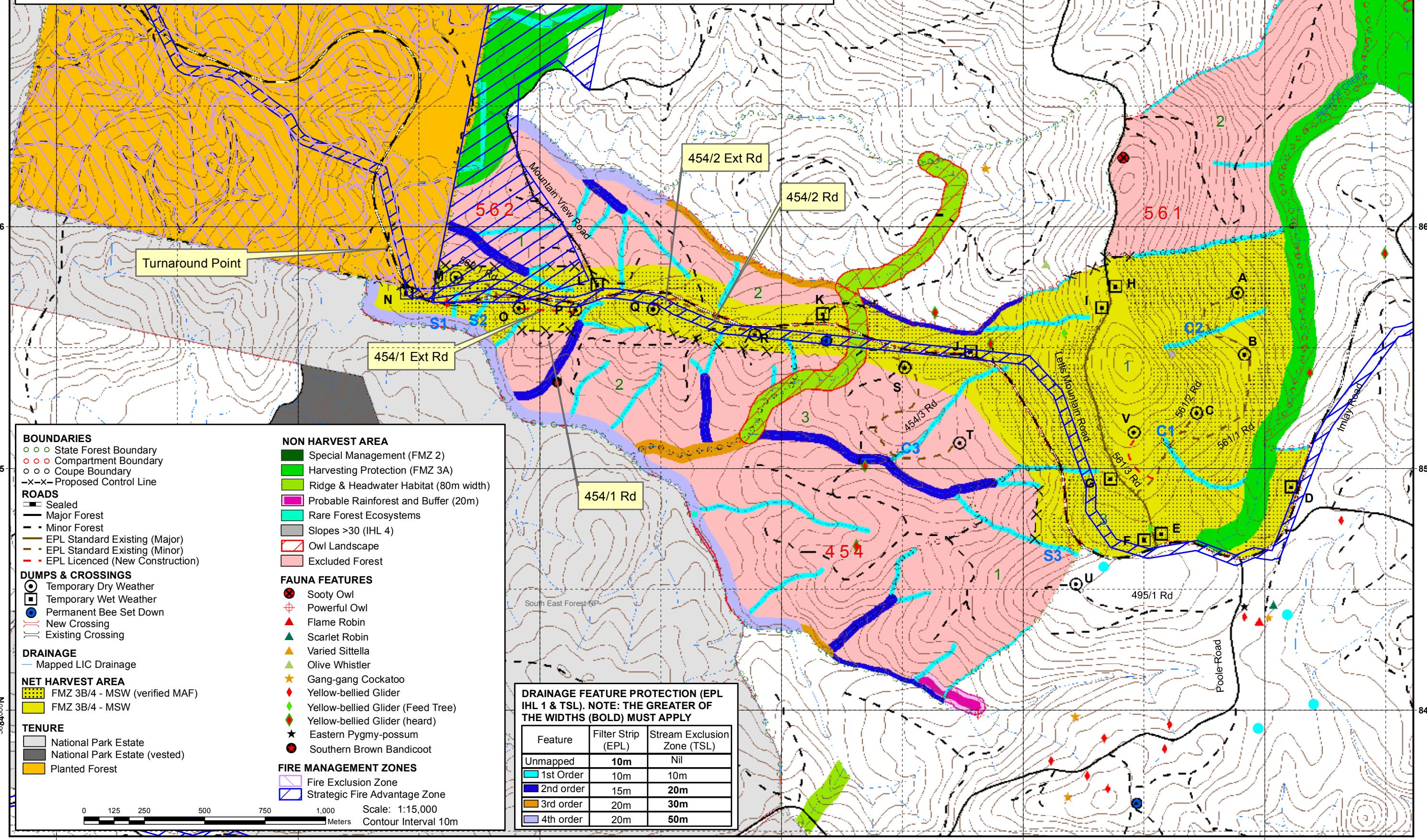
Prepared By: Shane Clohesy
Version: 1
PLANNING MANAGER APPROVAL
APPROVED: Lee Blessington
DATE: 27 / 05 / 2014

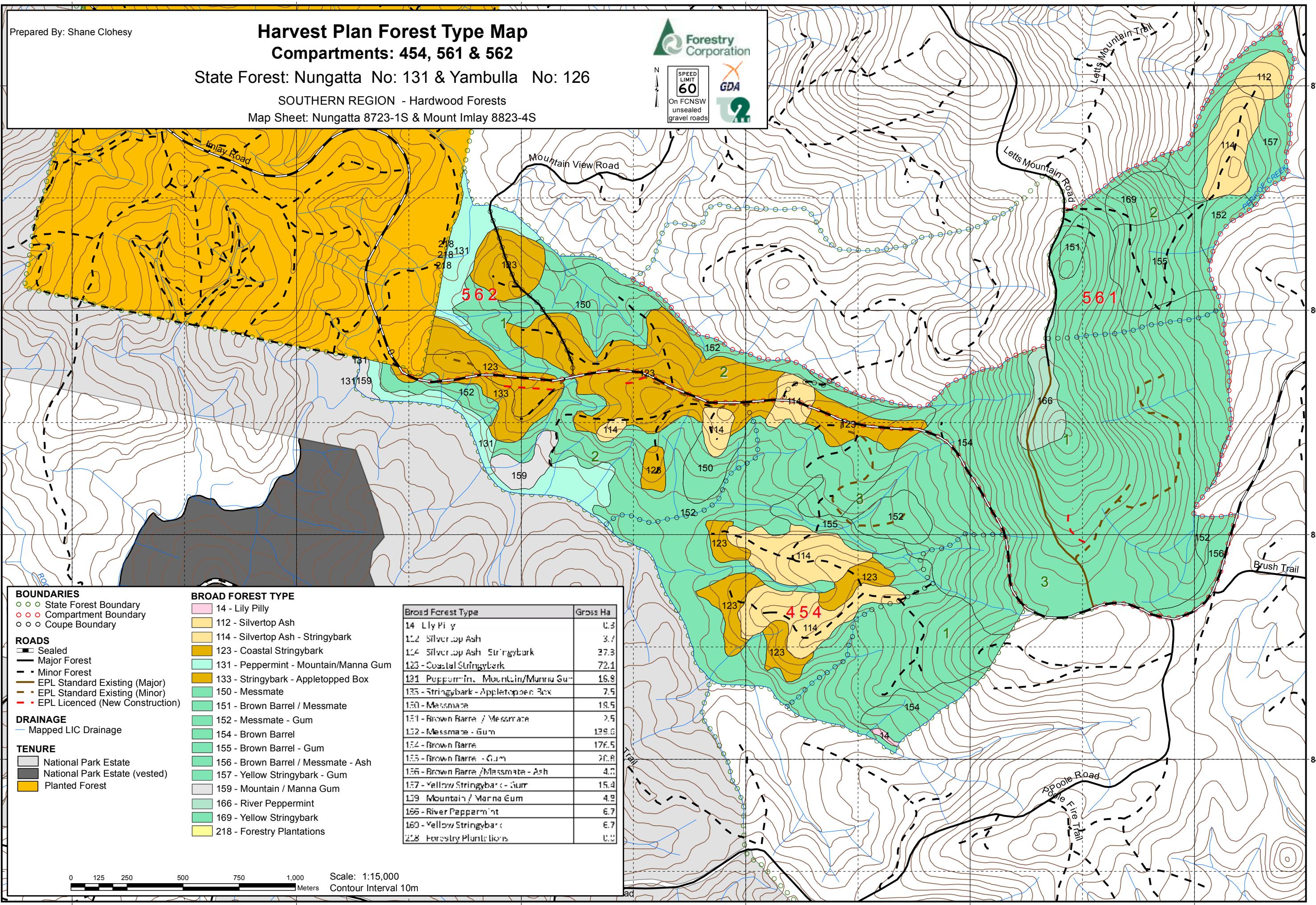
Burning Operational Map Compartments: 454, 561 & 562

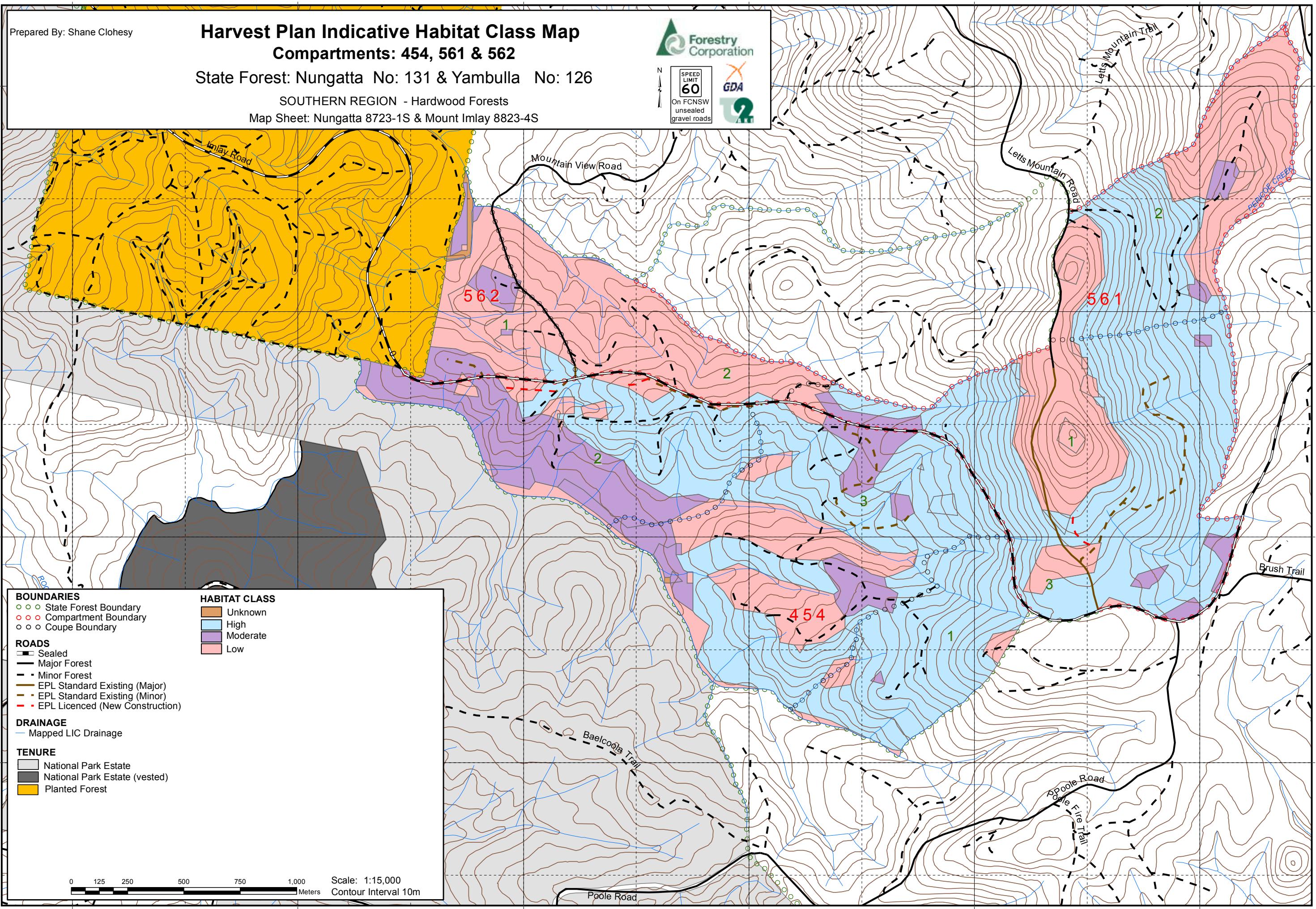
State Forest: Nungatta No: 131 & Yambulla No: 126

SOUTHERN REGION - Hardwood Forests

Map Sheet: Nungatta 8723-1S & Mount Imlay 8823-4S









HARDWOOD FORESTS- SOUTHERN REGION HARVESTING PLAN

Yambulla & Nungatta State Forests - Compartments 454, 561 & 562

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 Southern Region, Eden apply to this operation.

Prepared By: Harvest Planner	Shane Clohesy	Approved By: Planning Manager	Lee Blessington
Signature	Shane Clohesy	Signature	Lee Blessington
Date	26/05/2014	Date	27/05/2014

Note: Approval includes the Harvest Plan Operational Map (HPOM) and Burning Operations Map (BOM) with the corresponding approval date displayed on the map, verifying final approved version.

Other maps included with this plan are locality, forest type and habitat quality class (Supervising Forest Officer (SFO) and indicative).

Description of Proposal

Harvesting of hardwood forest

Integrated Harvesting of Hardwood Forest:

Mixed-age stands dominated by a commercially mature overstorey will be harvested to create regeneration opportunities through integrated harvesting of sawlogs and pulpwood with the retention of trees for future sawlogs, fauna habitat, seed trees, visual maintenance and soil and water protection.

This operation will be licensed under the EPL with notification sent to the regulatory authorities as per clause 23 of Integrated Forestry Operations Approval (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.

Attachment 3: Burning Plan prescribes burning requirements for this harvesting operation.

Post-harvest burning should be confined as far as practicable to the Net Harvest Area. Site specific burning exclusions associated with other tenures, regrowth patches, and exclusions (flora, fauna, cultural heritage and other exclusion zones) are explained within the relevant sections of this harvest plan, in the critical boundaries section of the burning plan and indicated on the HPOM and BOM.

The BOM and critical boundaries section of the burning plan also considers exclusion zones in compartments surrounding the planned compartments. If the post-log burn escapes the containment lines, the burn supervisor should use this information to assess if it is necessary to extinguish the fire or if it is acceptable to allow fire to burn out to a secondary control line.

During the planning stage the location and type of control lines required to contain fire within the nha are considered and listed in the control lines section of the burn plan. Snig track patterns should be designed to double as bare earth control lines for each of the proposed control lines specified in the burn plan and for any other critical boundaries identified during the operation (e.g. nest exclusions, regrowth patches). Where this is not practical, the SFO is to assess the need for a bare earth break to be constructed close to harvesting exclusion boundaries and seek advice and approval from the OTL for the additional earth works.

The SFO must record the following information in the burn plan and prior to burning use this information and any other relevant information from the SFO notes to brief the Burning Supervisor:

- Any new critical boundaries identified during the operation,
- If works required for existing and proposed control lines were carried out,
- If proposed control lines were deemed to be unsuitable (e.g. a proposed new road did not get constructed or where a mapped drainage line didn't occur to the full length as mapped),
- If proposed control lines are no longer required (e.g. a section of the net harvest area did not get harvested) and will therefore not undergo post-log burning.

Area Identification and Yield Estimates

State Forest	Compartments	Coupes	Region	Management Area	Certification
Nungatta	454	1 (part) 2 (part) 3 (part)	Southern	Eden	AS4708:2007 ISO 14001
Yambulla	561	1	Southern	Eden	AS4708:2007 ISO 14001
Nungatta	562	1 (part) 2 (part) 3	Southern	Eden	AS4708:2007 ISO 14001

	Cpt 454	Cpt 561	Cpt 562	Total
Plan Compartment ID	20800	20801	20802	NA
Gross Area (ha)	246.1	170.6	120.5	537.2
Net Harvest Area (ha)	39.3	83.2	57.9	180.4
Estimated Yield Pulp (t)	1,200t	4,000t	3,100t	8,300t
Estimated Yield Sawlog (m3)	250 m3	850 m3	400 m3	1,500 m3

Slope Classes (percent of harvest area)

Slope Class	Cpt 454 % of harvest area	Cpt 561 % of harvest area	Cpt 562 % of harvest area
0-20°	98.3	89.4	85.1
20-25 °	1.7	9.2	13.9
25-30 °	0.0	1.4	1.0

Abbreviations used in this plan

SFO = Supervising Forest Officer, HTL = Harvesting Team Leader OTL = Operations Team Leader IFOA = Integrated Forestry Operations Approval.

**Forestry Corporation NSW– Southern Region
Harvesting Plan HP_ED_454_561_562_14
Compartments 454, 561 & 562**

Attachment 1 – Site Safety Plan

SAFETY CONSIDERATIONS

Emergency Plan Information

(a) **Mobile Phone reception on work site:**

Good Poor Nil

Nearest reliable reception: High points on Letts Mountain Road.

(b) **FCNSW Radio from work site:**

Channel No: 247

Call to: Eden Base

Call sign from: Your name

Contractor Radio at work site:

UHF Channel No:

Contractor Radio No:

Call to Bush Boss:

(c) **Emergency meeting point for ambulance:**

Junction of Letts Mountain Road and Imlay Road.

1:100000 map sheet: Eden 8823

MGA zone: 55

MGA Grid reference: E723555 N5884667

Lat/Long for GPS: 37° 9' 28" S 149° 31' 3" E

(d) **Closest Helicopter Landing Place:**

Junction of Letts Mountain Road and Imlay Road.

1:100000 map sheet: Eden 8823

MGA zone: 55

MGA Grid reference: E723555 N5884667

Lat/Long for GPS: 37° 9' 28" S 149° 31' 3" E

(e) **Procedure for obtaining Ambulance assistance:**

Dial "000" OR Call 1300 880 548 Batemans Bay Forestry Office for Ambulance assistance.

Dial "112" only as an alternative to "000" if you have a GSM digital mobile phone and you are outside your own provider's GSM network coverage area.

"000" Operator Question.

1. Police , Fire , Ambulance?

Response

Ambulance.

2. Suburb (State Forest name):

Yambulla/Nungatta

(Nearest town or named locality):

Eden

(Nearest Ambulance station):

Eden

3. Address: (Nearest named State forest road):

Imlay Road

4. Nearest Road Junction:

Imlay Road and Letts Mountain Road

5 Local Government Area:

Bega Valley Shire Council

6. Nature of the problem:
casualties.

Give details of accident, number and condition of

7. Where is the accident:

Work site location – (Centre of Compartments).

MGA Grid reference:

Zone 55 E722456 N5885117

Lat/long for GPS:

37° 9' 14" S 149° 30' 18" E.

8. Directions to navigate from Ambulance Station to meeting point:

Directions from Eden:

- Head South on the Princes Highway for approx. 24km to Imlay Road junction.
- Turn right onto Imlay Road and travel for approx. 36km to Letts Mountain Road junction.

9. Injuries?:

Give detailed information about the condition of the casualty.

10. Call back No.:

Give your Mobile Number.
or Batemans Bay Office:1300 880 548.

11. Name of Reporter:

Give own name.

Site Specific Identified Hazards

Assessment of existing hazards was undertaken at the time of planning. These hazards are in the attached table and where appropriate, control strategies have been applied. Where no control strategy has been described, the contractor must develop appropriate strategies as part of the contractors Safety Management Plan. A copy of the hazard assessment and control strategies is provided to assist in the development of the contractors Safety Management Plan for this harvesting area.

All additional site hazards identified during harvesting must be assessed and documented in the SFO and Contractor copies of the site specific plan.

IDENTIFIED HAZARD	RISK RATING (prior to implementation of control measures)	SUGGESTED CONTROL STRATEGY	RISK RATING (after implementation of control measures)
1. Vehicle collision at adjoining roads of various traffic levels	1B	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.	2E
2. Cliff lines & rocky very steep terrain	3C	Operators to assess work site within two tree lengths to identify immediate hazards. Communicate to other operators and mark sites.	3E
3. Hazardous or dead trees	1B	Refer to FCNSW safety standard 1.3.9. 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.	1D
4. Overhead hazards associated with dumps	1B	Refer to FCNSW safety standard 1.3.9. 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.	1D
5. Increased risk of trees falling onto Imlay Road after harvested (due to increased wind exposure and physical disturbance).	2D	Minimised damage to all retained trees to avoid destabilisation. Inspect area adjacent to Imlay Road for hazardous trees and remove as required.	2E
6.			

7.			
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Hazard Nos. 1/4 are shown on the attached HPOM

Risk ratings are in accordance with FCNSW Document “Risk Management Assessment Matrices, TRIM No. D00143573 Version No.: 1 Issue Date: June 2013 Review Date: June 2014”.

Traffic management/road closures

The logging contractor is responsible for traffic control on all roads when felling is within two tree lengths of the tallest tree to be felled of the road, or snagging on roads or loading is occurring within 10 metres of a road. Warning of trucks entering must be **displayed 200 metres either side** of all State Forest road approaches leading to areas where harvesting operations are in progress.

In addition to the above, when harvesting within two tree lengths of Imlay Road traffic must be temporarily stopped in accordance with a Traffic Control Plan. The Forestry Corporation of NSW will provide suitably accredited traffic controls to implement “TCP83-57: Compartments 454, 561 & 562” when harvesting these areas.

Warning of timber harvesting operations must be **displayed 200 metres either side** of all thoroughfare State Forest road approaches leading to areas where harvesting operations are in progress.

This plan identifies haulage from the compartment will be via Letts Mountain Road, Poole Road, Mountain View Road, 454/1 Rd, 454/2 Rd, 454/3 Rd and 562/1 Rd then turning left or right onto Imlay Road (100km/hr Road).

The intersection of **Letts Mountain Road** and **Imlay Road** has been assessed as not achieving a minimum sight distance of 200m for vehicles travelling on Imlay Road in either direction. Therefore prior to haulage commencing, a suitably qualified person must implement “TCP195: Letts Mountain Road – Imlay Road” (attached to this harvest plan) at this intersection.

The intersection of **Dump J** and **Imlay Road** has been assessed as achieving a minimum sight distance of 200m for vehicles travelling on Imlay Road in an easterly direction but not for vehicles travelling in a westerly direction. Therefore prior to haulage commencing, a suitably qualified person must implement “TCP195: Dump J – Imlay Road (attached to this harvest plan) at this intersection.

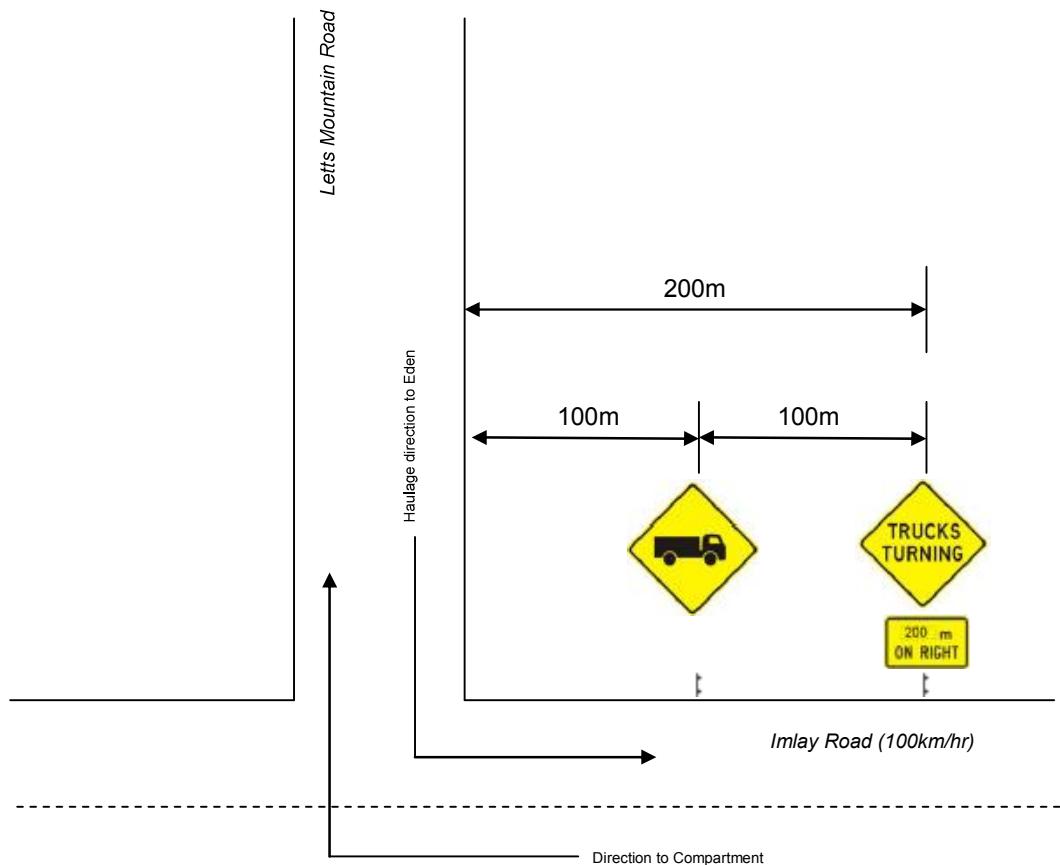
The intersection of **454/2 Rd** and **Imlay Road** has been assessed as not achieving a minimum sight distance of 200m for vehicles travelling on Imlay Road in either direction. Therefore prior to haulage commencing, a suitably qualified person must implement “TCP195P: 454/2Rd – Imlay Road” (attached to this harvest plan) at this intersection.

The intersection of **454/1 Rd** and **Imlay Road** has been assessed as achieving a minimum sight distance of 200m for vehicles travelling on Imlay Road in an easterly direction but not for vehicle travelling in a westerly direction. Therefore prior to haulage commencing, a suitably qualified person must implement “TCP195: 454/1 Rd – Imlay Road” (attached to this harvest plan) at this intersection.

The intersection of **Dump N** and **Imlay Road** has been assessed as not achieving a minimum sight distance of 200m for vehicles travelling on Imlay Road in either direction. **Vehicles may**

turn left from Imlay Road into Dump N, but must not turn right onto Imlay Road when exiting the dump because the sight distance is below 100m. Instead, vehicles must exit Dump N by turning left onto an existing track through the planted forest estate and use the turnaround point indicated on the Harvest Plan Operational Map. Prior to haulage commencing, a suitably qualified person must implement “TCP195: Dump N – Imlay Road” (attached to this harvest plan) at this intersection.

Forests NSW Southern Region Traffic Control Plan 195: Letts Mountain Road—Imlay Road (modified from RTA Traffic Control at Work Site TCP 195)

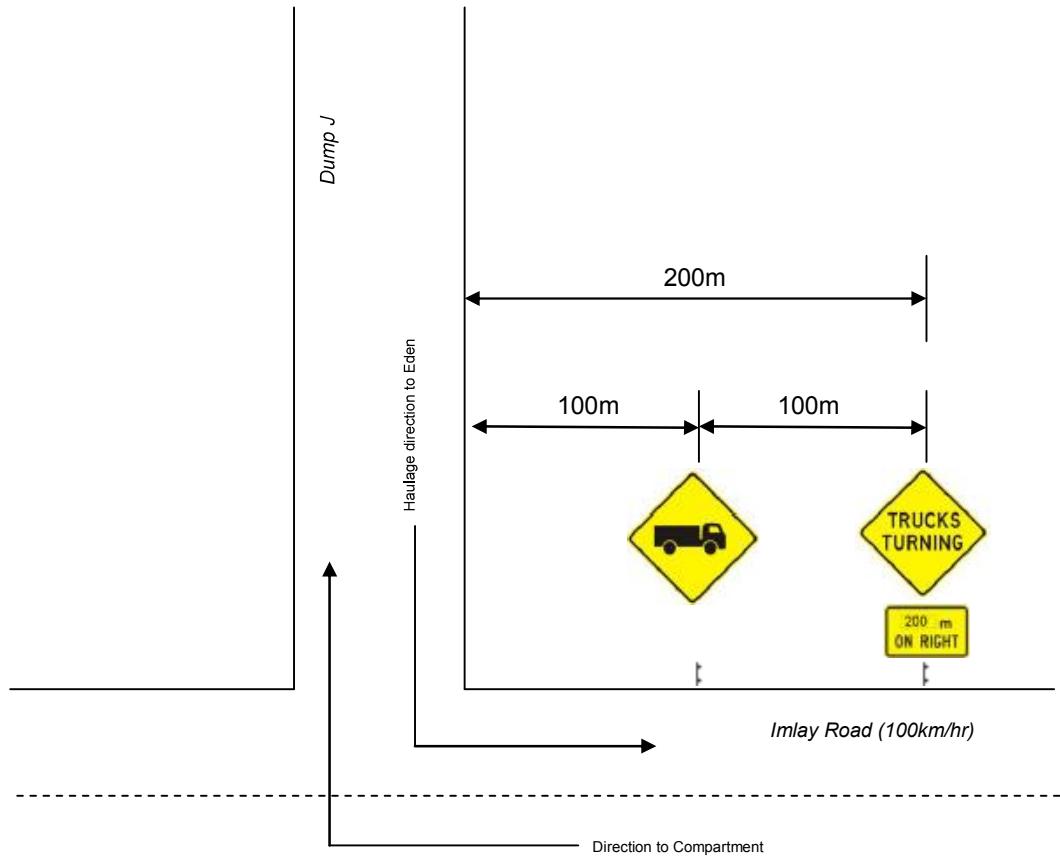


Notes:

- Log Haulage - Intersection of Letts Mountain Road and Imlay Road (100km/hr) . Sight distance restricted to <200m when travelling in both directions along Imlay Road.
- Traffic control plan signage must be mirrored for vehicles approaching from the opposite direction.

LONG TERM USE
ADT < 1500, <20 Truck Movements (to/from compartment), Sight Distance Restricted
Prepared by Shane Clohesy, Red Card Certificate No. 5192033062 on 19/05/2014

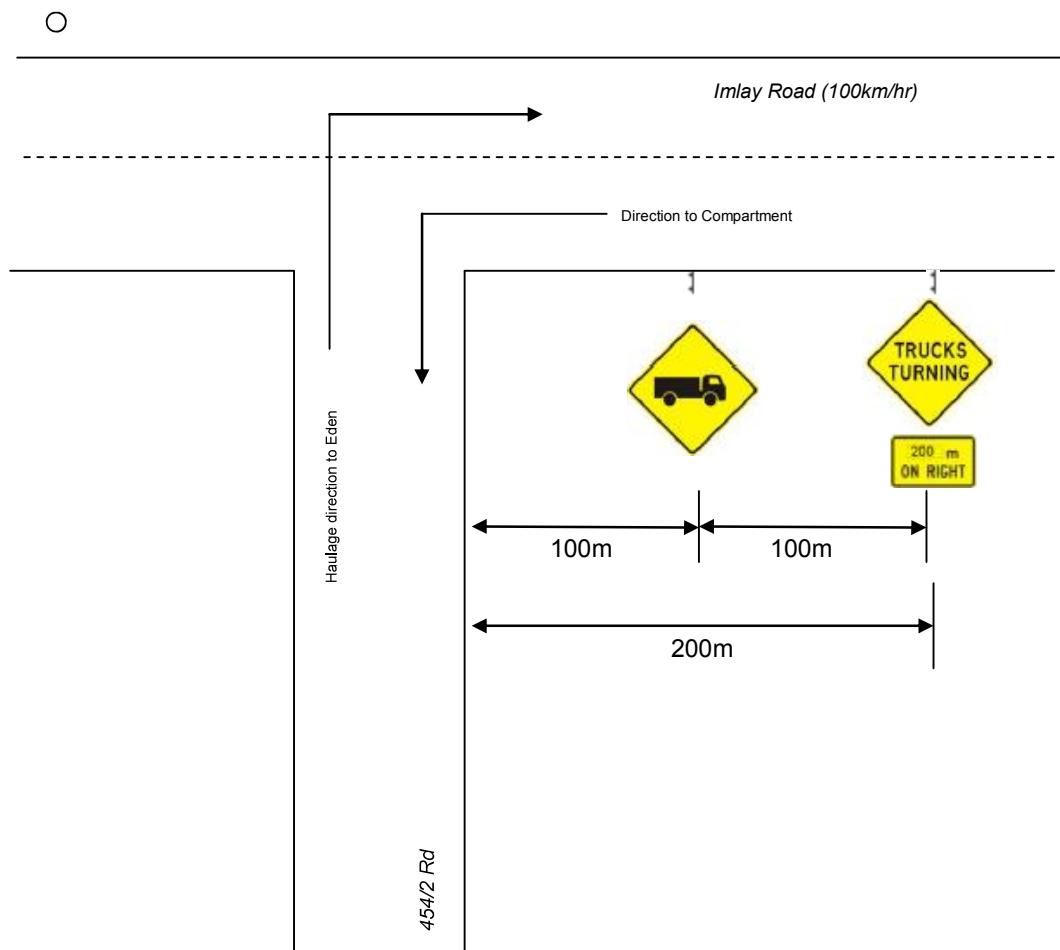
**Forests NSW Southern Region Traffic Control Plan 195: Dump J—
Imlay Road (modified from RTA Traffic Control at Work Site TCP
)**



Notes:

- Log Haulage - Intersection of Dump J and Imlay Road (100km/hr) . Sight distance restricted to <200m when travelling in a westerly direction along Imlay Road.

**Forests NSW Southern Region Traffic Control Plan 195: 454/2 Rd -
Imlay Road (modified from RTA Traffic Control at Work Site TCP
)**

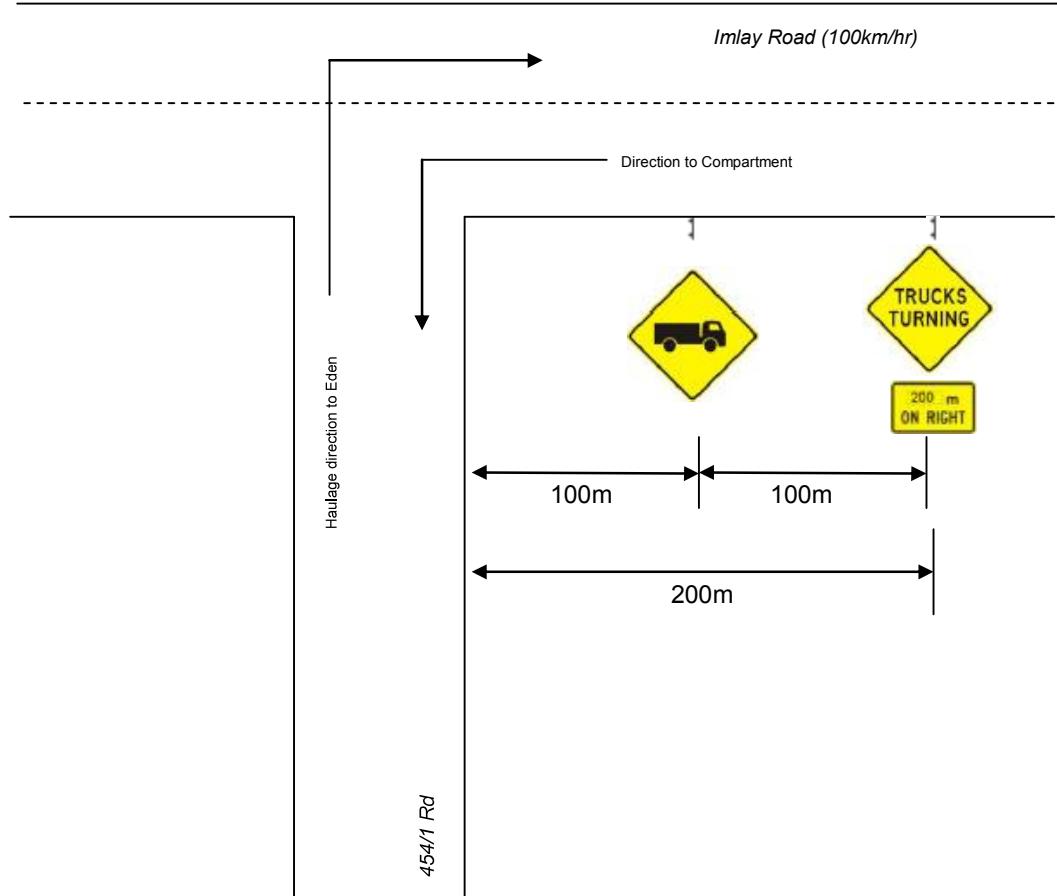


Notes:

- Log Haulage - Intersection of 454/2 Rd and Imlay Road (100km/hr). Sight distance restricted to <200m when travelling in both directions along Imlay Road.
- Traffic control plan must be mirrored for traffic approaching from the opposite direction.

LONG TERM USE
ADT < 1500, <20 Truck Movements (to/from compartment), Sight Distance Restricted
Prepared by Shane Clohesy, Red Card Certificate No. 5192033062 on 19/05/2014

**Forests NSW Southern Region Traffic Control Plan 195: 454/1 Rd -
Imlay Road (modified from RTA Traffic Control at Work Site TCP
)**

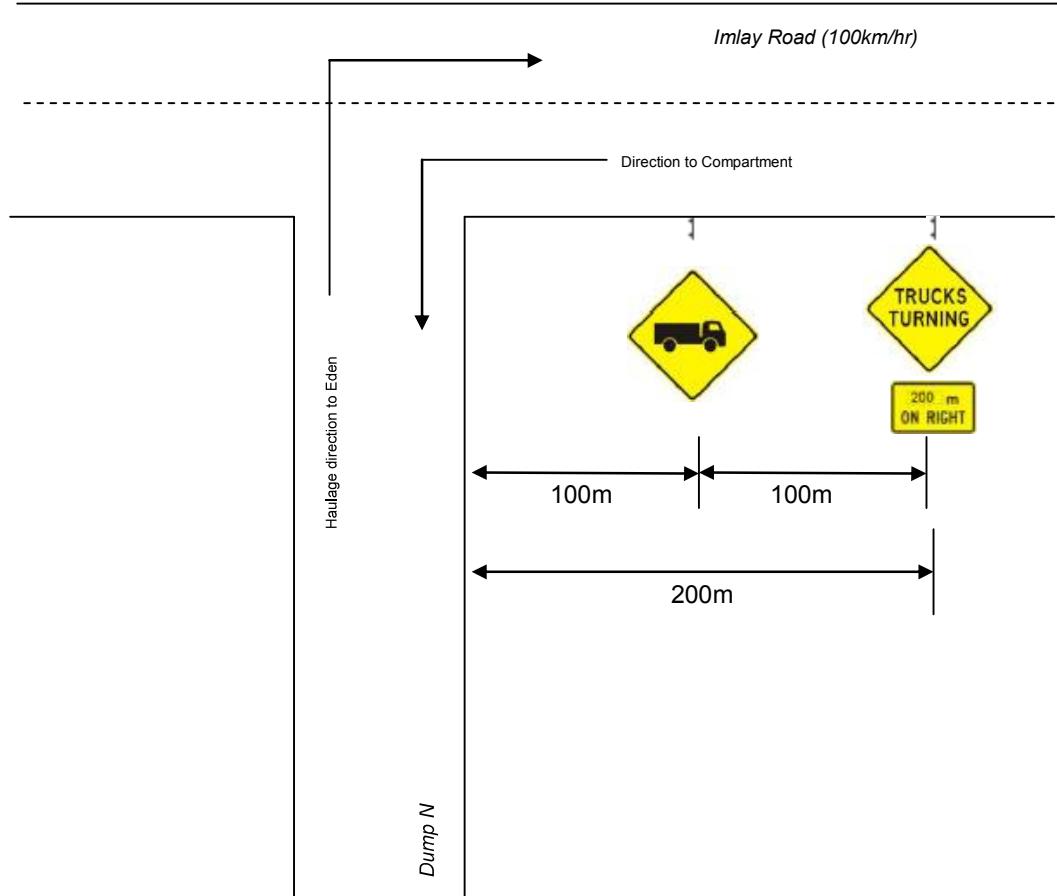


Notes:

- Log Haulage - Intersection of 454/1 Rd and Imlay Road (100km/hr). Sight distance restricted to <200m when travelling in a westerly direction along Imlay Road.

LONG TERM USE
ADT < 1500, <20 Truck Movements (to/from compartment), Sight Distance Restricted
Prepared by Shane Clohesy, Red Card Certificate No. 5192033062 on 19/05/2014

Forests NSW Southern Region Traffic Control Plan 195: Dump N - Imlay Road (modified from RTA Traffic Control at Work Site TCP)



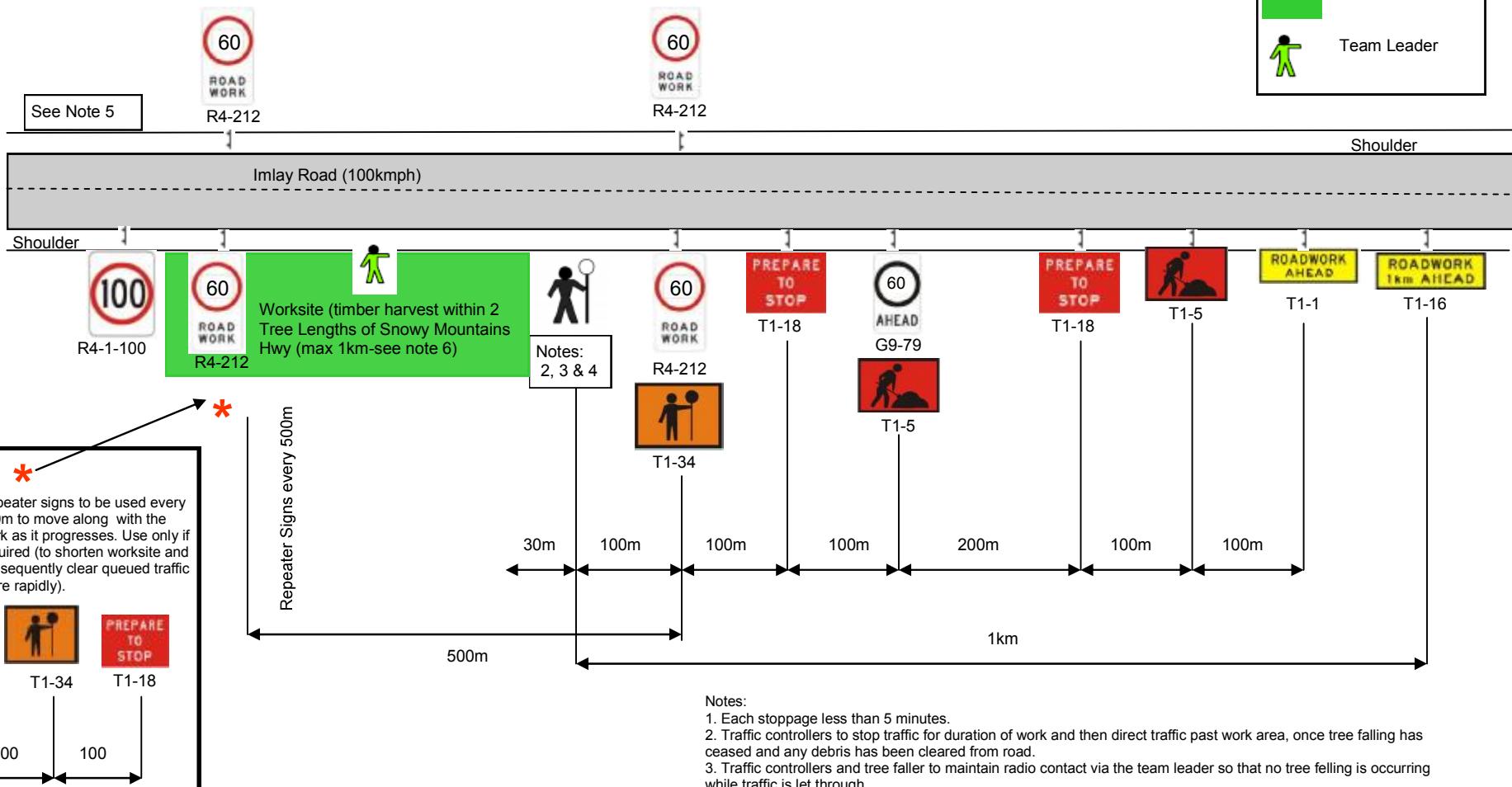
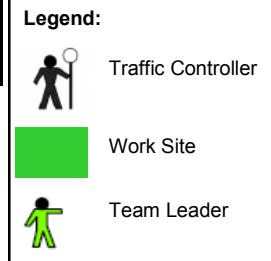
Notes:

- Log Haulage - Intersection of Dump N and Imlay Road (100km/hr). Sight distance restricted to <200m when travelling in a westerly direction along Imlay Road.

LONG TERM USE
ADT < 1500, <20 Truck Movements (to/from compartment), Sight Distance Restricted
Prepared by Shane Clohesy, Red Card Certificate No. 5192033062 on 19/05/2014



Forestry Corporation NSW Southern Region Traffic Control Plan: "TCP83-57: Compartments 454, 561 & 562"
Harvesting within 2 Tree Lengths of Imlay (100km/ph section)
This TCP is modified from RTA Traffic Control at Work Site TCP 83 & 57



FREQUENTLY CHANGING WORK AREA/ROADWORK SPEED LIMITS
Road Type: 2 LANE/2 WAY Road Speed: 100km/hr ADT < 3000
Prepared by: SHANE CLOHESY Red Card Certificate No: 5192033062 Date:
19/05/2014

Silviculture and Harvesting Prescriptions

Compartment 454

Year	1998	2007
TSI	X	X
HR Burning	X	X
Wildfires	X	X
Logging m ³	4,810	8,950

Ø - applies, X – not applicable

Compartment 561

Year	1989	2007
TSI	X	X
HR Burning	X	X
Wildfires	X	X
Logging m ³	5,140	7,770

Ø - applies, X – not applicable

Compartment 562

Year	1994	2005	2007
TSI	X	X	X
HR Burning	X	X	X
Wildfires	X	X	X
Logging m ³	3,730	1,650	1,100

Ø - applies, X – not applicable

Silvicultural Planning

The stands to be harvested consist primarily of mature to over-mature Brown Barrel (*E. fastigata*), Yellow Stringybark (*E. muelleriana*), Messmate (*E. obliqua*) and Mountain Grey Gum (*E. cypellocarpa*).

Mixed-age stands described above will be harvested in a modified shelter-wood silvicultural system in accordance with the Eden IFOA. It is proposed that the mixed-aged stands will next be available for commercial thinning operations in approximately 30 years time.

Harvesting Prescription

Stand type	% of net area	Area (refer to HPOM for details)	Treatment (% INT, THIN)
Mature (even aged/mixed aged)	100%	Entire NHA	<ul style="list-style-type: none">• 100% Integrated (modified shelter-wood)• Target sawlogs, pulpwood and other miscellaneous products as markets allow in line with TSL and EPL requirements.• Retain potential sawlog growers.• Refer to Standard Harvest Planning Conditions for more detail.

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

IFOA Limits

The integrated harvesting operation is in accordance with IFOA Part 1 Condition 5 (11).

No more than 60% of the net harvestable area within these compartments will be harvested during this operation. The next integrated harvesting operation is not permitted within 5 years from the completion of this harvesting event.

The SFO will ensure that TSL tree retention prescriptions are met concurrent with harvesting operations.

Special Requirements

Non-harvest areas

The HPOM indicates the non-harvest areas in the compartments, as detailed in the legend. Harvesting disturbance is not permitted in non-harvest areas unless authorised by the Regional Manager.

Noxious Weeds/Disease/Pests Hygiene Requirements

Compartments 454, 561 & 562 is within Bega Valley 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 Bega Valley Shire 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.

Permanent Growth and Research Plots

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

Occupation Permits

Apiary

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

Name	Site Number	Contact number	Pre burn notification complete?

- The SFO must provide the apiary permittees with at least two weeks advance notice when bee boxes need to be removed or relocated.

National Parks and Nature Reserves

National Park occurs adjacent to the western boundary of compartment 454. A 4th order drainage feature forms the boundary between National Park/Nature Reserves and State Forest.

No harvest disturbance is permitted within National Park.

- Access roads must be maintained free of debris and in a trafficable state.
- Boundaries must be marked in the field.

Forest Management Zoning

FMZ 3A Harvesting Excluded, FMZ 3B (visual) and FMZ 4- General Management (normal harvesting prescriptions apply) occur within the compartment. Refer to HPOM for more detail.

FMZ 3B (Visual) – The majority of the NHA is zoned FMZ3B (visual). The harvest area is not visible at a landscape level normal integrated harvesting prescriptions (as per harvesting prescription section) will apply to this operation.

FMZ 3A – Harvesting and harvesting machinery are not permitted in these areas. 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

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 3A. If the SFO identifies the need for harvesting related activities to occur within FMZ 3A during the operation, the Harvest Planner must be contacted to seek Regional Manager approval.

All areas of Rainforest, Rare Forest Ecosystems require prior OEH approval and Stream Exclusion Zones require prior Regional Manager approval before forest harvesting related activities (eg: road or snig track construction & reopening) can be undertaken. It is the responsibility of the SFO to identify any exclusion areas which will need to be crossed during harvesting. The SFO should then contact the Harvest Planner to obtain the necessary approval.

Cultural Heritage

Cultural Heritage -

All relevant representatives have been consulted &/or inspected compartments 454, 561 & 562. Due to the confidentiality of the Cultural Heritage sites, a Cultural Heritage site map will only be attached to the specific copies of the plan. All 10 metre radius exclusion buffers are to be marked in the field as **hard exclusion zones (i.e. pink & yellow tape)** where logging and/or road works are scheduled to be undertaken. **All operators must be taken to each site within the planned area before any activities are commenced.**

Flora and Fauna

Refer to TSL Booklet for Conditions

Mark-Up Conditions

During the pre-harvest mark up the SFO must search for and record threatened species habitat features consistent with Conditions 5.2 and 8.6 of the TSL. Searches for threatened species features must be conducted within that portion of the net planned area where harvesting will occur, and within 50 metres outside this area (eg HCVOG, etc) (conditions 5.1, 5.2 of the TSL).

Where any of these features are found, the feature must be recorded, the Harvesting Plan, including the HPOM, must be amended accordingly and the appropriate condition applied.

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: **Olive Whistler** (*Pachycephala olivacea*), **Eastern False Pipistrelle** (*Falsistrellus tasmaniensis*), **Common Bent-wing Bat** (*Miniopterus schreibersii*), **Varied Sittella** (*Daphoenositta chrysopera*), **Scarlet Robin** (*Petroica boodang*), **Gang Gang Cockatoo** (*Callocephalon fimbriatum*)

Tree Retention-Non-Regrowth Zone

The non-regrowth zone applies to the entire net harvest area. The SFO is to mark as per Condition 5.6 of the TSL, in conjunction with indicative Habitat Quality Class Map and on ground assessment. Where the density of habitat trees specified in the table are not available, retain the existing habitat trees plus additional trees of the largest dbh to meet the required retention rate.

Habitat Quality	Hollow Bearing Tree/ 2ha	TSL Condition	Recruitment Trees/ 2ha	TSL Condition	Protection of Retained Trees	Dead Standing Tree (only if safe)	TSL Condition	Significant Food Resource	TSL Condition	
High	12	5.6g)i	12	5.6h)i	Ø	5.6l	Ø	5.6j	Ø	5.6 k
Medium	8	5.6g)ii	8	5.6 h)ii	Ø	5.6 l	Ø	5.6j	Ø	5.6 k
Low	4	5.6g)iii	4	5.6 h)iii	Ø	5.6 l	Ø	5.6j	Ø	5.6 k

Ø - Condition applies

2 Yellow Bellied Glider sap feed trees, occur within compartment 562 at locations shown in the

table below.

Species	Feature	Zone	GDA Easting	GDA Northing	Comments
Yellow-bellied Glider	Feed tree	55	723169	5885558	Marked with pink tape
Yellow-bellied Glider	Feed tree	55	723525	5884748	Not marked

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 Rainforest may occur in the field. May require further investigation#.
Rare Forest Ecosystems	5.5	Yes
Riparian Protection Zones	5.7	Yes
Ridge & Headwater Habitat	5.8	Yes (80m total width)
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.

#SFO 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 454, 561 & 562	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

Feature	Records in 454, 561 & 562	Licence conditions under the TSC Act
Burning	Net planned area	5.16
Ground Habitat Protection	Net planned area	5.17

Species & Site-Specific Threatened Flora and Fauna Prescriptions

Contractors and supervisory staff must immediately report any sightings of Schedule 1 and 2 species to the HTL. The Harvesting Plan must be amended to include additional prescriptions if necessary. If any species requiring a site specific prescription in accordance with condition 1.2 of the TSL are detected in or within 100m of the compartment boundaries cease operations immediately & Inform HTL.

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 454	Records in 561	Records in 562	Licence conditions under the TSC Act or relevant Site-specific prescription
Powerful Owl <i>Ninox strenua</i> , Masked Owl <i>Tyto novaehollandie</i> , Sooty Owl <i>Tyto tenebricosa</i>	No No No	No No Yes	Yes No No	6.3 Owl Landscape Exclusion Zones occur in compartments 454 & 561 (Refer to HPOM).
Southern Brown Bandicoot <i>Isoodon obesulus</i>	Yes	No	No	6.5A & Species Management Plan
Long-footed Potoroo (<i>Potorous longipes</i>)	No	No	No	If this species is identified in the compartment or within 100m of the compartment boundary inform the Regional Ecologist immediately to apply for a site specific prescription.
Smoky Mouse <i>Pseudomys fumeus</i>	No	No	No	Species Management Plan
Spotted tailed Quoll <i>Dasyurus maculatus</i>	No	No	No	6.10
Yellow-bellied Glider <i>Petaurus australis</i>	Yes	No	Yes	6.13
Eastern Pygmy Possum <i>Cercartetus nanus</i>	No	No	No	If this species is identified in the compartment/s or within 100m of the compartment boundary/boundaries cease operations immediately and contact the HTL.

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

Site-specific EPL Conditions

The NHA to the east of the Ridge and Headwater Habitat Exclusion that divides compartments 454 and 562 is situated on R1 and R3 regolith classes. The conditions in the following table apply to these areas.

Elements	Conditions
Unmapped Drainage Lines	EPL applies
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	1
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

The NHA to the east of the Ridge and Headwater Habitat Exclusion that divides compartments 454 and 562 is situated on low coherence (but non dispersible) Adamellite soils which have been verified as soil regolith 2. For these areas, special conditions for harvesting and snigging apply (details in table below).

Elements	Conditions
Unmapped Drainage Lines	EPL applies
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	1
Dispersible Soils	No
Seasonality Harvesting Exclusions	No
Seasonality Burning Exclusions	No
Log Dumps	Refer relevant conditions for IHL
Roads	See Schedule 5 of EPL Booklet
Slope limits for harvesting	Special prescription for Adamellite R2 soils: No harvesting on slopes greater than 25 degrees. Note: EPL conditions relating no harvesting on IHL 4

	also still apply (Schedule 4- B-Maximum Slope Limits).
Slope limits for snig tracks	<p>Special prescription for Adamellite R2 soils: Where practicable grade of snig track must not exceed 20 degrees.</p> <p>Snig track grades 20-25 degrees are permitted in accordance with EPL Schedule 4. Clause 41 a) and b) but not 41. c)*, if:</p> <ul style="list-style-type: none"> • There is no other practical alternative route and • SFO approval has been granted. <p>*The highly erodible nature of the R2 soil, means it is not appropriate to implement condition 41.c) in these compartments.</p>
Snig Drainage Spacing	<p>For snig track grades less than 20 degrees apply EPL spacing.</p> <p>Special prescription for Adamellite R2 soils: For snig track grades greater than 20 degrees, install snig track drainage at half the EPL recommended spacing.</p>

Log Dump Location

22 log dumps are indicated on the HPOM. Note that dump U is located at a previous dump site in the adjacent compartment 495. Snigging disturbance through compartment 495 to dump site U must be minimised. 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 dozer, and loading method is by excavator.

Drainage Feature Crossings

Three snig track crossings (S1, S2 & S3) and 3 road crossing (C1, C2 & C3) are approved for use on drainage features. (Refer to HPOM). Crossing details are contained in Attachment 2 of this Plan.

Mass Movement

Compartments 454, 561 & 562 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 crossings or road crossing in the compartments.

Condition 47 of Schedule 4 of the EPL must apply.

Road Works

The roading and crossing works must be undertaken, by contractor or FCNSW staff, prior to the commencement of harvesting activity in the area served by the road or crossing. The roading plan specifies who is responsible for supervising and paying for the maintenance works.

Within the compartment boundary only roads that are shown on the HPOM as EPL standard or sealed may be used for haulage. **Refer to EPL Schedule 5 – Operating Conditions for Roads.**

Roads within the compartment boundary may be used with SFO approval for snagging or extraction provided they are drained to EPL specifications.

Legal Conditions

In 1999, the Commonwealth and NSW Governments signed a Eden Regional Forest Agreement which, among other things, allows for the supply of timber for 20 years from public lands under the following NSW legislation:

- Forestry Act 2012, and
- Forestry & National Park Estate Act 1998

The latter Act provides for the Eden Forest Agreement and Eden Integrated Forest Operations Approval (IFOA), both approved by NSW Government Ministers. This harvest plan is issued under the authority provided within the IFOA.

The IFOA also contains three licences issued under:

- Section 55 of the Protection of the Environment Act 1997 (EPL)
- Threatened Species Conservation Act 1995 (TSL).
- Section 220ZW of the Fisheries Management Act 1994 (FL).

This harvest plan will be managed in the field under:

- Licences issued under the Forestry Act (2012)
- Forest Practices Code part 2 (Timber Harvesting in Native Forests - 1999) and part 4 (Forest Roads and Fire Trails - 1999)
- Standard Harvest Plan Conditions for Hardwood Forest Operations under the IFOA
- FCNSW Corporate Fuel Management Plan 2008.

Harvesting operations must comply with all of the above Licences and the Code.

Further information is available from <http://www.environment.nsw.gov.au/>

Pre Operational Briefing

I acknowledge that I have received a copy of the Harvesting Plan for compartments 454, 561 & 562 in Yambulla & Nungatta State Forests 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 HTL or his/her delegate.

Position	Name	Signature	Date

Details to Record in SFO Notes

- Dates of commencement and cessation of logging
- Record the commencement and completion of harvesting at each dump
- Record the occurrence of temporary stopping of harvesting at each dump.
- Situations where drainage could not be completed due to saturated soils must be recorded in SFO Notes.
- Record the commencement and completion of each construction, upgrading or maintenance of drainage feature crossings by snig tracks or extraction tracks.
- Bi-weekly checks of road drainage structures during haulage operations.
- Record the date of checks, drainage structure compliance and the any repairs required within the specified time period.
- Records of Threatened Flora and Fauna identified during compartment markup.
- Minor variations associated with moving or adding dumps.
- Daily events of importance eg. Instructions to crew, work activity.

Post Harvest Mapping Features Confirmation Checklist

Feature	Planning Updates	Reason (Error/New)	GIS update tool completed?	Harvesting Updates	Comments
Soil Regolith	Yes				
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					

SFO 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.

*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 SFO Notes.

Snig/Extraction Track Crossing Record

Record the commencement and completion of each construction, upgrading or maintenance of watercourse/drainage line crossings by snig tracks or extraction tracks.

* If soil is not stabilised within 5 days it must be recorded as a non-compliance including the reason why on a Harvest Compliance Issue Report.

If soil is saturated, temporary stabilisation must be put in place, and the instance entered into the compartment diary.

**** If track edge clearing exceeds 3 metres, document the reason for field approval in the compartment diary.**

Weekly and Bi-weekly inspection

Item Inspected	Insert dates of inspection											
	Week 1		Week 2		Week 3		Week 4		Week 5		Week 6	
	1st	2 nd	1st	2nd	1 st	2nd	1 st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
SFO initial												
SFO presence												

Comments: record the item number in a box above and comment as required.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Weekly and Bi-weekly inspection

Item Inspected	Insert dates of inspection											
	Week 7		Week 8		Week 9		Week 10		Week 11		Week 12	
	1st	2 nd	1st	2nd	1 st	2nd	1 st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
SFO initial												
SFO presence												

Comments: record the item number in a box above and comment as required.

- 1._____
- 2._____
- 3._____
- 4._____
- 5._____
- 6._____
- 7._____
- 8._____
- 9._____

Weekly and Bi-weekly inspection

Item Inspected	Insert dates of inspection											
	Week 13		Week 14		Week 15		Week 16		Week 17		Week 18	
	1st	2 nd	1st	2nd	1 st	2nd	1 st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
SFO initial												
SFO presence												

Comments: record the item number in a box above and comment as required.

- 1._____
- 2._____
- 3._____
- 4._____
- 5._____
- 6._____
- 7._____
- 8._____
- 9._____

Weekly and Bi-weekly inspection

Item Inspected	Insert dates of inspection											
	Week 19		Week 20		Week 21		Week 22		Week 23		Week 24	
	1st	2 nd	1st	2nd	1 st	2nd	1 st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
SFO initial												
SFO presence												

Comments: record the item number in a box above and comment as required.

- 1._____
- 2._____
- 3._____
- 4._____
- 5._____
- 6._____
- 7._____
- 8._____
- 9._____

SFO Notes

SFO Notes (continued)

SFO Notes (continued)

SFO Notes (continued)

SFO Notes (continued)

Clearance Certificate

**COMPARTMENTS: 454, 561 & 562, YAMBULLA & NUNGATTA STATE FORESTS,
SOUTHERN REGION**

ToSupervising Forest Officer

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 Operations Branch 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)
Supervising Forest Officer

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 (SFO estimate)	Number of AGS gaps created	Comments
Integrated/Modified shelterwood			
Thinning			
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

Comply with maximum Thinning BA removal of 75%?

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

Summary of Roading Requirements

Feature	Details	Works Required
Existing roads to be used.	4,400m/8	Yes
New roads to be constructed	550m/3	Yes
Existing crossings used	5	Yes
New crossings to be constructed	1	Yes
Length of road >10°	140m	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 Operations must be recorded and passed onto the SFO Harvesting for completion and documentation.

The start and finish dates of all maintenance and construction must be recorded on the individual roading 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
Letts Mountain Road (1,180m) <i>FCNSW Responsibility</i>	Nil works required. Ops/SFO Comments:			
Mountain View Road (60m) <i>FCNSW Responsibility</i>	Nil works required. Ops/SFO Comments:			
454/1 Rd (70m) <i>Contractor Responsibility</i>	Clear and reshape entire length. Clear up to 3m either side to facilitate truck movements. Ops/SFO Comments:			
454/1 Ext Rd	Refer to New Road Construction form.			

(230m) <i>Contractor Responsibility</i>	Ops/SFO Comments:		
454/2 Rd (540m) <i>Contractor Responsibility</i>	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate truck movements.</p> <p>Low lying areas may require patch gravelling where water accumulates.</p> <p>Install drainage as per EPL requirements.</p> <p>Ops/SFO Comments:</p>		
454/2 Ext Rd (100m) <i>Contractor Responsibility</i>	<p>Refer to New Road Construction form.</p> <p>Ops/SFO Comments:</p>		
454/3 Rd (940m) <i>Contractor Responsibility</i>	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate truck movements.</p> <p>Install drainage as per EPL requirements.</p> <p>Ops/SFO Comments:</p>		
561/1 Rd (1,330m) <i>Contractor Responsibility</i>	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate truck movements.</p> <p>Install drainage as per EPL requirements.</p> <p>Gravelling may be required on steep sections – SFO to monitor.</p> <p>Ops/SFO Comments:</p>		
561/2 Rd (90m)	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate</p>		

<i>Contractor Responsibility</i>	truck movements. Ops/SFO Comments:			
561/3 Rd (220m) <i>Contractor Responsibility</i>	Refer to New Road Construction form. Ops/SFO Comments:			
562/1 Rd (190m) <i>Contractor Responsibility</i>	Clear and reshape entire length. Clear up to 3m either side to facilitate truck movements. Install drainage as per EPL requirements. Ops/SFO Comments:			
C1 <i>Contractor Responsibility</i> E723601 N5885092	Refer to attached crossing form. Ops/SFO Comments:			
C2 <i>Contractor Responsibility</i> E723780 N5885562	Refer to attached crossing form. Ops/SFO Comments:			
C3 <i>Contractor Responsibility</i> E722477 N5885045	Refer to attached crossing form. Ops/SFO Comments:			
S1 <i>Contractor Responsibility</i> E720646 N5885679 (Note – feature at crossing location is neither a drainage line or a drainage depression as defined by	Minimize roadside clearing as far as practicable within the Stream Exclusion Zone. Ops/SFO Comments:			

the EPL or FL. Therefore EPL conditions do not apply. Instructions for works are provided to satisfy TSL requirements.)			
S2 <i>Contractor Responsibility</i> E720777 N5885691 (Note – feature at crossing location is neither a drainage line or a drainage depression as defined by the EPL or FL. Therefore EPL conditions do not apply. Instructions for works are provided to satisfy TSL requirements.)	Minimize roadside clearing as far as practicable within the Stream Exclusion Zone. Ops/SFO Comments:		
S3 <i>Contractor Responsibility</i> E723182 N5884659	Minimize disturbance as far as practical. Snig perpendicular to drainage feature. Place small sill log on down stream side of crossing (<10cm diameter). Ops/SFO 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
454/1 Ext Rd	230	7	3°	0°	NA	NA	No	Retain	Contractor		
454/2 Ext Rd	100	7	5°	15°	<1.5	100	No	Retain	Contractor		
561/3 Rd	220	7	11° (20m)	16°	<1.5	220	No	Retain	Contractor		

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.	SFO 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. SFO 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, Clauses 15, 17, 19 & 20	
Drop down & dissipater required	Required where fill batter >1m as per EPL Schedule 5 Clause 36	SFO to monitor. Mitres with rock dissipater recommended.
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	

Note: Maintenance works not completed by Operations must be recorded and passed on to the SFO.

CROSSING NAME: C1 (DD)

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

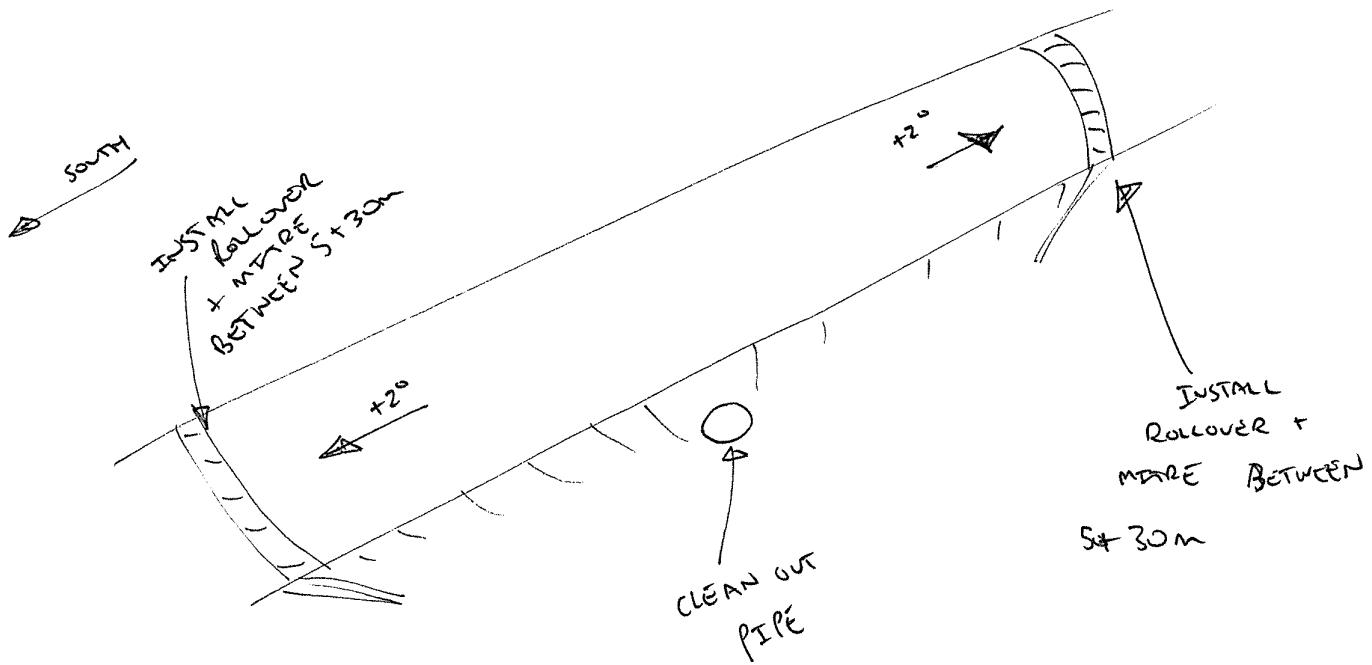
Assessors Name: Shane Clohesy**Crossing Type:** Pipe – 400mm

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Clean out pipe as required.	
Bed and Banks	Nil works required.	
Erosion and Sediment Control	Minimize disturbance and clearing to the greatest extent practicable. Seed & mulch on disturbed areas.	Seed & Mulch
Disposal of excess spoil	Nil works required	
Soil Stabilisation within 20m	Seed & Mulch disturbed areas.	Seed & Mulch
Road drainage within 5-30m <ul style="list-style-type: none"> • Type • outlet control 	Install rollover drain and mitre on both approaches. Utilise existing vegetation as outlet control.	Dozer/Excavator

Date of Assessment: 03/04/2014

Final Crossing Use: Retain

valley



Soil stabilisation must be completed within 5 days

Record implementation date here: _____

CROSSING NAME: C2 (DD)

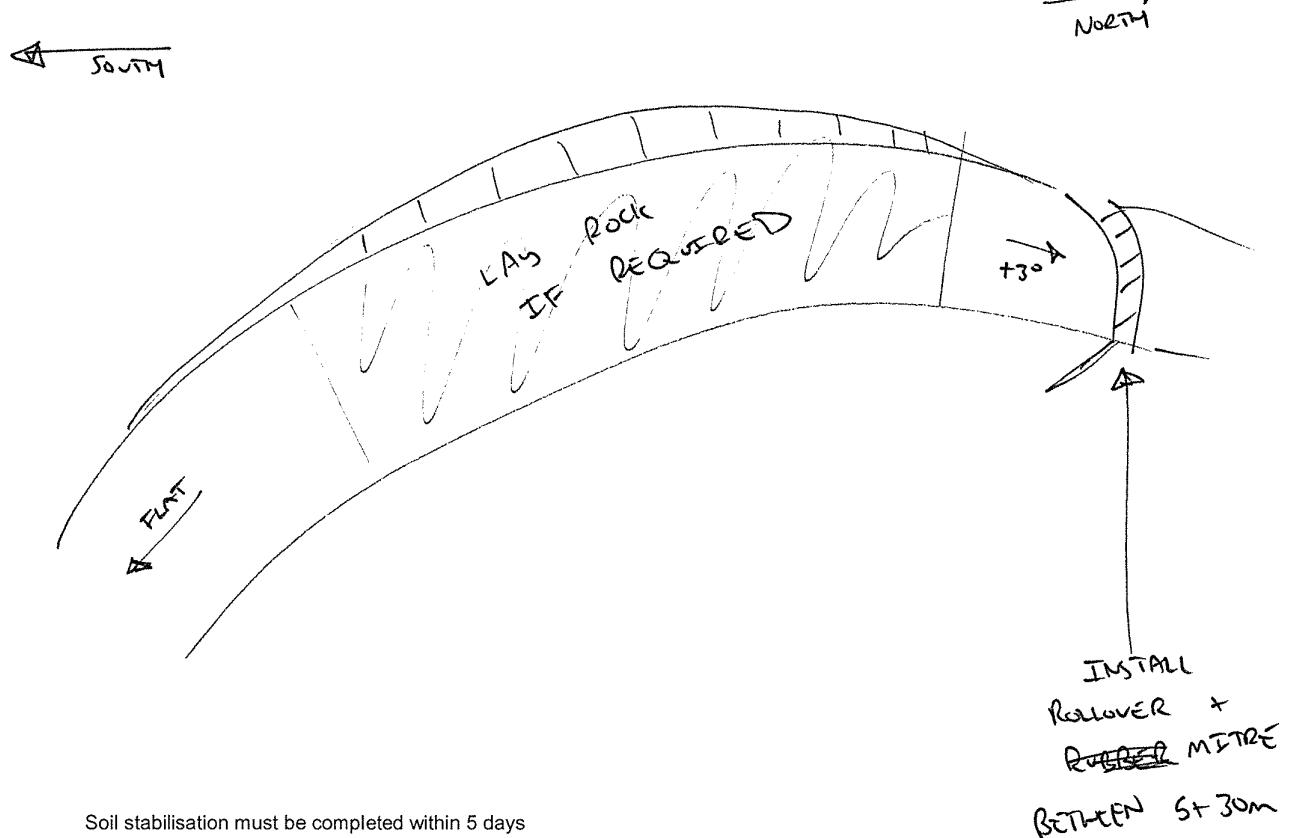
Waterway Classification: Fish Passage Class 4 – unlikely fish habitat
 Fisheries Licence Aquatic Habitat: Not Class 1 or 2

Assessors Name: Shane Clohesy**Crossing Type:** Natural Causeway

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Rock on pavement may be required if operating during wet conditions.	Rock – 1 load
Bed and Banks	Nil works required.	
Erosion and Sediment Control	Minimize disturbance and clearing to the greatest extent practicable. Seed & mulch on disturbed areas.	Seed & Mulch
Disposal of excess spoil	Nil works required	
Soil Stabilisation within 20m	Seed & Mulch disturbed areas.	Seed & Mulch
Road drainage within 5-30m	<ul style="list-style-type: none"> Type outlet control Install rollover drain and mitre on northern approach only. Utilise existing vegetation as outlet control.	Dozer/Excavator

Date of Assessment: 03/04/2014

Final Crossing Use: Retain



Soil stabilisation must be completed within 5 days

Record implementation date here: _____

CROSSING NAME: C3 (DL)

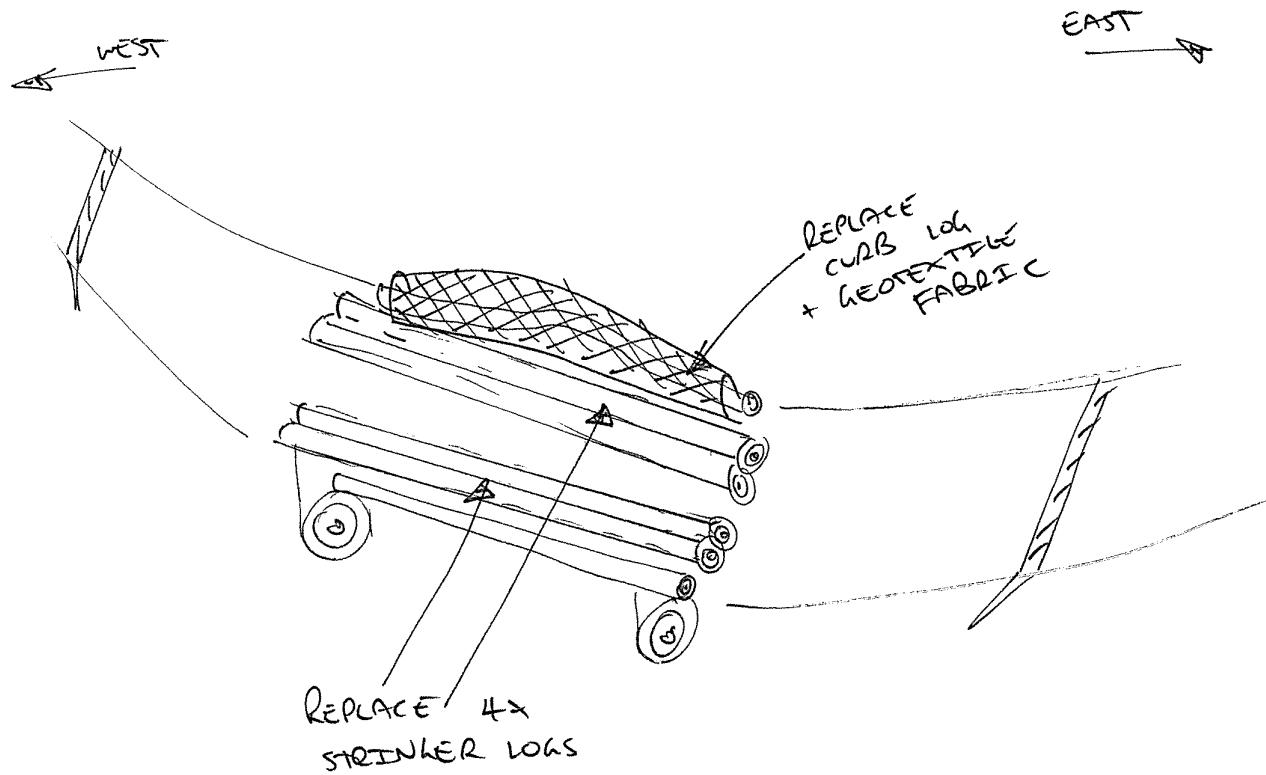
Waterway Classification: Fish Passage Class 3 –Minimal fish habitat
 Fisheries Licence Aquatic Habitat: Not Class 1 or 2

Assessors Name: Shane Clohesy**Crossing Type:** Log Bridge

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Replace 2x stringer logs on each side of bridge where wheels run. Lay silt mesh across drainage line while carrying out bridge repairs to capture any spilled sediment.	4 x stringer logs. Excavator Silt mesh.
Bed and Banks	Nil works required.	
Erosion and Sediment Control	Replace curb log and associated geotextile fabric on northern side of bridge. Seed & mulch on disturbed areas.	1 x curb log Geotextile fabric Seed & Mulch
Disposal of excess spoil	Re-use spoil as road base.	
Soil Stabilisation within 20m	Seed & Mulch disturbed areas.	Seed & Mulch
Road drainage within 5-30m • Type • outlet control	Install rubber flaps and mitre drains on both approaches. Utilise existing vegetation as outlet control.	2 x rubber flaps Dozer/Excavator

Date of Assessment: 03/04/2014

Final Crossing Use: Retain



Soil stabilisation must be completed within 5 days

Record implementation date here: _____

ATTACHMENT 3

POST-HARVEST BURNING PLAN

This burn plan has been planned and must be implemented in accordance with:

Bushfire Environmental Assessment Code (and accompanying Bush Fire Hazard Reduction Certificate).	X
Eden IFOA*	Ü

*This burn plan will be managed in accordance with the principles detailed in the FCNSW Corporate Fuel Management Plan 2008. All practical measures will be taken to ensure fire is contained within predetermined control lines and to prevent entry into exclusion areas. However due to the unpredictable nature of fire from time to time fire may escape the containment lines and enter exclusion zones. In these instances the Burn Supervisor should consider suitable strategies to manage the escaped fire.

PLANNING INFORMATION

Planned Burn Area: NHA of compartments 454, 561 & 562, Yambulla & Nungatta State Forest **LGA:** Bega Valley

Refer to Area Identification and Yield Estimates section of harvest plan.

Season: autumn / winter / spring

Bush Fire Management Zone: Majority of compartments is Land Management Zone (LMZ). Area adjacent to highway and pine plantation is Strategic Fire Advantage Zone (SFAZ).

BURN OBJECTIVES

- Promote regeneration of eucalypt species
- Protect & enhance ecological communities
- To reduce fine fuel loads to 4-8 tonnes/ha. (assisting future fire suppression)
- A burn coverage between 60-80% of harvested area.
- To contain fire within harvested area.
- To minimise mortality in trees retained under condition 5.6 of TSL (H & R trees and feed trees).
- To minimise defect damage to retained regrowth stems.

CRITICAL AND NON CRITICAL BOUNDARIES

A summary of critical boundaries where burning must be excluded are listed below (refer to harvest plan and BOM for further details).

Critical boundaries within the planned compartments:

- Coupes 1, 2 & 3 of compartment 454 (contains regrowth from 2007 integrated harvest).
- Coupes 2 of compartment 561 (contains regrowth from 2007 integrated harvest).
- Exclusions for Rare Forest Ecosystems, probable rainforest, ridge and headwater, streams and owl landscape.

Critical boundaries outside the planned compartments

- Exclusions for Rare Forest Ecosystems, probable rainforest, ridge and headwater, streams and owl landscape.
- National Park.
- Forestry Corporation of NSW softwood plantations.

Non-Critical Boundaries

Non-critical boundaries are areas within the planned compartments which are outside the nha where fire should not be deliberately introduced (through lighting patterns or direct ignition). However if fire does enter these areas, attempts to extinguish the fire are not necessary and it is acceptable to allow fire to burn out to a secondary containment line.

Snig track patterns should still aim to form a control line around these boundaries, however if this is impractical (e.g due to steep/rocky terrain) it is not necessary for SFO to seek approval for the construction a bare earth break.

- FMZ 3A

REGIONAL BURNING GUIDELINES

Max Temp (°C): 25 **Min RH (%):** 30 **Max Wind Speed (km/h):** < 20 Southerly aspect
< 15 Northerly aspect

Max BKDI: < 70 **Max FDI:** 8 (subject to area assessment). **Scorch Height:** 0.6 x dominant tree height

Max Fuel Moisture Range: 12-25% **Max Rate of Spread:** 300m/hr. **Average Flame height:** up to 4m

BURN AREA INFORMATION

Fine Fuel loads: 50-150 tons per hectare of logging slash, 10 – 20 tons per hectare in between tree heads.

Fuel arrangement: Multi-tiered structure (litter, grasses, shrubs, eucalypt regeneration and mature trees)

Terrain (gross area): 0% > 30°, < 1% @ 25°-30°, 5% @ 20°-25°, 45% @ 10°-20°, 50% @ 0°-10° slope.

Time since last burn: Unknown

IMPORTANT BURNING PRESCRIPTIONS

- A small test burn must always be lit prior to main burn. This will assist in determining FIRE BEHAVIOUR and IGNITION PATTERNS.
- **Seek information from Harvesting Contract Coordinator on regrowth excluded burn areas.**
- Sections will be lit by drip torch to a determined ignition pattern.
- Areas will generally be burnt from ridge tops down and into the wind to minimise excessive fire behaviour.
- **Minimise fire intensity in regrowth stands.**
- Where one or more of the parameters detailed in the regional burning guidelines is not met, burning may still be conducted provided the other parameters will provide favourable conditions for burning to meet the burn objectives. Any decision to conduct burning outside of the parameters must be fully documented by the Burning Supervisor in the field copy of the burn plan.

ENVIRONMENTAL PRESCRIPTIONS

FLORA AND FAUNA:

Refer to Flora and Fauna sections of the Harvest plan document.

The burn crew should be aware of and look for any H & R trees, *Allocasuarina* feed trees, eucalypt feed trees, stags or yellow bellied glider/squirrel glider sap trees where logging debris is stacked >1m high within the 5m radius of the tree. If any are found, minimise damage to these trees by not directly lighting within 5m of the tree.

SOIL, WATER & AQUATIC HABITAT:

Refer to Soils and Water and Drainage Features sections of the Harvest plan document.

- Preferred months of burn – March to August
- Fuel moisture differentials will be utilised to minimise impacts upon drainage features within the burn area

ABORIGINAL CULTURAL HERITAGE:

Refer to the cultural heritage section of the Harvest plan document to determine if there are any sites and if so refer to the cultural heritage map for the location of the sites. Significant sites, e.g. scar trees, groove stones, should be raked around to prevent fire damage. Where practical, burning of scattered artefacts should be avoided.

CONTROL AND STRATEGY

CONTROL LINES:

EXISTING Description of each control line	Description of Work Required	Completed Yes /No
Imlay Road	Nil	
Letts Mountain Road	Nil	
Mountain View Road	Nil	
Pericoe Creek	Near ground elevated fuel moisture content >25%	
2 nd , 3 rd & 4 th Order Streams on southern boundary of compartment 454.	Near ground elevated fuel moisture content >25%	
1 st & 2 nd Order Streams on northern boundary of coupe 1 in compartment 561.	Near ground elevated fuel moisture content >25%	
3 rd & 4 th Order Stream on northern boundary of compartment 562.	Near ground elevated fuel moisture content >25%	
Check for trees that could burn down and fall over any boundary roads and wet down, rake around or remove as necessary		
PROPOSED Description of each control line	Description of Work Required	Completed Yes /No
Boundary between NHA and Excluded Forest in coupe 2 of compartment 454 and part of coupe 3 in compartment 454.	Design snig track patterns so they double as bare earth containment lines. Where this is not practical, SFO to instruct contractor to construct a bare earth break along boundary of the exclusion (after seeking approval from OTL).	
Boundary between Planted Forest and NHA.	Design snig track patterns so they double as bare earth containment lines. Where this is not practical, SFO to instruct contractor to construct a bare earth	

	break along boundary of the exclusion (after seeking approval from OTL).	
Northern boundary of NHA in coupe 1 of compartment 561 (between 1 st Order streams and Letts Mountain Road.	Design snig track patterns so they double as bare earth containment lines. Where this is not practical, SFO to instruct contractor to construct a bare earth break along boundary of the exclusion (after seeking approval from OTL).	
Boundary between NHA and Excluded Forest in coupe 1 of compartment 562.	Design snig track patterns so they double as bare earth containment lines. Where this is not practical, SFO to instruct contractor to construct a bare earth break along boundary of the exclusion (after seeking approval from OTL).	
Scar trees, grinding grooves, nest trees, quality regrowth discovered during the harvesting operation.	Design snig track patterns so they double as bare earth containment lines. Where this is not practical, SFO to instruct contractor to construct a bare earth break (drained as per EPL snig track conditions) along boundary of the exclusion (after seeking approval from OTL).	

SMOKE HAZARD AND MANAGEMENT: <http://www.bom.gov.au/general/reg/smoke/nsw/index.shtml>

Smoke / Hazard Reduction Signs required?..... YES NO (R tick to indicate)

Smoke Dispersion Forecasting via BOM utilised?..... YES NO (R tick to indicate)

Safety Considerations (pre-burn)		DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Personnel	Names of fire crew documented daily.							
Visitors on site	Visitor on site induction carried out							
Neighbours notified	Documented in plan							
Traffic control	Traffic control signs to regulate traffic if required							
Smoke management:	Assessment of prevailing winds at the time of burn. Road side signs warning of smoke hazard.							

PRE-BURN PREPARATION ACTIVITIES AND RESPONSIBILITIES

Activity	Specifications and tasks	Responsibility (inc date)	Signature
Fuel monitoring	Regular monitoring prior to burning		
Weather monitoring	Conducted prior to and during burning operations.		
Trail preparation • Dozer/grader • Hand tools	Mineral earth control lines prepared prior to burning to contain fire within designated burning block.		
Neighbour liaison	Notification and communications documented.		
Liaison with fire & emergency authorities	“as above”		
Media releases	To advise local community of SF burning activities.		
Radio station notifications	“as above”		
Equipment	Ensure all required equipment is available.		
Communications	“as above”		
Visitor Safety	Burn is sign posted. All visitors to report to burn supervisor immediately		
Burn approval	Daily burn approvals given by delegated officers		
Supervisor to initial			

NOTIFICATION & RESOURCE REQUIREMENTS

Neighbours..... Contractors..... Lessees.....

Apiarists..... Shire FCO..... Govt Agencies.....

Notification Register:

RFS (Rural Fire Service)

Name	Position	Phone Number	Notified
	FCO		

NEIGHBOURS, APIARISTS AND OTHER PERMIT HOLDERS (Refer to main body of harvest plan for contact details and checklist of notification complete)

DAILY CREW SMEACS BRIEFING SHEET

		(tick daily when briefed)							
SITUATION		DAY	1	2	3	4	5	6	7
-	Burn area to be treated (location, boundaries, control line types and exclusive areas)	£	£	£	£	£	£	£	£
-	Burn area characteristics (e.g. terrain, forest cover, sensitive areas, etc)	£	£	£	£	£	£	£	£
-	Burn area access by road class (checked beforehand, dead ends, watering points etc.)	£	£	£	£	£	£	£	£
-	Fuel Loadings and fire behaviour prescriptions for the HRB area	£	£	£	£	£	£	£	£
-	Staging areas.	£	£	£	£	£	£	£	£
-	Expected weather	£	£	£	£	£	£	£	£
MISSION									
-	Overall aim of the hazard reduction burn.....	£	£	£	£	£	£	£	£
-	Site specific aims for sections of the HRB (eg, protection of patches of advanced regrowth, rainforest pockets, buildings, bridges, etc.).....	£	£	£	£	£	£	£	£
-	Secondary aim/s should the HRB escape	£	£	£	£	£	£	£	£
EXECUTION									
-	Plant and manpower resources (FCNSW, RFS, OEH, others).....	£	£	£	£	£	£	£	£
-	Division of burn area into 'Sections'.....	£	£	£	£	£	£	£	£
-	Starting points, starting times, finish times (start 'down wind' if possible).....	£	£	£	£	£	£	£	£
-	Safe 'approved' lighting patterns and directions	£	£	£	£	£	£	£	£
-	Work down-slope, keeping below active fire (except where good fuel breaks occur).....	£	£	£	£	£	£	£	£
-	Location and activity of other burning crews.....	£	£	£	£	£	£	£	£
-	Personal and crew safety - buddy system when lighting up	£	£	£	£	£	£	£	£
-	Progress reports at pre-designated times.....	£	£	£	£	£	£	£	£
-	Maintain awareness of other burning crews (do not light up below other burning crews).....	£	£	£	£	£	£	£	£
-	Expected fire behaviour, trouble points and contingency plans.....	£	£	£	£	£	£	£	£
-	Actions to be taken in the event of an escape e.g. to pause the light-up.....	£	£	£	£	£	£	£	£
-	End of burn debrief e.g. reporting areas requiring 'follow-up' patrols after burn	£	£	£	£	£	£	£	£
ADMINISTRATION									
-	Reporting field fire weather to the office at regular times.....	£	£	£	£	£	£	£	£
-	Receiving forecast weather reports from office	£	£	£	£	£	£	£	£
-	Logistical support (fuel, food, water, heavy plant, back-up crews etc.).....	£	£	£	£	£	£	£	£
CONTROL, COMMAND, COMMUNICATIONS									
-	Chain of command (burn supervisor and sector bosses)	£	£	£	£	£	£	£	£
-	Communications systems for fire-ground and command (UHF & VHF radios, mobile phones)	£	£	£	£	£	£	£	£
SAFETY									
-	Medical Emergency Evacuation Plan & Site Safety Plan	£	£	£	£	£	£	£	£
-	Areas of likely tree or limb falling hazards (methods to identify/mark hazards)	£	£	£	£	£	£	£	£
-	Look up and look around procedure (for self and workmates).....	£	£	£	£	£	£	£	£
-	Location first aid kits and first aiders.....	£	£	£	£	£	£	£	£
-	Pre-burn safety actions including 'Smoke Hazard' sign locations, traffic control plan etc.....	£	£	£	£	£	£	£	£
-	Location of safety zones, and escape routes	£	£	£	£	£	£	£	£
-	Safe parking of SF vehicles within the burn area and vehicle speeds during the burn	£	£	£	£	£	£	£	£
-	Crew vehicles to have headlights and flashing beacons on where practicable	£	£	£	£	£	£	£	£
-	Schedule adequate rest breaks and set appropriate work pace	£	£	£	£	£	£	£	£
-	Ensure crews have access to supplies of drinking water.....	£	£	£	£	£	£	£	£
-	Visitors to the site are inducted into the SSP	£	£	£	£	£	£	£	£

Day 1 - Burn Supervisor.....	Date.....	Day 2 - Burn Supervisor.....	Date.....
Day 3 - Burn Supervisor.....	Date.....	Day 4 - Burn Supervisor.....	Date.....
Day 5 - Burn Supervisor.....	Date.....	Day 6 - Burn Supervisor.....	Date.....
Day 7 - Burn Supervisor.....	Date.....	Day 8 - Burn Supervisor.....	Date.....
Day 1 - Burn Supervisor.....	Date.....	Day 2 - Burn Supervisor.....	Date.....
Day 3 - Burn Supervisor.....	Date.....	Day 4 - Burn Supervisor.....	Date.....
Day 5 - Burn Supervisor.....	Date.....	Day 6 - Burn Supervisor.....	Date.....
Day 7 - Burn Supervisor.....	Date.....	Day 8 - Burn Supervisor.....	Date.....

EMPLOYEE IDENTIFICATION

EMPLOYEE	NAME	PROOF OF ACCREDITATION (E.g. FCNSW RECORDS)	DATE	SUPERVISOR OR RELEVANT AGENCY SIGNATURE
Incident Controller				
Burn Supervisor				
Crew Leader				
Crew Leader				
Crew Member				

PERSONNEL AND EQUIPMENT REQUIREMENTS

Resource	State Forests	NPWS	Brigades	Contract Coordinator Signature
Incident Controller				
Crew Leaders				
Crew Members				
Tankers				
Slip – on Units	1+			
Dozer	n/a			
Helicopter	n/a			
Radios – handheld UHF	1 per person			
Weather monitoring equip.	1 per crew			

BURNING OPERATIONS RECORD

Forecast Weather and Indices (Obtain from Office)

See attached daily weather forecasts and relevant indices obtained from the Bureau of Meteorology.

Near Ground Fuel Moisture Content Readings

Control Line/Feature	Date	Location (Include GPS reading)	Fuel Moisture Content (%)

Burn Site Weather Readings

Take daily on site readings (hourly if possible) and note un-forecast weather changes.

FIRE BEHAVIOUR

Ignition details – DATE (s).....

Type: Aerial / Ground **Method:** Contour / Ridge / Road edge / Top disposal **Pattern:** Line / Spots

Incendiary Capsules used: _____ (aerial ignition only)

Ignition details – DATE (s).....

Type: Aerial / Ground **Method:** Contour / Ridge / Road edge / Top disposal **Pattern:** Line / Spots

Incendiary Capsules used: _____ (aerial ignition only)

Ignition details – DATE (s).....

Type: Aerial / Ground **Method:** Contour / Ridge / Road edge / Top disposal **Pattern:** Line / Spots

Incendiary Capsules used: _____ (aerial ignition only)

Ignition details – DATE/s

Type: Aerial / Ground **Method:** Contour / Ridge / Road edge / Top disposal **Pattern:** Line / Spots

Incendiary Capsules used: _____ (aerial ignition only)

POST BURN ASSESSMENT

Estimated burn coverage (% of net area): %

Estimated burn coverage: ha

Fine fuel reduced to an average of : t/ha

Estimated area of crown scorch : %

OPERATIONAL PERFORMANCE REVIEW

Burn complete? Yes/No

Follow up action required ? Yes/No

Burn contained within planned boundaries? Yes/No

Burn coverage objective met? Yes/No

Fine fuel reduction objective met? Yes/No

Environmental prescriptions met? Yes/No

Threatened Species License conditions met? Yes/No

Fisheries License conditions met? NA fisheries licence not triggered for this operation

Remedial Action required (if any): _____

Remedial works certified complete.

Work Supervisor _____ Date: _____

Comments: _____

Attach additional pages as required

Mapping Symbols Available in MapDesk				
Version 3.9 - July 2012				
Incident Location	Operational Features	Fire Incident		
 FireIncidentConfirmed  FireIncidentUnconfirmed  VehicleIncidentConfirmed  VehicleIncidentUnconfirmed  FloodIncidentConfirmed  FloodIncidentUnconfirmed  OtherIncidentConfirmed  OtherIncidentUnconfirmed	 AP AccessPointConfirmed  AP AccessPointProposed  AIR AirBaseConfirmed  AirBaseProposed  AMB AmbulanceLocationConfirmed  AMB AmbulanceLocationProposed  AA AssemblyAreaConfirmed  AA AssemblyAreaProposed  BC BaseCampConfirmed  BC BaseCampProposed  CC ControlCentreConfirmed  CC ControlCentreUnconfirmed  CP ControlPointConfirmed  CP ControlPointUnconfirmed  CustomPoint  DivisionalBoundary  DC DivisionalCommand  ER→ EscapeRouteConfirmed  ER→ EscapeRouteProposed  EC EvacuationCentreConfirmed  EC EvacuationCentreProposed  FIRE FireAppliance  HelibaseConfirmed  HelibaseProposed  H HelipadConfirmed  H HelipadProposed	 HydrantPoint  InformationPoint  LivestockReliefConfirmed  LivestockReliefUnconfirmed  Medical  MobileWeatherStation  Plant  PoliceMotorVehicle  PortableCommunications  PropertyDamageConfirmed  PropertyDamageUnconfirmed  RAFTCrews  R RefugeAreaConfirmed  R RefugeAreaProposed  X RoadClosureConfirmed  X RoadClosureProposed  SES SES Motor Vehicle  SectorBoundary  SC SectorCommand  SmokeHazardSign  SmokerOnGround  SmokerStanding  SA StagingAreaConfirmed  SA StagingAreaProposed	 TreeDownConfirmed  TreeDownUnconfirmed  WaterPoint  WH WaterPointHelicopter  WV WaterPointVehicle  AerialIgnitionComplete  AerialIgnitionPlanned  ArrowThin  ArrowThick  ControlLineCompleted  ControlLineProposed  MachineCutTrack  Track  EmergencyAlert  DT DivisionName  ST SectorName  AT Annotation  SN SafetyNote	 FireDirection  FireOriginUnconfirmed  Hotspot  SpotFireConfirmed  SpotFireUnconfirmed  WindDirection  BackburnLineBurning  BackburnLineCompleted  BackburnLineProposed  FireEdgeContained  FireEdgeGoing  FireEdgeInactive  FireEdgePredicted  BurntArea  PreviousBurntArea  ProposedBurnArea
Other Incident	Assets	Flight Plan	Fire Investigation	
 OtherIncidentPoint  OtherIncidentLine  OtherIncidentArea  FloodedPropertyConfirmed  FloodedPropertyUnconfirmed  BoatRescueConfirmed  BoatRescueUnconfirmed  FloodedAreaConfirmed  FloodedAreaPredicted	 Asset  AssetHazmat  AssetDefendable  AssetNotDefendable  AssetPotentiallyDefendable  EndangeredFauna  EndangeredFlora  HistoricSite  IndigenousSite  ThreatenedAsset	 FlightPlanWaypoint  FlightPlanRoute	 AdvancingFire  BackingFire  DistanceLine  Evidence  FenceLine  FireOriginConfirmed  Interest  LateralFire  Reference  Tree  Photograph  FireInvestigationSmallLabel FireInvestigationMediumLabel FireInvestigationLargeLabel	
Hazard Reduction				
 BurnInProgressSign  HRIgnitionDirection  HRActualPoint  HRProposalPoint  HRActualLine  HRProposalLine  HRActualArea  HRProposalArea				