LOCALITY MAP

Compartments 1359, 1360 & 1361

State Forest: Cathcart No:607

EDEN IFOA EDEN MANAGEMENT AREA

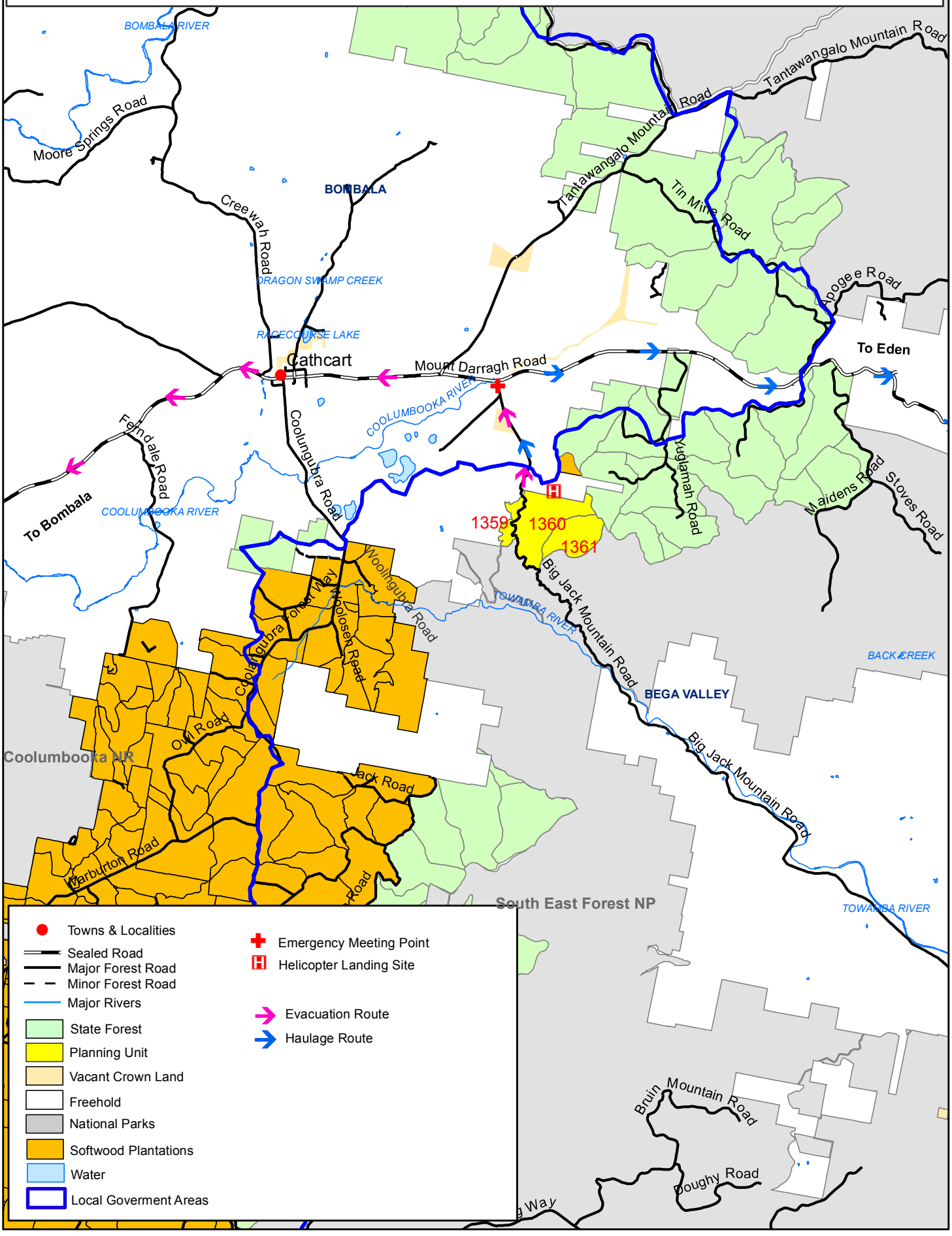
Scale: 1:100,000

Forestry Corporation

N

On FCNSW unsealed gravel roads

GDA



Harvest Plan Operational Map

Compartments:1359, 1360 & 1361

State Forest:Cathcart No:607

Eden IFOA

Map Sheet:CATHCART 8724-2N
COOLUMBOOKA 8724-2S

Prepared By: Julia Clark

Version: 1

OPERATIONS PLANNING MGR APPROVAL

APPROVED: Lee Blessington

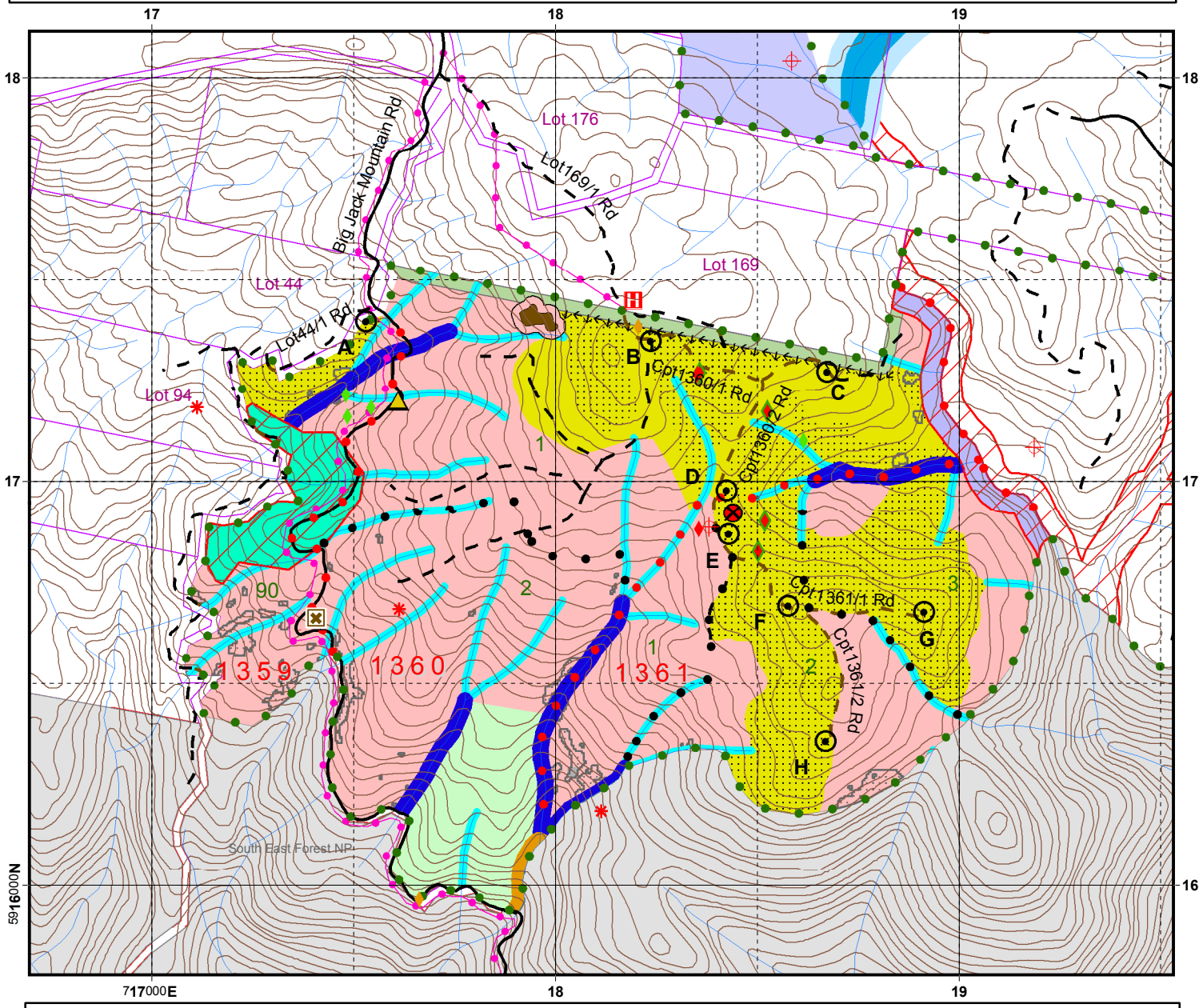
DATE: 01/12/2016

Forestry Corporation

N

SPEED LIMIT 60 On FCNSW unsealed gravel roads

GDA



LEGEND

BOUNDARIES
- State Forest Boundary
- Compartment Boundary
- Coupe Boundary
- Proposed Control Line

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

DUMPS & CROSSINGS
- Temporary Dry Weather

DRAINAGE
- Mapped LIC Drainage

NET HARVEST AREA
- FMZ 4/3B - MSW Verified
- FMZ 4/3B - MSW

TENURE
- National Park Estate
- Private Property

NON HARVEST AREA
- Probable Rock & Exclusion Zone (20m)
- Visual Exclusion Zone (30m)
- Special Prescription (FMZ 3B - Historical)
- Excluded Forest
- Owl Landscape
- Rare Forest Ecosystems
- Hardwood Plantations (FMZ 5)
- Probable Wetland & Exclusion Zone (40m)
- Mapped IHL 4 Exclusion Zone
- Slope >30 (Lidar)

FAUNA FEATURES
- Sooty Owl (Heard and observed)
- Yellow-bellied Glider (Heard)
- Powerful Owl (Heard and observed)
- Yellow-bellied Glider
- Yellow-bellied Glider (Feed Tree)
- Greater Glider
- Koala
- Varied Sittella

MAP FEATURES
- Underground Cable (Telstra)
- Gravel Pit

SAFETY POINTS
- Helicopter Landing Area

DRAINAGE FEATURE PROTECTION (EPL IHL 2 & TSL). NOTE: THE GREATER OF THE WIDTHS (BOLD) MUST APPLY

Feature	Filter Strip (EPL)	Stream Exclusion Zone (TSL)
Unmapped	**10m**	Nil
1st Order	**15m**	10m
2nd order	20m	20m
3rd order	25m	**30m**
4th order	25m	**50m**

0 125 250 500 750 1,000 Meters

Scale: 1:15,000

Contour Interval 10m

Harvest Plan Forest Type Map

Compartments:1359, 1360 & 1361

State Forest:Cathcart No:607

Eden IFOA

Map Sheet:CATHCART 8724-2N
COOLUMBOOKA 8724-2S

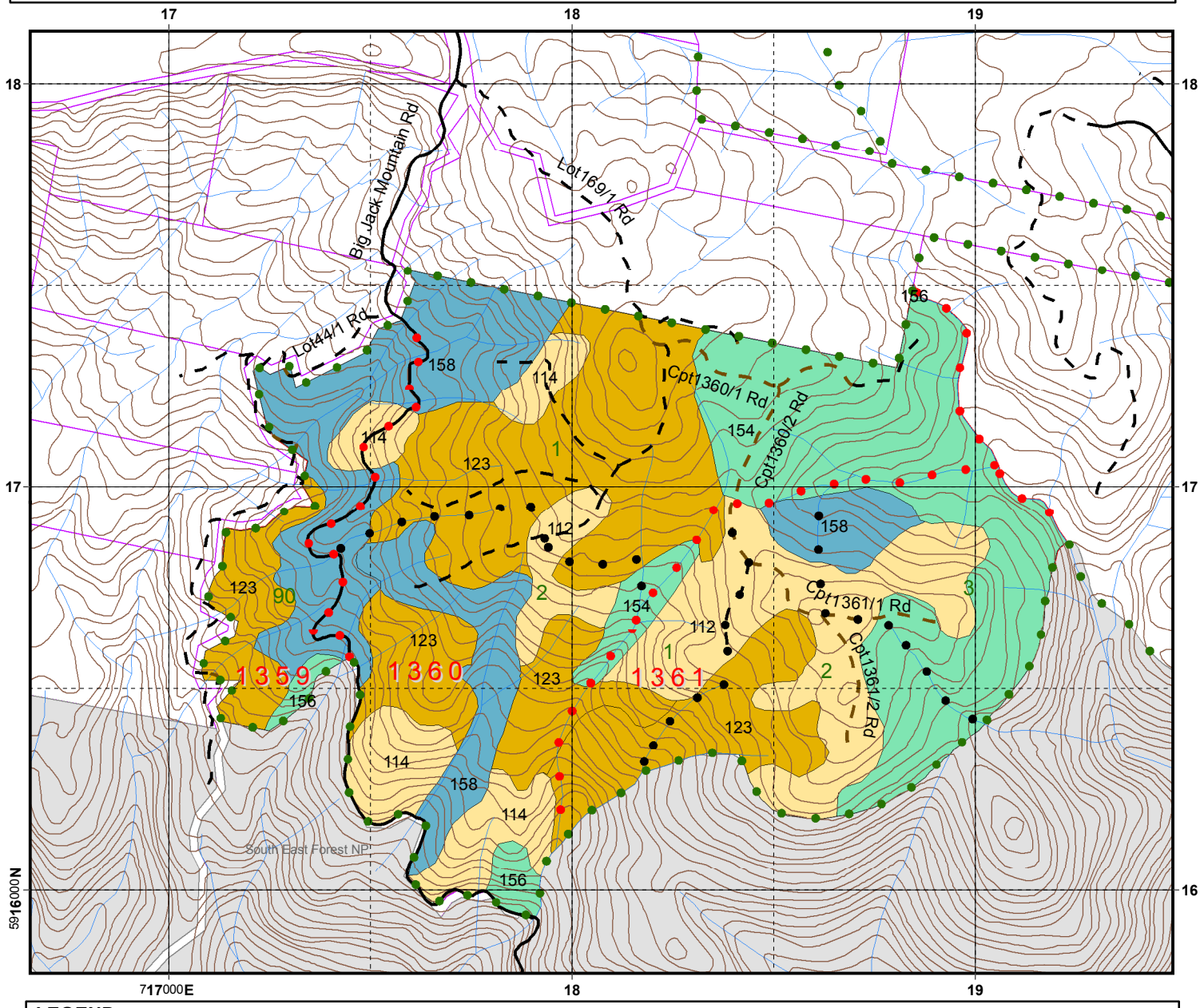
Prepared By: Julia Clark

Forestry Corporation

N

SPEED LIMIT 60 On FCNSW unsealed gravel roads

GDA



LEGEND

BOUNDARIES
- State Forest Boundary
- Compartment Boundary
- Coupe Boundary

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

DRAINAGE
- Mapped LIC Drainage

TENURE
- National Park Estate
- Private Property

FOREST TYPE RN17
- Type 112 Silvertop Ash
- Type 114 Silvertop Ash - Stringybark
- Type 123 Coastal Stringybark
- Type 154 Brown Barrel
- Type 156 Brown Barrel / Messmate - Ash
- Type 158 Southern Blue Gum

Forest Type RN17	No.	Hectares
Silvertop Ash	112	32.68
Silvertop Ash - Stringbark	114	16.83
Coastal Stringybark	123	74.26
Brown Barrel	154	50.57
Brown Barrel / Messmate - Ash	156	2.98
Southern Blue Gum	158	42.95

0 125 250 500 750 1,000 Meters

Scale: 1:15,000
Contour Interval 10m

Harvest Plan Habitat Class Map (Indicative)

Compartments:1359, 1360 & 1361

State Forest:Cathcart No:607

Eden IFOA

Map Sheet:CATHCART 8724-2N
COOLUMBOOKA 8724-2S

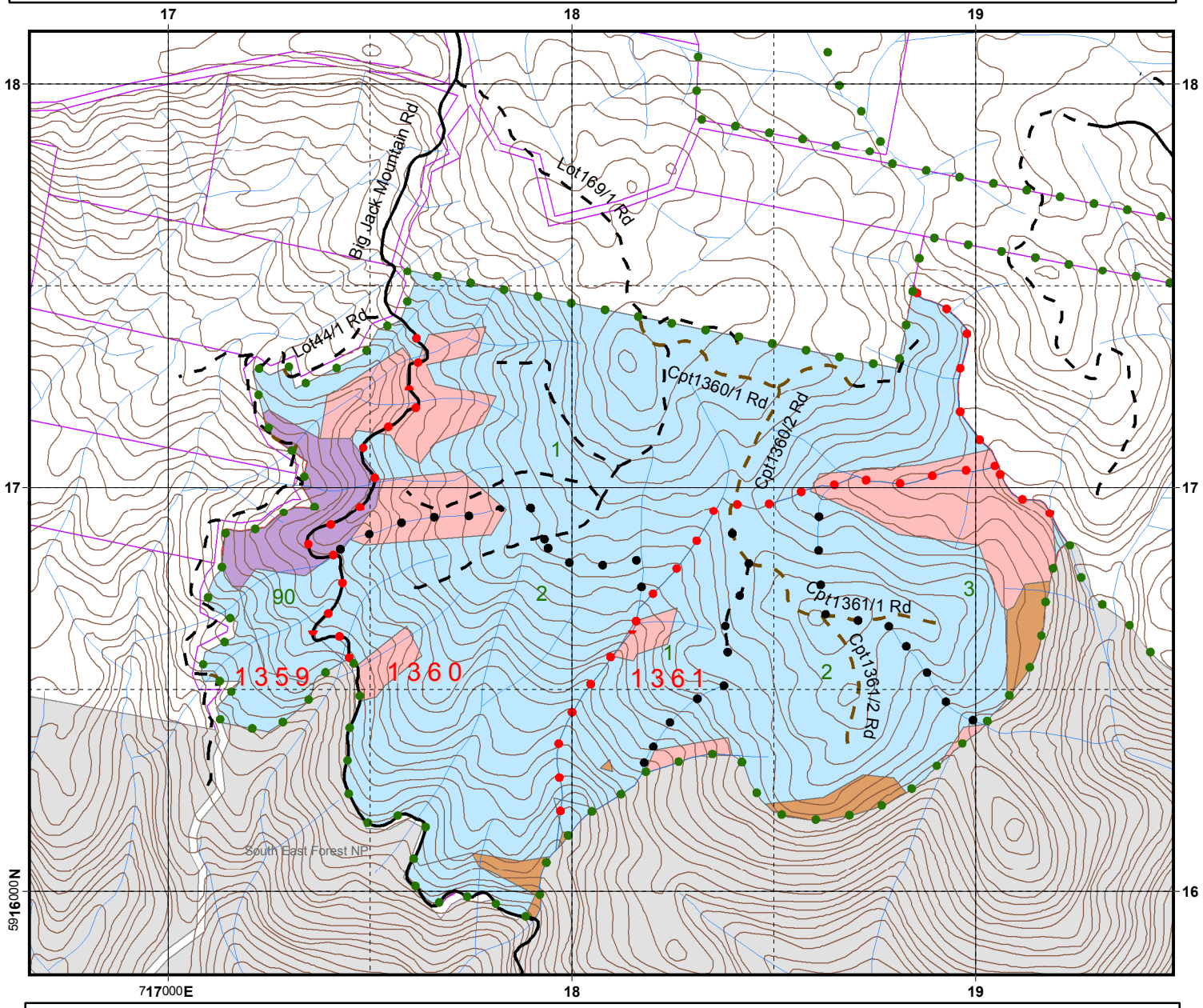
Prepared By: Julia Clark

Forestry Corporation

N

SPEED LIMIT 60 On FCNSW unsealed gravel roads

GDA



LEGEND

BOUNDARIES
- State Forest Boundary
- Compartment Boundary
- Coupe Boundary

HABITAT CLASS
- Unknown
- High
- Moderate
- Low

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

DRAINAGE
- Mapped LIC Drainage

TENURE
- National Park Estate
- Private Property

0 125 250 500 750 1,000 Meters

Scale: 1:15,000
Contour Interval 10m

HARDWOOD FORESTS- EDEN IFOA HARVESTING PLAN

Cathcart State Forest – Compartments 1359, 1360 & 1361

Certification

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

Prepared By: Harvest Planner	Julia Clark	Approved By: Operations Planning Manager	Lee Blessington
Signature	Julia Clark	Signature	Lee Blessington
Date	01.12.16	Date	01.12.16

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 and Habitat Quality Class (Indicative).

Description of Proposal

Harvesting of hardwood forest

(a) 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.

Abbreviations used in this plan

PA = Production Assistant, PtS= Protection Supervisor, PS = Production Supervisor, RC = Roading Coordinator, IFOA = Integrated Forestry Operations Approval, EPL = Environment Protection Licence, OEH = Office of Environment and Heritage.

Area Identification and Yield Estimates

State Forest	Compartment/s	Coupe/s	IFOA Region	Management Area	Certification
Cathcart	1359	90 (Part)	Eden	Eden	AFS 604224 AS4708:2013
Cathcart	1360	1 (Part)	Eden	Eden	AFS 604224 AS4708:2013
Cathcart	1361	2 (Part) & 3 (Part)	Eden	Eden	AFS 604224 AS4708:2013

	Cpt1359	Cpt1360	Cpt1361	Total
Plan Compartment ID	**22270**	**22271**	**22272**	NA
Gross Area (ha)	23.6	122.9	73.8	220.3
Net Harvest Area (ha)	2.8	27.5	30.6	60.9
Estimated Yield Pulp (t)	454 t	4455 t	1530 t	6439 t
Estimated Yield Sawlog (m3)	28 m3	880 m3	459 m3	1367 m3

Slope Classes (percent of harvest area)

Slope Class	Cpt 1359 % of harvest area	Cpt 1360 % of harvest area	Cpt 1361 % of harvest area
0-20º	93.7	96.8	94.7
20-25 º	6.3	3.2	5.3
25-30 º	0.0	0.0	0.0

ATTACHMENT 1: SITE SAFETY PLAN

Worksite Information	
Is this Declared Hunting Area: Yes	Comments:Compartments 1359, 1360 and 1361 are covered by a hunting exclusion zone.
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

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 snigging on roads or loading is occurring within 10 metres of a road. Warning of trucks entering must be **displayed 200 metres on either side** of all thoroughfare road approaches leading to areas where harvesting operations are in progress.
In addition to the above, when harvesting within two tree lengths of Big Jack Mountain Road, traffic must be temporarily stopped in accordance with a Traffic Control Plan. The Forestry Corporation of NSW will provide suitably accredited traffic controllers to implement “TCP78_Cpt1359_BigJackMountainRoad” when harvesting these areas.

This plan identifies haulage from Compartments 1359, 1360 and 1361 will be from private property roads (Lot 44-1 Road and Lot 169-1 Road) onto Big Jack Mountain Road (Shire Road) and then north on Big Jack Mountain Road turning east on Mount Darragh Road.
The intersections of Lot 44-1 Road and Lot 169-1 Road onto Big Jack Mountain Road (Shire Road), have been assessed as not achieving a minimum of 200m sight distance on both approaches. Therefore, prior to haulage commencing, a suitably qualified person must implement ‘TCP195_Lot44-1Road_BigJackMountainRoad” and “TCP195_Lot169-1Road_BigJackMountainRoad” (attached to this harvest plan), respectively at these intersection.

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

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.

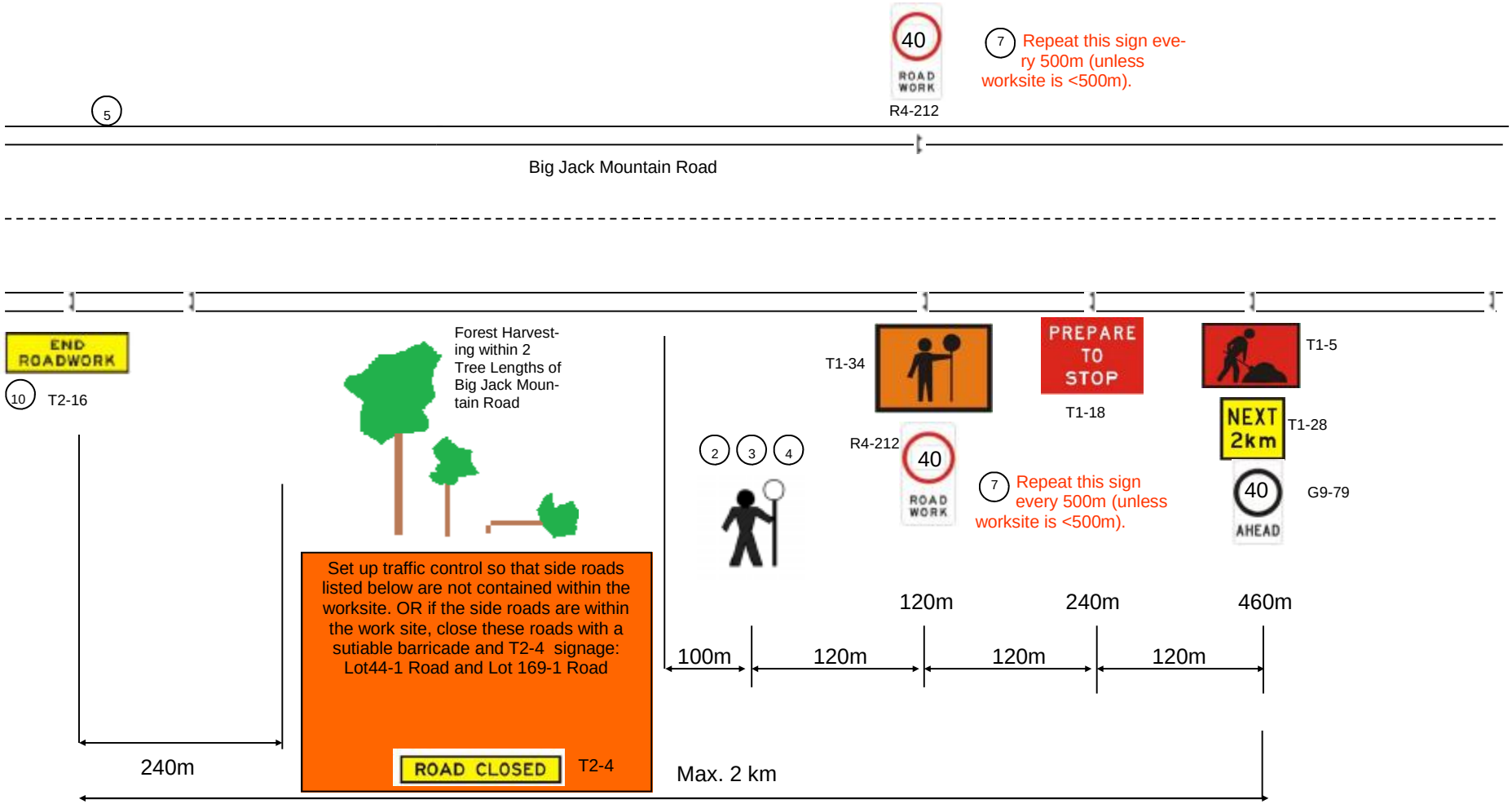
Name of on-site safety first aider/s

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 natural surface/gravel roads unless otherwise signposted. Compliance with FCNSW lights on policy.		
2. Underground cables	Minimise ground disturbance across or along cables. Increase depth of earth cover if required.		
3. Rocky steep terrain	Operators to assess work site within two tree lengths to identify immediate hazards. Communicate to other operators and mark sites.		
4. Hazardous or dead trees	**Refer to FCNSW WHS procedure 4.26.** Assess area within two tree lengths of work site. Assess risk, mark any Distinctly Dangerous Trees with the symbol **Ø** & if necessary remove hazard or move work site. Use machinery to assist with hazard removal if possible **Contractor is responsible for implementing control strategies during harvesting.**		
5. Overhead hazards associated with dumps	**Refer to FCNSW WHS procedure 4.26.** Assess overhead hazard within two tree lengths of the dump. Assess risk, & if necessary remove hazard or relocate dump site. **Contractor is responsible for implementing control strategies during harvesting.**		
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.		

- **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

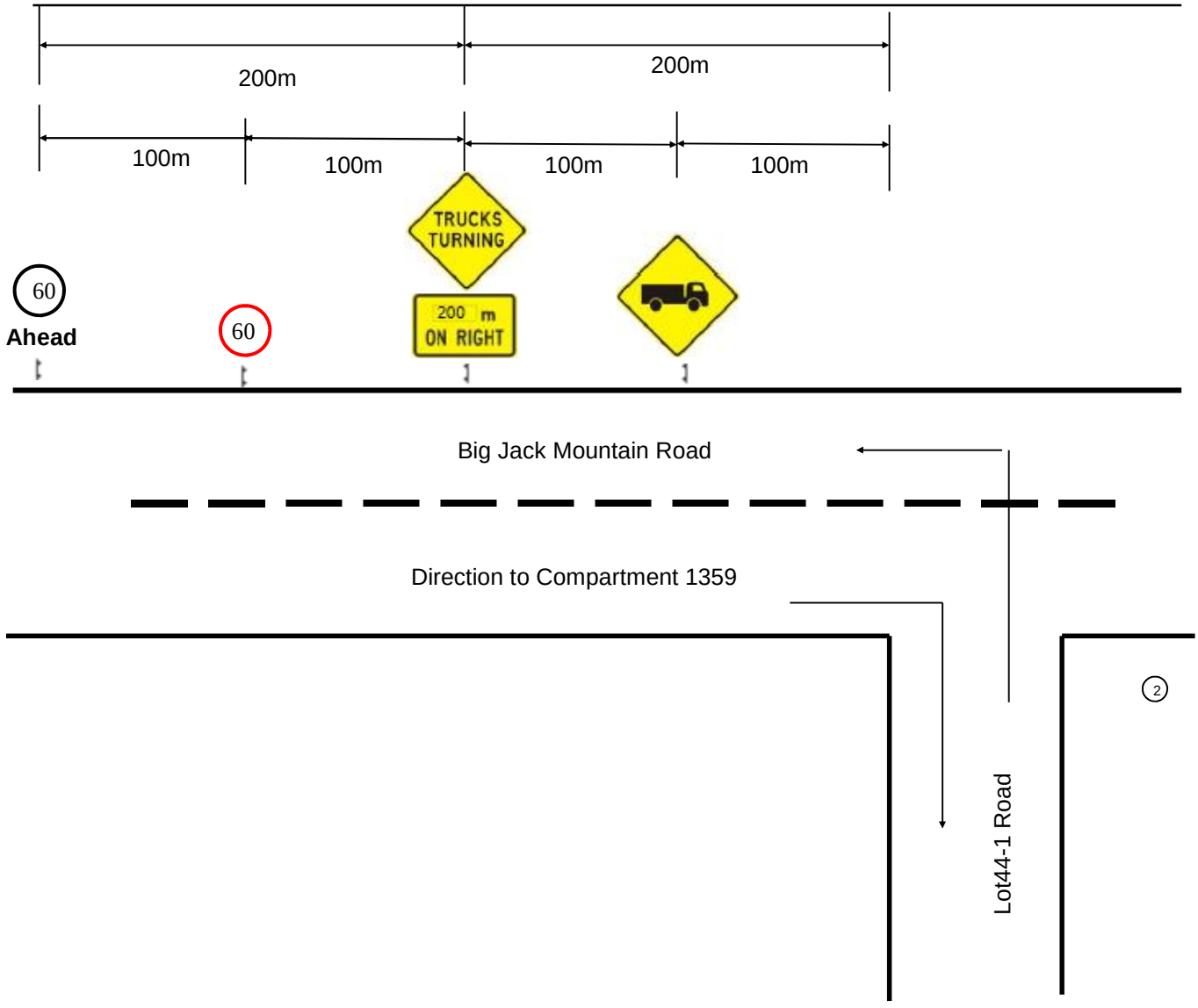
Forestry Corporation NSW Hardwood Forests Traffic Control Plan 78: Harvesting within 2 Tree Lengths of Big Jack Mountain Cathcart State Forest Compartment 1359 (modified from RTA Traffic Control at Work Site TCP 78)



FREQUENTLY CHANGING WORK AREA
2 LANE/2 WAY
ADT < 3000
Prepared by Julia Clark ,
Reviewed & Approved by Robert Young Red Card Certificate No.5192053861 on 25/05/2015

Notes:
1. Each stoppage less than 5 minutes.
2. Traffic controllers to stop traffic for duration of work and then direct traffic past work area, once tree falling has ceased and any debris has been cleared from road.
3.Traffic controllers and tree faller to maintain radio contact so that no tree felling is occurring while traffic is let through. Traffic controller to be located at least two tree length from falling operation at all times.
4. Traffic controller must have sight distance to oncoming traffic of at least 150m. Traffic controller must wear hardhat at all times.
5. Traffic control plan must be mirrored for traffic approaching from the opposite direction.
6. Where possible the worksite should be less than 500m to minimise the distance traffic is required to travel 40km/hr through the worksite. The worksite MAY be longer than 500m but only if this is the only way to set the traffic control up with adequate sight distances for the traffic controller.
7. Where worksite is more than 500m, repeater R4 212 (40km speed limit) signs are required every 500m.
8. Roadwork signs are to be covered when not in use (meal breaks and shift breaks).
9. Permanent road signs which contradict this TCP must be covered whilst TCP is in operation.
10. Roadwork 1km ahead (T1-16) only required where sight distance from traffic to Digger Man sign (T1-15) is less than 150m. When Roadwork 1km Ahead (T1-16) is used. End Roadwork (T2-16) must also be used.

Forestry Corporation NSW Eden IFOA TCP195: Lot44-1 Road & Big Jack Mountain Road:
(modified from RTA Traffic Control at Work Site TCP 195)



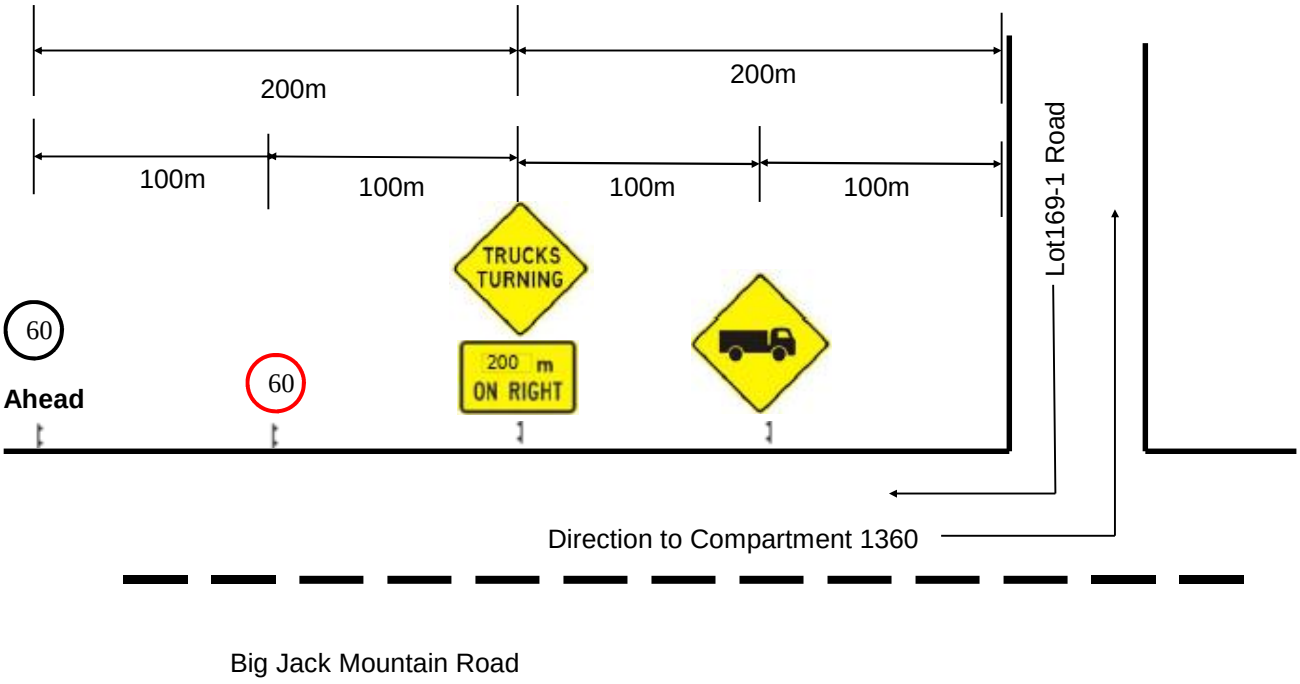
Notes:

1. Log Haulage - Intersection of Lot44-1 Road and Big Jack Mountain Road. Sight distance restricted to <200m when travelling in both directions along Big Jack Mountain Road.

2. Implement Traffic Control Plan on both approaches. Repeat Traffic Control Plan on this side.

LONG TERM USE
ADT < 1500, <20 Truck Movements, Sight Distance Restricted
Prepared by Julia Clark Reviewed & Approved by Rob Young Red Card Certificate No. 5192053861 on 25/05/2015

Forestry Corporation NSW Eden IFOA TCP195: Lot169-1 Road & Big Jack Mountain Road:
(modified from RTA Traffic Control at Work Site TCP 195)



(2)

Notes:

(1) Log Haulage - Intersection of Lot169-1 Road and Big Jack Mountain Road. Sight distance restricted to <200m when travelling in both directions along Big Jack Mountain Road.

(2) Implement Traffic Control Plan on both approaches. Repeat Traffic Control Plan on this side.

LONG TERM USE
ADT < 1500, <20 Truck Movements, Sight Distance Restricted
Prepared by Julia Clark Reviewed & Approved by Rob Young Red Card Certificate No. 5192053861 on 25/05/2015

MEDICAL EMERGENCY EVACUATION PLAN

Nearest reliable mobile phone reception (describe location)			
Next G Network: Poor	GSM: N/A	Satellite: N/A	
GPS Lat/Long: 36° 51' 31" S / 149° 26' 31" E (for Cpt 1359) & 36° 51' 52" S / 149° 26' 53" E (for Cpts 1360 & 1361)	GPS Lat/Long: 36° 51' 31" S / 149° 26' 31" E (for Cpt 1359) & 36° 51' 52" S / 149° 26' 53" E (for Cpts 1360 & 1361)	Datum: GDA 94	Zone: 55
Location description: Private property gate at the start of Lot169/1 Road for Compartment 1359 and at Dump B in Coupe 1 of Compartment 1360 for Compartments 1360 and 1361.			
Emergency meeting point for ambulance / police (refer to attached locality map)			
GPS Lat/Long: 36° 50' 36" S / 149° 26' 02" E	MGA: 717034E 5919741N	Datum: GDA 94	Zone: 55
Location description: Intersection of Mount Darragh Road and Big Jack Mountain Road.			
Helicopter landing place (refer to attached locality map)			
GPS Lat/Long: : 36° 51' 49" S / 149° 26' 52" E			
Location description: Flat area behind the house on private property (Lot 169)			

Procedures to obtain ambulance assistance	
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: • 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)	Contact nearest Forestry Corporation office on: Channel: 247 Telephone: 1300 880 548 Give details of the situation and ask for a 000 call to be placed.

000 operator question:	Response:
1. Police, Fire, Ambulance?	NSW Ambulance,
2. Suburb?	State Forest name: Cathcart Nearest town or locality: Cathcart Nearest ambulance station: Bombala
3. Address?	Big Jack Mountain Road
4. Nearest road junction/cross street?	Mount Darragh and Big Jack Mountain Road
5. Local government area?	Bombala
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 Bombala, head east on Mount Darragh Road for approximately 22 km to the junction of Mount Darragh Road and Big Jack Mountain Road.	
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

Compartment	1359	1360	1361
Year		2010	2011
TSI	X	X	X
HR Burning	X	X	X
Wildfires	X	X	X
Logging m^3	X	6,450	12,034

Ö - applies, **X** – not applicable

Silvicultural Planning

The stands to be harvested consist primarily of unlogged mature to over-mature Gums (*E. maidenii* and *E. cypellocarpa*) with some Brown Barrel (*E. fastigata*) and Messmate (*E. obliqua*) in Compartment 1359 and 1360 and thinned stands of predominantly Silvertop Ash (*E. sieberi)* with some Brown Barrel (*E. fastigata*) and Messmate (*E. obliqua)* in Compartment 1361.
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 15-20 years time.

Harvesting Prescription

Stand type	% of net area	Area (refer to HPOM for details)	Treatment (% INT, THIN)
Mature (mixed aged)	100%	Refer to HPOM	• 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. (integrated)

The PA 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 Operations Planning Manager.

Noxious Weeds/Disease/Pests Hygiene Requirements

The noxious weed fireweed (*Senecio madagascariensis)* is known to occur within the Compartments 1359, 1360 and 1361 and the surrounding area. In order to prevent the spread of fireweed from these compartments all harvesting machinery, equipment and vehicles coming in contact with the weed must be inspected prior to leaving the compartments and cleaned of weed.

- Trucks, Contractor and PA vehicles are to remain within the designated log dump locations and remain on licensed roads.
- Excavator operator is to ensure that all loose dirt/plant material is bumped from the logs before loading onto truck.
- If walking in the forest away from dumps and roads, you must brush loose dirt from boots before leaving the dump or compartment daily.
- Wash down all plant and vehicles which have ceased operating from one designated log dump prior to moving to another within the planning unit, using a slip-on with foam on to remove all dirt and mud.
- All contractor machinery is to be thoroughly washed down to remove all dirt/mud after the completion of the operation and before being floated from the compartments – PA to supervise.

Compartments 1359, 1360 and 1361 are 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 Council or south into Victoria must be inspected for vegetation containing Myrtle Rust. If present, the vegetation must be removed from the harvesting machinery, equipment or vehicle prior to leaving the compartments.

Permanent Growth and Research Plots

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

Private Property

Private properties occur adjacent to the northern and western boundaries of Compartment 1359 and the northern boundary of Compartment 1360 as indicated on the HPOM. Private property owners have been notified of the scheduled harvesting and post-harvest burning. The table below lists neighbours who adjoin Compartments 1359 and 1360:

Name	Lot/DP Number (s)	Postal Address	Contact number (& email if available)	Was harvest plan notification letter returned to sender?	Pre burn notification done?

- No harvest disturbance is permitted on private property.
- Harvesting debris must not be left within five metres of the boundary fence lines.
- Any damage to fences must be repaired by the contractor.
- Access roads must be maintained free of debris and in a trafficable state.
- Permit-to-enter has been obtained for access to Compartment 1359 through Lot 44. The permit also covers construction of Dump A and the operation of a snig track within Lot 44. Minimise the clearing required for snigging within private property by going through gaps in between trees. Utilised the existing road for snigging as much as possible to avoid the requirement for snig tracks. Upon completion of operation, ensure that the road is regraded and reinstated to the state prior to snigging.
- Permit-to-enter has been obtained for access to Compartments 1360 and 1361 through Lots 176 and 169. The permit is for use of the road only.

Occupation Permits

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

Name	Site Number	Contact number	Pre burn notification complete?

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

Rocky Terrain

Rocky terrain occurs within the net planned area. A rocky outcrop is located adjacent to the private property boundary in the north-west corner of the harvest area in Coupe 1 of Compartment 1360 as indicated on the HPOM. PA will continue to conduct on the ground mark-up and searches and report back to foresters/ecologist any feature requiring further investigation.

National Parks and Nature Reserves

South East National Park (Coolangubra Section) is located along the southern boundary of Compartments 1359, 1360 and 1361. Big Jack Mountain Road forms part of the boundary between National Park and State Forest.

No harvest disturbance is permitted within National Park or Nature Reserves.

- Harvesting debris must not be left within five metres of the boundary line.
- Boundaries must be marked in the field.

Underground Cables

A dial before you dig request query of the compartments indicates that underground Telstra cables are present along the eastern side of Big Jack Mountain Road and along part of Lot169-1 Road as indicated on the HPOM. Dial before you dig and field markers (where located) have been used to indicate the approximate location of the cable on the HPOM. Prior to any harvesting or roading activity taking place in the vicinity of the cables, the PA should inspect the area for markers or other evidence of the cables and flag with marking tape.
When carrying out harvesting or road maintenance activities near cables, minimise ground disturbance across or along and increase depth of earth cover if required.
From time to time above ground infrastructure associated with the cables occurs. Where this infrastructure is detected, the PA should pass the location and details on to the burning supervisor who should consider if extra protection measures (eg rake hoe line) are required.

Any damages to cables must be immediately reported to Telstra on 13 22 03.

Forest Management Zoning

FMZ 3B-Special Prescriptions (visual and historical) and FMZ 4- General Management (normal harvesting prescriptions apply) occur within the compartments. Refer to HPOM for more detail.

FMZ 3B (Visual) – The whole of Compartment 1359, part of Coupe 1 (on the top ridges) of Compartment 1360 and part of Coupes 2 and 3 (on the top ridges) of Compartment 1361 are zoned FMZ 3B (Visual). The areas proposed for this harvesting operation are not visible from Mount Darragh Road and are mostly set back from Big Jack Mountain Road. Both areas to be harvested in Compartments 1359 and 1360 are visible only from its' adjoining private properties. Compartment 1361 are only visible from the surrounding State Forest and National Park forested areas. Harvesting operations within this zone will be with the following additional conditions:

* Standard MSW prescriptions apply within 3B (Visual) areas.
* For Compartment 1360 – a 30m visual exclusion zone apply along the boundary of the private property as indicated on the HPOM.

FMZ 3B (Historical) – This zone in Compartment 1360, is within the excluded forest.

IFOA Required Approval of Forestry Activities

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

- Operations Planning Manager approval required for Stream Exclusion Zones.

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 –

Flora and Fauna

Refer to TSL Booklet for Conditions

Mark-Up Conditions

During the pre-harvest mark up the PA 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)*, **Varied Sittella** (*Daphoenositta chrysoptera*), **Flame Robin** (Petroica phoenicea), **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 PA 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 dbhob to meet the required retention rate.

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

Ö - Condition applies

*X Yellow Bellied Glider feed trees occur within Compartments 1359 and 1360 at locations shown in the table below. Note all of these are within the excluded forest area.

Species	Feature	Zone	GDA Easting	GDA Northing	Comments
Yellow-bellied Glider	Feed tree	55	717543	5917183	Marked with orange tape
Yellow-bellied Glider	Feed tree	55	717485	5917161	Marked with orange tape
Yellow-bellied Glider	Feed tree	55	717481	5917215	Marked with orange tape
Yellow-bellied Glider	Feed tree	55	718613	5917102	Marked with orange tape

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	Rainforest is not mapped within the compartments (#).
Rare Forest Ecosystems	5.5	Yes (South of net harvest area of Compartment 1359)
Riparian Protection Zones	5.7	Yes
Ridge & Headwater Habitat	5.8	No
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 as a risk that it may occur in the field. May require further investigation (#). There is a rocky outcrop mapped on the western side of Dump A in Coupe 1 of Compartment 1360.
Endangered Ecological Community	NA	Has been assessed as a risk that Tableland Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland EEC may occur in the field. May require further investigation#. **Removal of timber, 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 1359, 1360 & 1361	Licence conditions under the TSC Act
Threatened Frog General Protection Measures	No	5.12
Bird Nest and Roost Site Protection	No	5.13
Tree Bat Roost Protection	No	5.14.1
Subterranean Roost Protection	No	5.14.2
Protection of flying-fox Camps	No	5.14.3
Burning	Net planned area	5.16
Ground Habitat Protection	Net planned area	5.17

Species & Site-Specific Threatened Flora and Fauna Prescriptions

Contractors and supervisory staff must immediately report any sightings of Schedule 1 and 2 species to the PS. 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 PS.

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 1359, 1360 & 1361	Licence conditions under the TSC Act or relevant Site-specific prescription
Powerful Owl *Ninox strenua,* **Sooty Owl** *Tyto tenebricosa*	Yes	6.3 Owl Landscape Exclusion Zones occur in Compartments 1359, 1360 and 1361 (Refer to HPOM).
Koala *Phascolarctos cinereus*	Yes	6.11
Yellow-bellied Glider *Petaurus australis*	Yes	6.13

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

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

Log Dump Location

8 log dumps are indicated on the HPOM. Field location of log dumps must utilise the most level site available consistent with the location indicated on the HPOM. Inherent hazard level 2 Conditions 26, 27, 28, 30, 31 and 33 of Schedule 4 of the EPL must apply.

Expected Felling/ Extraction & Loading Method

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

Drainage Feature Crossings

There are no drainage feature crossings required for this harvesting operation.

Mass Movement

The Glenbog Goolangubra Soil Landscape has localised mass movement hazard but due to the low topography of the net harvest areas in Compartments 1359, 1360 and 1361, it is not considered a risk. As a precautionary measure:

- Ensure that construction of snig tracks should not involve side cuts of greater than 2 metre batter height.
- Wherever possible, snig tracks should follow the terrain rather than sidecut across contours, particularly where the slopes exceeds 25°.

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 PA approval for snigging or extraction provided they are drained to EPL specifications.

Post Log Burning Control Lines

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

The table below lists critical boundaries in Compartments 1359, 1360 and 1361. Where possible design snig track patterns so they double as bare earth containment lines as close as possible to these boundaries. Where this is not practical, it is NOT necessary to construct a bare earth break along boundary of the exclusion; the practice of no direct ignition will be followed.

Critical boundary	Completed Yes /No
Probable rocky outcrop and exclusion zone.	
Private Property boundary – Compartment 1359	
Excluded Forest	

The table below lists critical boundaries in compartments 1359, 1360 and 1361. Where possible design snig track patterns so they double as bare earth containment lines as close as possible to these boundaries. Where this is not practical, PA must instruct contractor to construct a bare earth break (drained as per EPL snig track conditions) as close as possible to the critical boundary.

Critical boundary	Completed Yes /No
Rare Forest Ecosystem	
30m visual exclusion area along private property boundary – Compartment 1360 – Construct a 20m width firebreak along the outside edge of the 30 m exclusion zone and the net harvest area.	

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 1359, 1360 and 1361 in Cathcart 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

Details to Record in PA 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 PA 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	No				
Mapped Drainage	No				
Rainforest	No				
Rocky outcrops	Yes	New	Yes		
Wetlands	No				
Cultural Heritage	No				
Existing Roads	No				
New Roads	No				
Heath	No				
Powerlines etc	No				
Other					

PA 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.

Dump number	Start date	Finish date	*Track drainage completed within 2 days (yes/no)	Date of temporary cessation	**Temporary track drainage completed within 5 days (yes/no)	Date resumed

*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 PA 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.

Type and number of structure	Start date	Finish date	Temporary crossing (yes/no)	* Soil stabilisation completed within 5 days (yes/no)	** Clearing beyond 3m upstream or downstream (yes/no)

* If soil is not stabilised within 5 days it must be recorded as a non-compliance including the reason why on a Non-Compliance 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	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA 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	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA 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	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA 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	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Road drainage												
Road sediment controls												
Road causeways												
Road gully stuffers												
Snig gully stuffers												
PA initial												
PA presence												

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

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

PA Notes

Date	Event	Signed

PA Notes (continued)

Date	Event	Signed

PA Notes (continued)

Date	Event	Signed

PA Notes (continued)

Date	Event	Signed

PA Notes (continued)

Date	Event	Signed

Clearance Certificate

COMPARTMENTS: 1359, 1360 & 1361, CATHCART STATE FOREST

To .....Production Assistant

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 Roading 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).....
Production Assistant

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 (PA estimate)	Number of AGS gaps created	Comments
Integrated/Modified shelterwod			
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.

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.	2890m/6	Yes
New roads to be constructed	0	NA
Existing crossings used	0	NA
New crossings to be constructed	0	NA
Length of road >10°	0	NA
Borrow pits and gravel pits	Yes	Yes (Obtain gravel from stockpile to build up start of Lot44/1 Road onto Big Jack Mountain Road)
Mass movement prescriptions apply	No	NA
Dispersible soil conditions apply	No	NA
Seasonality provisions apply	No	NA

Note: Maintenance works not completed by Roading Coordinator must be recorded and passed onto the PA 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
Lot44/1 Road (50 m – unlicenced – outside planning unit boundary) *FCNSW Responsibility*	Build up the intersection of this road and Big Jack Mountain Road with approx. 2 loads of gravel. Source gravel from nearby gravel pit off Big Jack Mountain Road. Clear on either side to allow safe truck passage. Ensure that the total width of the road does not exceed a maximum of 6 metres. Install drainage structures to allow for sufficient drainage of road. Upon completion of operation, tidy and reinstate road to its previous condition. **RC (Roading Coordinator)/PA Comments:**			
Lot169/1 Road (800 m – unlicenced – outside planning unit boundary) *FCNSW Responsibility*	Gravel or build up road where rutting has occurred. Clear on either side to allow safe truck passage. Ensure that the total width of the road does not exceed a maximum of 6 metres. Clean out existing relief pipe and mitres. Install additional drainage structures to allow for sufficient drainage of road if required. **Warning**: Telstra underground cable is located along this road and crosses section of this road.			

	Do not undercut this road. Refer to field Telstra marker posts for the location of this line. **RC (Roading Coordinator)/PA Comments:**			
Cpt1360/1 Road (620 m) *Contractor Responsibility*	Grade and reshape road as required. Clear up to 3 m on either side to facilitate truck movement. Install additional drainage structures according to EPL specifications. **RC (Roading Coordinator)/PA Comments:**			
Cpt1360/2 Road (320 m) *Contractor Responsibility*	Grade and reshape road as required. Clear up to 3 m on either side to facilitate truck movement. Install additional drainage structures according to EPL specifications. **RC (Roading Coordinator)/PA Comments:**			
Cpt1361/1 Road (700 m) *Contractor Responsibility*	Grade and reshape road as required. Clear up to 3 m on either side to facilitate truck movement. Install additional drainage structures according to EPL specifications. **RC (Roading Coordinator)/PA Comments:**			
Cpt1361/1 Road (400 m) *Contractor Responsibility*	Grade and reshape road as required. Clear up to 3 m on either side to facilitate truck movement. Install additional drainage structures according to EPL specifications. **RC (Roading Coordinator)/PA Comments:**			

General Instructions for road construction and maintenance:

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.	PA 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. PA 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	PA to monitor. Mitres with rock dissipater recommended.
Soil stabilisation techniques of disturbed areas	Seed & mulch as required	

Note: Maintenance works not completed by Roading Coordinator must be recorded and passed on to the PA.