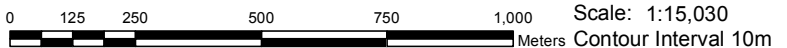


Prepared By: Julia Clark Map Sheet: NARRABARBA 8823-2N & NADGEE 8823-2S



n FCNSW
unsealed
avel road





HARDWOOD FORESTS- EDEN IFOA HARVESTING PLAN

Nadgee State Forest - Compartments 144 and 146

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: Planning Supervisor	Lee Blessington
Signature	Julia Clark	Signature	Lee Blessington
Date	23.04.15	Date	23.04.15

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 (Production Assistant and 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 = Rooding 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
Nadgee	144	1 (part), 2 & 5	Eden	Eden	AS4708:2007 ISO 14001
Nadgee	146	2 & 3	Eden	Eden	AS4708:2007 ISO 14001

	Cpt 144	Cpt 146	Total
Plan Compartment ID	21940	21941	NA
Gross Area (ha)	231.5	210.4	441.9
Net Harvest Area (ha)	40.4	67.0	107.4
Estimated Yield Pulp (t)	5,046 t	8,120 t	13,166 t
Estimated Yield Sawlog (m3)	1,200 m3	1,266 m3	2,466 m3

Slope Classes (percent of harvest area)

Slope Class	Cpt 144 % of harvest area	Cpt 146 % of harvest area
0-20°	90.4	73.5
20-25 °	9.6	19.6
25-30 °	0.0	6.9



ATTACHMENT 1: SITE SAFETY PLAN

Worksite Information			
Is this Declared Hunting Area: Yes		Comments: Hunting exclusion zone does not cover this area. Before harvesting operation commences (ie during mark-up), signage is required.	
Have Exclusion Zone signs been erected or checked prior to starting work daily.		Yes / No	
Comments:			
Description of Work to be undertaken on site: - Refer to description of proposal above.			
Site Supervisor			
Name:		Contact number:	
Communication			
Radio channel number	VHF:	UHF	
Other (e.g. hand signals):			
Traffic management (describe) e.g. Signage, Road closure, Traffic control			
<p>The logging contractor is responsible for traffic control on all State Forests 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 on either side of the junction/intersection of Naghi Road and Maxwell Road to warn motorists of emerging log trucks.</p> <p>This plan identifies haulage from the compartments will be north via Naghi turning right onto Princes Highway (100km/hr Road) or south on Naghi Road onto Maxwell Road and then onto Princes Highway during periods of maintenance work on Crossing C1 on Naghi Road. The intersections of Naghi Road and Maxwell Road onto Princes Highway have been assessed as achieving a minimum of 200m sight distance on both approaches. Therefore at this intersection additional signage in accordance with a Traffic Control Plan is not required.</p>			
Name of on-site safety first-aider/s			
Location of first-aid kit			
SITE HAZARD & RISK ASSESSMENT NO.	CONTROL	WHO	IMPLEMENTED
1. Vehicle collision at adjoining roads of various traffic levels	Warning signs at FCNSW intersections, road closure on FCNSW roads. Implement Traffic Control plans (where specified in this harvest plan). 60km/hr speed limit on all State Forest gravel roads unless otherwise signposted. Compliance with FCNSW lights on policy.		
2. Hazardous or dead	Refer to FCNSW operational safety standard		

trees	OSS010. Assess area within two tree lengths of work site. Assess risk, mark any Distinctly Dangerous Trees with the symbol Ø & if necessary remove hazard or move work site. Use machinery to assist with hazard removal if possible Contractor is responsible for implementing control strategies during harvesting.		
3. Overhead hazards associated with dumps	Refer to FCNSW operational safety standard OSS010. Assess overhead hazard within two tree lengths of the dump. Assess risk, & if necessary remove hazard or relocate dump site. Contractor is responsible for implementing control strategies during harvesting.		
4. 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.		
5.			

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



MEDICAL EMERGENCY EVACUATION PLAN

Nearest reliable mobile phone reception (describe location)			
Next G Network: Poor	GSM: N/A		Satellite: N/A
GPS Lat/Long: 37° 24' 06" S / 149° 49' 24" E	MGA: 749926E 5856814N	Datum: GDA 94	Zone: : 55
Location description: At Dump E (Coupe 3 of Compartment 146), off Naghi Road.			
Emergency meeting point for ambulance / police (refer to attached safety map)			
GPS Lat/Long: 37° 22' 52" S / 149° 48' 57" E	MGA: 749333E 5859116N	Datum: GDA 94	Zone: 55
Location description: Intersection of Naghi Road and Bruces Creek Road.			
Helicopter landing place (refer to attached safety map)			
GPS Lat/Long: 37° 22' 52" S / 149° 48' 57" E			
Location description: Intersection of Naghi Road and Bruces Creek Road.			
Procedures to obtain ambulance assistance			
<ol style="list-style-type: none"> 1. Dial 000 2. If there is no mobile coverage, dial 112 (which will work on any mobile phone system). 3. If no response on 112: <ul style="list-style-type: none"> • use a radio link (TARA, be discrete with personal information) • move to an area with mobile coverage • find a landline • use another network (e.g. a contractor's VHF radio) 		<p>Contact nearest Forestry Corporation office on:</p> <p>Channel: 247</p> <p>Telephone: 1300 880 548</p> <p>Give details of the situation and ask for a 000 call to be placed.</p>	
000 operator question:		Response:	
1. Police, Fire, Ambulance?		NSW Ambulance,	
2. Suburb?		State Forest name: Nadgee Nearest town or locality: Narrabarba Nearest ambulance station: Eden	
3. Address?		Naghi Road	
4. Nearest road junction/cross street?		Naghi Road and Bruces Creek Road	
5. Local government area?		Bega Valley	
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 Eden head south on the Princes Highway travel approx. 33km to intersection with Naghi Road (on left). Turn left onto Naghi Road and travel approx. 13km to the intersection of Naghi Road and Bruces Creek Road (on right).			
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 144

Year	1981	1999	2001	2003
TSI	X	X	X	Ö
HR Burning	X	Ö	X	X
Wildfires	X	X	X	X
Logging m ³	X	X	6,484	225

Ö - applies, X – not applicable

Compartment 146

Year	1979	1981	2004
TSI	X	X	X
HR Burning	X	X	X
Wildfires	X	X	X
Logging m ³	7,651	X	6,939

Ö - applies, X – not applicable

Silvicultural Planning

The stands to be harvested consist primarily of mature to over-mature Silvertop Ash (*E. siberi*), and Yellow Stringybark (*E. muelleriana*) and Monkey Gum (*E. cypellocarpa*) in unlogged stands in Compartment 144 and integrated harvesting in 1979 in Compartment 146 and thinning operations in both compartments during the early 2000s.

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%	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. (integrated)

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 Planning Supervisor.

Noxious Weeds/Disease/Pests Hygiene Requirements

Compartments 144 and 146 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.

Occupation Permits**Apiary**

One apiary site 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?
Trevor Jory (Black Range Farm)	AR3	0407399 429	

- The PA 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 Declared Wilderness (Nadgee Nature Reserve) and Nature Reserve form the southern boundary of Compartment 146. The net harvest areas are not directly adjacent to the National Park Nature Reserve. There is an area of FMZ 1 (Maxwell Flora Reserve) between the net harvest area within Compartment 146 and the National Park Nature Reserve.

No harvest disturbance is permitted within National Park Nature Reserve.

- Boundaries do not have to be marked in the field.

Forest Management Zoning

FMZ 1-Special Protection (Maxwell Flora Reserve), FMZ 3A Harvesting Excluded (Wildlife Corridor), and FMZ 4- General Management (normal harvesting prescriptions apply) occur within the compartments. Refer to HPOM for more detail.

FMZ 1 and 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 1//3A. If the PA identifies the need for harvesting related activities to occur within FMZ1//3A during the operation, the Harvest Planner must be contacted to seek Planning Supervisor approval.

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

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: **Glossy Black-Cockatoo** (*Calyptorhynchus lathami*), **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	0	5.6l	0	5.6j	0	5.6 k
Medium	8	5.6g)ii	8	5.6 h)ii	0	5.6 l	0	5.6j	0	5.6 k
Low	4	5.6g)iii	4	5.6 h)iii	0	5.6 l	0	5.6j	0	5.6 k

0 - Condition applies

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 (RF) is mapped within the compartments(s). Following verification of forest structure and species composition the extent of mapped RF has been changed on the HPOM. PA's must mark the exclusion zone as mapped. Unmapped RF must also be protected. (#)
Rare Forest Ecosystems	5.5	Yes
Riparian Protection Zones	5.7	Yes
Ridge & Headwater Habitat	5.8	No
Wetlands	5.9	Has been assessed and is unlikely to occur in the field. May require further investigation. (#)
Heath and Scrub	5.10	Has been assessed as a risk that it may occur in the field. May require further investigation. (#)
Rocky Outcrops and Cliffs	5.11	Has been assessed and is unlikely to occur in the field. May require further investigation. (#)
Endangered Ecological Community	NA	Has been assessed as a risk that Brogo Wet Vine Forest 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. An area of modelled Brogo Wet Vine Forest EEC in Compartments 144 and 146 was field verified and found not to meet the EEC guidelines and consequently, has been removed from HPOM.

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 144 and 146	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 144 and 146	Licence conditions under the TSC Act or relevant Site-specific prescription
Littlejohn's Tree Frog <i>Litoria littlejohni</i>	Yes	6.2B The location of this record is on the boundary of Compartment 146 adjacent to excluded forest. As such the exclusion zone required has not been mapped on the HPOM.

Threatened species and habitat features within trigger distance	Records in 144 and 146	Licence conditions under the TSC Act or relevant Site-specific prescription
Masked Owl <i>Tyto novaehollandiae</i> , Sooty Owl <i>Tyto tenebricosa</i>	Yes	6.3 Owl Landscape Exclusion Zones occur in Compartments 144 and 146. (Refer to HPOM).
Long-footed Potoroo (<i>Potorous longipes</i>)	No	If this species is identified in the compartments or within 100m of the compartment boundary inform the Senior Field Ecologist immediately to apply for a site specific prescription.
Long-nosed Potoroo <i>Potorous tridactylus</i>	Yes	6.7 Long-nosed Potoroo retained tree buffer is shown on the HPOM. Harvesting and burning must be excluded from these areas.
Yellow-bellied Glider <i>Petaurus australis</i>	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

The harvest area within Compartment 144 is situated on moderate to high coherence (and non dispersible) Ordovician metasediments which has been verified as soil regolith 3 on the upper slope and ridge area and soil regolith 1 in the moist gullies.

The majority of the harvest area within Compartment 146 is situated on moderate to high coherence (but non-dispersible) Watergums Adamellite with a section of Coupe 2 situated in moderate to high coherence (and non-dispersible) Ordovician Metasediments which has been verified as soil regolith 3 for the upper slope and ridge area and soil regolith 1 in the drainage feature exclusion area.

For this harvest plan, standard conditions for harvesting and snagging apply for Compartments 144 and 146.

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

12 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 dozer, and loading method is by excavator.

Drainage Feature Crossings

One existing snig track crossing (S1) and one existing road crossing (C1) are approved for use on drainage features. (Refer to HPOM). Crossing details are contained in Attachment 2 of this Plan. Snig track crossing details are provided below:

Crossing Name & Coordinates	Crossing details	Required Works
S1-existing Easting 750110 Northing 5856371	Mapped 1 st order drainage line, occurs as a drainage line in the field. Natural Causeway crossing. Not class 1 or 2 Fisheries Licence aquatic habitat. Class 4 fish passage class: unlikely fish habitat.	Do not pull out trees on the edges of track pavement. Cut off the trees. Armour track pavement with rock/gravel if required in wet conditions. Drain within 5 – 20 m on both approaches. Install cross banks/rollovers on completion of use within timeframes and spacing's specified in EPL.

Mass Movement

Compartments 144 and 146 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 is an existing gully stuffer on a road crossing on the boundary of Coupes 4 and 5 in Compartment 146. This road and the existing gully stuffer will not be reopened or utilised for this harvesting operation.

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 crossings. 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 boundaries 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 144 and 146. Where possible design snig track patterns so they double as bare earth containment lines as close as possible to these boundaries. Where this is not practical, it is NOT necessary to construct a bare earth break along boundary of the exclusion; the practice of no direct ignition will be followed.

Critical boundary	Completed Yes /No
FMZ 1 Maxwell Flora Reserve.	
FMZ 3A (Wildlife Corridor).	
Probable Heath and exclusion zone.	
Excluded Forest.	

The table below lists critical boundaries in Compartments 144 and 146. 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 Bega Grass Forest (20).	

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 144 and 146 in Nadgee 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	Yes	Error	Yes		
Rocky outcrops	No				
Wetlands	No				
Cultural Heritage	No				
Existing Roads	Yes	Error	Yes		
New Roads	Yes	New	Yes		
Heath	No				
Powerlines etc	No				
Other - EEC	Yes	Error	Yes		

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.

[illegible]

* 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	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												
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	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												
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	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												
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	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												
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

[illegible]

[illegible]

PA Notes (continued)

[illegible]

Clearance Certificate

COMPARTMENTS: 144 and 146

NADGEE STATE FOREST, EDEN IFOA

ToProduction 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 these compartments. 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 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.

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.	6950m/4	Yes
New roads to be constructed	200 m/2	Yes
Existing crossings used	1	Yes
New crossings to be constructed	0	NA
Length of road >10°	0m	NA
Borrow pits and gravel pits	0	NA
Mass movement prescriptions apply	No	NA
Dispersible soil conditions apply	No	NA
Seasonality provisions apply	No	NA

Note: Maintenance works not completed by 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
Naghi Road (5200 m) <i>FCNSW Responsibility</i>	Grading is required road for the northern 3 km section of the road. For the rest of the southern section, grading is only required for sections of the road. Clean out inlets and outlets of existing pipes. Install mitre drains according to EPL specifications. RC/PA Comments:			
144-1 Road (1000 m) <i>Contractor Responsibility</i>	Grade and reshape road as required. Clear up to 3 m on either side to facilitate truck movement. Replace rollovers with rubberflap drains for ease of truck movement. Install additional drainage structures according to EPL specifications. RC (Roading Coordinator)/PA Comments:			

144-2 Road (350 m) <i>Contractor Responsibility</i>	Grade and reshape road as required. Clear up to 3 m on either side to facilitate truck movement. Replace rollovers with rubberflap drains for ease of truck movement. Install additional drainage structures according to EPL specifications. RC (Roading Coordinator)/PA Comments:			
146-2 Road (400 m) <i>Contractor Responsibility</i>	Grade and reshape road as required. Clear up to 3 m on either side to facilitate truck movement. Replace rollovers with rubberflap drains for ease of truck movement. Install additional drainage structures according to EPL specifications. RC (Roading Coordinator)/PA Comments:			
Crossing C1 (Naghi Road) <i>FCNSW Responsibility</i>	Refer to attached crossing form. RC (Roading Coordinator)/PA 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
144-2 Ext. Rd	100m	7m	10°	20°	1m	100m	No	Retain	Contractor		
146-1 Rd	100m	7m	7°	16°	<1m	100m	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.	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 Roding Coordinator must be recorded and passed on to the PA.

Cpt:146 **Date:**18.12.2014 **WAYPOINT#:**E750110 N5856371 **Photo:** N**CROSSING NAME:** S1 (mapped DL)

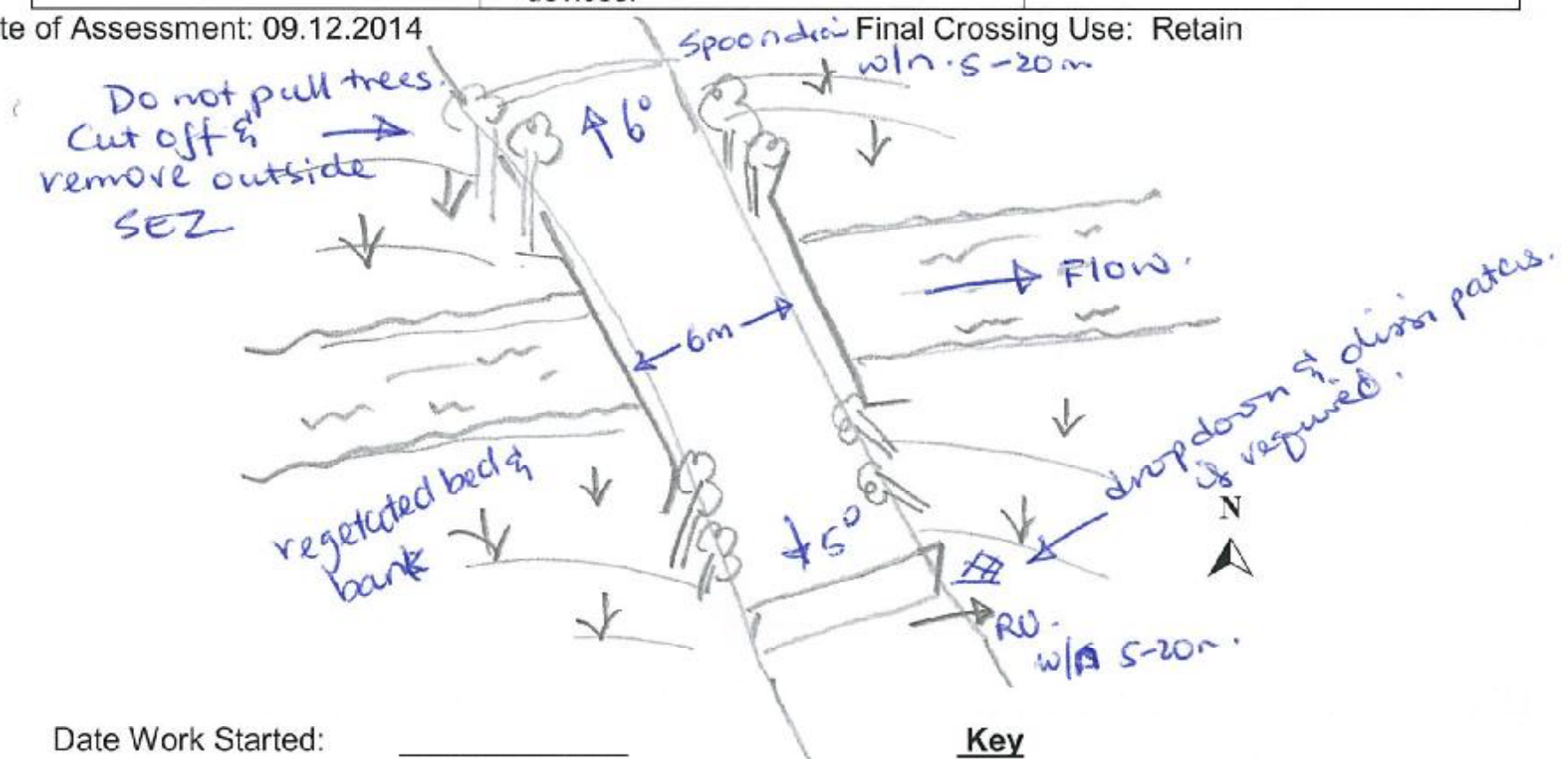
Waterway Classification: Fish Passage Class 4- Unlikely fish habitat.

Fisheries Licence Aquatic Habitat: Not class 1 or 2

Assessors Name: Phil Goldberg **Crossing Type:** Existing Natural Causeway.

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Stable at time of assessment? y	NA.
Bed and Banks	Stable at time of assessment? y	NA.
Erosion and Sediment Control	<ul style="list-style-type: none"> - Minimize roadside clearing and soil disturbance to the greatest extent practicable. - Seed and mulch as required. Install rock/gravel if required in wet conditions. 	Seed & mulch. 100mm rock/gravel.
Disposal of excess spoil	<ul style="list-style-type: none"> - Do not pull out trees on edges of road pavement. Cut off trees. All excess spoil to be removed outside of SEZ. 	Dozer/Excavator.
Soil Stabilisation within 20m	<ul style="list-style-type: none"> - Seed and mulch disturbed areas. 	Manual labour/Seed & mulch.
Road drainage within 5-20m <ul style="list-style-type: none"> • Type • outlet control • table drain checking devices 	<ul style="list-style-type: none"> • Upon completion of crossing usage install rollovers on both approaches within timeframes specified in EPL sch 4, 79 & 80. • Install dropdown & dissipaters/slash at outlets of rollovers. • If possible utilise cross fall drainage, if not install hay bales or natural (rock/logs) checking devices. 	Dozer/Excavator

Date of Assessment: 09.12.2014



Date Work Started: _____

Date Work Finished: _____

Soil stabilisation must be completed within 5 days

Record implementation date here: _____

Key

→Ru	Rubber strip
→M	Mitre drain
xxx	Roadside clearing
→Ro	Rollover drain
I	Sill Log
ooooo	Rock
ψ	Seeding
▽	Silt trapping
∴	Gravel

Cpt: 146 **Date:** 18.12.2014 **Waypoint:** E749439 N5859784 **Photo:** N**CROSSING NAME:** Crossing C1, (mapped DL)

Waterway Classification: Fish Passage Class 4- Unlikely fish habitat

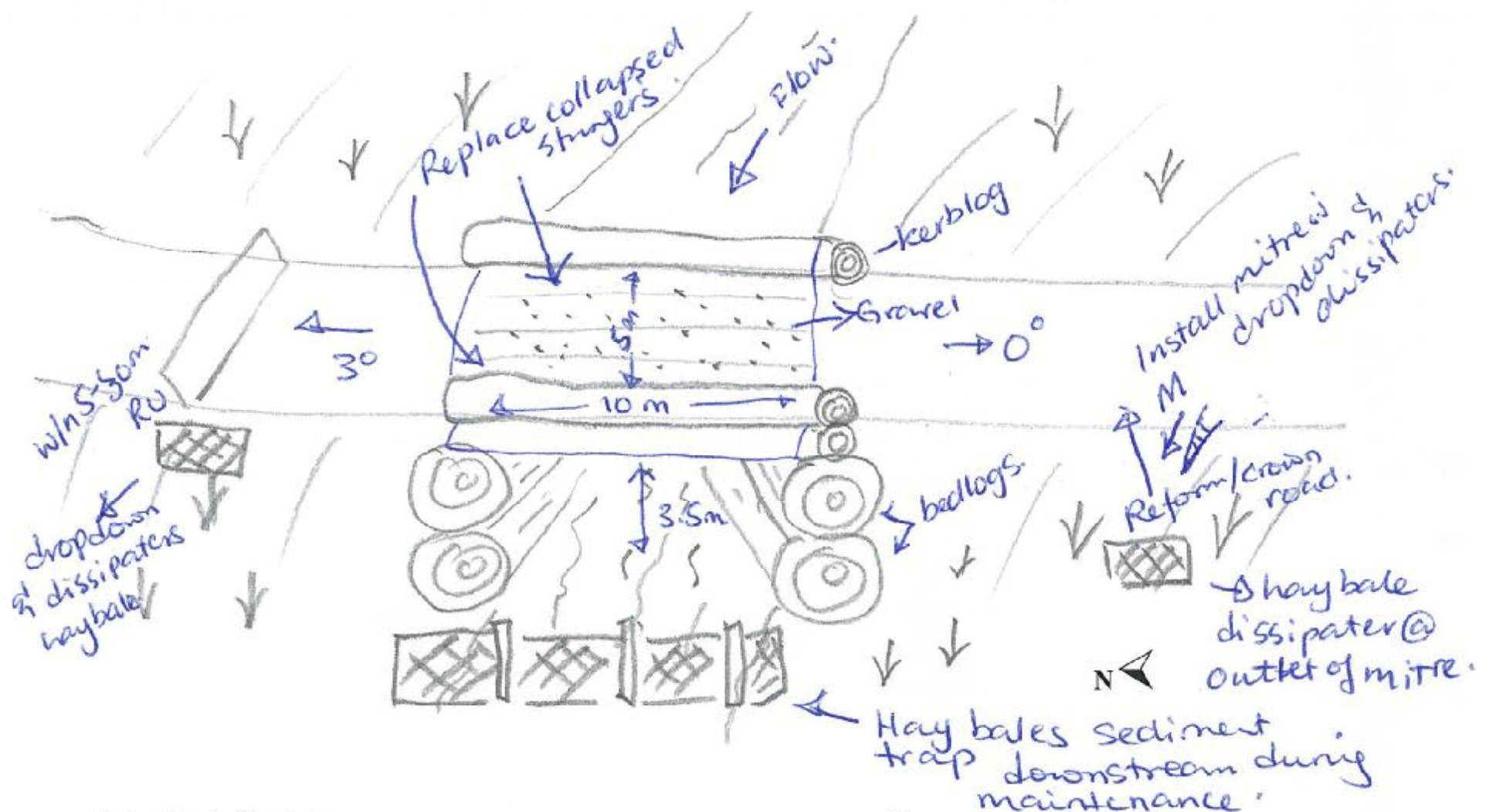
Fisheries Licence Aquatic Habitat: Not class 1 or 2

Assessors Name: Troy Burdett**Crossing Type:** Existing K2 log bridge.

Features	Works (As per EPL Schedule 5)	Plant/Materials
Structure	Remove fill and broken and/or decaying stringers. Lay new sections of geotextile and install new stringers. Re fill and grade road pavement.	Dozer/Excavator. 4 new log stringers.
Bed and Banks	Minimize disturbance to the bed and banks to the greatest extent possible.	
Erosion and Sediment Control	Minimize disturbance and clearing to the greatest extent possible. Install sediment traps where required. Seed and mulch disturbed areas.	Sediment traps. Seed and mulch.
Disposal of excess spoil	Outside the stream exclusion zone.	
Soil Stabilisation within 20m	Seed and mulch disturbed areas.	Seed and mulch.
Road drainage within 5-30m <ul style="list-style-type: none"> Type outlet control table drain checking devices 	Northern approach – install rubberflap. Southern approach – Install mitre. Install drop down and dissipaters at outlets of drains.	

Date of Assessment: 15.12.2014

Final Crossing Use: Retain



Date Work Started: _____

Date Work Finished: _____

Soil stabilisation must be completed within 5 days

Record implementation date here: _____

Key

→Ru	Rubber strip
→M	Mitre drain
xxx	Roadside clearing
→Ro	Rollover drain
I	Sill Log
ooooo	Rock
ψ	Seeding
▽	Sediment control
::	Gravel