



Plantation Management Plan Private Property

Landowners: P&M Lindsay

East Nannup 2
& Kearney 4



1.	INTRODUCTION	5
2.	LAND INFORMATION	6
2.1	Area	6
2.2	Locality Map and Access roads	6
2.3	Natural features	6
2.4	Improvements	8
3.	PLANTATION ESTABLISHMENT PLAN	9
3.1	Species to be planted and source of stock	9
3.2	Areas to be planted, compartment sizes	9
3.3	Access roads and firebreaks	9
3.4	Site preparation and planting technique	9
3.5	Direction of planting lines in relation to contours and natural drainage	9
3.6	Description of weed control methods and buffer zones	10
3.7	Control of vermin and declared weeds	10
3.8	Clearing of woody vegetation (native or exotic species), including paddock trees to be removed	10
4.	TREE FARM TENDING PLAN	11
4.1	Fertilising schedule	11
4.2	Weed management	11
4.3	Monitoring and contingencies for disease and pests	11
4.4	Road and Firebreak maintenance	11
4.5	Grazing strategy	11
4.6	Firebreak Pruning	11
5.	FIRE MANAGEMENT PLAN	12
5.1	Landowner property details	12
5.2	Property details of neighbouring locations	13
5.3	Local fire agencies	13
5.4	Risk of ignition	13
5.5	Detection of fires	14
5.6	Location of fire control equipment	14
5.7	Initial attacks on fires	14
5.8	Fire breaks	15
5.9	Method of road, track and firebreak maintenance	15
5.10	Water supplies	15
5.11	Direction indicators of water points, road signs and other features	16
5.12	Measures to protect powerlines, gas pipelines and Telstra Cables	16
5.13	Surrounding fuels	16
6.	TIMBER HARVESTING PLAN	17
6.1	Location of harvesting operation	17
6.2	Harvest Schedule (to be confirmed prior to operations)	17
6.3	Harvesting operations	17
6.4	Machinery and transport	17
6.5	Environmental Measures	17
6.6	Safety	18



APPENDIX 18

7. AUTHORISATION 18



All relevant maps and plans are attached.

The following maps and plans are attached:

Map 1: Plantation Establishment map (P2017)

Table 1: Guidelines for applying operation restrictions due to predicted high fire danger

Procedure 1: Contractor Procedure F1, Fire Requirements

Procedure 2: FPC's Burn Prescription

References:

- *Code of Practice for Timber Plantations in Western Australia (FIFWA 2006)*
- *Guidelines for Plantation Fire Protection (FESA 2011)*
- *Local Authority Annual Firebreak Orders*
- *WA Planning and Development Regulations - Local Planning Schemes (2015)*
- *WAPC SPP 3.7 Planning in Bushfire Prone Areas (2015)*
- *FPC Plantation Manuals, Procedures, Technical Specifications & Work Instructions*
- *Code of Practice for the use of agricultural and veterinary chemicals in Western Australia(2005)*
- *Forest Products Act WA (2000)*
- *Carbon Rights Act (2003)*
- *Environmental Protection (Clearing of Native Vegetation) Reguiations (2004)*
- *Wildlife Conservation Act (1950)*
- *Environmental Protection and Biodiversity Conservation Act (1999)*
- *Soil and Land Conservation Act (1945)*
- *Bush Fires Act (1954)*
- *Occupational Health and Safety(1984)*
- *Safety and Health Code for Native Forest / Hardwood Logging and Plantation Logging (2006)*



2. LAND INFORMATION

2.1 Area

The properties are located approximately 6 km southeast of Nannup along East Nannup road. The three locations represent approximately 86.4 ha of proposed *Pinus radiata* plantation and are situated adjacent to the states softwood plantation (Folly).

Location	Deposited plan	Nett Ha Pine
Lot 137	DP 246151	32.6 ha
Lot 83	DP 23898	10.7 ha
Lot 86	DP 99143	43.1 ha
		86.4 ha

The freehold land is zoned for the purpose of agriculture, there are several plantations established in the nearby area.

The property is located in the Hardy Estuary – Blackwood River water catchment area having an annual rainfall of approximately 840 mm. This is not a Public Drinking Water Source Area (PDWSA)

2.2 Locality Map and Access roads

There is a Plantation Establishment map attached to this management plan that defines the extent of the proposed plantation in the context of neighbours and existing roads. Lot 137 is immediately adjacent to FPC's Folly Plantation and all access is via the road network to the east through the existing plantation and off Lindsay Rd that forms the perimeter of the existing state owned land. Lot 83 is accessible via an easement south onto East Nannup Rd and also off Lindsay Rd to the north of this location. Lot 86 is immediately south of East Nannup Rd and has several access gates into the property and an internal network of access roads used previously for plantation harvesting and management.

2.3 Natural features

2.3.1 Significant landscapes, streams, rivers, lakes, ponds, swamps, drains etc

A field assessment of the property has been completed by FPC staff with the landowner to identify any significant landscape features. The general landscape features of the property will be maintained and the proposed plantation will only be established in areas where previous plantations were grown. All remnant vegetation will be retained and defined waterways will be excluded from establishment and left undisturbed.

There are also a number of reliable dams/soaks throughout the properties that will be maintained with minimal earth breaks of 6m surrounding them to ensure access in the summer months.



1. INTRODUCTION

Nannup landowners Mr Michael and Mr Peter Lindsay own a property 6km southeast of the Nannup town site on the East Nannup Rd and propose to develop 86.4 ha of softwood timber in partnership with the Forest Products Commission (FPC) of WA. The three parcels of land have previously been utilised for timber in recent years and the landowners wish to maintain this land use in line with the Nannup Shires local Planning Scheme No 3.

Plantation land use is recognised as a Bush Fire Prone land use and such is subject to SPP 3.7 (2015), SPP2.5 Rural Planning (2016) and LPP 021 Bushfire Management. This Plantation management plan outlines how these responsibilities will be met by the landowners in conjunction with the FPC.

Engagement with stakeholders is an integral part of the FPC's operations and is embedded in its core values.

Stakeholders are those people and organisations who can influence FPC's outcomes, have an interest in, or are affected by the FPC's activities. Effective stakeholder engagement assists the FPC to achieve an environmentally sustainable, renewable and commercially viable forest products industry. It is also essential to ensure stakeholders' needs and interests are consistently, transparently and meaningfully considered in FPC's activities and to ensure the success of ongoing operations.

The plantations will be secured by FPC on behalf of the state of WA for a minimum of 30 years in accordance with the *Forest Products Act WA (2000)* under a Timber Share farming Agreement (*Profit a Prendre*). This document will be lodged along with a deposited plan with the registrar of titles at Landgate WA

This document outlines the following in relation to this plantation:

1. Introduction
2. Land information
3. Plantation Concept Plan
4. Tree Farm Tending Plan
5. Fire Management Plan
6. Timber Harvesting Plan (interim)
7. Authorisation



2.3.2 Principal soil types

The principal soil types consist of e.g. loamy duplexes (loam and clay loam over clay) with some areas of discontinuous granite and small pockets of gravel.

2.3.3 Areas of native vegetation with high or low natural integrity

There are isolated patches of slightly degraded Jarrah woodland from previous grazing within the proposed planting area and these areas will be retained as remnant vegetation.

2.3.4 Cultural and heritage values

The following actions have been taken to determine the presence of cultural and heritage sites on the property:

- The Shire's Municipal Historical Inventory has been checked for the presence of significant values;
- A search for Heritage Council registered sites has been completed;
- Department of Parks and Wildlife (DPaW) and/or Department of Indigenous Affairs (DIA) database's have been checked for registered indigenous sites;
- The owners have been consulted to identify cultural sites known to them.

No cultural sites located have been identified within 1 km of the planting area.

2.3.5 Threatened and Priority Species and Ecological Communities

Where activities related to this plantation are likely to directly or indirectly affect threatened and priority species of flora, fauna and ecological communities, the following Acts, Regulations and Plans will be complied with:

- *Environmental Protection (Clearing of Native Vegetation) Regulations (2004)*
- *Wildlife Conservation Act (1950)*
- *Environmental Protection and Biodiversity Conservation Act (1999)*

DPaW's FMB database has been checked with no threatened and priority species identified within 1 km of the proposed planting areas.



2.4 Improvements

2.4.1 Buildings

A single Shed on Lot 86 is the only structure on the properties.

2.4.2 Roads, bridges, creek crossings

Unsealed road/track systems exist throughout the properties that provide adequate access during establishment and ongoing operational management of the plantation. A small creek crossing exists on Lot 83 and is serviceable to light traffic only.

No further construction of access routes will be required during the establishment and management phase of the plantations however additional road surface upgrade may be required once the harvesting phase commences to allow safe extraction of timber.

2.4.3 Fences, gates, powerlines, Telstra cables and dams

Fences are located both within and surrounding the properties. The plantation area will be fenced with access gates identified on the establishment map. Perimeter fences are adequate for stock exclusion from the planting area from neighbouring properties.

Power line easements

There is one power line within the proposed plantation area on Lot 86, a firebreak consistent with Western Power guidelines will be left unplanted, as shown on the attached Establishment map.

Communication cables

There are no underground communications lines present within the planting area that have been either identified through ground truthing or in discussions with the landowner.

Water Supply Pipes

There are no water supply pipes within the proposed planting area.

2.4.4 Sensitive Areas

Identification of sensitive areas has occurred by completing a site inspection, speaking with the owner, interpreting aerial photographs and checking relevant databases.

Sensitivities that have been identified include the immediate neighbours on Lot 85, Lot 74, Lot 42 and Lot 84 and these will form the basis of this plantation's stakeholder data base and will be consulted and formally notified of plantation operations as they are scheduled to occur.

The status of sensitive areas and neighbours and the requirement to undertake precautionary measures will be reviewed prior to any spray event, to ensure measures are current and appropriate.



3. PLANTATION ESTABLISHMENT PLAN

The proposed plantation seeks to maximise commercial viability while ensuring that environmental, social, aesthetic and cultural values are not compromised. Careful planting design and establishment aims to redress environmental problems associated with rising water tables and erosion issues.

3.1 Species to be planted and source of stock

The site is to be planted with Pinus Radiata seedlings sourced from the FPC Manjimup Nursery.

3.2 Areas to be planted, compartment sizes

The Establishment map details the size of the compartments ranging from 2.2 to 13.2 hectares. These sizes are considerably smaller than the maximum limits recommended *Guidelines for Plantation Fire Protection (2011)*

3.3 Access roads and firebreaks

Access roads and firebreaks are shown on the Establishment map. External/perimeter firebreaks will be 15 metres wide with 6 metre wide internal firebreaks. Firebreak maintenance to local authority and industry standards is the responsibility of the landowner under this agreement and will be assessed annually by FPC to ensure they conform with LGA and FPC standards.

3.4 Site preparation and planting technique

Most areas will be machine mounded over old stump alignments, some areas are likely to be spot cultivated with a "braake cultivator" reducing disturbance to topsoil to minimise risk of erosion while still providing an adequate seedling bed.

Trees are to be manually planted by FPC contractors in June/July/August 2017 with a stocking rate to be applied of 1250 seedlings per hectare (sph) (a spacing of 2mx4m).

Seedlings will be supplied in boxes directly from the FPC West Manjimup Nursery. Boxed seedlings will be stored in a shed or under a tarp when in the field, prior to planting. FPC planting contractors will be responsible for transporting seedlings from a central distribution point within the property to sections within the proposed planting area by 4x4 utilities and All-Terrain Vehicles (ATV) motorbikes as approved by FPC.

3.5 Direction of planting lines in relation to contours and natural drainage

The planting areas consist of free draining loams without significant gradients in the high rainfall zone; therefore the erosion potential has been assessed as being relatively low. Planting lines follow original stump lines in most cases across the contour to facilitate extraction to existing access tracks and to minimise potential for erosion events.



3.6 Description of weed control methods and buffer zones

Weed control will be carried out with the use of pesticides applied by FPC contractors with appropriate health department licences.

Depending on the weed species present and those predicted to germinate during the establishment phase, broad ground applications will be used where possible however aerial applications may be considered where access is restricted and application window is reduced. The status of sensitive areas/neighbours and the requirement to undertake precautionary measures will be reviewed prior to a spray event, to ensure measures are current and appropriate.

All prescriptions to be applied will adhere to FPCs technical specifications that are within pesticide label rates and have AVPMA permit approval for Forestry applications in WA.

3.7 Control of vermin and declared weeds

The site has been checked for the presence of vermin and it is anticipated that there will only be a minor impact on the planted area from rabbits & kangaroos.

3.8 Clearing of woody vegetation (native or exotic species), including paddock trees to be removed.

The removal of the current standing 2 year old *E. globulus* regrowth and post-harvest *Pinus radiata* debris will be removed in preparation for planting. Heaping and burning of debris will be completed in line with local fire season restrictions and will be carried out in autumn. All adjacent stakeholders including the Shire will be notified prior to and on the day of burning through FPC's Prescribed Burn Plan.

Please see attachment: Procedure 2 – FPC's Burn Prescription

No areas of remnant vegetation, notifiable under the Soil and Land Conservation Act of Western Australia are to be cleared as part of the proposed planting.



4. TREE FARM TENDING PLAN

4.1 Fertilising schedule

FPC staff will take soil samples prior to planting to establish the need to apply additional fertilizer to the three sites. As all areas are coming out of a timber rotation there may be the need for an application shortly after establishment in the first year.

FPC will monitor the progress of the plantation over its lifetime and will prescribe fertiliser applications if nutrient deficiencies are identified from foliar sample analysis of retained stems and/or soil sampling

4.2 Weed management

Weed status will be monitored on a regular basis in the initial 6-7 month establishment period leading into the summer months. Should additional planting be required in the 2nd year of establishment, Weed growth will be addressed on a needs basis with selective herbicides approved for Forestry use in WA and applied within FPC technical specifications.

4.3 Monitoring and contingencies for disease and pests

Plantings will be monitored on a weekly basis during the period September through to January during the first year after establishment and 3-6 monthly in subsequent years. Pests will be controlled as and when required using licensed pesticides approved for Forestry use in WA and applied by operators operating under all specifications as required by relevant authorities and acts.

4.4 Road and Firebreak maintenance

Firebreak maintenance to local authority and industry standards is the responsibility of the landowner under this agreement and will be assessed annually by FPC to ensure they conform with LGA and FPC standards. (Refer: *Fire Management plan responsibilities*)

4.5 Grazing strategy

The owners currently graze livestock on some locations however this will cease prior to and for a 3-4 year period after planting.

Following establishment, the site will be assessed to determine when the trees are of a height to allow for grazing by livestock. All associated grazing would be encouraged by FPC to reduce the fire hazard by keeping grass fuels to a minimum and generally occurs after year 3 depending on plantation development.

4.6 Firebreak Pruning

Plantation edges and access roads will be monitored by FPC staff with low/high pruning carried out on trees at age 3-5yo to ensure they conform with LGA and FPC standards.



5. FIRE MANAGEMENT PLAN

The objective of the Fire Management Plan is to implement the infrastructure and systems in place to prevent fires entering or escaping from plantations and to determine the operational response in the event of a wildfire. It aims to firstly mitigate risk(s) and provide a framework for responders if a fire does occur.

All fire control activities must adhere to the *Bush Fires Act (1954)* and are guided by the *Guidelines for Plantation Protection (2011 DFES)* Forest Industry document.

5.1 Landowner property details

Name	Peter James Lindsay and Michael James Lindsay
Address	19 Dunkley St, Capel WA, 6271
Phone Number	
Location Number (s)	Lot 137 on deposited plan 246151 Lot 83 on deposited plan 23898
Species of Trees Planted	Pinus radiata
Total Area Planted	32.6 ha
Previous Land Use and Condition	Ex softwood and hardwood plantation
Adjacent Land Use	Grazing farmland to the west and state softwood plantation to the east

Name	Michael James Lindsay
Address	19 Dunkley St, Capel WA, 6271
Phone Number	
Location Number (s)	Lot 86 on diagram 99143 Lot 83 on deposited plan 23898
Species of Trees Planted	Pinus radiata
Total Area Planted	53.8 ha
Previous Land Use and Condition	Ex hardwood plantation
Adjacent Land Use	Hardwood plantations, cattle grazing, short stay accommodation and small on farm apiary business



5.2 Property details of neighbouring locations

NAME	ADDRESS	PHONE NUMBER	LOCATION NUMBER(S)
Michael Lindsay	19 Dunkley St Capel 6271		70, 81
Patricia Fraser	PO Box 14, Nannup WA 6275		71, 73
Simon Green	Lot 85 East Nannup Rd, Nannup 6275		85
Graeme Ness	East Nannup Rd, Nannup WA 6275		74
Thomas Persey	PO Box 97, East Nannup WA 6275		41,42, 43
Wade Mazzucchelli	39 Gemini Way, Madeley WA 6065	No information provided by Shire	82
Department of Parks and Wildlife	Southwest Highway Kirup	9731 6232	934

5.3 Local fire agencies

AGENCY	ADDRESS	PHONE NUMBER	CONTACT PERSON / POSITION
FPC Nannup	Warren Rd Nannup	9756 3788	Work Centre Manager
FPC Bunbury	Robertson Drive	9725 5288	Regional Manager
DPaW District	Blackwood/Kirup	9731 6232	Duty Officer
Shire Office - CESM	Nannup	9756 1018	Rob Bootsma
Chief Fire Control Officer	Nannup	0427 975 611	Robin Mellema
Fire Brigade	East Nannup	9756 1129	Vic Lorkiewicz
Department of Fire & Emergency Services	Lower South West	1800 198 140 9771 6820	Duty Coordinator / COMCEN

5.4 Risk of ignition

Potential ignition sources are mainly from lightning strikes, adjoining roads, recreationists and escapes from burning operations on surrounding lands.

FPC, with DPaW have a demonstrated comprehensive daily fire management notification system for plantation harvesting operations. This response is consistent with *Guidelines for*



Plantation Fire Protection with all FPC operations also conforms with the DPaW's daily fire risk and operational restrictions.

Please refer to attachment : Table 1 outlining guidelines for applying operation restrictions due to predicted high fire danger and attachment: Procedure 1 – Contractor procedure F1, Fire Requirements

5.5 Detection of fires

FPC has a formal Fire Memorandum of Understanding (MoU) with DPaW across the Southwest that ensures the plantation assets are covered. This agreement ensures that FPC plantations/assets on private lands within 3km of the DPaW managed estate will fall into the DPaW detection (including Tower men and aeroplane spotter flights), notification and automatic response on behalf of FPC. FPC staff are imbedded in this DPaW response effort at various levels in many situations.

In the event of a fire on freehold private lands the Shire Chief Fire Control Officer would be immediately notified by the DPaW Duty Officer as part of the initial response. FPC Management would also be automatically notified by DPaW to initiate an integrated response between the landowner, local authority and DPaW resources depending on the fires predicted impact and resources required to manage the incident.

5.6 Location of fire control equipment

The FPC with DPaW has access to significant fire resources via operational agreements.

- P&W Kirup has 5x Fire Truck 2000 L units, 2 x Bulldozers, 1x Loader 4x Light units
- P&W Nannup has 3 Fire Truck 2000 L units + access to seasonally contracted machines
- FPC Nannup/Bunbury has 1x 2000Lt Fire truck, 6 x 450 Light units with trained / experienced personal.
- FPC Contractors with machinery suitable for fire line construction and suppression

The FPC is a signatory to the FIFWA Plantation industry Agreement which provides access to significant resource from 9 Plantation companies with suppression equipment and DFES/DPaW trained personal if required.

Through communication with the Nannup Shire, the FPC has established that the Shire has 2 graders, 1 x 14,000L water tanker and 1 x front-end loader, all available for use in community fire emergencies.

The East Nannup Bush Fire Brigade is the closest local brigade with 1 x 2.4 and 5 x 600L fire units.

The local landowners have 600L fire units, located at various locations throughout the shire.

5.7 Initial attacks on fires



Under the FPCs MoU with DPaW a fire in the proposed plantation would demand an automatic immediate response from DPaW resources in Nannup and Kirup via the rostered Duty Officer. This could also trigger the use of aerial water bombing support depending on early status of the fire and its potential to spread rapidly. Nannup airstrip is part of DPaW's water bomber forward of control points allowing for minimal turnaround time in aerial suppression.

Experienced personnel from DPaW/FPC and Brigades will assess the fire behaviour and coordinate an appropriate response to address the following values in order of priority.

1. Human life;
2. Community assets, property or special values (including environmental values);
3. Cost of suppression in relation to values threatened.

With fire behaviour and all values considered a response strategy should follow this order of priority as a guide;

1. Direct attack on head fire where resources and conditions allow for safe suppression;
2. Indirect attack on headfire by extinguishing flank fire working towards the headfire;
3. Limit fire spread to pre-determined internal strategic firebreaks;
4. Limit fire spread to compartment breaks;
5. Limit fire spread to property boundary firebreaks;
6. Fall back to neighbouring properties, roads or where fire can be safely extinguished.

5.8 Fire breaks

Firebreaks will be constructed and maintained in accordance with *LGA Regulations* and the *Guidelines for Plantation Fire Protection (2011)*. The landowner will be responsible for maintaining firebreaks each year in September/October to ensure they meet local government and Industry guidelines prior to the fire season. A mineral earth brake of 15m on external boundaries and 6m on internal access roads will be required to be maintained by the landowner and will be monitored by FPC staff leading into the fire season.

5.9 Method of road, track and firebreak maintenance

Firebreaks and access roads already exist on the property and these will be graded / sprayed accordingly. Firebreak maintenance to local authority and industry standards is the responsibility of the landowner under this agreement and will be assessed by FPC staff to ensure they conform with LGA and FPC standards.

5.10 Water supplies

Existing water points will be maintained to provide permanent water within a 20 minute turnaround time. There are dam sites on both properties that are reliable during summer months and other options close by on East Nannup Rd. There is also a large dam on an adjacent location owned by the Lindsay family that will service fire suppression needs.

The FPC has proposed in conjunction with the landowner to upgrade an already established water point on the western side of section 1 (please refer to – Section 1 of the attached



Establishment Map) Currently a small pond holding water with a spring supplying continuous water. FPC's intention is to upgrade access along northern boundary into water point and enlarge into a dam suitable for firefighting use through summer

The landowner is also proposing a standpipe with the local brigades either on his property below the sheds on the old road alignment or possibly at the junction of Uranium Rd /East Nannup Rd.

5.11 Direction indicators of water points, road signs and other features

All dams and other sources suitable for use as water points are marked on the establishment plan for this plantation.

Water points will be signposted with directional markers in the field to assist with locating in a fire event once the plantation is developed.

5.12 Measures to protect powerlines, gas pipelines and Telstra Cables

Plantation establishment will be adhere with all public utilities guidelines that determine easements be left around pipelines, power lines and cables. A significant powerline dissects the proposed plantings on Lot 137 crossing through the property from east to west. An 80m easement (40m from centre line each direction) will be left under this line as required for infrastructure of this level conforming with *Guidelines for Plantation Fire Protection (FESA 2011)*.

5.13 Surrounding fuels

Adjacent fuels to the proposed plantation consist of a mix of pastured grazing paddocks, native vegetation, pine and eucalypt plantations. At this stage there are no plans to carry out any fuel reduction burning on these properties. FPC will be willing to work in conjunction with LGA's and brigades to assist in any burning off surrounding the plantation.

During planned harvesting activities the FPC will harvest all available product (as the market allows) to reduce the amount of residue and therefore fuel load left on site at the completion of harvesting.



TIMBER HARVESTING PLAN

6.1 Location of harvesting operation

Harvesting operations will occur over the entire area at intervals over a 30 year period as per 6.2. Detailed harvesting plans will be developed by FPC 2 yrs prior to any harvesting commencing with haulage routes and access roads being confirmed in consultation with the Shire and in accordance with the *Code of Practice for Timber Plantations Western Australia* (FIFWA 2006).

6.2 Harvest Schedule (to be confirmed prior to operations)

Softwood Rotation	Age	Year
- First Thinning's (T1)	Yr 12/13	2030
- Second Thinning's (T2)	Yr 18/20	2036
- Third Thinning's (T3) "optional"	Yr 24/45	2042
- Final clear fell (CF)	Yr 30/32	2047

6.3 Harvesting operations

Harvesting will generally be carried out using conventional timber harvesting equipment which consisting of mechanical harvesters and forwarders for extraction and loading on to trucks. Initial thinning operations will occur around year 12 and reduces the stocking rate by 40-50% to 750sph and extraction systems will remove every 5th row to allow machine access. The second thinning will see the stocking reduced by similar amounts with a final crop retained at 200-250 trees/ha depending on site capacity. Should the site yield support a third thinning prior to clear fall, all extraction systems will be utilised as in the first and second thinning.

Harvesting will adhere to FPC Procedure 68 – Stakeholder engagement.

6.4 Machinery and transport

With further industry innovation over the plantation rotation, systems may alter however the current industry standards are as follows:

- Machine harvesters - tracked excavators fitted with a felling/debarking head
- Forwarders - all wheel drive rubber tyred tractor
- Chipper – machine used for reducing wood into smaller woodchips
- Truck configurations - these are variable and are dependent on accessibility of sites as well as Local Authority regulations and infrastructure capacity.

6.5 Environmental Measures

Harvesting operations will comply with all aspects of the *Code of Practice for Timber Plantations in Western Australia (FIFWA 2006)*.

FPC operations are consistent with and managed under the AFS/01-21-13 system that requires monitoring and measurement of operational performance against stringent environmental standards.



All roads will be maintained during and after harvesting operations to minimize erosion, turbidity and protect water quality. All roads will be left in a state the same or better than prior to operation commencement.

The risk of introducing or spreading pests or diseases via harvesting activities will be assessed prior to harvesting and appropriate hygiene measures will be adopted as required for the area. Meeting the guidelines as stipulated in *Code of Practice for Timber Plantations in Western Australia (FIFWA 2006)*.

6.6 Safety

All associated operations will be as safe as possible and comply with *Occupational Health and Safety* and the *Safety and Health Code for Native Forest/ Hardwood Logging and Plantation Logging* will be observed. The AFS system requires operational management reporting and measurement in relation to safe working practices for its staff and contractors through the chain of custody protocols and legislation.

APPENDIX

7. AUTHORISATION

Management Plan Prepared by Forester Operations:

26/11/17

Jenieka Crombie Wilson

Endorsed by FPC Establishment Manager

26/11/17

Graeme Hobson

Approved by: Regional Operations Manager – Central

6/6/17

Joeri Mak

Final authorised copy filed at:

FPC Bunbury



Copy/s sent to:

Landowner

Shire of Nannup

Department of Parks & Wildlife, Blackwood Region

