

Plantations and Reafforestation (Code) Regulation 2001

under the

Plantations and Reafforestation Act 1999

Her Excellency the Governor, with the advice of the Executive Council, has made the following Regulation under the *Plantations and Reafforestation Act 1999*.

Minister for Land and Water Conservation

Explanatory note

The object of this Regulation is to give effect to the *Plantations and Reafforestation Code* under the *Plantations and Reafforestation Act 1999*.

This Regulation is made under the *Plantations and Reafforestation Act 1999*, including Part 3 (Plantations and Reafforestation Code) and section 70 (the general regulation-making power).

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Plantations and Reafforestation (Code) Regulation 2001

1 Name of Regulation

This Regulation is the *Plantations and Reafforestation (Code) Regulation 2001*.

2 Commencement

This Regulation commences on the commencement of the *Plantations and Reafforestation Act 1999*.

3 Plantations and Reafforestation Code

The *Plantations and Reafforestation Code* set out in the Appendix to this Regulation has effect.

Note. For the purposes of section 70 (4) of the *Plantations and Reafforestation Act 1999*, the Code sets out certain matters (relating to applications for authorisation under that Act, the creation of offences against the *Plantations and Reafforestation Code*, and the issuing of penalty notices in respect of certain offences against the Act and Code) for which Regulations are made under the Act.

4 Notes

The explanatory note, table of contents and notes in the text of this Regulation (including notes in the Appendix) do not form part of this Regulation.

Appendix Plantations and Reafforestation Code

Part 1 Preliminary

1 Name of Code

This is the *Plantations and Reafforestation Code*.

2 Dictionary and definitions

- (1) Expressions that are defined in the Dictionary at the end of this Code have the meanings given to them by the Dictionary.
- (2) Expressions used in this Code that are defined in Part 1 of the *Plantations and Reafforestation Act 1999* have the same meanings in this Code as the meanings given to them in that Part unless they are otherwise defined in this Code.

Part 2 General

3 Authorisation of replanting, regeneration and coppicing on timber plantations

- (1) An authorisation for a timber plantation authorises (without the need for a new authorisation) the following:
 - (a) the management of the plantation by coppice (whether or not the cuttings are used for commercial purposes),
 - (b) any naturally occurring regeneration from plantation trees or shrubs,
 - (c) the replanting of trees or shrubs for the purpose of timber production, but only if the only area replanted is, or is part of, the area authorised to be planted for the purpose of timber production under the authorisation.
- (2) In this clause, *coppice* means the cutting back of plantation trees to encourage regeneration of further trunks from the root-stock.

4 Authorisation of progressive planting of plantations

An authorisation for a plantation may authorise the progressive planting of a plantation.

Note. Clause 14 (3) sets out additional matters that must be included in the plantation plan that must accompany an application for authorisation of a plantation that is proposed to be planted progressively. Clause 54 sets out requirements relating to the time by which progressive planting must be completed.

5 Harvesting limit for exempt farm forestry

For the purposes of section 6 (1) (c) of the Act, the maximum amount of harvesting permitted for exempt farm forestry is the harvesting of the maximum amount of timber grown (including by replanting) on 30 hectares.

6 Harvesting limit for management operations

For the purposes of the definition of *management operations* in section 4 (1) of the Act, the maximum amount of harvesting permitted for management operations on a plantation is the harvesting (being the cutting and removal from the plantation) of 100 trees for each hectare of the plantation in each calendar year.

Note. Trees that are cut down but not removed from the plantation are not counted as harvested trees for the purposes of applying this harvesting limit.

7 Arbitration

For the purposes of section 37 (1) (b) of the Act, the Minister must request the National Secretary of the Association of Consulting Foresters to appoint an independent arbitrator.

8 Matters excluded from operation of Code

This Code does not prevent the following:

- (a) the taking of any measures authorised to be taken under the *Rural Fires Act 1997*, or the *State Emergency and Rescue Management Act 1989*, in relation to an emergency within the meaning of the latter Act,
- (b) the taking of any measures authorised to be taken under section 63 of the *Rural Fires Act 1997* in relation to preventing the occurrence of bushfires, or minimising the danger of their spreading,
- (c) any clearing carried out in accordance with a bush fire risk management plan under the *Rural Fires Act 1997*.

Note. Accordingly, the taking of such measures, or the carrying out of such clearing, cannot amount to a contravention of the Code.

9 Application of Code to overlapping buffer zones

If the areas of any buffer zones required under Part 4 overlap, the overlapping area is taken to be or be part of the overlapping buffer zone that attracts the most restrictive provisions of this Code (and not part of the other buffer or buffers concerned).

10 Application of amendments to Code to authorised plantations

- (1) Any amendment to this Code applies to existing authorised plantations unless a contrary intention is stated in the instrument making the amendment.

- (2) In this clause, ***existing*** authorised plantations means plantations that are authorised under the Act before the commencement of the amending instrument concerned.

Part 3 Obtaining authorisation for a plantation

Note. Clause 65 makes it an offence for a person to provide false or misleading information in or in relation to an application for authorisation of a plantation.

11 Site must be visited by authorised person before application is submitted

- (1) Before an application for authorisation of a plantation is submitted, the proposed plantation (being the area or areas of land comprising the plantation or proposed plantation with respect to which the application for authorisation applies) must be visited by a person authorised by the Director-General, for the following purposes:
 - (a) to assess the class of soil regolith stability (being R1, R2, R3 or R4, as defined in the Dictionary) and soil salinity,
 - (b) to identify any places or relics of cultural heritage that are the subject of complying development standards in Division 2 of Part 4,
 - (c) to identify any areas of native vegetation that exist on the proposed plantation that are the subject of complying development standards in Division 3 of Part 4,
 - (d) to otherwise provide assistance in relation to the application.
- (2) The Director-General may waive this requirement by notifying the applicant in writing.

12 Application forms

- (1) An applicant for authorisation of a plantation must complete an application form, in the form approved by the Minister, that is appropriate to the type of authorisation sought.
- (2) The applicant is required to submit the application (including anything required by the application form or this Part to be submitted as part of the application) to the Director-General.
- (3) The Director-General must provide any person intending to make an application for authorisation with copies of the appropriate form.

13 Applicants must submit certain statements as part of application

- (1) An applicant for authorisation of a complying plantation must submit as part of the application a statement that shows compliance or proposed compliance with the complying development standards in Part 4.
- (2) An applicant for authorisation of a plantation under section 14 of the Act must submit as part of the application:
 - (a) a statement that shows the extent of any compliance or proposed compliance with the standards in Part 4, and
 - (b) a statement of the environmental effects of the plantation operations that do not or will not comply with those standards.

14 Applicants must submit plantation plan as part of application

- (1) An applicant for authorisation of a plantation must submit, as part of the application, a plantation plan that is prepared in accordance with this clause and any guidelines that the Minister may issue from time to time with respect to the content and preparation of plantation plans.
- (2) The plantation plan must include the name, address and contact details of the manager or the owner or owners of the landholding (being the lot or lots on which the proposed plantation is or is to be situated).
- (3) If the application is for authorisation of a plantation that is to be progressively planted, the following must also be identified on the base image:
 - (a) the sub-areas of the proposed plantable area that are to be progressively planted,
 - (b) the year in which each of those sub-areas is proposed to be planted.

Part 4 Complying development standards for establishment operations

- Notes.** (1) All complying plantations must be established in accordance with these standards.
(2) Section 13 (4) of the Act provides that it is a condition of an authorisation for a complying plantation that establishment operations comply with the relevant development standards of the Code (being the standards contained in this Part). Section 20 (6) of the Act makes it an offence for an owner or manager of an authorised plantation to contravene, or cause or permit the contravention of, any condition to which the authorisation is subject.

Division 1 Standards relating to the protection of soil and water

15 Buffer zones for drainage features

- (1) Any area of wetland in a plantation that is more than 0.1 of a hectare in size must be surrounded by a buffer zone at least 20 metres wide.
- (2) Any river in a plantation must have a buffer zone at least 20 metres wide on either side of its edge.
- (3) Any drainage depression occurring on soil classed R4 in a plantation must have a buffer zone at least 10 metres wide on either side.
- (4) Any drainage line in a plantation must have a buffer zone at least 10 metres wide on either side.

16 Method for measuring buffer zones

The width of buffer zones is to be measured along the ground and from the following points:

- (a) in the case of a wetland—its edge,
- (b) in the case of a drainage depression occurring on soil classed R4—the centre of the depression,
- (c) in the case of a river or drainage line—the top edge of its banks.

17 Establishment operations in buffer zones on timber plantations

- (1) Planting in the buffer zone of any wetland or river:
 - (a) must not be carried out for the purpose of harvesting, and
 - (b) may be carried out for the purpose of protecting the environment but only if:
 - (i) the planting is of local native species by manual cultivation, and
 - (ii) any woody native vegetation that comprises local native species and any native grassland of high conservation value in the buffer zone is retained.
- (2) Planting in the buffer zone of any drainage line, or any drainage depression occurring in R4 soil, may be carried out for the purpose of harvesting or protecting the environment but only if:
 - (a) in the case of the drainage depression—there is no planting within 5 metres of the centre of the depression, and
 - (b) in the case of the drainage line—any planting within 5 metres of the edge of the drainage line is by manual cultivation, or spot cultivation by machinery so long as any tyres or tracks on the machinery do not enter the 5 metre area, and
Note. For example, cultivation may be carried out within the 5 metre area by means of a cultivator head attached to an excavator, provided the excavator does not enter the 5 metre area.
 - (c) any planting between 5 and 10 metres of the edge of the drainage line or the centre of the drainage depression is by manual cultivation, or spot cultivation by machinery, or by line cultivation so long as soil conditions are such that only minimal soil disturbance is likely to be caused, and
 - (d) any woody native vegetation that comprises local native species and any native grassland of high conservation value in the buffer zone is retained.

18 Slope limits and other restrictions on site preparation operations

- (1) Slope limits for mounding, line ripping and ploughing are set according to erosion hazard, which is determined on a combined reading of rainfall erosivity and class of soil regolith stability.
Note. The classes of soil regolith stability referred to in this Division (R1, R2, R3 and R4) are defined in the Dictionary to this Code.

- (2) Subject to subclause (3), mounding, line ripping and ploughing of the plantable area may be carried out only if the slope of the plantable area is within the slope limit set for an area with the combined rainfall erosivity and class of soil regolith stability of the plantable area, as set out in the Table in this subclause to which the relevant operation relates:

Slope limits for mounding

1. If the rainfall erosivity of the area is: (MJ.mm/ha.hr.yr)	2. And class of soil regolith stability for the area is:			
	R1	R2	R3	R4
	3. Then the slope of the area must not exceed:			
0–1999	30°	20°	25°	10°
2000–3999	25°	15°	20°	5
4000–5999	25°	10°	20°	no mounding allowed
6000 +	20°	5°	10°	no mounding allowed

Slope limits for line ripping and ploughing

1. If the rainfall erosivity of the area is: (MJ.mm/ha.hr.yr)	2. And the class of soil regolith stability for the area is:			
	R1	R2	R3	R4
	3. Then the slope of the area must not exceed:			
0–1999	30°	25°	30°	15°
2000–3999	25°	20°	25°	10°
4000–5999	25°	15°	25°	5°
6000 +	25°	10°	20°	5°

- (3) The slope limits apply only to the slope of the majority of the plantable area, that is, individual areas of the plantable area of up to 50×50 metres may exceed the limit by up to 5° and still be included in the operation concerned, provided the total of such areas does not exceed 5% of the plantable area.
- (4) Runoff water flowing from mounds must be directed onto a stable area, or a structure, capable of filtering runoff water and trapping sediment.

- (5) Machinery used for site preparation must not be operated on a site being prepared if the soil on the site is saturated or if surface runoff is occurring. (Surface runoff occurs when rain is not immediately absorbed into the soil and becomes overland flow.)

Division 2 Standards relating to protection of places and relics of cultural heritage

19 Buffer zones for places and relics of cultural heritage

- (1) Any Aboriginal place or relic (as defined in the *National Parks and Wildlife Act 1974*) that is identified in a plantation must be surrounded by a buffer:
- (a) in the case of any burial site—at least 50 metres wide, and
 - (b) in the case of any scarred or carved tree or any stone arrangement—at least 20 metres wide, and
 - (c) in the case of any artefact scatter or any other Aboriginal place or relic—at least 10 metres wide,
- unless a consent to disturb the place or relic is obtained under that Act.
- (2) Any other relic (as defined in the *Heritage Act 1977*) that is identified in a plantation must be surrounded by a buffer at least 10 metres wide unless an approval or permit to disturb the relic is obtained under that Act.

20 Method for measuring buffer zones

- (1) The width of the buffer zone of any Aboriginal place is to be measured from the edge of its boundaries.
- (2) The width of the buffer zone of any relic is to be measured along the ground and from the outermost edges of the relic or, in the case of a scatter of relics, from the outmost edges of the relics lying farthest from the centre of the scatter.

Division 3 Standards relating to protection of biodiversity

21 No clearing in buffer zones of places or relics of cultural heritage

Clearing that is otherwise allowed by this Division is not allowed in relation to the buffer zones of places or relics of cultural heritage.

22 Native vegetation that must be retained

(1) The following native vegetation in a plantation must be retained (that is, the clearing of it is prohibited):

- (a) any area of rainforest or wetland, or any native vegetation on rocky outcrops,
- (b) any native vegetation of a type listed for conservation in the regional vegetation schedule,
- (c) any native grassland of high conservation value,
- (d) any individual patch of woody native vegetation (other than that referred to in paragraphs (a) and (b)) of more than 1 hectare.

(2) Despite subclause (1) (d):

- (a) regrowth vegetation that the regional vegetation schedule allows to be cleared may be cleared from any patch within that provision, and
- (b) the Director-General may authorise the clearing of irregular projections from any patch within that provision if:
 - (i) the clearing is to improve the functional design of the plantation, and
 - (ii) not more than 10% of the patch is so authorised to be cleared.

Note. Any area of native vegetation on a plantation that is the subject of the complying development standards in this Division will be identified by an authorised person during a pre-application visit under clause 11.

(3) In this clause, ***rocky outcrop*** means any area of at least 0.2 of a hectare, 70% of the surface of which is comprised of exposed boulders of more than 0.6 of a metre in diameter.

23 Minimum number of native habitat trees that must be retained

(1) If a plantation is 30 hectares or more:

- (a) at least 30 native habitat trees must be retained on any given 30 hectares of plantation, or

- (b) if there are less than 30 native habitat trees on any given 30 hectares of plantation, all those trees must be retained.

Note. If possible, habitat trees should be retained in groups of 2 or more to minimise the impact of this requirement on plantation design and to reduce loss of biodiversity.

- (2) If a plantation is less than 30 hectares, at least 1 native habitat tree must be retained for each hectare of the plantation.
- (3) Despite subclauses (1) and (2), any tree required to be retained under those provisions may be cleared if the following requirements are met:
 - (a) if the cleared tree has a diameter at breast height of between 40 and 80 centimetres:
 - (i) the cleared tree must be replaced with 10 new trees (being local native species), and
 - (ii) an area of at least 0.01 of a hectare must be retained, being the area on which the new trees are to be located,
 - (b) if the cleared tree has a diameter at breast height of more than 80 centimetres:
 - (i) the cleared tree must be replaced with 20 new trees (being local native species), and
 - (ii) an area of at least 0.02 of a hectare must be retained, being the area on which the new trees are to be located,
 - (c) the retained area on which the replacement trees are to be located (the designated area) may be located anywhere in the plantation provided that its location will enhance biodiversity or reduce soil salinity in the plantation (for example, by locating it adjacent to existing buffers or in buffers that do not contain native grassland of high conservation value),
 - (d) if 10, or 20, (as the case may be) tree seedlings have not naturally regenerated (that is, from seed-stock of existing local native species) in the designated area within 18 months then the balance of the replacement trees must be planted in that area as seedling trees,
 - (e) the 18 month period referred to in paragraph (d) is to start from the date that all plantation planting in the plantation is completed (or, in the case of a plantation that is authorised to be planted progressively, from the date of completion of all plantation planting in the sub-area in which the designated area is, or is primarily, located),

- (f) any designated area for replacement trees (that is, before any natural regeneration or planting of seedlings occurs), and any replacement tree (including any seedling tree) must be retained and managed in accordance with Division 6 of Part 5.

Note. Under section 15 of the Act, the Minister is to require a species impact statement to accompany an application for authorisation under the Act if the Minister considers that such a statement would be required to accompany the application if it were a development application under Part 4 of the *Environmental Planning and Assessment Act 1979* for the plantation or proposed plantation.

Under section 13 of the Act, a plantation cannot be a complying plantation if it is one in respect of which a species impact statement is so required to be provided by the Minister.

- (4) In this clause, *habitat trees* means mature, large trees, with a diameter at breast height (as defined in clause 24) of more than 40 centimetres, that provide a habitat for tree-dwelling fauna.

Note. Arboreal mammals and nesting birds generally depend upon these trees for foraging and to provide hollows for den and nesting sites.

24 Limit on clearing patches of woody native vegetation of 1 hectare or less on remainder of plantation

- (1) This clause applies to individual patches of woody native vegetation of 1 hectare or less and isolated native trees in a plantation other than those:
- (a) that are, or are parts of, buffer zones of drainage features or places or relics of cultural heritage, or
 - (b) that are required to be retained by clause 22 or 23.
- (2) The maximum total area of native vegetation to which this clause applies that may be cleared from the area of the plantation that remains after excluding:
- (a) any buffer zone of a drainage feature or place or relic of cultural heritage, and
 - (b) any area of native vegetation or area designated for the location of replacement trees that is required to be retained by clause 22 or 23,

is an area equal to 10% of that remaining area.

Note. In applying this limit, preference should be given to retaining native vegetation adjacent to the buffer zones of drainage features or that occurs on landscape features in the plantation (for example, ridge tops, upper, mid and lower slopes, and valley floors).

- (3) For the purpose of applying the limit on clearing in subclause (2) to isolated native trees:
 - (a) an isolated tree with a diameter at breast height of more than 40 centimetres is taken to have an area size of 0.02 of a hectare, and
 - (b) an isolated tree with a diameter at breast height of 40 centimetres or less is taken to have an area equal to the area that would be contained within the drip line of the tree.
- (4) Any native vegetation to which this clause applies that is not cleared in accordance with subclause (2) must be retained and managed in accordance with Division 6 of Part 5, unless it is regrowth vegetation that the regional vegetation schedule allows to be cleared.
- (5) In this clause:

drip line means the perimeter of the area that would be formed (if it rained only on the crown of a tree) by drips falling from the crown onto the ground below.

25 Regional vegetation schedule

- (1) The Minister may make a regional vegetation schedule for the purposes of this Code.
- (2) A regional vegetation schedule:
 - (a) is to identify the land to which it applies, and
 - (b) is to contain provisions relating to:
 - (i) the types of native vegetation that must be conserved on that land (being native vegetation that is or forms part of a community that is significantly limited in extent or whose numbers have been significantly reduced due to extensive clearing), and
 - (ii) the types of regrowth vegetation that may be cleared, in the establishment of complying plantations (being provisions that specify the range of species concerned and define the community structure that is to apply in respect of those species).
- (3) For the purpose of allowing submissions to be made on a draft regional vegetation schedule, the Minister must:
 - (a) exhibit the draft schedule at the Head Office of the Department and at its regional offices, and

- (b) allow a period of not less than 30 days for comment, and
 - (c) before the draft schedule is exhibited, advertise the dates and places of exhibition and the period allowed for comment in a newspaper circulating throughout the State and (if the matter relates to a particular area only) in a local newspaper circulating in or near that area.
- (4) The consultation procedure under subclause (3) extends to amendments to a regional vegetation schedule that the Minister considers to be significant.
 - (5) A regional vegetation schedule takes effect from the day that it is published in the Gazette (or on such later date as may be specified in the published schedule).
 - (6) The Minister may amend or revoke a regional vegetation schedule.
 - (7) Any amendment to a regional vegetation schedule takes effect from the day the amended version of the schedule is published in the Gazette (or on such later date as may be specified in the published schedule).
 - (8) A revocation of a regional vegetation schedule takes effect from the day notice of the revocation is published in the Gazette.
 - (9) A regional vegetation schedule applies to a plantation in the form in which the schedule exists at the time the application for authorisation of the plantation is lodged.
 - (10) If, in relation to a plantation, there is no regional vegetation schedule in force when this Code commences, the Minister may, by notice published in the Gazette, determine the matters required to be dealt with in the schedule.
 - (11) Any such notice is taken to be a regional vegetation schedule but is to operate as such only on an interim basis until such time as a regional vegetation schedule in respect of the plantation concerned is made in accordance with this clause.

Part 5 Regulation of management operations

Note. Clause 66 makes it an offence for an owner or manager of an authorised plantation to contravene or cause or permit the contravention of any requirement imposed by this Part.

Division 1 Operational plans and records

26 When operational plans are required

- (1) An operational plan must be prepared in respect of each of the following plantation operations:
 - (a) site preparation involving ripping or ploughing (including ripping or ploughing in combination with mounding),
 - (b) construction that crosses any river,
 - (c) any harvesting that exceeds the maximum amount of harvesting permitted for management operations (that is, any harvesting that involves the cutting and removal from the plantation of more than 100 trees for each hectare of the plantation in each calendar year).
- (2) An operational plan must be prepared before the commencement of the operation to which it relates.

27 Content of operational plans

- (1) All operational plans required under clause 26 must include the following:
 - (a) a map showing:
 - (i) the area that is to be the subject of the proposed operation, and
 - (ii) the boundaries of any area in the plantation in respect of which the carrying out of the proposed operation is restricted or prohibited by this Code or the authorisation for the plantation (with the relevant restriction or prohibition identified),
 - (b) work instructions for the carrying out of the proposed operation that identify:
 - (i) the procedures required to be used in the operation, and

- (ii) any restrictions or prohibitions (as referred to in paragraph (a)) required to be considered in undertaking the operation.

The instructions must be written but may include diagrams.

Note. Guidelines concerning the preparation of operational plans are available from the Department.

- (2) In addition, an operational plan that is required under clause 26 (1) (c) must:
 - (a) identify any roads, extraction tracks, loading sites and river crossings in the plantation that are to be used in the operation, and any directional requirements for extraction, and
 - (b) clearly indicate any areas designated as suitable for carrying out the harvesting operation in wet weather, and
 - (c) note any requirements for placing slash.

28 Operational records

- (1) All operational records (or a copy of them if they are prepared by a contractor) must be kept for 7 years.

Note. Under section 61 of the Act, persons authorised by the Minister may, on giving reasonable notice to the owner or manager of the plantation, require the owner or manager to provide information or documents (including operational records) for the purpose of determining if the Act or Code is being complied with.

- (2) The following matters must be included in operational records:
 - (a) any change in the size of the area that was the subject of the operation from that marked on the map in the operational plan, and
 - (b) any departure from, or variation of, the work instructions given in the operational plan, that was applied during the actual operation.
- (3) In this clause, *operational record* means any record (including an operational plan) that relates to an operation referred to in clause 26 (1).

Division 2 Roads and tracks

Note. Provisions in this Division that apply to roads and tracks apply also to fire trails that are roads or tracks. Provisions that apply specifically to fire trails apply whether the fire trail is a road or a track.

Subdivision 1 Road location and design

29 Meaning of “existing” and “new” road, track or fire trail

In this subdivision, *existing* road, track or fire trail refers to any road, track or fire trail that existed before the lodgement of the application for authorisation of the plantation on which it is located (and *new* road, track or fire trail means one that exists after that time).

30 Existing roads and tracks

Any existing road or track in a plantation, wherever located, may be used for plantation operations only if:

- (a) it is operationally stable, and
- (b) it is drained, maintained and managed in accordance with clauses 44–50.

31 Location of new roads

New roads must follow natural benches and ridges wherever possible, and should not be located on steep side slopes or unstable ground.

32 Roads and tracks to avoid crossing drainage features

New roads and tracks in a plantation:

- (a) must not cross any wetland, and
- (b) may only cross any other drainage feature if there is no practical alternative route available.

33 Roads and tracks in buffer zones

- (1) New roads and tracks must not be located in the buffer zone of any place or relic of cultural heritage, or of any wetland.
- (2) The only sections of new roads or tracks that may be located in the buffer zone of any other drainage feature are those:
 - (i) that are necessary to cross that drainage feature, or

- (ii) whose location in the buffer zone will result in less environmental damage than if they were located on any practicable alternative route that would avoid the buffer zone.
- (3) Clearing of native vegetation in buffer zones for the purpose of creating tracks or constructing sections of road must be kept to the minimum necessary for their efficient creation or construction.

34 Roads, tracks and fire trails in retained areas of native vegetation

- (1) New sections of road, track or fire trail may be constructed in retained areas of native vegetation only if:
 - (a) there is no practicable alternative route available, and
 - (b) any section of road, track or fire trail within such an area:
 - (i) is no more than 50 metres long (or such other distance as may be agreed to by the Director-General), and
 - (ii) is of the minimum width required for its safe use.
- (2) In this clause, *retained area of native vegetation* means any area of native vegetation or area designated for the location of replacement trees that is required by the complying development standards in Division 3 of Part 4 to be retained (to the extent that the authorisation for the plantation requires compliance with those standards).

35 New roads on steep ground slopes

Sections of new roads may be constructed on ground slopes exceeding 30° only if:

- (a) there is no practical alternative route available, and
- (b) the sections are designed (after appropriate geotechnical investigation) by a suitably qualified person using currently acceptable engineering standards to ensure stability.

36 Use of unformed Crown roads for plantation operations

- (1) This clause concerns unformed Crown roads, which are public roads that are declared to be Crown roads for the purposes of the *Roads Act 1993* but the surface of which is either undefined or defined only by traffic use.

-
- (2) Plantation operations may be carried out on an unformed Crown road within the landholding only with the previous consent of all owners of neighbouring properties whose access through the Crown road is likely to be impeded by the plantation operations.

Subdivision 2 Crossings over drainage features

37 Types of crossings allowed

- (1) Crossings over drainage features (other than wetlands) may only be made using bridges, culverts or causeways, or any combination of these.

Note. Wetlands must not be crossed under any circumstances.

- (2) Despite subclause (1):
- (a) machinery may cross through any drainage depression or drainage line if:
 - (i) the part of the drainage depression or drainage line where the crossing is to occur is shallow and dry, and
 - (ii) the soil in the area surrounding the drainage depression or drainage line is dry, and
 - (iii) measures are taken to prevent water from the approaches used by the machinery from running into the drainage depression or drainage line in the event of wet weather, and
 - (iv) no earthworks are required to enable the machinery to cross through the drainage depression or drainage line, and
 - (b) machinery may cross drainage lines or drainage depressions that occur on extraction tracks by using slash crossings.
- (3) Any temporary crossing over a drainage feature must be removed within 5 days of the completion of the plantation operation in respect of which it was erected. The approaches to the temporary crossing must be closed and cross-drained also within this time.
- (4) In this clause:
- slash crossing*** means a temporary crossing formed by the placement of logging slash in the drainage line or drainage depression (generally to prevent damage to the banks of the drainage line or rutting within the depression).

temporary crossing means a crossing constructed to provide vehicular access for only short term plantation operations such as harvesting.

38 Construction of crossings

The construction of any crossing over a drainage feature must be carried out in a manner that minimises the depositing of any loose material into the drainage feature and any disturbance to its bed or banks.

39 Size and stability of crossings

- (1) Any crossing over a river must be designed, constructed and maintained:
 - (a) so as to enable conveyance of:
 - (i) the peak flow from a 1-in-5 year storm event (that is, a rainfall event predicted to occur on average once in 5 years), or
 - (ii) the flood plain level of flow (being the level of flow that needs to exist for water to break out of the defined banks of the river and enter a flood plain),whichever is the lesser, and
 - (b) so that the flow velocity through the crossing exceeds by no more than 10% the flow velocity through the natural channel of the river at the site of the crossing, that is, before the crossing existed (the aim being to prevent impediment to fish passage).

Note. If a culvert is chosen as a crossing, arch and box culverts are to be preferred to pipe culverts.
- (2) Any causeway or culvert base used to cross a river must be set at the level of the stream bed so as to provide continuity in flow and so that a bed of natural sediment can form at the bottom.
- (3) Any crossing over a drainage feature (other than a river) must be designed to convey the peak flow from a 1-in-5 year storm event.
- (4) The surface of any crossing, and the approaches on either side of it, must be made of stable material that is unlikely to be displaced during normal use of the crossing or approach, or by any flood up to and including the peak flow of a 1-in-10 year storm event (that is, a rainfall event predicted to occur on average once in 10 years).
- (5) Any causeway must consist of gravel, rock, bitumen, concrete, logs, or other stable material that is unlikely to produce water turbidity.

40 Inspection and maintenance of crossings

All crossings must be inspected regularly and maintained in effective working order.

41 Approaches to crossings over rivers and drainage lines

Any approaches to a crossing over a river or drainage line must be drained, using a drainage structure, within 5 to 30 metres of the crossing (or if this is impracticable, such other further distance that is as near as practicable to the crossing).

Subdivision 3 Road construction and road and track drainage

42 Road and batter fill

- (1) Trees, stumps or other woody debris must not be used to provide fill for road construction.
- (2) Any fill batter must be stabilised using one or more of the following methods or any other method that achieves a similar result:
 - (a) allowing revegetation to grow over the batter,
 - (b) placing a suitable protective cover over the batter,
 - (c) placing appropriate mulch material over the batter.

43 Drainage of roads and tracks

- (1) All reasonable steps must be taken to minimise soil erosion from roads and tracks. Accordingly, at least one of the following measures must be adopted, as appropriate in the circumstances:
 - (a) maintain vegetative cover (that is, plant material, living or dead, that protects the soil surface from erosion),
 - (b) cover the ground with logging slash or debris,
 - (c) establish a grass cover,
 - (d) crossfall drain the road or track with outfall or infall drainage (preferably with the outward or inward slope being between 4% and 6%), or by shaping the road or track to a crown so that water drains to both of its sides,
 - (e) construct drainage structures to convey water away from the road or track formation (for example, crossdrains, mitre drains, or relief culverts).

- (2) Any drainage structure must be designed so as to convey the peak flow from a 1-in-5 year storm event (that is, a rainfall event predicted to occur more than once in five years).
- (3) Drainage structures must be established on a road or track if concentrated water flow on the road's or track's surface or table drains is likely to occur for distances exceeding the relevant spacing, as shown in the Table below:

If the slope of the road or track is:	Then the drainage structure must be placed at least every:	If the slope of the road or track is:	Then the drainage structure must be placed at least every:
1°	250 metres	16°	38 metres
2°	200 metres	17°	36 metres
3°	150 metres	18°	34 metres
4°	125 metres	19°	32 metres
5°	100 metres	20°	30 metres
6°	90 metres	21°	28 metres
7°	80 metres	22°	26 metres
8°	70 metres	23°	24 metres
9°	65 metres	24°	22 metres
10°	60 metres	25°	20 metres
11°	55 metres	26°	19 metres
12°	50 metres	27°	18 metres
13°	45 metres	28°	17 metres
14°	40 metres	29°	16 metres
15°	40 metres	30°	15 metres

Note. For example, if the slope of a road on which there is likely to be a concentrated water flow is 20°, and the distance of the part of that road on which there is likely to be a concentrated water flow exceeds 30 metres, then a drainage structure must be placed at least every 30 metres on the stretch of that road on which there is likely to be a concentrated flow.

44 Inlets and outlets of drainage structures

- (1) Any drainage structure must be located so that it discharges onto a stable area, or into a structure capable of filtering runoff water and trapping sediment.

- (2) Scouring at the outlets of any drainage structure must not undermine the structure, or trigger gully or rill erosion (that is, the removal of soil by water flow causing an incised channel to be formed).

This may require the construction of receiving drains or energy dissipaters or both. (An energy dissipater is a structure that dissipates the energy of the flow of water by spreading the flow over a larger area. It may involve something as simple as placing a wall or area of rocks at a drain or culvert outlet.)

45 Installation and maintenance of drainage structures on roads and tracks

- (1) Any type of drainage structure that is to be used to divert water from the surface of a road or track (for example, crossbanks, crossdrains, culverts, table drains or mitre drains):
- (a) must be installed:
 - (i) in the case of a new road—during construction, and
 - (ii) in the case of a track—within 7 days of completing the operations for which the track was used, and
 - (b) must be maintained in effective working order.
- (2) Despite subclause (1), any temporary fire trail that is constructed during fire fighting must have drainage structures installed, or be planted with grass, as soon as practicable after the fire event.

Subdivision 4 Road maintenance and closure

46 Inspection and maintenance of roads, crossings and drainage structures

All roads must be inspected regularly and maintained in effective working order.

47 Blading-off of roads

- (1) Blading-off of roads (that is, the use of a machine to sweep drifts of loose mud, slush or soil from the surface of the road to provide temporary access following wet weather) must only occur if the blading-off will cause no, or only minimal, damage to the road surface and subsequent drainage and repair is possible.

- (2) Any soil material that is bladed-off must be stockpiled in a recoverable position and respread as soon as is practicable.

48 Disused roads

The following requirements apply to any road constructed for plantation operations that is no longer being used or intended to be used for any purpose:

- (a) the road must be closed to traffic, and
- (b) any crossing must be removed unless its removal would cause greater disturbance to the environment than if left in place.

Subdivision 5 Road management during harvesting

49 Wet weather conditions

Hauling is not allowed over any road during wet weather conditions if resulting rutting is likely to be more than 150 millimetres deep for any distance exceeding 20 metres.

50 Road damage

- (1) Hauling is not allowed over any damaged section of road (including any section of road whose surface or subsurface has broken down, as evidenced by rutting that is more than 150 millimetres deep for any distance exceeding 20 metres).
- (2) Roads must be repaired before hauling can recommence over the section of road concerned.
- (3) A section of road with a damaged or blocked culvert must be repaired within 72 hours of the damage or blockage being reported. If the culvert is not repaired within that time, hauling over that section of road must cease until the repairs are carried out.

Division 3 Site management

Note. Operational plans must be prepared before carrying out any ripping or ploughing operations (including ripping or ploughing in combination with mounding operations).

See clauses 27 and 28 for requirements for operational plans and records that must be kept concerning these operations.

51 Preservation of vegetation on slopes exceeding 18°

Vegetation (living or dead) must be retained in the uncultivated area between cultivation lines or mounds on any area the slope of which is greater than 18°.

52 Windrowing

(1) Windrows and debris heaps from site preparation:

- (a) must be located at least 20 metres inside any boundary of the landholding, and
- (b) must be located outside any area of native vegetation or area designated for the location of replacement trees that is required by the complying development standards in Division 3 of Part 4 to be retained (to the extent that the authorisation for the plantation requires compliance with those standards), and
- (c) must be located outside any buffer zone of a drainage feature or place or relic of cultural heritage.

(2) Debris must be heaped with minimum disturbance to topsoil.

(3) Unless it is impractical to do so:

- (a) windrows and debris heaps must be located across the slope of the land, and
- (b) any dozer used for windrowing must be fitted with a root rake (that is, an implement fitted to the dozer, generally consisting of tines or steel fingers, that can move logs and debris without shifting large amounts of soil).

Division 4 Protection of places and relics of cultural heritage

53 Buffer zones for places and relics of cultural heritage identified after establishment

- (1) Aboriginal relics and Aboriginal places that are identified in a plantation after establishment of the plantation must be surrounded by a buffer as referred to in clause 19 (1) unless a consent to disturb the place or relic is obtained under the *National Parks and Wildlife Act 1974*.
- (2) Relics other than Aboriginal relics that are identified in a plantation after establishment of the plantation must be surrounded by a buffer at least 10 metres wide unless an approval or permit to disturb the relic is obtained under the *Heritage Act 1977*.

Division 5 Managing progressive planting

54 Time by which progressive planting must be completed

If an authorisation for a plantation authorises the progressive planting of a plantation, all sub-areas of the plantation that were nominated in the plantation plan must be established within 5 years of the date of the grant of authorisation (or such other time as may be agreed to by the Director-General).

Division 6 Managing retained areas

55 Application of this Division

This Division applies to retained areas, being:

- (a) any area of native vegetation or area designated for the location of replacement trees that is required by the complying development standards in Division 3 of Part 4 to be retained (to the extent that the authorisation for the plantation requires compliance with those standards), and
- (b) any buffer zone of a drainage feature, and

- (c) any buffer zone of a place or relic of cultural heritage (except in relation to any of the provisions of this Division that the Director-General determines by notice to the owner or manager of the plantation).

56 Conservation and enhancement of retained areas

- (1) Plantation operations must not be carried out in any retained area (except as otherwise allowed by this Code).
- (2) Any retained area must be managed so as to conserve its biodiversity and ecological integrity, and (in the case of any buffer zone of a place or relic of cultural heritage) its cultural heritage values.
- (3) Any area designated for the location of replacement trees must also be managed so as to enhance its biodiversity.
- (4) Any seedlings from non-native pine trees (being plantation trees) that have regenerated within any area designated for the location of replacement trees must be controlled to the extent necessary to ensure the successful establishment and growth of local native species of plant.

57 Grazing in retained areas

All stock must be excluded from any retained area for a period of 12 continuous months. The 12 month period must start from:

- (a) in the case of a plantation that is authorised to be planted progressively, from the date of completion of all plantation planting or replanting (as the case may be) in the sub-area in which the retained area is, or is primarily, located, and
- (b) in any other case, the date that all plantation planting or, if the plantation is to be replanted under an authorisation, the date that all plantation replanting, is completed.

Part 6 Regulation of harvesting operations

Note. Clause 66 makes it an offence for an owner or manager of an authorised plantation to contravene or cause or permit the contravention of any requirement imposed by this Part.

Division 1 Slope limits for harvesting operations

Note. Operational plans must be prepared before carrying out any harvesting that involves the cutting and removal of more than 100 trees for each hectare of the plantation in each calendar year. See clauses 27 and 28 for requirements for operational plans and records that must be kept concerning these operations.

58 Method for setting slope limits

Slope limits for harvesting operations are set according to erosion hazard, which is determined on a combined reading of rainfall erosivity and class of soil regolith stability.

Note. The classes of soil regolith stability referred to in this Division (R1, R2, R3 and R4) are defined in the Dictionary to this Code.

59 Slope limits for harvesting operations

- (1) Subject to subclause (2), a harvesting operation referred to in this clause must not be carried out on the plantable area if the slope of the plantable area exceeds the limit set for an area with the combined rainfall erosivity and class of soil regolith stability of the plantable area, as set out in the Table in this clause to which the operation relates.
- (2) The slope limits apply only to the slope of the majority of the plantable area, that is, individual areas of the plantable area of up to 50×50 metres may exceed the limit by up to 5° and still be included in the harvesting operation concerned, provided the total of such areas does not exceed 5% of the plantable area.
- (3) Despite subclauses (1) and (2), the slope limits set out in the Tables in this clause do not apply to harvesting operations referred to in this clause that are carried out on a plantation in respect of which establishment operations have been completed before the commencement of this Code. Instead, such operations are to be carried out in accordance with guidelines issued by the Minister from time to time concerning acceptable slope limits for such plantations.

Slope limits for skidding

1: If the rainfall erosivity of the area is: (MJ.mm/ha.hr.yr)	2: And the class of soil regolith stability for the area is:			
	R1	R2	R3	R4
	3: Then the slope limit is:			
0–3999	30°	30°	30°	25°
4000–4999	30°	20°	30°	20°
5000–5999	30°	20°	25°	15°
6000 +	25°	15°	20°	10°

Slope limits for operations carried out by loaded forwarders

The **slope limit** is 30° for all combinations of rainfall erosivity and classes of soil regolith stability

Slope limits for skyline harvesting

1: If the rainfall erosivity of the area is: (MJ.mm/ha.hr.yr)	2: And the class of soil regolith stability for the area is:			
	R1	R2	R3	R4
	3: Then the slope limit is:			
0–3999	no limit	no limit	no limit	40°
4000–4999	no limit	40°	40°	40°
5000–5999	no limit	40°	40°	30°
6000 +	no limit	40°	40°	30°

(4) In this clause:

forwarder means a logging vehicle that transports logs, fully supported off the ground, between the point of felling and a log dump or landing.

skidding means transporting logs by trailing or dragging them.

skyline harvesting means an operation in which logs are hauled from the stumps to a collection point, or are loaded, by means of a wheeled device (a skyline carriage) that rides back and forth on a cable way stretched tautly between two points (a skyline).

Division 2 Log dumps and landings

60 Location of log dumps and landings

Log dumps and log landings whose creation involves earthworks must not be located:

- (a) within the buffer zone of any drainage feature or place or relic of cultural heritage, or
- (b) within any area of native vegetation or area designated for the location of replacement trees that is required by the complying development standards in Division 3 of Part 4 to be retained (to the extent that the authorisation for the plantation requires compliance with those standards).

61 Control of soil erosion

If any area used as a log dump or landing for harvesting operations ceases to be so used for more than one week, measures to minimise and control soil erosion must be put in place.

Division 3 Protection of drainage features and places or sites of cultural heritage

62 Buffer zones in which harvesting is prohibited

- (1) No harvesting is allowed in the buffer zone of any wetland, river or place or relic of cultural heritage.
- (2) Despite subclause (1), the Director-General may allow one-off harvesting in any such area of a timber plantation or proposed timber plantation accredited under the *Timber Plantations (Harvest Guarantee) Act 1995* immediately before the repeal of that Act if such harvesting would have complied with the requirements of the law in force before that repeal.

63 Requirements for harvesting in the buffer zones of drainage features

Trees planted in the buffer zone of a drainage feature for the purpose of harvesting (in accordance with clause 17 (2)) may only be harvested in accordance with the following requirements:

- (a) the person carrying out the harvesting operation must be satisfied that the top 200 millimetres of soil in the area to be harvested is dry enough to allow the operations to be carried out without risk of soil erosion to the edge of the drainage feature,
- (b) harvesting and extraction machinery may only enter an area within 5 metres:
 - (i) of the edge of a drainage line (measured from the top edge of its banks or, if there are no banks, from the edge of its apparent water flow area), or
 - (ii) of the centre of a drainage depression occurring on soil classed R4,

if this is done in accordance with clause 37 or if entering the 5 metre area will result in less environmental damage than the use of any practicable alternative route that would avoid the 5 metre area.

Division 4 Restoration of harvested area

64 Restoration of harvested area

A harvested area must be stabilised to prevent soil erosion (for example, by planting it with grass or other suitable vegetation).

Part 7 Offences and penalty notices

65 Offence of providing false information in application for authorisation

A person must not, in or in connection with an application for an authorisation of a plantation, provide information or produce a document that the person knows to be false or misleading in a material particular.

Maximum penalty: 100 penalty units.

66 Offence of contravening any requirement imposed by Part 5 or Part 6

An owner or manager of an authorised plantation who contravenes or causes or permits the contravention of any requirement imposed by Part 5 or Part 6 is guilty of an offence.

Maximum penalty: 100 penalty units.

67 Penalty notice offences

For the purposes of section 62 of the Act:

- (a) each offence created by a provision specified in Column 1 of Schedule 2 is declared to be a penalty notice offence, and
- (b) the prescribed penalty for such an offence is the amount specified in Column 4 of Schedule 2.

68 Short descriptions of offences

- (1) For the purposes of section 145B of the *Justices Act 1902*, the prescribed expression for an offence created by a provision specified in Column 1 of Schedule 2 consists of the IPB Code set out in relation to the offence in Column 2 of Schedule 2, together with:

- (a) the text set out in relation to the offence in Column 3 of Schedule 2, or
- (b) if a choice of words is indicated in that text, the words remaining after the omission of the words irrelevant to the offence.

- (2) For the purposes of any proceedings for an offence created by a provision specified in Column 1 of Schedule 2, the prescribed expression for the offence is taken to relate to the offence created by the provision, as the provision was in force when the offence is alleged to have been committed.
- (3) The amendment or repeal of a prescribed expression does not affect the validity of any information, complaint, summons, warrant, notice, order or other document in which the expression is used.
- (4) Subclause (3) applies to any information, complaint, summons, warrant, notice, order or other document (whether issued, given or made before or after the amendment or repeal) that relates to an offence alleged to have been committed before the amendment or repeal.
- (5) In this clause:
Infringement Processing Bureau means the Infringement Processing Bureau within the Police Service.
IPB code, in relation to an offence, means the code allocated to the offence by the Information Processing Bureau.

Schedule 1 Patches of woody native vegetation

(Dictionary)

Determining the existence of patches

For the purpose of determining the existence of patches of woody native vegetation, east and west of the Newell Highway represent a biogeographic divide.

East of the Newell Highway

Generally, patches of woody native vegetation are to be determined by the existence of a group of 2 or more woody native plants, with each of those plants lying within 2 crown separations of the nearest woody native plant.

However, in locations where the expected natural native vegetation structure is more dense than 2 crown separations, an authorised person who assesses the proposed plantation under clause 11 of the Code may reduce the crown separation requirement to 1. Accordingly, patches in these locations will be determined by the existence of a group of 2 or more woody native plants, with each of those plants lying within 1 crown separation of the nearest woody native plant.

West of the Newell Highway

Patches of woody native vegetation are determined by the presence of a group of 2 or more woody native plants, with each of those plants lying within 5 crown separations of the nearest woody native plant.

Calculation of crown separation and boundary of patch

The crown diameter of each woody native plant in the tallest stratum is used to calculate crown separation.

In determining whether a woody native plant lies within the required crown separation of the nearest woody native plant (and so is included in the patch), the crown diameter of the most outlying of those 2 plants (that is, outlying in relation to the woody native plant that is used as a starting point) is used.

The boundary of the patch is the line that:

- (a) contains the projected crowns of all the woody native plants within the patch, and
- (b) joins the outer drip line of each outermost crown of the patch with that of the nearest outermost crown of the patch.

In this Schedule:

drip line means the perimeter of the area that would be formed (if it rained only on the crown of a plant) by drips falling from the crown onto the ground below.

woody native plants means any native trees or shrubs.

Schedule 2 Penalty notice offences and short descriptions

(Clauses 67 and 68)

Column 1	Column 2	Column 3	Column 4
Provision of Act	IPB Code	Short description text	Penalty (\$)
Section 20 (6)		Owner/manager breach/cause or permit breach condition of authorisation	1,100

Column 1	Column 2	Column 3	Column 4
Provision of Code	IPB Code	Short description text	Penalty (\$)
Clause 65		Provide false/misleading information/ document in/re application	1,100
Clause 66		Owner/manager breach/cause or permit breach Code clause [<i>here insert provision breached</i>]	1,100

Dictionary

(Clause 2)

Aboriginal place (as defined in the *National Parks and Wildlife Act 1974*) means any place declared to be an Aboriginal place under section 84 of that Act (which allows places to be declared to be Aboriginal places if the Minister for the Environment thinks the place is or was of special significance with respect to Aboriginal culture).

batter means an earth slope formed during road construction either by the placing of fill material or by cutting into the natural hillside.

biodiversity means the variety of life forms—different species of plants, animals and micro-organisms, the genes they contain and the ecosystem they form.

buffer zone means a protective margin of vegetation that surrounds or is adjacent to specified drainage features or relics or items of cultural heritage and which protects them from potentially detrimental disturbances in the surrounding area.

causeway means a natural or constructed crossing (other than a bridge) that enables vehicles to cross a drainage feature.

crossbank means a mound of earth placed across a road or track to divert water from the surface, which may be consolidated or unconsolidated.

crossdrain means a drain excavated across the full width of a road or track to divert water (for example, a spoon drain, crossbank or rollover bank).

crossfall drainage means drainage caused by shaping a road so that all water drains across and off the road surface rather than along it. Drainage created by a crossfall can be in-fall, outfall, or crowned (the latter being drainage caused by shaping a road so that water drains to both sides of the road).

culvert means one or more adjacent enclosed pipes or open drains that are used to convey water underneath a road.

cut means a portion of land where earth has been removed by excavation.

Department means the Department of Land and Water Conservation.

diameter at breast height means the measurement of the diameter of a tree made:

- (a) at a height of 1.3 metres above the ground level (measured from the ground level of the up slope side of the tree if the tree is on a slope), and
- (b) at right angles to the axis of the tree.

If the tree is branched or deformed at 1.3 metres above the ground level, the measurement must be taken at the nearest point above or below that point, where the trunk becomes more cylindrical.

Director-General means the Director-General of the Department.

drainage depression means a level to gently inclined shallow, open depression with a smoothly concave cross-section, rising to moderately inclined hill slopes, that conveys runoff water only during or immediately after (that is, only hours or days after) periods of heavy rainfall.

drainage feature means any of the following:

- (a) a wetland,
- (b) a river,
- (c) a drainage line,
- (d) a drainage depression on soil classed R4.

drainage line means a channel down which surface water naturally concentrates and flows, conveying water only during, or immediately after (that is, only hours or days after) periods of heavy rainfall. Drainage lines exhibit one or more of the following features which distinguish them from drainage depressions:

- (a) evidence of active erosion or deposition (for example, gravel, pebble, rock or sand bed deposited by water),
- (b) an incised channel more than 300 millimetres deep with clearly defined bed and banks,
- (c) first or second order streams with permanent flow,
- (d) third or higher order streams without permanent flow.

For the purposes of this definition, stream orders are as determined according to the Strahler System using a 1:25,000 or 1:50,000 topographic map published by the Government (whichever is the smallest scale so published).

earthworks means any operation involved in moving, loosening, depositing, shaping, compacting or stabilising soil and rock for the purpose of construction (for example, of a road or log dump).

erosion means the wearing away of land by running water, rainfall, wind, ice or other geological agents.

extraction means the transportation of trees, stems or logs from the point of felling to a processing or roadside loading area (usually a log dump or landing).

extraction track means a track used for extraction. (Extraction tracks include snig tracks, along which logs are dragged, either wholly on the ground or supported at one end, by the use of wheeled or tracked vehicles.)

fill means excavated material that is used to raise (fill) the surface of an area to a specified level.

fire trail means a way that is used for either or both of the following purposes:

- (a) to provide access for fire control vehicles,
- (b) to prevent or check the spread of fire during fire fighting or prescribed burning operations.

A fire trail may be a track or a road, depending on whether or not it is constructed.

groundcover means any type of herbaceous vegetation (including native grassland of high conservation value).

Groundcover is only regarded as native vegetation if it occurs in an area where not less than 50% of the herbaceous vegetation covering the area comprises indigenous species. In determining that percentage, not less than 10% of the area concerned must be covered with herbaceous vegetation (whether dead or alive).

ground slope means the slope of the natural land surface at any given point in the landscape.

infall drainage means drainage caused by constructing the surface of the road with an inward slope in the opposite direction to that of the side slope of the natural surface, allowing runoff to be shed to the high terrain side of the road.

line ripping means ripping lines in the ground (for example, with multi-tine equipment or a wing or wide-foot plate on a ripper) to shatter the compacted layer of the soil.

log dump or **log landing** means an area where logs or parts of logs are assembled for sorting and preliminary processing (for example, cross-cutting) before being loaded on to trucks for transport from the plantation. Log dumps or landings do not include areas set aside for stockpiling logs.

manual cultivation means tilling the soil in preparation for planting using only hand tools.

mounding means the cultivation of soil to form mounds.

native grassland of high conservation value means native grassland:

- (a) that has been extensively cleared from the region, is inadequately conserved within it, or is at its geographical limit, and
- (b) that exhibits one or more of the following features:
 - (i) it is relatively large in area, or is an area that connects two other large areas of native vegetation,
 - (ii) it is in unusually healthy condition (that is, it is in much the same condition, and has much the same species composition and community structure, as may have existed a hundred or more years ago),
 - (iii) it includes a diversity of native species (that is, not just grass species, but a diversity of forbs that grow between the grass tussocks, such as native legumes, orchids, daisies and lilies),
 - (iv) it is a habitat for rare and threatened species of native plants and animals,
 - (v) it has very few weeds and has had only minimal past disturbance from ploughing, spraying or fertilising, and
- (c) that is determined by the Department (based on the preceding factors and associated surveys) to be native grassland of high conservation value.

native vegetation means any of the following types of indigenous vegetation:

- (a) trees,
- (b) understorey plants,
- (c) groundcover,
- (d) plants occurring in a wetland,

but does not include any mangroves, seagrasses or any other type of marine vegetation within the meaning of the *Fisheries Management Act 1994*.

outfall drainage means drainage caused by constructing the surface of the road with an outward slope in the same direction as that of the side slope of the natural surface, allowing runoff to be shed to the low terrain side of the road.

patch of woody native vegetation means an area of woody native vegetation, the existence and boundaries of which are determined in accordance with Schedule 1.

peak flow means the highest flow rate of the drainage feature concerned during or following a specific rainfall event.

place or relic of cultural heritage means a relic (as defined in the *Heritage Act 1977* and in the *National Parks and Wildlife Act 1974*), or an Aboriginal place (as defined in the latter Act).

plantable area means a plantation excluding:

- (a) any area of native vegetation or area designated for the location of replacement trees that is required by the complying development standards in Division 3 of Part 4 to be retained (to the extent that the authorisation for the plantation requires compliance with those standards), and
- (b) any buffer zone of a drainage feature or place or relic of cultural heritage.

R1, R2, R3 and R4 are classes of regolith stability applied to soils as follows:

- R1 high coherence soils with low potential to deliver sediment,
- R2 low coherence soils (when wet) with low potential to deliver sediment,
- R3 high coherence soils with high potential to deliver sediment,
- R4 low coherence soils (when wet) with high potential to deliver fine sediment.

rainfall erosivity rating is the measure of the erosive potential of a specific rainfall event (being the product of two rainstorm characteristics: total kinetic energy of the storm multiplied by its maximum 30 minute intensity, as defined in the Universal Soil Loss Equation).

rainforest means any contiguous area of woody native vegetation dominated by rainforest species and with a rainforest structure (and it includes, but is not limited to, rainforest as defined in Integrated Forestry Operations Approvals (IFO) under the *Forestry and National Park Estate Act 1998*).

regional vegetation schedule means the regional vegetation schedule for the region in which a plantation is located that is made, or taken to be made, under clause 25, as applied in accordance with that clause.

regolith means unconsolidated residual or transported material that overlies the solid rock on the earth.

regrowth vegetation means native vegetation that has regrown after clearing and is of low conservation value, as identified in the regional vegetation schedule.

relic means the following:

- (a) (as defined in the *Heritage Act 1977*) any deposit, object or material evidence:
 - (i) which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
 - (ii) which is 50 or more years old,
- (b) (as defined in the *National Parks and Wildlife Act 1974*) any deposit, object or material evidence (not being a handicraft made for sale) relating to indigenous and non-European habitation of the area that comprises New South Wales, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.

relief culvert means a drainage structure that transports water collected (generally by a table drain) from the road surface under the road for controlled discharge downslope.

river means a third order or higher order stream (as determined according to the Strahler System using a 1:25,000 or 1:50,000 topographic map published by the Government, whichever is the smallest scale so published) with a permanent flow.

road means a way that is constructed primarily for vehicles by means of earthworks involving the cut or fill (or both) of the natural surface on the way. A road may include a fire trail if it is so constructed.

rollover bank means a type of crossdrain and may be:

- (a) a shallow drain (sometimes used in combination with a compacted low earth crossbank called a rollover crossbank) that is constructed across the full width of a road or track, or
- (b) a rollover drain, which is used on moderate to steep sections of roads or tracks and sized so that the road or track remains trafficable. Rollover drains help to prevent erosion of the road or track surface by discharging water at numerous points on the low terrain side of the road or track.

runoff water means the portion of precipitation falling on a catchment area that flows from the catchment past a specified point.

rutting means soil disturbance caused by the sinking of the wheels or tracks of vehicles or machinery.

sediment means particles of soil material that have been transported or deposited by water flow.

slash means tree debris left following the felling, processing and extraction of logs.

table drain means a drain constructed along the side of a road between the shoulder and a cut batter, that collects and drains runoff water away from the road surface and also intercepts runoff water from cut batters that might otherwise flow onto the road surface.

the Act means the *Plantations and Reafforestation Act 1999*.

the landholding means the lot or lots on which a plantation is or is to be situated.

track means a way primarily for vehicles that is not constructed.

wetland means any area that is:

- (a) covered by a shallow body of water (being a body of water that is not the result of unusual flooding, high rainfall, temporary water diversion, or a marked permeability break in the soil profile leading to the development of a perched water table), and
- (b) inundated cyclically, intermittently or permanently with water, and
- (c) under normal circumstances, predominantly vegetated with plant communities adapted for life in saturated soil conditions, and

(d) characterised by soils that exhibit reducing conditions.

Wetlands generally include marshes, billabongs, swamps and sedge lands.

windrow means a row of cut vegetation raked up for clearing (for example timber which is pushed into lines for burning during a clearing operation).

woody native vegetation means native trees and shrubs.