Development Control Plan 2016

Volume 8 – Primary agricultural and Rural uses

Wollondilly Shire Council

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PART 1 – PRELIMINARY

1.1 Introduction

This Volume provides controls for the development and use of land for the purposes of primary agricultural or rural land uses and any development ancillary to those uses and forms part of the Wollondilly Development Control Plan 2016.

1.2 Objective

The objectives of this volume are as follows:

(a) To promote and encourage rural and agricultural enterprises,
(b) To encourage development that protects the rural amenity, natural landscape features of significance and scenic qualities of Wollondilly Shire,
(c) To ensure that agricultural activities have a neutral or beneficial effect on water quality,
(d) To ensure that the establishment of new, or expansion of existing farms will not adversely impact on biodiversity, endangered ecological communities and threatened species,
(e) To minimise the potential for land use conflict, and
(f) To ensure that the opportunity for long term sustainable agricultural production is maximised.

Council is unlikely to grant consent to development unless Council is of the opinion that the development is consistent with all of the objectives of this Volume.
Controls in this Plan can only be varied where there are no viable alternatives due to the physical limitations of the land and it can be demonstrated that the proposed use will still meet the objectives.

Part 2 – General Requirements for all Development

None at time of adoption.

Part 3 – Specific Land Use Controls

3.1 Animal boarding or training establishments

3.1.1 Siting and design

Objectives

(a) To minimise the impacts of animal boarding or training establishments on neighbouring properties resulting from noise, odour, traffic, dust, waste water and other waste products,
(b) To control the impacts of animal boarding or training establishments by appropriate site buffer or setback distances, and
(c) To minimise the impacts of development on the natural environment.

Controls

1. New structures or the expansion of existing structures for the purpose of dog kennels, are required to comply with the minimum separation distances outlined below:

Minimum setback/separation distances	
Front building setback	65 metres
Side or rear building setback	25 metres
All residential zones	300 metres
Any dwelling on a neighbouring property	200 metres

Note

Where rural land uses emit odour, the above separation distances are minimums only. Consideration will be given to OEH's policy on *'Assessment and management of odour from stationary sources in NSW'* (November 2006) taking into consideration the site characteristics and the merits of each application.

3.1.2 Sustainable noise management

Objectives

(a) To minimise the impact of animal boarding and training establishments on the amenity of surrounding land.

Controls

1. The development must comply with the Industrial Noise Policy of the Environment Protection Authority and any relevant policy.
2. Sound-proofed holding sheds for all distressed animals must be provided.

3.1.3 Waste and water management

Objectives

(a) To encourage the sustainable management of waste and water generated from the proposed establishment.

Controls

1. Any application for an Animal Boarding or Training Establishment must demonstrate that waste can be managed without detriment to the environment.

2. Stormwater must be disposed of in a manner that does not interfere with adjoining land uses.
3. Stormwater and wastewater generated from the cleaning of structures and yard areas will require treatment to remove pathogens prior to being reused on-site for irrigation purposes.
4. Applications are to demonstrate that an adequate water supply (reticulated water, rainwater tanks and surface waters) is available to support the proposed development.
5. Applications must not solely rely on reticulated water supply to service the needs of the development and must demonstrate an integrated approach to water management using alternate water sources in conjunction with reticulated water.
6. Stormwater drains are to be wide, gently sloping open drains that are well vegetated to minimise erosion potential and facilitate filtering of solid particles contained in the runoff.

Additional Controls – Dog kennels

In addition to the controls above, the following apply to animal boarding and training establishments for the purpose of dog kennels:

1. The flooring of kennels must be constructed from concrete to facilitate ease in cleaning and must be a minimum of 75mm thick.
2. Concrete flooring must have a graded fall to the front opening and must be serviced by a catchment drain that is integrated into the on-site wastewater management system prior to any reuse on-site.
3. Yard areas must be designed to allow cleansing and removal of refuse and must be fully turfed or concreted. Brick, asphalt or earth yard areas are not permitted.

3.1.4 Transport and access

Objectives

(a) To minimise the noise and environmental impacts of vehicle movements to and from the site, and
(b) To ensure adequate access to the development is provided.

Controls

1. Internal access roads must be of all weather design constructed and have turning areas adequate for large articulated vehicles where required.
2. The location of roads, parking and turning areas must recognise potentially sensitive areas such as neighbouring houses.
3. The timing and manner of transport activities associated with the development including the frequency, times, routes and number of animal deliveries and pick-ups, feed deliveries and clean-outs must take into consideration the impact on adjoining neighbours.
4. Car parking and manoeuvring areas for vehicles must be constructed in accordance with Council's Design Specifications.

3.1.5 Landscaping

Objectives

(a) To encourage the use of landscaping to provide a buffer between the animal boarding or training establishment and surrounding land uses,
(b) To encourage the use of landscaping to provide visual screening and shade for animals, and
(c) To ensure landscape species are suitable having regard to surrounding structures, bushfire prone areas and the use of native species.

Controls

1. Landscaping around site structures and site boundaries will be required where the proposed use impacts on adjoining land uses and scenic amenity.
2. All plantings are to be in groups, consist of advanced stock and are to be a minimum of 12m from buildings to allow adequate air movements. In bushfire prone areas, fire retardant species must be utilised and separation from buildings must be consistent with the requirements of Planning for Bushfire Protection.
3. The mature height of tall species should be sufficient to intercept a direct line of sight from a neighbouring dwelling or roadway (measured 2m above the natural ground level).
4. Landscaping must not impede on any required area for on-site effluent disposal.
5. Refer to Council's Recommended Planting Species List in Volume 1 of this DCP (Section 11.2, Tables 1 – 7).

3.2 Aquaculture

Objectives

(a) To minimise the impact of natural water-based aquaculture on the natural environment, and
(b) To encourage sustainable aquaculture practices.

Controls

1. Development must address the requirements of any relevant Planning and Development Assessment Guidelines including the requirements of SEPP 62 – Aquaculture.
2. Any farm buildings or structures proposed in conjunction with aquaculture must be in accordance with the requirements of **Section** 3.5 of this Volume.

3.3 Intensive livestock agriculture

3.3.1 Siting and setbacks

Objectives

(a) To ensure that the impacts of development such as air, dust, water, odour, noise and visual amenity are minimised by identifying minimum buffer or setback requirements, and
(b) To allow for the development of intensive livestock agriculture in locations which are suited to sustainable production.

Controls

1. Development for the purposes of intensive livestock agriculture, are required to comply with the minimum buffers distances outlined below:

Minimum setback/separation distances		
	Intensive livestock agriculture (except Poultry farms)	**Poultry farms**
Front building setback	175 metres	50 metres
Side or rear building setback	150 metres	50 metres

Minimum setback/separation distances		
	Intensive livestock agriculture (except Poultry farms)	**Poultry farms**
Dwelling on same property	100 metres	50 metres
Any dwelling on a neighbouring property	150 metres	150 metres
All residential zones	500 metres	500 metres

Note
Where rural land uses emit odour, the above separation distances are minimums only. Consideration will be given to OEH's policy on *'Assessment and management of odour from stationary sources in NSW'* (November 2006) taking into consideration the site characteristics and the merits of each application.

2. Development must be in accordance with the "Blue Book" Code of Practice for Animal Care produced by the Department of Primary Industries.
3. Sites with a slope greater than 3-4% must not be used for intensive livestock agriculture.
4. Sites that have residual chemicals in the soil such as organochlorides and arsenic must not be used for intensive livestock agriculture.
5. Development must be located having regard to the topography and microclimate of the area to ensure concentration of odours cannot occur.

3.3.2 Noise, odour and dust

Objectives
(a) To minimise noise, odour and dust impacts from Intensive livestock keeping establishments on the amenity of surrounding land uses, and
(b) To encourage healthy, sustainable practices to minimise the impact of development.

Controls
1. Where possible, buildings and facilities are to be located out of the line of sight of adjoining neighbours.
2. Locate all stationary noise generating machinery within sheds and where practical away from property boundaries.
3. Ensure that feed grain is stored in a dry storage area to prevent fermentation.
4. Prevent entry of drainage/seepage water into site sheds and storage facilities through the construction of earth contour banks and drainage.
5. Feeding troughs and self-feeders must be designed to minimise any spillage that could potentially contribute to odour emissions.
6. Appropriately silenced forklifts should be utilised to reduce night noise generation.
7. Noise levels generated must not exceed the requirements of the NSW Industrial Noise Policy (NSW EPA, 2000).
8. Industry Best Practice Management measures developed to eliminate or reduce odour are to be undertaken.
9. Where practical, major truck deliveries and produce transport should be scheduled between the hours of 7am to 6pm weekdays, 7am to 1pm Saturdays. It is noted that exceptional circumstances may mean deliveries are conducted outside these hours on occasions.

Additional controls for poultry sheds
1. All poultry sheds are to be appropriately cleaned out after every batch.
2. Sheds or structures must be adequately ventilated.

3. Shed curtains or shutters must be utilised during shed clean outs (to minimise the impact of dust on adjoining land users). As far as practicable, dust generated must stay within property boundaries.
4. The type of litter material chosen for shed floors must have regard to its propensity to produce dust.

3.3.3 Soil, waste and water management

Note
Applicants are advised to consult with the requirements for Earth dams contained within **Section** 3.6 of this **Volume,** when designing sedimentation ponds.

Objectives
(a) To minimise the impact of stormwater and surface run-off on receiving water courses or water bodies and on adjacent lands, and
(b) To ensure drainage systems efficiently control water flows and minimise the impact on natural drainage patterns of the site.

Controls
1. Local drainage patterns are to be maintained and stormwater flows effectively managed.
2. Development must incorporate the construction of stormwater diversion banks, sedimentation ponds and the installation of a wastewater treatment system to divert and treat wastewater and run-off.
3. Suitable impermeable sedimentation pond structures must be constructed that will not contaminate surface and ground waters.
4. Development must provide appropriate methods for the adequate management and handling of litter, manure, composting and removal of dead animals.
5. Runoff from feeding pens and site buildings (sealed or compacted) is to be collected in sedimentation ponds prior to any irrigation on-site. Contaminated waters must be suitably treated before reuse on the farm.
6. All sedimentation ponds are to be de-sludged to remove build-up of solid effluent when their storage capacity is reduced by more than 25%.
7. Loads of litter, manure and feed being transported to the property are to be adequately covered.
8. Prompt and safe disposal of feed by-products is to be arranged where recycling is not possible to avoid the harbouring of pests and vermin.
9. Diversion banks may need to be constructed to intercept and divert runoff away from manure stockpiles and carcass disposal areas.
10. Runoff from shed roofs, access tracks and hard stands (sealed or compacted) is to be collected and stored on site. Note: Any runoff existing on the site must be free of sediment.

3.3.4 Transport and access

Objectives
(a) To minimise the noise and environmental impacts of vehicle movements to and from the site, and
(b) To ensure adequate access to the development is provided.

Controls
1. Internal access roads must be of all weather design construction and have turning areas to accommodate large articulated vehicles and be designed to minimise the amount of backing by trucks/forklifts where required.

2. The location of roads, parking and turning areas must recognise potentially sensitive areas such as neighbouring houses.
3. The timing and manner of transport activities associated with the development including the frequency, times, routes and number of animal deliveries and pick-ups, feed deliveries and clean-outs must take into consideration the impact on adjoining neighbours.
4. Car parking and manoeuvring areas for vehicles must be constructed in accordance with Council's Design Specifications.

3.3.5 Landscaping

Objectives

(a) To mitigate the potential noise, dust and odour impacts of proposed intensive livestock developments, and
(b) To minimise the visual impacts of development on the surrounding landscape.

Controls

1. Where native vegetation is limited in its capacity to provide visual screening then the following vegetation design controls apply:

On-site Application	Design Control
Site boundaries – vegetative windbreak	3 rows of vegetation to be established and maintained
Site boundaries – vegetative screen	Rows of vegetation to be established and maintained
Around Site Structures	Grassed areas are to be kept maintained
Earth Dam Banks	Grassed areas are to be kept maintained
Open Stormwater Drains	Grassed areas are to be kept maintained

2. Landscaping must incorporate a mixture of trees, shrubs and groundcovers, and where practicable utilise species that are endemic to the Shire of Wollondilly.
3. All plantings are to be in groups, consist of advanced stock and are to be a minimum of 12m from sheds (other than tunnel ventilated sheds) to allow adequate air movements. In bushfire prone areas, fire retardant species must be utilised and separation from buildings must be consistent with the requirements of Planning for Bushfire Protection.
4. The mature height of tall species used in site landscaping should be sufficient to intercept a direct line of sight from a neighbouring dwelling or roadway (measured 2m above the natural ground level).
5. Tree planting must not impede on the available area for on-site effluent disposal.
6. Refer to Council's Recommended Planting Species List in Volume 1 of this DCP (Section 11.2, Tables 1 – 7).

3.4 Intensive plant agriculture

3.4.1 Siting and design

Objectives

(a) To minimise the impacts of horticulture on adjoining properties,
(b) To control the impacts of horticulture by appropriate site buffer or setback distances, and
(c) To minimise the impacts of development on the natural environment.
(d) To provide a consistent approach to planning for the development of new horticulture farms and facilitate additions to existing farms.

Controls

1. Intensive Plant Agriculture is required to comply with the minimum separation distances outlined below unless the impacts can be mitigated through a Council approved design:

Minimum setback/separation distances			
	Horticulture (field based)	**Controlled environment structures (igloos)**	**Viticulture**
Front building setback	Nil	20 metres	40 metres
Side or rear building setback	Nil	20 metres	40 metres
All residential zones	50 metres	50 metres	50 metres
Dwelling on same property	20 metres	20 metres	20 metres
Any other dwelling (whether on a neighbouring property)	50 metres	50 metres	50 metres

Note: Where rural land uses emit odour, the above separation distances are minimums only. Consideration will be given to OEH's policy on *'Assessment and management of odour from stationary sources in NSW'* (November 2006) taking into consideration the site characteristics and the merits of each application.

2. Development for the purposes of intensive plant agriculture must accommodate future expansion of the farm while maintaining recommended buffer distances.
3. Must not be located in visually prominent areas such as ridgelines and highly exposed areas.
4. Must, where possible, be sited in locations that maximise opportunities for cooperative packing and labour pooling.
5. Must, where practical, be sited in locations that minimise impact to the amenity of surrounding land uses.
6. Sites with a slope greater than 10% must not be used for intensive plant agriculture, other than for the purposes of viticulture, which may be located on slopes up to 20%.

3.4.2 Design and construction of controlled environment structures

Objectives

(a) To minimise the visual impact of structures associated with controlled environment horticulture,
(b) To encourage the minimal use of pesticides through improved design of structures, and
(c) To encourage development within close proximity to major markets, adequate labour supply, major transport links and extension services.

Controls

1. All controlled environment structures, including covering materials, are to be kept well maintained and in good condition.
2. The orientation of controlled environment structures must be in a north-south orientation and must consider the direction of prevailing winds to take advantage of cooling summer breezes.
3. Where possible, controlled environment structures are to be a minimum of 6 metres in height to encourage adequate ventilation, provide optimal growing environment and increase the overall efficiency.
4. Development must include the planting and maintenance of vegetative screens and windbreaks.
5. Controlled environment horticulture structures are to be raised to facilitate the drainage of stormwater away from structures.

3.4.3 Noise and odour

Objectives

(a) To minimise the noise and odour impacts of Intensive plant agriculture on the amenity of surrounding land uses.

Controls

1. Where possible, buildings and facilities are to be located out of the line of sight of adjoining neighbours.
2. Prevent entry of drainage/seepage water into site sheds and storage facilities through the construction of earth contour banks and drainage.
3. Appropriately silenced forklifts should be utilised to reduce night noise generation.
4. Noise levels generated must not exceed the requirements of the NSW Industrial Noise Policy (NSW EPA, 2000).
5. Where practical, major truck deliveries and produce transport should be scheduled for reasonable hours of the day. Council acknowledges that farmers need to access markets early in the morning therefore requiring night time vehicle movements.
6. Locate all stationary noise generating machinery within sheds and where practical away from property boundaries.

3.4.4 Soil, waste and water management

Objectives

(a) To minimise the impact of development on soil erosion,
(b) To encourage the improvement of soil organic matter and reduce soil compaction,
(c) To minimise the impact of stormwater and surface run-off on receiving water courses or water bodies and on adjacent lands, and
(d) To ensure drainage systems efficiently control water flows and minimise the impact on natural drainage patterns of the site.

Controls

1. Intensive plant or horticultural operations are to incorporate grassed inter-row areas or cover crops between production areas crop rows in order to:
   - reduce erosion potential,
   - improve soil organic matter,
   - provide trafficable areas in wet weather,
   - act as biological filters for water run-off, and
   - reduce pest and disease levels.
2. The existing soil moisture content must be assessed prior to undertaking any cultivation practices to avoid damage to the soil structure from cultivating when too dry or moist.
3. Cultivation between crop rows must be minimised and only undertaken for moisture retention and ground preparation.
4. Viticulture farms are to incorporate cover crops in their overall farm management practices to reduce erosion potential, improve soil organic matter and reduce pest and disease levels.
5. Any cultivation of the site must follow the natural contour lines to increase soil water retention and to minimise erosion potential.
6. Applications are to demonstrate that an adequate water supply is available to support the proposed development. The use must not solely rely on reticulated water supply to service the needs of the development and must demonstrate an integrated approach to water management using alternate water sources in conjunction with reticulated water.
7. Water quality tests must be performed to demonstrate that levels of salts, minerals, and pH are suited for horticultural use where irrigation is proposed through the use of water extracted from an adjoining/nearby river.
8. Stormwater drains are to be wide, gently sloping open drains that are well vegetated to minimise erosion potential and facilitate filtering of solid particles contained in the runoff.
9. Local drainage patterns are to be maintained and stormwater flows effectively managed.
10. Development must incorporate the construction of stormwater diversion banks, sedimentation ponds and the installation of a wastewater treatment system to divert and treat wastewater and run-off.
11. Runoff from site buildings (sealed or compacted) is to be collected in sedimentation ponds prior to any irrigation on-site. Contaminated waters must be suitably treated before reuse on the farm.
12. Diversion banks may need to be constructed to intercept and divert runoff away from any composting areas.
13. Viticulture farms must consider soil types and their suitability for the production of grapes over the proposed development site.

3.4.5 Pest Management

Notes

Intensive plant agriculture or horticultural land uses must not utilise pesticides for the control of insects, diseases and weeds that pose a risk to the production of crops. Under the NSW Pesticides Act 1999, it is an offence to use a pesticide in a way that *'causes injury or likely injury to another person, damage or likely damage to another person's property or harm to a non-target plant'*. Users or persons intending to use pesticides are to undertake the necessary chemical application and certification training.

Objectives

(a) To ensure pest management is undertaken in a responsible and sustainable manner.

Controls

1. Pesticide use must meet the requirements of any relevant pesticide legislation (currently being the *NSW Pesticides Act 1999* and associated regulations such as the *Pesticides*

Regulation 2009, Pesticides Amendment (Records) Regulation 2001 and the *Pesticides Amendment (User Training) Regulation*, administered through the NSW Office of Environment and Heritage).

2. The storage, transport, and keeping of records for all pesticides used in intensive plant agriculture farms are to be in accordance with any relevant legislation.

3.4.5 Transport and access

Objectives

(a) To minimise the noise and environmental impacts of vehicle movements to and from the site, and

(b) To ensure adequate access to the development is provided.

Controls

1. Internal access roads must be of all weather design construction and have turning areas to accommodate large articulated vehicles where required.
2. The location of roads, parking and turning areas must recognise potentially sensitive areas such as neighbouring houses.
3. The timing and manner of transport activities associated with the development including the frequency, times, routes and number of deliveries and pick-ups must take into consideration the impact on adjoining neighbours.

3.4.6 Landscaping

Objectives

(a) To mitigate potential impacts associated with odour and spray drift from proposed intensive plant developments, and

(b) To minimise the visual impacts of development on the surrounding landscape.

Controls

1. Where native vegetation is limited in its capacity to provide visual screening then the following vegetation design controls apply:

On-site Application	Design Control
Site boundaries – vegetative windbreak	3 rows of vegetation to be established and maintained
Site boundaries – vegetative screen	Rows of vegetation to be established and maintained
Around Site Structures	Grassed areas are to be kept maintained
Around Controlled Environment Structures	Grassed areas are to be kept maintained
Earth Dam Banks	Grassed areas are to be kept maintained
Permanent crops such as orchards etc.	Grassed areas maintained. Cover crops to be managed to maximise the benefit to the horticultural commodity produced.
Open Stormwater Drains	Grassed areas are to be kept maintained

2. All plantings are to be in groups, consist of advanced stock and are to be a minimum of 12m from structures to allow adequate air movements. In bushfire prone areas, fire retardant species must be utilised and separation from buildings must be consistent with the requirements of Planning for Bushfire Protection.

3. The mature height of tall species should be sufficient to intercept a direct line of sight from a neighbouring dwelling or roadway (measured 2m above the natural ground level).
4. Landscaping must not impede on the available area for on-site effluent disposal.
5. The mature height of tall species must not impede or shade the available growing area for horticultural crops.
6. Landscaping must incorporate a mixture of shrubs and groundcovers, and where practical utilise species that are endemic to the Shire of Wollondilly.
7. Refer to Council's Recommended Planting Species List in Volume 1 of this DCP (Section 11.2, Tables 1 - 7).

3.5 Farm buildings

3.5.1 Siting and Design

Objectives

(a) To ensure that farm buildings are designed and constructed to minimise the visual impact with the character of the rural landscape, and
(b) To ensure that farm buildings are sited to minimise the visual impact on the amenity of the rural landscape.

Controls

1. Must not be located in visually prominent areas such as on ridgelines or vantage points.
2. Must not be erected on slopes in excess of 10%.
3. Maximum 2 metres cut and 1 metre fill.
4. Must comply with the minimum setbacks for a single dwelling house in Volume 4 of this DCP, from all property boundaries, unless otherwise provided by this Volume.

3.5.2 Bulk and scale

Objectives

(a) To minimise the impact of development on the landscape.
(b) To ensure the size of the buildings relate to its intended use, the size of the property and dominant land use.

Controls

1. The maximum size of a farm building in zones **R5 Large Lot Residential, E3 Environmental Management** and **E4 Environmental Living** must not exceed 300m².
2. The cumulative total of all farm buildings must not exceed 500m² on any one property in zones **R5 Large Lot Residential, E3 Environmental Management** and **E4 Environmental Living**.
3. The maximum size of a farm building in zones **RU1 Primary Production, RU2 Rural Landscape** and **RU4 Primary Production Small Lots** must not exceed 500m², unless the applicant can justify additional size is required to undertake the principle land use. The applicant must also specify the additional measures to be taken to minimise the impact of the farm building on the amenity of neighbouring land uses.

3.5.3 Building height

Objectives

(a) To minimise the visual impact of farm buildings on the surrounding landscape, particularly in prominent locations such as ridgelines and crests.

Controls

1. The maximum building height of a farm building in zones **R5 Large Lot Residential, E3 Environmental Management** and **E4 Environmental Living** is 7 metres, or no higher than the ridgeline of any existing dwelling on the property, whichever is less. Where a proposed farm shed is of an American barn style, additional height may be considered where environmental impact is considered minimal.
2. Maximum building height of a farm building in zones **RU1 Primary Production, RU2 Rural Landscape** and **RU4 Primary Production Small Lots** is 7 metres.

3.5.4 Colour

Objectives

(a) To minimise the visual impact of farm buildings and to ensure colours used are complimentary to the surrounding landscape and blend into the farming character of the Shire.

Controls

1. The colour of a farm building must match or blend with the colour of existing structures and buildings on the property and be in keeping with the natural features of the surrounding environment.
2. For vacant land, the colour of the farm building must be taken from the key features of the surrounding environment (dominant vegetation, soils, rock features).
3. Materials must be non-reflective.
4. Farm buildings constructed with galvanised corrugated iron or zincalume are encouraged, to assist in integrating new farm sheds into the existing rural landscape.

3.5.5 Landscaping

Objectives

(a) To encourage the use of landscaping to provide a visual buffer between the farm building and surrounding land uses.

(b) To ensure landscape species are suitable having regard to surrounding structures, bushfire prone areas and the use of native species.

Controls

1. Landscaping must be provided in all rural zones where a farm building will be visible from neighbouring allotments and existing native vegetation cover does not provide adequate screening of the structure.
2. Landscaping must incorporate a mix of trees, shrubs and groundcovers, and where practical, incorporate plants that are endemic to the Shire of Wollondilly.
3. All plantings are to be in groups and consist of advanced stock.
4. In bushfire prone areas, fire retardant species must be used. .
5. Tree species used to screen farm buildings must have a height at maturity that is above the highest roof ridgeline of the building.

6. Landscaping must be setback 2 to 2.5 times the height of mature species chosen or a minimum of 12 metres (whichever is the greater) from the farm structure.
7. Refer to Council's Recommended Planting Species List in Volume 1 of this DCP (Section 11.2, Tables 1 - 7).

3.6 Earth dams

Objectives

(a) To ensure that earth dams are constructed to a safe standard, and
(b) To minimise the impact of dam construction on neighbouring properties and on the surrounding natural environmental features.

Controls

1. The width of a dam crest must be a minimum of 3 metres for a 3 metre high dam wall. The crest must increase in width 500mm from every metre above a 3 metre high dam wall.
2. A minimum of 1.0 metre is to be established for freeboard (the distance between the highest water level and the top of the dam wall). This must increase by 10% for every metre over a 3 metre high wall.
3. Soils predominantly consisting of gravels; organic soils or peat must not be used for dam construction or batters. The material used to construct an embankment should be sufficiently impervious to keep seepage low and ensure that dam walls remain stable. Soils with 25% clay content or greater are ideal to form an impervious barrier.
4. The dam embankment must contain at least 200mm of compacted top soil and be planted with a good soil holding grass. Trees and shrubs must not be planted on the embankment.
5. The slope of the embankment batters must conform to the ratio of 3.0 horizontal to 1.0 vertical for both upstream and downstream slopes.
6. An earth bywash is required on all dams in order to pass surplus runoff around the dam which would otherwise pass over the embankment. The bywash must be a minimum of 6 metres in width.
7. The width of the outlet from the bywash must not be less than the inlet width and must not direct flow onto the downstream toe. The bywash cut batter must have a maximum steepness of 1.5:1.
8. The bywash is to be excavated 75mm below the top water level and backfilled with compacted topsoil and planted with a suitable holding grass such as kikuyu. No trees or shrubs are to be planted in the bywash area.
9. In spring fed dams and dams that consistently receive a large amount of surface water, a piped spillway may be required to act as an outlet. The spillway is to have an inlet of at least 100mm below the level of the bywash. Generally a 150mm pipe is suitable for this purpose.
10. To avoid erosion and cracking of soil around spillway pipes and movement of water along the pipe line, gypsum should be applied below, above and around the pipe for a minimum distance of 2 metres. The trench for the pipe is to be cut into the natural ground under the earth bank or through a compacted section of bank. The base width of the pipe trench is generally about 300mm wider than the diameter of the pipe. The trench should be cut and the pipe installed as early as possible in the construction process to allow the excavation time to settle and compact as cutting through the completed embankment creates a point of weakness which may result in failure.
11. The bywash or spillway water from an earth dam should not have an adverse effect on neighbouring properties. Dams are to be sited so that excess water is contained on the property on which they are located before meeting with a watercourse downstream.
12. All farm dams are required to have a cut-off trench. The cut-off trench is to be constructed along the entire length of the embankment. It does not need to extend across the bywash. The trench must be taken down at least 300mm into the impervious soil and backfilled with impervious material ensuring it is less than 600mm below the natural surface.

13. The earth dam must not be located near or adjoining a natural wetland, floodplain or riparian area, and shall be designed and located to avoid any impact on remnant vegetation or threatened species.

Part 4 – Controls for Specific Locations:

None at time of adoption.