

DUNGOG DEVELOPMENT CONTROL PLAN No 1

PART C.8 – MANAGING OUR FLOODPLAINS

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This plan, which may be cited as "Dungog Development Control Plan No. 1" - Managing Our Floodplains, constitutes a Development Control Plan as provided for by Division 3.6 of the Environmental Planning and Assessment Act, 1979.

8.1 AIMS AND OBJECTIVES

This section of the DCP aims to:-

- (a) Provide detailed controls for the assessment of applications on land affected by potential floods;
- (b) To minimise the potential impact of development and other activity upon the aesthetic, recreational and ecological value of the waterway corridors;
- (c) Specific criteria for consideration of applications lodged in accordance with the Environmental Planning and Assessment Act 1979;
- (d) Alert the community to the hazard and extent of land affected by potential floods;
- (e) Inform the community of Council's policy in relation to the use and development of land affected by potential floods;
- (f) Reduce the risk to human life and damage to property caused by flooding through controlling development on land affected by potential floods;
- (g) Deal equitably and consistently with applications for development on land affected by potential floods, in accordance with the principles in the Floodplain Development Manual issued by the New South Wales Government;
- (h) Increase public awareness of the potential floods greater than the 1% AEP flood and to ensure essential services and landuses are planned in recognition of all potential floods;
- (i) Encourage the development and use of land which is compatible with the indicated flood hazard;
- (j) Provide different guidelines, for the use and development of land subject to all potential floods in the floodplain, which reflect the probability of the flood occurring and the potential hazard within different areas;
- (k) Apply a "merits-based approach" to all development decisions which takes account of social, economic and ecological as well as flooding considerations;
- (l) To control development and other activity within each of the individual floodplains having regard to the characteristics and level of information available for each of the floodplains, in particular the availability of floodplain management studies and floodplain management plans prepared in accordance with the Floodplain Development Manual.

8.2 WHERE DOES THE POLICY APPLY?

This Policy applies to whole of the Dungog LGA.

8.3 WHAT ARE THE CRITERIA FOR DETERMINING APPLICATIONS?

The criteria for determining applications for proposals potentially affected by flooding recognise that different controls are applicable to different land uses and levels of potential flood inundation and hazard.

The procedure to determine what controls apply to proposed development involves identifying:

- a) the land use category of the development (Schedule 1);
- b) what part of the floodplain the land is located within (Section 3.5) and;
- c) then apply the controls outlined in Section 3.6.

Section 3.7 provides specific requirements for fencing in the floodplain, while Section 3.7.4 identifies special considerations which will apply only to some development in specific circumstances.

Sections 3.6 and 3.7 provide controls for development and fencing in the floodplain contain objectives, performance criteria and prescriptive controls, with the following purpose:-

The objectives represent the outcomes that Council wishes to achieve from each control.

The performance criteria represent a means of assessing whether the desired outcomes will be achieved.

The prescriptive controls are preferred ways of achieving the outcome. While adherence to the prescriptive controls may be important, it is paramount that the objectives of the performance criteria are clearly satisfied.

8.4 LAND USE CATEGORIES

Seven major land use categories have been adopted in the Paterson Floodplain study. The specific uses, as defined by the applicable Environmental Planning Instruments, which may be included in each category, are listed in Schedule 1.

8.5 FLOODPLAIN MANAGEMENT ZONES

Each of the floodplains within the LGA have been divided based on different levels of potential flood hazard. The relevant Floodplain Management Zones for floodplains are outlined below.

FLOODPLAIN MANAGEMENT ZONES	CRITERIA
1. Floodway –High Hazard area	Classified as Floodway or flood storage in a flood study or has depth > 4m in 1% AEP event. Areas which are responsible for conveyance of flood water or temporary storage of floodwater during an event. Change in these areas has the potential to affect flood levels and flood behaviour
2. Flood fringe	Part of flood planning area outside of the floodway which is between the Flood Planning Level and the High Hazard area.
3. Outer Floodplain	Remaining part of the Flood Planning area which is above the Flood Planning level but below the EF(extreme flood level)

The name of the floodplain management zone may vary between flood studies however the zone shall be taken to mean the equivalent zone which meets the Criteria listed in column 2.

8.6 WHAT CONTROLS APPLY TO PROPOSED DEVELOPMENTS?

The development controls apply to all known potentially flooded areas (that is up to the largest estimated flood including the Extreme Flood when known). The type and stringency of controls have been graded relative to the severity and frequency of potential floods, having regard to categories determined by the relevant Floodplain Management Study.

Note: Dungog Shire Council areas include floodplains where there are very large differences between the 1% AEP flood level and the extreme flood level, sometimes as much as 7 metres. Landowners are encouraged to become aware of the full range of floods which may affect their property. Adoption of floor levels or provisions for storage at levels above the minimum flood planning level should be considered.

8.6.1 Objectives

- a) To ensure the proponents of development and the community in general are fully aware of the potential flood hazard and consequent risk associated with the use and development of land within the floodplains;
- b) To require developments of high sensitivity to flood risk (eg. critical public utilities) be sited and designed such that they are subject to no or minimal risk from flooding;
- c) Allowing the development with a lower sensitivity to the flood hazard within the floodplain, subject to appropriate design and siting controls, provided that the potential consequences that could still arise from flooding remain acceptable having regard to the State Government's Flood Policy and the likely expectations of the community in general;
- d) To prevent any intensification of the use of floodways, and wherever possible allow for their conversion to natural waterway corridors;
- e) To ensure that design and siting controls required to address the flood hazard do not result in unreasonable impacts on the amenity or ecology of an area.

8.6.2 Performance Criteria

- a) The proposed development should not result in any increased risk to human life.
- b) The additional economic and social costs which may arise from damage to property from flooding should not be greater than that which can reasonably be managed by the property owner and general community.
- c) The proposal should only be permitted where effective warning time and reliable access is available for the evacuation of an area potentially affected by floods, where likely to be required.
- d) Development should not detrimentally increase the potential flood affectation on other development or properties.

8.6.3 Prescriptive Controls

Schedule 2 outlines the controls relevant to each of the floodplains to which this policy applies.

8.7 ARE THERE SPECIAL REQUIREMENTS FOR FENCING?

8.7.1 Objectives

- a) To ensure that fencing does not result in the undesirable obstruction of free flow of floodwaters; and
- b) To ensure that fencing does not become unsafe during floods and potentially become moving debris which threatens the integrity of structures or the safety of people.

8.7.2 Performance Criteria

- a) Fencing is to be constructed in a manner which does not affect the flow of floods so as to detrimentally increase flood affection on surrounding land.
- b) Solid or barrier Fencing must be certified by a suitably qualified engineer, that the proposed fencing is adequately constructed so as to withstand the forces of floodwaters.
- c) The alignment of fencing relative to flood flows must be considered

8.7.3 Prescriptive Controls

Fencing within the floodway will not be permissible except for security/permeable/safety fences of a type approved by Council.

- (a) An applicant will need to demonstrate that the fence would create no impediment to the flow of floodwaters. Appropriate fences may include:-
 - (1) An open collapsible hinged fence structure or pool type fence;
 - (2) A fence type and siting criteria as prescribed by Council.
- (b) Other forms of fencing will be considered by Council on merit.

8.7.4 Special Considerations

When assessing proposals for development or other activities within the area to which this Policy applies, Council will take into consideration the following specific matters:

- (a) The proposal does not have a significant detrimental impact on:
 - i) Water quality
 - ii) Native bushland vegetation
 - iii) Riparian vegetation
 - iv) Estuaries, wetlands, lakes or other water bodies
 - v) Aquatic and terrestrial ecosystems
 - vi) Indigenous flora and fauna
 - vii) Fluvial geomorphology
- (b) The proposal will not constrain the orderly and efficient utilisation of the waterways for multiple purposes.
- (c) The proposal does not adversely impact upon the recreational, ecological, aesthetic or utilitarian use of the waterways corridors, and where possible, provides for their enhancement.
- (d) Development pursued to mitigate the potential impact of flooding (eg. House raising) is undertaken in a manner in which minimises the impact upon the amenity and character of the locality
- (e) Proposals for house raising must provide appropriate documentation including a report from a suitably qualified engineer to demonstrate the raised structure will not be at risk of failure from the forces of floodwaters and the provision of details such as landscaping and architectural enhancements which ensure that the resultant structure will not result in significant adverse impacts upon the amenity and character of an area. The report should address the criteria noted in the guideline ABCB “Construction of Buildings in Flood Hazard Areas 2012”

8.8 WHAT INFORMATION IS REQUIRED WITH AN APPLICATION TO ADDRESS THIS POLICY?

When assessing proposals for development or other activities within the area to which this Policy applies, Council will take into consideration the following specific matters:

- (a) The proposal does not have a significant detrimental impact on:
 - i) Water quality
 - ii) Native bushland vegetation
 - iii) Riparian vegetation
 - iv) Estuaries, wetlands, lakes or other water bodies
 - v) Aquatic and terrestrial ecosystems
 - vi) Indigenous flora and fauna
 - vii) Fluvial geomorphology

- (b) The proposal will not constrain the orderly and efficient utilisation of the waterways for multiple purposes.
- (c) The proposal does not adversely impact upon the recreational, ecological, aesthetic or utilitarian use of the waterways corridors, and where possible, provides for their enhancement.
- (f) Development pursued to mitigate the potential impact of flooding (eg. House raising) is undertaken in a manner in which minimises the impact upon the amenity and character of the locality
- (e) Proposals for house raising must provide appropriate documentation including a report from a suitably qualified engineer to demonstrate the raised structure will not be at risk of failure from the forces of floodwaters and the provision of details such as landscaping and architectural enhancements which ensure that the resultant structure will not result in significant adverse impacts upon the amenity and character of an area. The report should address the criteria noted in the guideline ABCB “Construction of Buildings in Flood Hazard Areas 2012”

SCHEDULE 1 - LAND USE CATEGORIES

Essential Community Facilities	Critical Utilities	Subdivision and Filling	Residential	Commercial or Industrial	Recreation or Agriculture	Minor Development
Place of Assembly; Public Buildings or community centre which may provide an important contribution to the notification and evacuation of the community during flood events, Hospitals; institutions; and Education establishments.	Communication facilities; Generating works; Liquid fuel depot or Public Utility Undertakings or Utility Installations which may cause pollution of waterways during flooding, are essential to evacuation during periods of flood or if affected during flood events would unreasonably affect the ability of the community to return to normal activities after flood events.	Landfill; Subdivision of land which involves the creation of new allotments for any particular purpose and earthworks or filling operations covering 100m ² or more than 0.3m deep.	Bed & Breakfast premises; Boarding Houses; Caravan Parks; Dwelling; Dwelling houses; Generating works (other than critical utilities); Group homes; Holiday cabin; Home Occupations; Housing for Aged or Disabled persons; Integrated housing; Medium density housing or multi-unit housing; Residential flat building; Rural workers dwelling; Utility installations and undertakings (other than critical utilities).	Airline terminal; Automotive business; Bulky goods showrooms or retailing; Bus depot; Bus station; Child care centre; Cinemas; Civic centre; Club; Commercial premises; Community centre (other than essential community facilities); Feed lot; Hazardous industry; Hazardous storage establishment; Heliports; Hotel; Industry; Intensive agricultural pursuits; Junk yard; Motel; Motor showrooms; Offensive or hazardous industry; Offensive or hazardous storage establishment; Place of public worship; Plant depot; Private hotel; Public building (other than essential community facilities); Professional consulting rooms; Reception establishment; Recreation Facility; Refreshment room; Roadside stalls; Road transport terminal; Rural Industries; Saw Mill; Self storage units; Service station; Shop; Tavern; Transport Terminal; Veterinary establishment; Warehouse.	Agriculture; Extractive industry; Forestry Helipads; Intensive animal husbandry; Mine; Piggery; Plant nursery; Poultry farming establishment; Recreation areas and minor ancillary structures (eg toilet blocks or Kiosks); Retail or wholesale plant nursery; Riding school; Sanctuary; Stable; Stock and Sale Yard; Tourist facility.	(a) In the case of residential development: (i) an addition or alteration to an existing dwelling of not more than 10% or 35m ² (whichever is the lesser) of the habitable floor area which existed at the date of commencement of this policy; (ii) the construction of an outbuilding in the residential zone for a private garage with a maximum floor area of 50m ² ; or (iii) redevelopment for the purposes of substantially reducing the extent of flood affectation to the existing building; (b) In the case of other development: (i) an addition to existing premises of not more than 10% of the floor area which existed at the date of commencement of this policy; or (ii) redevelopment for the purposes of substantially reducing the extent of flood affectation to the existing building.

Note: Child care centres and Housing for Aged and Disabled persons would generally be included in the residential category. Dungog Council has included these land uses in the Critical and Sensitive category due to the difficulties posed by evacuation of these facilities during flood events.

SCHEDULE 2

FLOODPLAIN AREAS PLANNING MATRIX CONTROLS

Development Control Consideration	FLOODPLAIN MANAGEMENT ZONE																					
	EF Refers to the Probable Maximum or Extreme Flood																					
	OUTER FLOODPLAIN <i>ABOVE the FPL TO EF</i>						FLOOD FRINGE <i>BETWEEN HIGHHAZARD AREA TO FPL</i>						FLOODWAY <i>HIGH HAZARD AREA</i>									
	Comm. Essential Facilities	Critical Utilities	Subdivision and Filling	Residential	Commercial or Industrial	Recreation or Agriculture	Minor Development	Essential Comm. Facilities	Critical Utilities	Subdivision and Filling	Residential	Commercial or Industrial	Recreation or Agriculture	Minor Development	Essential Comm. Facilities	Critical Utilities	Subdivision & Filling	Residential	Commercial or Industrial	Recreation or Agric	Minor Development	
Floor Level	3	3									2	2 or 5	1	4							1	4
Building Components	2	2									1	1	1	1							1	1
Structural Soundness	2	2								1	1	1	1	1							1	1
Flood Affection	2	2	2		2					1	2	2	2	2							1	1
Evacuation/ Access	3	3	4		4					4	4	4	4								4	4
Flood awareness	2	2	2	2	2	2	2			1,2	2	2	2	2							2	2
Management and Design	1	1	4							4	1,2,3	1,2,3	1,2,3	1,3							1,2,3	1,2,3

- Unsuitable land use
- Not relevant

FLOOR LEVEL

- 1 All Floor levels to be equal to or greater than the 5% AEP Flood level plus 0.5m (Freeboard) unless determined by a risk assessment
- 2 Floor levels (excluding non-habitable residential floorspace) to be equal to or greater than the FPL and other floor levels equal to or greater than the FPL. Construction in Floodway not permitted.
- 3 All floor levels to be equal to or greater than the EF level.
- 4 Floor levels to be as close to the design floor level as practical and no lower than the existing floor level when an addition to an existing building. Construction in Floodway not permitted.
- 5 Floor levels of shops and offices to be as close to the FPL as practical or more than 30% of floor area or equivalent storage space to be above the FPL, or premises to be flood proofed (eg. Flood shutters for the shops) below the design floor level. Construction in floodway not permitted.

FLOOD COMPATIBLE BUILDING COMPONENTS

- 1 All structures to have flood compatible building components below or at the FPL
- 2 All structures to have flood compatible building components below or at the EF Level

STRUCTURAL SOUNDNESS

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| 1 | Engineers certificate to confirm any structure subject to a flood up to and including the 1% AEP or 0.2% AEP (as applicable) flood level can withstand the force of flood water, debris and buoyancy. |
| 2 | Engineers certificate to confirm any structure subject to a flood up to and including the EF level can withstand the force of flood water, debris and buoyancy. |

FLOOD EFFECT ON OTHERS

- | | |
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| 1 | Engineers report required to prove that the development of an existing allotment will not increase flood affection elsewhere. Flood modelling may be required for significant structures or fill in flood storage areas |
| 2 | The impact of the development on flood affection elsewhere to be considered. The development must not obstruct or divert flood waters to or from neighbouring properties |

EVACUATION ACCESS

- | | |
|----------|--|
| 1 | Reliable access for pedestrians required during a 1% AEP flood. |
| 2 | Reliable access for pedestrians and vehicles required at or above the Flood Planning level. |
| 3 | Reliable Access for pedestrians and vehicles required at or above the EF level |
| 4 | Consideration required regarding an appropriate flood evacuation strategy & pedestrian / vehicular access route for both before and during a flood. |

FLOOD AWARENESS

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| 1 | Restrictions to be placed on title advising of minimum floor levels required relative to the flood level. |
| 2 | S5.10.7 certificates to notify of applicability of this DCP |

MANAGEMENT AND DESIGN

- | | |
|----------|---|
| 1 | Flood plan required where floor levels are below the design floor level. |
| 2 | Applicant to Demonstrate that there is an area where goods may be stored above the FPL during floods. |
| 3 | Applicant to provide controls where necessary to prevent the discharge of pollution during floods, including compliance with Councils On-site Sewage Development Assessment Framework. |
| 4 | Applicant to demonstrate that potential development as a consequence of a subdivision proposal can be undertaken without any significant flood effect elsewhere and can access an appropriate pedestrian / vehicular route as part of a flood evacuation strategy if required. |

Schedule 3**Definition of Flood Planning Level**

For the purposes of this plan, the Flood Planning Level is –

Location	Flood Planning Level
Dungog Tailwater area	0.2% AEP level plus 500mm freeboard
All other Flood plains	1% AEP level plus 500mm freeboard
Stormwater and Overland Flow paths throughout Dungog Shire	1% AEP Level plus 500mm Freeboard Note: A lesser Freeboard may be applied where appropriate technical justification is provided by a suitably qualified professional.

SCHEDULE 4 - FLOOD COMPATIBLE MATERIALS

NOTE: This list is a guide but is not exhaustive due to changing technologies. Applicants may propose alternative Flood Compatible materials if accompanied by appropriate justification.

BUILDING COMPONENT	FLOOD COMPATIBLE MATERIAL	BUILDING COMPONENT	FLOOD COMPATIBLE MATERIAL
flooring and Sub-floor Structure	<ul style="list-style-type: none"> ○ concrete slab-on- ground monolith construction ○ suspension reinforce d ○ concrete slab. 	Doors	<ul style="list-style-type: none"> ○ solid panel with water proof adhesives ○ flush door with marine ply filled with closed cell foam ○ painted metal construction ○ aluminium or galvanised steel frame
Floor Covering	<ul style="list-style-type: none"> • clay tiles • concrete, precast or in situ • concrete tiles • epoxy, formed-in-place • mastic flooring, formed-in-place • rubber sheets or tiles with chemical-set adhesives • silicone floors formed- in-place • vinyl sheets or tiles with chemical-set adhesive • ceramic tiles, fixed with mortar or chemical set adhesive • asphalt tiles, fixed with water resistant adhesive 	Wall and Ceiling Linings	<ul style="list-style-type: none"> • fibro-cement board • brick, face or glazed • clay tile glazed in waterproof mortar • concrete • concrete block • steel with waterproof applications • stone, natural solid or veneer, waterproof grout • glass blocks • glass • plastic sheeting or wall with waterproof adhesive
Wall Structure	<ul style="list-style-type: none"> • solid brickwork, blockwork, reinforced, concrete or mass concrete 	Insulation Windows	<ul style="list-style-type: none"> • foam (closed cell types) • aluminium frame with stainless steel rollers or similar corrosion and water resistant material.
Roofing Structure (for Situations Where the Relevant Flood Level is Above the Ceiling)	<ul style="list-style-type: none"> ➤ reinforced concrete construction ➤ galvanised metal construction 	Nails, Bolts, Hinges and Fittings	<ul style="list-style-type: none"> ➤ brass, nylon or stainless steel ➤ removable pin hinges ➤ hot dipped galvanised steer wire nails or similar

Electrical and Mechanical Equipment	Heating and Air Conditioning Systems
<p>For dwellings constructed on land to which this Policy applies, the electrical and mechanical materials, equipment and installation should conform to the following requirements.</p>	<p>Heating and air conditioning systems should, to the maximum extent possible, be installed in areas and spaces of the house above the relevant flood level. When this is not feasible every precaution should be taken to minimise the damage caused by submersion according to the following guidelines.</p>
<p>Main power supply -</p> <p>Subject to the approval of the relevant authority the incoming main commercial power service equipment, including all metering equipment, shall be located above the relevant flood level. Means shall be available to easily disconnect the dwelling from the main power supply.</p>	<p>Fuel –</p> <p>Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off.</p>
<p>Wiring –</p> <p>All wiring, power outlets, switches, etc., should, to the maximum extent possible, be located above the relevant flood level. All electrical wiring installed below the relevant flood level should be suitable for continuous submergence in water and should contain no fibrous components. Earth core linkage systems (or safety switches) are to be installed. Only submersible-type splices should be used below the relevant flood level. All conduits located below the relevant designated flood level should be so installed that they will be self-draining if subjected to flooding.</p>	<p>Installation –</p> <p>The heating equipment and fuel storage tanks should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. All storage tanks should be vented to an elevation of 600 millimetres above the relevant flood level.</p>
<p>Equipment –</p> <p>All equipment installed below or partially below the relevant flood level should be capable of disconnection by a single plug and socket assembly.</p>	<p>Ducting –</p> <p>All ductwork located below the relevant flood level should be provided with openings for drainage and cleaning. Self draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a water-tight wall or floor below the relevant flood level, the ductwork should be protected by a closure assembly operated from above relevant flood level.</p>
<p>Reconnection –</p> <p>Should any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection.</p>	