

Statement of Planning Policy No 7.3

LOCAL PLANNING POLICY

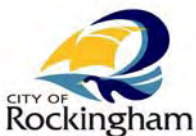
FOR THE COCKBURN SOUND CATCHMENT



**A Cooperative Response for the Protection of Cockburn Sound
through the Management of Land Use Impacts within the Cockburn
Sound Catchment**

**Cockburn Sound Management Council
Department of Environment
City of Cockburn
Town of Kwinana
City of Rockingham**

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1.0 POLICY BACKGROUND

Cockburn Sound, which is located some 20 km south of the Perth-Fremantle area, is the most intensively used marine embayment in Western Australia (*Interim Cockburn Sound EMP, 2002*). Its sheltered waters, diverse marine life, aesthetic attractiveness and close proximity to Perth and its southern suburbs make Cockburn Sound a highly valued community asset for a wide range of recreational, tourist and commercial uses.

Much of the historical deterioration in water quality and loss of marine habitat in the Sound can be attributed to waste inputs from land-based sources.

In the past most of the waste inputs were via pipeline discharges directly into the Sound. With the tightening of licence conditions and a concerted effort by industry to employ environmental best practices in waste management, direct discharges now account for a much smaller proportion of the total input. For example, the direct pipeline discharge of nitrogen to Cockburn Sound has fallen dramatically from more than 80% of the total nitrogen inputs in 1978 to less than 20% in 2000.

Groundwater contamination, mainly as a result of past practices, is now the major source of waste inputs into Cockburn Sound. Groundwater flow is estimated to contribute more than 70% of the nitrogen load to the Sound. Surface water drains and emissions from motor vehicles and industry (via atmospheric fallout) also contribute to contaminant inputs to the Sound, but to a much lesser extent (DAL, 2001).

Future land uses and activities within the catchment are likely to result in further groundwater contamination unless suitable controls are implemented through the land use planning approval process. For this reason, Government and the community's response to the issues and pressures facing Cockburn Sound are on several levels, targeting the above key areas to ensure the long-term sustainability of this unique marine ecosystem.

State Government Response

The Cockburn Sound Management Council (CSMC) was established by the State Government in August 2000, to facilitate coordination of environmental management and planning of Cockburn Sound and its catchment. The Council is comprised of 23 members selected from a broad local base of state and local Government, community, industry and other user groups to ensure a coordinated approach to achieving its environmental goals through implementation of its *Interim Environmental Management Plan (CSMC 2002)*.

At the time the CSMC was formed, the Environmental Protection Authority (EPA) commenced drafting the *Draft Environmental Protection (Cockburn Sound) Policy 2002* (the EPP). Two years later, the CSMC released its *Interim Environmental Management Plan for Cockburn Sound and its Catchment 2002* (the EMP). In this way Government and the community (through the CSMC) have committed at a high level to environmental management and planning, and ultimately, to the protection of water quality and marine habitats within Cockburn Sound and its catchment.

The EPP establishes the legal framework and requires Government to respond to the need for protection of this unique marine environment. It establishes the environmental values, objectives and criteria for managing the Sound and requires the preparation of an Environmental Management Plan by the CSMC. Once approved by the Minister for the Environment, the EPP will be gazetted and become a statutory document as if part of the *Environmental Protection Act 1986*.

The EMP on the other hand is the "plan of action" for ensuring the aims of the EPP are achieved. It recognises that initiatives to manage the marine waters of Cockburn Sound must be fully integrated with the planning and management of land-based activities in the catchment.

One of the key objectives of the EMP is to “*integrate planning and management of catchment land uses to minimise the overall impact of ground and surface water contamination on the environmental values of Cockburn Sound*”. This objective is identified as a primary driver for the preparation and implementation of this Local Planning Policy.

Local Government Response

At a local level, three Local Governments fall within the Cockburn Sound catchment; the City of Cockburn, the Town of Kwinana and the City of Rockingham. A working group was initiated by the CSMC in early 2002, to determine the most appropriate mechanisms to effectively manage new or proposed land uses within the catchment that may have the potential to add to or exacerbate nutrient loading and other contamination issues. In keeping with this, local Government and the CSMC signed a *Memorandum of Understanding on 28 August 2003* to ensure the mutual and coordinated effort in the management and protection of the Cockburn Sound catchment area.

This process resulted in the preparation of this Local Planning Policy (the LPP). The Policy links the objectives of the EMP with State and Local Government, to provide a consistent and unified approach to ensure planning and management decisions by Local Government within the catchment do not result in unsustainable additional nutrient loading or contamination of surface or groundwater resources.

1.1 PLANNING MECHANISMS AND CONTEXT

Various aspects of the planning process were explored by the working group, to determine the most appropriate planning tools to achieve the desired outcome of effectively minimising nutrient loading and contamination to Cockburn Sound as a result of (diffuse) land uses within the catchment area, or the Sound itself.

It was recognised by the working group that the effectiveness in achieving the outcome (in this case) of effective nutrient management (minimising risk) through the land use planning system could be approached at various levels. Strategic and statutory planning processes were explored by the working group, and the outcome was essentially that a two-fold approach was recognised as important in achieving these outcomes for the immediate and longer term.

A strategic planning approach is in the longer term most desirable. The primary strategic planning tool identified by the working group was a Statement of Planning Policy (SPP). SPP's are applied through the preparation or review of local government Town Planning Schemes, and proposed town planning Scheme Amendments. Essentially this approach targets any future or proposed 'land use change' and ensures general and specific measures outlined in the SPP are applied or complied with in land use and zoning decisions. SPP's can contain specific land use controls designed to achieve and ensure a particular environmental outcome. An example of this is the *Statement of Planning Policy for the Peel Harvey Catchment (SPP 2.1)*. A significant issue identified with this approach was the time involved in preparing SPP's and generally their broad strategic nature may not achieve the immediate aims of the working group to manage new land uses as readily as through the development approval process.

The importance of strategic planning is recognised in the longer-term for managing the issue of early planning and decision making (particularly planning scheme level) on the appropriateness of land uses in light of their potential impacts to the Sound. The working group recognised the need to further explore the possible application of an SPP for Cockburn Sound in the future.

The more immediate approach or response has been identified at the statutory planning level, (primarily at the local government level) through the Development Approvals process. It is recognised by decision makers including local government, that development and land uses within the Cockburn Sound Catchment should generally be in accordance with the provisions of the EPP and the Interim EMP. However a compelling need has been identified to provide local

government with guidance to effectively achieve these broad objectives. This has resulted in the preparation of the Local Planning Policy and the incorporated ‘development control’ measures or conditions, to ensure local governments can apply (and respond to) these high-level policy documents in a practical and effective manner.

This Policy is therefore the first step towards providing a framework for local government to ensure a consistent approach to managing land uses in the catchment, to protect Cockburn Sound from nutrients and potentially other contaminants. Local governments may consider the use of a ‘special control area’ and ensure provisions are made through Town Planning Schemes to further impress this policy. This is discussed further in section 4.0 – Policy Implementation.

1.2 ROLE OF THE ENVIRONMENTAL PROTECTION AUTHORITY

The Environmental Protection Authority (EPA) is the State’s peak environmental body. In its consideration of planning processes and environmental management, the working group considered the role of the EPA in environmental impact assessment through the planning system. The EPA is responsible for assessing proposals with potentially significant environmental impacts, as well as the environmental assessment of all planning Schemes and Scheme Amendments (both Regional Schemes and Local Planning Schemes). The Department of Environment (DoE) works closely with the EPA and plays an important role in both these process in its advice to the EPA, or when providing advice independent of the EPA.

This Policy is therefore highly relevant to the EPA, particularly in their statutory role in planning assessments. The Western Australian Planning Commission (WAPC) independently, or through the Local Authority, must refer all Scheme and Scheme Amendments to the EPA for assessment, prior to making its decision or determination. The EPA must consider all relevant Policies, particularly those that relate to specific environmental issues such as Cockburn Sound, such as the EPP and now this LPP. The EPA and DoE will have regard for this Policy in its determination of proposals or advice provided on planning proposals. There is a further need to ensure the EPA is engaged in this Policy, possibly through an ‘EPA Guidance Statement’, or a ‘Memorandum of Understanding’.

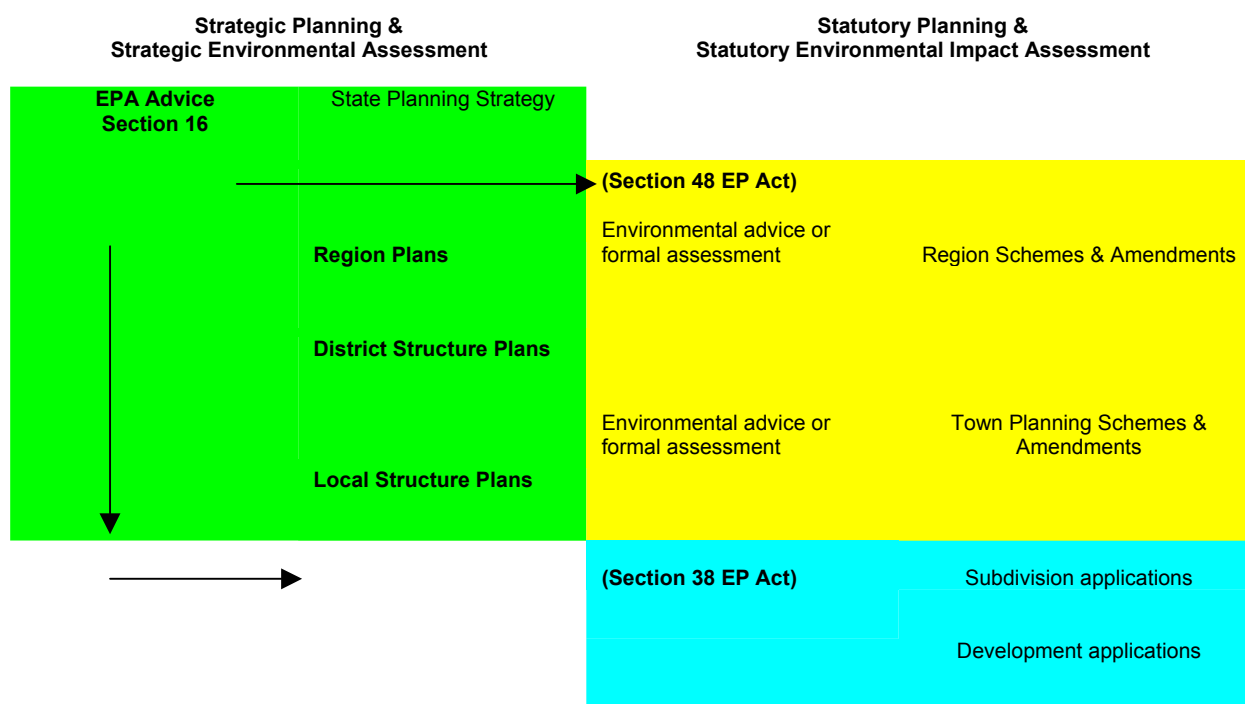


Figure 1 – Role of EPA and Environmental Impact Assessment (Source: EPA Service Unit, 2003).

1.3 ROLE OF THE WAPC AND LOCAL GOVERNMENT

Similarly to the EPA, the WAPC is the State's peak body with responsibility for planning for urban, rural and regional land use planning and land development matters. It is responsible for making and administering Regional Planning Schemes, all subdivision decisions and the assessment of amendments to local government Town Planning Schemes (TPS).

The WAPC makes recommendations to the Minister on local government TPS's and may give consent to advertise local TPS amendments. With regard to the planning process, some of its powers are delegated to local governments, which are primarily responsible for local town planning and the local community. Local government administers town-planning schemes and need to ensure appropriate land use, development and planning controls exist in a district. They are also responsible to ensure these local schemes are consistent with regional schemes that may exist.

Local governments make planning decisions based on the provisions and controls incorporated into town planning schemes, and have delegated powers to determine most development applications from the WAPC. Through this LPP, local government will ensure a consistent approach to determining development. Where local government is not the decision-making authority, it may provide advice based on this Policy, to the WAPC for its determination.

2.0 POLICY APPLICATION

This Policy applies to any proposed change or intensification of land use (for uses permitted under existing TPS's), or proposed development that may have the potential to increase nutrient loading to surface or groundwater resources or Cockburn Sound, within the Cockburn Sound catchment (see Schedule Three).

This policy will be used by local governments within the Cockburn Sound catchment when considering and determining Development Applications for land uses specified in Schedule 1 of the Policy, and may also be used as a guide when considering subdivision proposals, TPS amendments or other planning proposals with potential to impact on water quality in the catchment.

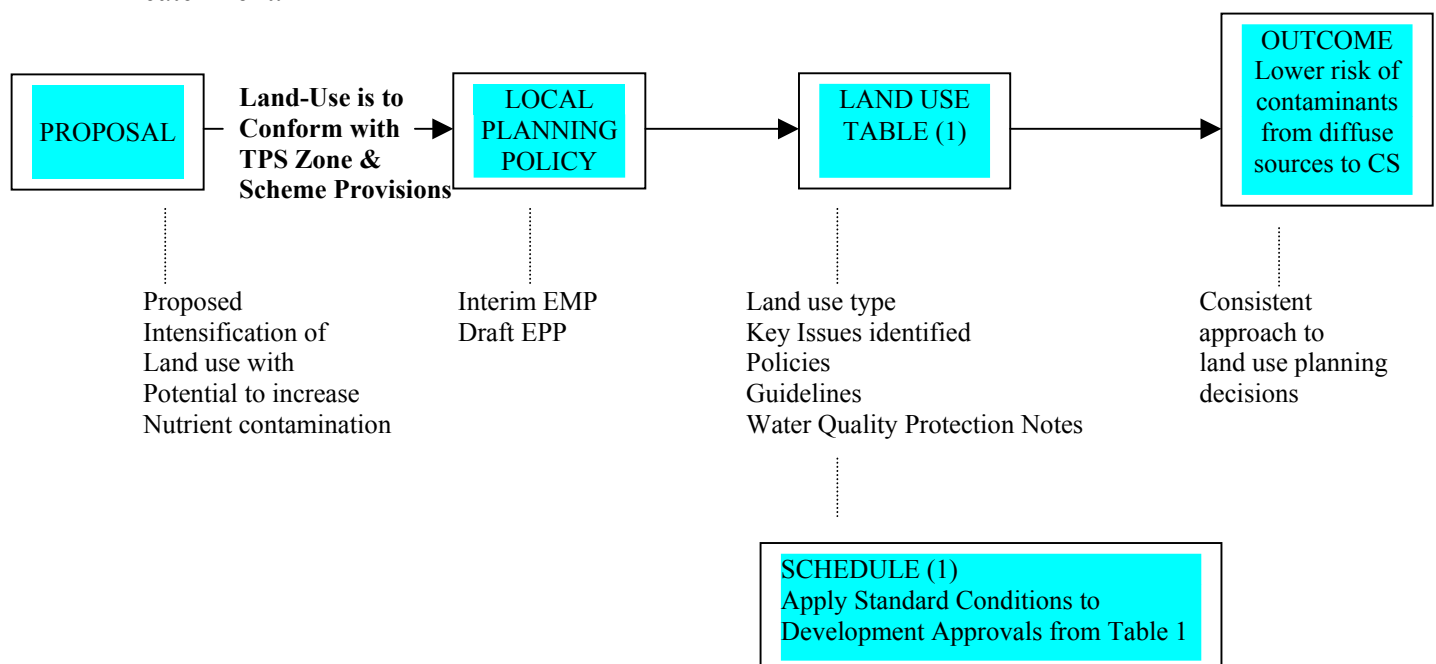


Figure 2: Steps in applying the LPP

3.0 POLICY OBJECTIVES

The purpose of this policy is to protect and improve the marine waters of Cockburn Sound by minimising contaminant inputs (particularly nutrients) from diffuse land use sources. Specifically, the objectives of the Policy are:

- To ensure changes to land uses that have the potential to cause nutrient contamination to surface or groundwater are compatible with long-term protection and improvement of water quality within the Cockburn Sound Catchment.
- To ensure such land uses and development within the catchment take into account potential nutrient and other contamination issues, and includes specified protection measures (such as appropriate conditions) where a risk is identified.
- Where appropriate, to maintain or increase native local vegetation in the Cockburn Sound catchment area including wetland areas to assist in natural nutrient attenuation and uptake.
- To ensure an efficient and consistent process for local government and proponents, when dealing with land use proposals within the Cockburn Sound catchment.

4.0 POLICY IMPLEMENTATION

The responsibility for determining development control provisions rests mainly with local government based on relevant land zoning in the local government TPS. The WAPC is responsible for development controls within the Hope Valley Redevelopment Area (HVWRA) and development under Clause 32 of the Metropolitan Region Scheme (MRS) as well as 'planning control areas under the MRS. The HVWRA forms a significant portion of land within the Cockburn Sound catchment, and potentially presents nutrient and contaminant issues resulting from the industrial and commercial uses of the site. It is important that the WAPC recognise this factor and the objectives of this Policy in consideration of land use planning within this area to ensure a consistent approach to development across the catchment.

Proposals will be subject to all other normal planning considerations and advice from referral agencies, and decisions made by local governments will be based on consideration of all relevant factors. This Policy only deals with aspects of contaminants and nutrient management in the consideration of planning approvals, and is intended to be a planning guide and may assist in decision making with regard to proposals where management of nutrients and other contaminants is a factor.

The outcome of this policy is essentially to ensure new or proposed land uses within the Cockburn Sound catchment are managed to minimise nutrient and contaminant issues associated with the proposed land use. This will be achieved by ensuring appropriate management measures are put in place primarily through the development approval process. The Policy clearly defines the land-uses that require specific controls, and thus landowners or developers are aware of the land use types that will require particular consideration of nutrient management through the submission of an application and the approval process. These are identified through Schedule One - Land Use Table (1) and Schedule Two - Conditions Table.

Where a local government makes a determination to approve a development proposal (either a material change in land use or construction of works), the policy should be applied to ensure suitable management controls are put in place through conditions. The conditions should either be selected from Schedule 1, or similar conditions based on previous local government's experience and on recommendation of the EPA or other referral agency advice.

Planning decision-makers and managers should also recognise the Policy in a more strategic context in order to provide broader consideration to the issues identified, and to use the Policy as a guide to higher level decision making. Strategic consideration of the issues, and compliance with matters raised in the Land Use table will ensure better outcomes for subsequent statutory

planning and ensure increased awareness of the issues and Policy to the community, landowners or developers.

It is recommended that local government designate the Cockburn Sound policy area (Schedule Three) as a '**Special Control Area**' to compliment the LPP, under its TPS. This may be done through its own initiation of a Scheme amendment, or as part of its TPS review.

4.1 LAND USE TABLE

The Land Use Table is to be referred to when local government is considering its determination of a planning proposal. As a part of this process, local government reserves the right to refer any such proposal to a relevant agency, or the EPA if it considers the potential environmental impacts may be significant.

In its consideration of all the relevant factors, this LPP specifically requires local governments to give special attention to nutrient and other potential contamination issues. The land use table will give local government direction as to the appropriate inter-agency guidelines or codes of practice, relevant policies and guidelines for the land uses types identified, and highlight the specific management requirements.

The Land Use table may also be used when considering advice to the WAPC on scheme amendments or subdivision proposals. It may be useful as a guide to highlight the relevant issues and recommend similar provisions or conditions are imposed as outlined in Schedule 2 (suggested conditions). This Policy may also be referred to when consulting with the EPA or other government agencies through various planning processes including structure planning and more detailed subdivision or development design.

In order to ensure an efficient and effective process, local governments may wish to use or refer to the relevant policy, guidelines or water quality protection notes when considering an application or in making its determination. Proponents should be required to submit sufficient information with a proposal that addresses the areas of concern listed in the Land Use Table, and the relevant policy or guideline, and in turn local government use these as guidelines for assessing and determining such proposals.

It is important to note that the land uses listed in the table do not necessarily indicate their overall acceptability or approval, as this decision is made by local government or the WAPC in its overall determination based on relevant planning, environmental and other aspects, such as suitability of the site and town planning scheme and master plan provisions.

4.2 GUIDANCE FOR IMPLEMENTING THE LAND USE TABLE

Land uses listed in the above Land Use table, or any other land use identified by local government that has potential nutrient or other contaminants that require specific management measures, should generally comply with the following guidance.

4.2.1 Nitrogen Loading

When considering development (or intensification of land uses) that may present nutrient issues, the desired outcome is that the proposal is able to demonstrate improved management of the issue and ultimately reduced loading from the catchment. This is in accordance with the Interim EMP for Cockburn Sound and the precautionary approach. The principles of achieving nutrient reductions in the catchment have been broadly endorsed by the community and government in its adoption of the Interim EMP.

Appropriate protection of water resources is dependent on a range of site factors (soil type, permeability, hydrology and vegetation) and the management measures proposed. Proposals are

to be considered on their own merits, and nutrient loading from a site based on consideration of all the relevant factors. Critical to this will be the requirement for proponents to demonstrate clearly that proposals will be acceptable and within recommended guideline water quality values.

The principles of ‘minimising risk’, and ‘managing to reduce’ nitrogen contamination are to be used as the basis for determining proposals. As a general rule, the *Jandakot Groundwater Protection Policy - SPP No 6*, recommends a maximum application rate for total nitrogen of 25kg/ha/year, with total nitrogen concentrations in surface or groundwater not exceeding 4 mg/l. These rates are specific to the protection of the Jandakot drinking water supply area, and as such are a reasonable guide to meeting the level of protection required for Cockburn Sound under the EPP. Certain proponents, such as intensive horticultural users, may apply to vary particular rates or guidelines, however this would require detailed site analysis and the production of a nutrient management plan.

For more detailed information and analysis on water quality parameters, proponents should refer to *Australian and New Zealand Guidelines for Marine and Fresh Water Quality (ANZECC, 2000)*. It is acknowledged that further research into acceptable nitrogen application rates and concentrations in groundwater is desirable to refine guideline concentrations at a catchment, and sub-catchment level.

4.2.2 Nutrient Intensive Land Uses

Land uses identified in this Policy as nutrient intensive (refer to Land Use Table - Schedule 1), require specific detail and justification through the preparation and implementation of site specific Drainage and Nutrient Management Plans. These management plans should be in place prior to the commencement of site works, as they may require specific implementation measures that apply to the development or land use. Generally, proponents will be required to enlist suitable and qualified consultants to carry out this requirement, and negotiation should occur with the local government and DoE as required. The approval of such management plans will be in accordance with local governments requirements on advice from relevant agencies.

As a guide, local governments may require proponents to submit such applications in accordance with the guideline or policy (refer to Land Use table), or in accordance with a form similar to the existing Department of Environment ‘Horticulture Development Application Form’. The expansion of existing land uses, where determined to require development approval and with potential for increased nutrient or contaminant release should be controlled in a similar manner to new land uses or developments, and should also be required to prepare and implement a Drainage and Nutrient Management Plan.

4.2.2 Nutrient Retentive Effluent Disposal Systems

Proposed dwellings and buildings requiring effluent disposal systems within the Cockburn Sound Catchment must be connected to an adequate sewerage service or a “current best practice approved system” to reduce nutrient or contaminant loading to surface or groundwater. Such system upgrades on existing buildings or any change or upgrade to effluent disposal systems in the Catchment should be ongoing.

Land in the catchment should not be rezoned for urban, industrial or commercial purposes unless connection to an adequate sewerage service or provision of nutrient retentive effluent disposal systems are proposed satisfactory to the EPA and Health Department. Further research into nitrogen retentive effluent disposal systems is occurring, and as new approved systems become available their use should be encouraged through consideration of new proposals.

4.2.3 Stormwater Management

Stormwater management within the Cockburn Sound catchment should be in accordance with the DoE Interim Position Statement *'Urban Stormwater Management in WA: Principles and Objectives (February 2003)*. This document represents the current best management for stormwater management particularly on the Swan Coastal Plain, with the emphasis on protecting water quality at a catchment level. This position statement is interim, the DoE is in the process of up-dating its Manual for Managing Urban Stormwater in WA (1998).

Urban stormwater management should be in accordance with this Position Statement, and the revised stormwater Manual. Proponents should also be referred to the WAPC's Liveable Neighbourhoods policy as a further reference for ensuring best practice 'water sensitive urban design' is incorporated in subdivision planning and design.

4.2.4 Native Vegetation and Wetland Management

The retention and rehabilitation of existing vegetation is to be encouraged to ensure the natural up-take and attenuation of nutrients in the catchment is maximised. Remnant vegetation plays a significant role in ensuring natural processes, nutrient cycling and hydrological balances and biodiversity values are maintained. The principle of no net loss of vegetation should also be encouraged, where equal or greater areas of local native vegetation are replanted on sites that require clearing for approved (permitted) uses. Clearing permits or advice from local government or the DoE must be obtained prior to any site works.

Similarly, wetlands should be managed through the development approval process to ensure local endemic wetland vegetation is either retained or replanted. Issues of drainage, hydrological balance and protection measures should be in accordance with the *DoE - Interim Wetlands Position Statement (June 2001)*.

5.0 RESPONSIBILITIES

- Local government is the primary user of this policy, through its consideration and determination of development applications, and when providing advice on other planning matters within the Cockburn Sound catchment. The land use table and conditions will be used by local government as a guide to ensure a consistent approach across the local governments. Conditions may be varied, or additional conditions used to suit circumstances of a particular proposal or type of planning proposal.
- CSMC will use the Policy as a guide if required to assess or comment on land uses within the catchment.
- The EPA and DoE will have regard to the Policy when providing advice or through the formal assessment process for proposals within the catchment
- Proponents, landowners and developers shall have due regard to the Policy when considering or submitting a planning application or approval for works within the catchment.

6.0 POLICY REVIEW PERIOD

This Policy is to be implemented for an initial one-year period, after which a review will be conducted by the CSMC, and outcomes and recommendations made through the working group (local governments, DPI and DoE).

Schedule 1 - LAND USE TABLE

Land Use	Key Issues	Policy / Guidelines / Approvals	Management Requirements	Conditions / Planning Controls (LG to select appropriate conditions or advice from Schedule 1 – suggested options relating to KEY ISSUES provided below)
RURAL USE Low Intensity				
Caretakers dwelling / Dwelling	<ul style="list-style-type: none"> • Effluent disposal. • Nitrogen • Separation from groundwater and surface water features (waterway or drain) 	<ul style="list-style-type: none"> • Dept. Health WA • Local Government Policy and TPS Provisions 	<ul style="list-style-type: none"> • Effluent and wastewater disposal requires assessment. • Must connect to sewer or use Nitrogen Retentive Effluent disposal system 	EDC1 to EDC4 and select from General Conditions
Equestrian Uses / Livestock	<ul style="list-style-type: none"> • Manure • Drainage and nutrient Mgt. • Soil disturbance. 	<ul style="list-style-type: none"> • SPP No. 2.3 (previously 6) • Inter Agency Guidelines for Horse Facilities and Activities 2002 • Dept. Agriculture Stocking rate 	<ul style="list-style-type: none"> • Nutrient loading to groundwater - must comply with water quality objectives. • Must comply with agreed nutrient and drainage management plan. 	RUC1 to RUC13 and General Conditions
RURAL USE Medium Intensity				
Kennels / Stables	<ul style="list-style-type: none"> • Manure • Drainage - Nitrogen 	<ul style="list-style-type: none"> • DoE Guideline 25Waste management of kennel operations within Jandakot UWPCA 1998 • Inter Agency Guidelines for Horse Facilities and Activities 2002 	<ul style="list-style-type: none"> • Nutrient loading to groundwater - must comply with water quality objectives. • Must comply with agreed nutrient and drainage management plan. 	RUC1 to RUC13 and General Conditions

Horticulture – <i>eg. Nursery, plantation, floriculture, orchard.</i>	<ul style="list-style-type: none"> Nutrient application rates Drainage and nutrient management 	<ul style="list-style-type: none"> WQPN Floriculture Activities 2003 WQPN Nurseries and Garden Centres 2002 WQPN Nutrient and Irrigation Management Plans 1998 WQPN Wineries in PDWSA's 2002 Inter-agency Environmental Management Guidelines for Vineyards 2002 	<ul style="list-style-type: none"> Nutrient loading to groundwater - must comply with water quality objectives. Must comply with agreed nutrient and drainage management plan. 	RUC1 to RUC13 and General Conditions
RURAL USE Intensive				
Intensive Agriculture, <i>eg. turf farm, market garden</i>	<ul style="list-style-type: none"> Nutrient application rates Drainage and nutrient management 	<ul style="list-style-type: none"> Code of Practice for Environmentally Sustainable Vegetable and Potato Production in WA 2002 (and reference manual 2002) Environmental Guidelines for the Establishment and Maintenance of Turf and Grassed Areas (2001) WQPN Nutrient and Irrigation Management Plans 1998 	<ul style="list-style-type: none"> Nutrient loading to groundwater - must comply with water quality objectives. Must comply with agreed nutrient and drainage management plan. 	RIC1 to RIC8 and General Conditions
Intensive Animal- <i>eg. stock holding yards Piggeries, Poultry Farm etc.</i>	<ul style="list-style-type: none"> Effluent Waste-water Disposal, Drainage and Nutrient Management Soil disturbance 	<ul style="list-style-type: none"> Subject to Works Approval / Licence under Pt 4 EP Act 1986 Dept. Agriculture Stocking rates Inter-Agency Environmental Management for Animal Based Industries – Dairy Farm Effluent 1998 	<ul style="list-style-type: none"> Nutrient loading to groundwater - must comply with water quality objectives. Must comply with agreed nutrient and drainage management plan. 	RIC1 to RIC8 and General Conditions

		<ul style="list-style-type: none"> Guidelines for the Environmental Management of Beef Cattle Feedlots in WA 2002 Guidelines for Direct Land Application of Bio-solids and Bio-solid Products 2002 Environmental Guidelines for New and Existing Piggeries: Bulletin 4416, 2000 WQPN Poultry Farms in PDWSA 1999 WQPN Irrigating Vegetated Land with Nutrient Rich Waste-water 1998 WQPN Animal Industry Waste-water Ponds 1998 		
OTHER USES				
Aquaculture	<ul style="list-style-type: none"> Nutrient rich drainage Waste-water disposal 	<ul style="list-style-type: none"> WQPN Aquaculture Projects 1998 WRC Aquaculture Assessment Guidelines Fisheries WA Permit 	<ul style="list-style-type: none"> Must be managed in accordance with WQPN Aquaculture Projects 1998 	AQC1 to AQC4 and General Conditions
Commercial	<ul style="list-style-type: none"> Nutrient rich drainage Waste-water disposal Effluent disposal 	<ul style="list-style-type: none"> DoE Urban Stormwater Management in WA: Principles & Objectives 2003 HDWA Sewerage advice 	<ul style="list-style-type: none"> Lot size and wastewater disposal requires assessment. Sewerage connected to Nitrogen Retentive Effluent disposal system or sewer. Design based on DoE Position Statement and Water Sensitive Urban Design Guidelines. 	Select from General Conditions
Industrial / Public Utilities	<ul style="list-style-type: none"> Nutrient rich drainage Waste-water disposal Effluent disposal Storage of Chemicals 	<ul style="list-style-type: none"> Subject to Works Approval / Licence under Pt 4 EP Act 1986 DoE Urban Stormwater 	<ul style="list-style-type: none"> Lot size and wastewater disposal requires assessment. Sewerage connected to Nitrogen Retentive Effluent disposal system or sewer. 	IPC1 to IPC9

	or concentrated nutrients	<p>Management in WA: Principles & Objectives 2003</p> <ul style="list-style-type: none"> • HDWA Sewerage advice • WQPN Industrial Sites Near Sensitive Water Resources 1999 • WQPN Stormwater Management and Industrial Sites 2002 • WQPN Temporary Above Ground Chemical Storage in PDWSA 2000 	<ul style="list-style-type: none"> • Stormwater based on DoE Position Statement and Water Sensitive Urban Design Guidelines. • Condition storage and transport of potential contaminants to minimise risk. • Any storage of Chemicals / nutrients to be in accordance with DoE guidelines. 	
Recreation Facilities / Ovals / Public Open Space	<ul style="list-style-type: none"> • Nutrient and Drainage Management • Fertiliser application rate • Effluent Disposal 	<ul style="list-style-type: none"> • WQPN Nutrient and Irrigation Management Plans 1998 • Environmental Guidelines for the Establishment and Maintenance of Turf and Grassed Areas 2001 	<ul style="list-style-type: none"> • Fertiliser use to be minimised. Design to minimise reticulated grass areas. • Nutrient and Irrigation Management Plan to be Implemented • Sewerage Disposal to be using Nitrogen Retentive Disposal Systems or connection to sewer. 	RFC1 to RFC4 and General Conditions
Residential	<ul style="list-style-type: none"> • Nutrient Management • Effluent Disposal • Stormwater Management 	<ul style="list-style-type: none"> • DoE Urban Stormwater Management in WA: Principles & Objectives 2003 • HDWA Sewerage advice • WQPN Subdivision of Land in PDWSA 1999 	<ul style="list-style-type: none"> • Sewerage connected to reticulated sewer. • Design based on DoE Position Statement and Water Sensitive Urban Design Guidelines. 	Select from General Conditions

Notes:

WQPN = Water Quality Protection Note

PDWSA = Public Drinking Water Source Area

SPP = Statement of Planning Policy (No.2.3 {previously No. 6} – Jandakot Groundwater Protection Policy

Schedule 2 – Suggested Standard Conditions (reference list sourced from Department of Environment, City of Cockburn, Town of Kwinana, and City of Rockingham)

1.0 GENERAL CONDITIONS

1.1 Native Vegetation

SUBJECT	CONDITIONS	CODE
Retention of remnant vegetation	Satisfactory arrangement must be made with the {relevant body} to ensure that all remnant vegetation, other than that cleared for necessary site works, is preserved to the satisfaction and specifications of {relevant body}	NVC1
Rehabilitation	Areas of remnant vegetation disturbed during construction being rehabilitated and stabilised to the satisfaction of {relevant body} .	NVC2
Identification and protection of vegetation worthy of retention	<p>Measures must be taken to the satisfaction of the {local government} to ensure identification and protection of any native vegetation on site worthy of retention prior to commencement of site works.</p> <p><i>Note</i> <i>The subdivider should liaise with the {local government} to identify vegetation worthy of retention prior to the commencement of works. All native vegetation should be preserved so far as practicable after clearing of site works and services to accommodate the proposed urban development.</i></p>	NVC3
<p>Development areas and building envelopes</p> <p><i>(define development area to minimise disturbance of existing vegetation)</i></p>	<p>Site plans identifying the location of all proposed development or building envelope are to be prepared to the satisfaction of the {relevant body}. Development areas or building envelopes must ensure clearing of the site is minimised.</p> <p><i>Note 1 – an amended version of this condition may also apply at re-zoning or subdivision.</i></p> <p><i>Note 2</i> <i>The plans should include where possible, physical characteristics of the site including landform, soil types, contours, drains, watercourses, bores, wells, dams and wetlands.</i></p> <p><i>The proponent should subdivider shall cause the proposed building envelopes to be pegged on site in accordance with the plans required to be submitted in the above condition and shall submit certification from a Licensed Surveyor certifying the consistency of this pegging on-site with the approved plans.</i></p> <p><i>The subdivider is advised that no vegetation shall be cleared within any allotment except for the purposes of:</i></p> <ul style="list-style-type: none"> <i>(a) Compliance with the requirements of the Bush Fires Act</i> <i>(b) Clearing within the building envelope for a reasonable area of the construction of an approved dwelling or other building</i> <i>(c) To construct a vehicular access as approved by the Council</i> <i>(d) For another valid reason where specific written approval has first been obtained from the Council.</i> 	NVC4
Native Vegetation Management Plans	<p>Prior to commencement of any site works, the proponent shall prepare and implement a native vegetation management plan for the area as described in the attached diagram, to the satisfaction of the {local government}.</p> <p><i>Note</i> <i>The Management Plan shall address, but not be limited to, the following issues:</i> <i>(Provide a list of issues – eg. Control of introduced species, fire management, revegetation, public access/recreation, rubbish management, prevention of livestock access, etc.)</i></p>	NVC5
Vegetation Rehabilitation	The vegetated area as shown in the attached diagram, shall be rehabilitated with local native species prior to site works, at the proponents' expense, to the satisfaction of the {relevant body} .	NVC6

	<p><i>Note:</i> <i>Advice on local native species can be sought from local native plant nurseries, local regional Herbaria, the Western Australian Herbarium (Department of Conservation and Land Management), Local Governments, or environmental consultants with experience in rehabilitation. Advice can also be obtained from the Department of Environment.</i></p>	
<p>Subdivision style building envelope condition</p> <p><i>(to minimise disturbance to vegetation in larger lot subdivisions)</i></p>	<p>The Subdivider shall carry out the following to the satisfaction of the {relevant body};</p> <ul style="list-style-type: none"> (a) prepare a plan of the location of building envelopes on each lot (such building envelopes shall generally reflect the locations shown by the approved plan of subdivision, be located on land that has the best capability for construction of dwellings and on-site effluent disposal and, where possible, be located outside of the areas of remnant vegetation; (b) identify the building envelopes on-site by survey; (c) make arrangements to ensure appropriate mechanisms are established to require all buildings and effluent disposal on each lot to be located within the building envelopes; and (d) make arrangements to ensure prospective purchasers of the proposed lots are made aware of the plan of building envelopes, the location of building envelopes on-site and the requirement to locate all buildings and effluent disposal within the envelopes. 	NVC7

1.2 Wetlands

Wetland Management Plans	<p>Prior to commencement of site works, the proponent shall prepare and implement a wetland management plan for wetland (wetland name/number) and its buffer, as described in the attached diagram, to the satisfaction of the {local government}.</p> <p><i>Note</i> <i>The Wetland Management Plan shall address, but not be limited to, the following issues: (Provide a list of issues – eg. Control of introduced species, fire management, revegetation, public access/recreation, rubbish management, control of nuisance insects, water quality monitoring, prevention of livestock access, maintenance of hydrological regimes etc.)</i></p> <p style="text-align: center;">OR</p> <p><i>With regard to the preparation of a Wetland Management Plan, the proponent should liaise with the Department of Environment.</i></p>	WTC1
Vegetation Rehabilitation	<p>The wetland and buffer area, as shown within the Protected Area in the attached diagram, shall be rehabilitated with local native species prior to site works, at the proponents' expense, to the satisfaction of the {relevant body}.</p> <p><i>Note:</i> <i>Advice on species local to the wetland and it's buffer area can be sought from local native plant nurseries, local regional Herbaria, the Western Australian Herbarium (Department of Conservation and Land Management), Local Governments, or environmental consultants with experience in rehabilitation. Advice can also be obtained from the Department of Environment on rehabilitation of wetlands.</i></p>	WTC2
Stormwater impact on Wetlands	<p>Prior to the commencement of any site works, the proponent shall submit stormwater management infrastructure plans for approval of the {local government}, to demonstrate that no infrastructure is contained within the wetland or its buffer, described as the Protected Area in the attached plan.</p>	WTC3
Stormwater impact on wetlands	<p>The proponent shall ensure the proposed stormwater management infrastructure for the subject land does not alter the local groundwater levels beyond a level acceptable to the Department of Environment. Stormwater infrastructure plans shall be submitted to the Department of Environment for approval prior to commencement of site works.</p>	WTC4
Conservation Category Wetlands Restrictive	<p>A restrictive covenant pursuant to section 129BA of the <i>Transfer of Land Act 1893</i> shall be imposed on <insert lot(s)> for the purpose of protecting <insert wetland name/number> wetland and its vegetation buffer, at the proponents cost.</p>	WTC5

Covenant	<i>Note: The covenant will cover an area surrounding <insert wetland name/number>, as determined through (EITHER site assessment / the attached plan). The conditions of the covenant will include restrictions on stock access, clearing vegetation and other matters deemed appropriate by the Department of Environment.</i>	
Wetlands Buffers Conservation Category OR (may be used for other wetlands also)	The proponent shall establish a buffer on (insert lot details) between the proposed development and adjacent wetland (insert wetland name or number). The buffer shall be measured from the furthestmost extent of wetland dependent vegetation to the nearest outside edge of the proposed development. The buffer shall be determined using the DoE Wetlands Position Statement, or as shown and described as the Protected Area in the attached diagram.	WTC6
Conservation Category Wetlands (Where stock is to be kept or agisted).	Stock proof fencing shall be erected, at the cost of the applicant, around <wetland name and number> and its buffer, described as the Protected Area in the attached diagram, prior to commencement of any development of the land.	WTC7

1.3 Stormwater Management

SUBJECT	CONDITIONS	CODE
Urban subdivisions – Water Quality protection	The stormwater management system is to be designed to protect the water quality and ecology of the downstream surface and ground water (receiving environment). The stormwater management system is to be designed and constructed in accordance with the guidelines contained in the Department of Environment’s “Stormwater Management Manual”, and interim Position Statement “Stormwater Management”.	SWC1
Urban subdivisions where the groundwater table is shallow (<1.5m)	Any proposal to limit maximum groundwater levels must comply with the principles and guidelines in the Stormwater Management Manual to the satisfaction of the Department of Environment. <i>Note: The Department of Environment does not support the artificial lowering of groundwater levels, particularly in areas where this may result in nutrient export off the site. Drainage invert levels should be at or above the Average Annual Maximum Groundwater level.</i>	SWC2
Approval of Plans	Stormwater management plans shall be in accordance with the Department of Environment’s “Stormwater Management Manual”, and interim Position Statement “Stormwater Management”. Plans shall be submitted to and approved by the {local government} prior to {insert development or subdivision} commencing.	SWC3
Stormwater Management Plan	A stormwater management strategy being prepared and implemented to the satisfaction of the {local government} incorporating the principals of water sensitive design, and the Department of Environment Position Statement – Stormwater Management, prior to the commencement of development or any other site works.	SWC4

1.4 Effluent Disposal

SUBJECT	CONDITIONS / ADVICE	CODE
Reticulated Sewerage	All dwellings are to be connected to an approved reticulated sewerage service to the satisfaction of the local government and HDWA.	EDC1
Sewerage unavailable	The proponent making arrangements satisfactory to the <insert LGA> to install suitable on-site effluent disposal systems designed for long term usage (current best practice approved system designed to attenuate nutrients and other contaminants).	EDC3

1.4 Development setbacks / Foreshores

SUBJECT	CONDITIONS	CODE
Foreshore buffer	The proponent must provide an appropriate foreshore reserve / setback, through the use of an appropriate buffer or foreshore reserve (ceding of land if appropriate), as identified through an assessment of biophysical factors, and in accordance with relevant planning policies (ie State Coastal Planning SPP).	FBC1
Foreshore Management Plan	<p>The proponent is to prepare and implement a foreshore management plan, at the proponent's cost, to the satisfaction of the {insert authority}, for the management and protection of the <insert> foreshore.</p> <p><i>Note:</i> <i>The foreshore management plan should address issues such as public access controls, weed management, rehabilitation, fencing and other pressures or management issues identified.</i></p>	FBC2
Fenced, vegetated buffer	<p>A vegetated buffer, based on an assessment of biophysical factors for the <insert waterway>, is to be established, maintained and (if stock) fenced to the satisfaction of the <insert LGA>.</p> <p><i>Note:</i> <i>Specify fencing, stock exclusion and management of buffer area or foreshore – determine advice based on pressure / level of protection or management required.</i></p>	FBC3

2.0 LAND USE SPECIFIC CONDITIONS

Note – generally the above conditions and advice can be applied to the specific land uses at the discretion of local government or on advice from referral agencies. Those provided below can be used specifically for the land uses or development identified (Land Use Table).

2.1 Rural Use – Low to Medium Intensity

SUBJECT	CONDITION	CODE
Ground and surface water monitoring	The applicant is to conduct groundwater and surface water monitoring to the satisfaction and specifications of the { relevant authority } to ensure an adequate pollutant or nutrient audit is undertaken. The proponent should consult with the Department of Environment for further advice with regard to this condition.	RUC1
Nutrient buffer	The proponent is to provide a vegetated buffer (either existing or re-planted with native species) between the development and the { waterway / drain / wetland }, of a width to be determined by site assessment and depicted on the submitted plan, to attenuate nutrients and run-off.	RUC2
Nutrient and Irrigation Management Plan	A Nutrient and Irrigation Management Plan is to be prepared and implemented in accordance with the DoE requirements as described in the WQPN – Nutrient and Irrigation Management Plans, to the satisfaction of the { local government }.	RUC3
Hard stand areas	All hardstand areas are to be sealed and impervious. Wastewater including stormwater and other run-off containing leachate from these areas, nursery production and wash down areas shall be managed and disposed of appropriately (see WQPN - Nurseries and Garden Centres).	RUC4
Erosion control	Prior to commencement of site works, the proponent is to prepare and submit to { local government } for approval, plans detailing erosion control measures, and once approved implement such measures to the satisfaction of { local government }	RUC6
Keeping of Horses (<i>may also apply to live-stock</i>)	Prior to approval being granted, the proponent is to prepare a management plan in accordance with the Environmental Management Guidelines for Horse Facilities and Activities (DoE and HDWA, 2002).	RUC7

	Stock proof fencing shall be installed and maintained on the perimeter of the buffer zone between any areas where horses are to be kept / agisted and conservation wetlands, waterways, seasonally boggy areas or Bush Forever sites, as shown on the attached plan.	RUC8
	Stable floors or manure collection area floors are to be impermeable	RUC9
	All horse manure shall be collected from stables, paddocks and yards, and temporarily stored in impermeable, waterproof containers prior to disposal at an approved site. <i>Note: If composting manure, ensure it is conducted in accordance with AS 4454-1999: Compost, soil conditioners and mulches.</i>	RUC10
Stocking rates	Grazing stocking rates for cattle, sheep, horses and goats are to be determined. This can be achieved through liaison with the Department of Agriculture and Department of Environment. <i>Note: The stocking rates should be based on the area of pasture available to stock and not total lot size. Establishing these rates is critical in order to prevent any further erosion and any further impacts on water quality in the catchment.</i>	RUC11
Soil erosion	Linear features (eg roads, electricity lines, etc) should be installed to follow the contour. Where these facilities need to deviate from the contour they should be carefully designed to minimise soil erosion (ie: minimise the slope, use flat bottomed channels, install frequent dissipation structures to prevent concentration of water flow, etc).	RUC12
New vineyard - draft COP	New viticulture proposals are to be developed in accordance with the Department of Environment's <i>Environmental Code of Practice for Vineyards 2002</i> , to ensure environmentally sensitive vineyard management.	RUA13

2.2 Rural Use – Intensive

SUBJECT	CONDITIONS	CODE
Nutrient and Irrigation Management Plan	A Nutrient and Irrigation Management Plan is to be prepared and implemented in accordance with the DoE requirements as described in the WQPN – Nutrient and Irrigation Management Plans, to the satisfaction of the {local government}	RIC1
Ground and surface water monitoring	The applicant is to conduct groundwater and surface water monitoring to the satisfaction and specifications of the Department of Environment, to ensure an adequate pollutant / nutrient audit is undertaken.	RIC2
Nutrient buffer	The proponent is to provide a vegetated buffer of a width to be determined through a biophysical assessment, in order to increase foreshore stability and attenuate nutrients and run-off, at the proponent's cost, to the satisfaction of the {local government} .	RIC3
Prevention of groundwater pollution (Development Proposal)	All settling and storage ponds to be constructed so as to prevent infiltration of effluent rich waste water into the groundwater, and to prevent the export of nutrients off-site or into adjacent waterways.	RIC4
Stocking rates	Grazing stocking rates for cattle, sheep, horses and goats are to be determined. This can be achieved through liaison with the Department of Agriculture. The stocking rates should be based on the area of pasture available to stock and not total lot size. Establishing these rates is critical in order to prevent any further erosion and any further impacts on water quality in the catchment.	RIC5
Soil erosion	Linear features (eg roads, electricity lines, etc) are to follow contours. Where these facilities need to deviate from the contour they should be carefully designed to minimise soil erosion (ie: minimise the slope, use flat bottomed channels, install frequent dissipation structures to prevent concentration	RIC6

	of water flow, etc).	
Nutrient export	Intensive land-uses likely to export nutrients (eg horticulture) on soils with poor nutrient retention ability should be located not less than 300 metres upstream from a <insert wetland / watercourse> .	RIC7
Nutrient Export	<p>The following management practices should be implemented to reduce the export of nutrients off site:</p> <ul style="list-style-type: none"> • Revegetate and fence watercourses or revegetated areas where stock will be kept, to improve the capacity of surrounding vegetation to filter particles. • Do not construct additional drainage lines. • Provide for retention of sediments and nutrients on site rather than transporting them to wetlands and watercourses off the property. <p>In order to protect the water quality of nearby wetlands a nutrient, pesticide and irrigation management plan should be prepared by the proponent so that excess nutrients, pesticides and water are minimised and contained on-site.</p>	RIC8

2.3 Aquaculture

SUBJECT	CONDITIONS / ADVICE	CODE
Aquaculture	The applicant shall comply with the attached “General Guidelines for Acceptability of Aquaculture Proposals”, and the DoE WQPN Aquaculture Proposals.	AQC1
Marron proposals	The operation shall be conducted in accordance with relevant policies and guidelines, including the Fisheries WA Aquaculture Info Sheet 4 – Building Marron Ponds.	AQC2
Aquaculture/ water quality monitoring	The potential impact on marine water quality shall be monitored and managed to protect recognised environmental values in the area. This project should meet the water quality criteria specified in EPA Bulletin 711 (1993) draft “ <i>Western Australian Water Quality Guidelines for the Fresh and Marine Waters</i> ” for the protection of aquatic ecosystems. A copy of this document is attached. A suitable monitoring program should be developed in consultation with the Department of Environment and/or CALM that recognises these criteria. A summary of the monitoring results should be submitted annually to Fisheries WA and the Department of Environment and be available to other government agencies.	AQC3
Aquaculture/ discharge pipe	Any proposed discharge pipe shall extend at least 100m offshore and avoid areas of seagrass and reef. The water quality criteria specified in the EPA’s Bulletin 711 (1993) should be met within 50 m of the discharge pipe. A suitable monitoring program should be developed in consultation with the Department of Environment and/or CALM that recognises these criteria. It is envisaged that the monitoring program would be modified as production increases (ie to more thoroughly assess the impact on water quality). A summary of the monitoring results should be submitted annually to Fisheries WA and the Department of Environment and be available to other Government agencies.	AQC4

2.4 Commercial

Refer to above general stormwater and effluent disposal conditions and advice

2.5 Industrial / Public Utilities

SUBJECT	CONDITIONS	CODE
Proposed industrial development	The proponent / development shall not discharge wastewater to the environment or be used as a ‘wet industry’ without the prior approval of the {local government / DoE}.	IPC1
Trapping of specific	As a safeguard to protect downstream water quality a [insert type of control device ie oil separator, gross pollutant trap] to be installed in the stormwater management network. Design	IPC2

pollutants	and construction and regular maintenance of the [insert type of control device] is to be to the specifications and satisfaction of [local government] .	
Pollution control contingency	The applicant must prepare a contingency plan detailing procedure, an action plan and available equipment in the event of spillage constituting a pollution threat to the [insert waterway] . The plan to be prepared to the specifications and satisfaction of [local government]	IPC3
Prevention of groundwater pollution	All settling and storage ponds to be constructed to the satisfaction of the {local government} , so as to prevent infiltration of effluent rich waste water into the groundwater, and to prevent the export of nutrients off-site or into adjacent waterways.	IPC4
Industrial developments where spills are likely	In the event of any spillage or leakage of hydrocarbons, chemicals, sewage or waste-water from the proposed facility and associated activities to exposed ground surface, the Department of Environment should be notified immediately.	IPC5
Industrial developments likely to produce liquid wastes	If the proposed lots are to be occupied by industry that produces liquid wastes that conform to the Water Corporation's Industrial Waste Acceptance Criteria, the lots should be connected to a reticulated sewerage service. If a sewerage service is not available, the waste should be held in secure containers and exported to a site approved by the Department of Environment's Waste Management Division.	IPC6
Pollution control contingency plan	The applicant to prepare a contingency plan detailing procedure, an action plan and available equipment in the event of spillage constituting a pollution threat to the <insert waterway> . The plan to be prepared to the specifications and satisfaction of <insert relevant body>	IPC7
Bunding of Loading and batching areas	The proponent is to bund all loading / unloading or batching areas. Such areas are to be of impermeable surfaces, with all drainage being captured and treated on-site	IPC8
Where proposed development will result in the storage of chemical and a Permit is required.	The land subject to this application is located within the <insert name> Underground Water Pollution Control Area (UWPCA), which has been gazetted for priority <insert classification> source protection. Under By-Law 5.5.2 of the <i>Metropolitan Water Supply Sewerage and Drainage Act 1909</i> the landowner requires a permit to use and/or store certain substances/chemicals, including fuel, on the property. Owners and prospective purchasers must apply to the Department of Environment for permits of this nature.	IPC9

2.6 Recreation Areas / Irrigated / POS

SUBJECT	CONDITION	CODE
Ground and surface water monitoring	The applicant is to conduct groundwater and surface water monitoring to the satisfaction and specifications of the {local government} , on advice from the Department of Environment and or the local government.	RFC1
Nutrient buffer	The subdivider to provide a vegetated buffer of a width to be determined through a bio-physical assessment, in order to increase foreshore stability and attenuate nutrients and run-off, at the subdividers cost and to the satisfaction of the {local government} .	RFC2
NIMP for Irrigated Grassed Areas (POS etc)	Proponent is to prepare and implement a Nutrient and Irrigation Management Plan that demonstrates minimising export of nutrients to the surrounding environment, in accordance with the DoE WQPN – Nutrient and Irrigation Management Plans.	RFC3
Nutrient Export	<p>The following management practices shall be implemented to reduce the export of nutrients off site:</p> <ul style="list-style-type: none"> Do not construct additional drainage lines. Provide retention basins to allow sedimentation and infiltration of pollutants and nutrients on site rather than transporting them to wetlands and watercourses off the property. <p>The design and management of this proposal should ensure the rate of nutrient export is</p>	RFC4

	<p>maintained at or below the current levels. To achieve this target a number of initiatives should be considered including:</p> <ul style="list-style-type: none"> • Construction of drainage retention systems • Development of detailed management programs to address nutrient management. • Design and implementation of a monitoring program to check the system performance. • Preparation of contingency plans to deal with the most likely failure scenarios. 	
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2.6 Residential

Refer to above general stormwater and effluent disposal conditions

Schedule 3 – Map of Cockburn Sound Catchment area and Local Government Areas



References

Cockburn Sound Management Council (2002). *Interim Environmental Management Plan for Cockburn Sound and its Catchment*. Water and Rivers Commission. Perth, Western Australia.

Cockburn Sound Management Council. *Memorandum of Understanding between City of Cockburn, Town of Kwinana, City of Rockingham and the Cockburn Sound Management Council*. August 2003.

DAL (2001). *The State of Cockburn Sound Report. A Pressure State-Response Report*. Prepared for the Cockburn Sound Management Council. June 2001.

Environmental Protection Authority (2002). *Revised Draft Environmental Protection (Cockburn Sound) Policy 2002*. November 2002. Perth, Western Australia.

Appendix 2 – Relevant Policies, Guidelines

1. Inter-agency guidelines

Inter-agency guidelines combine the requirements of each agency into a single document. Relevant guidelines currently available include:

- Best Environmental Management Practices for Environmentally Sustainable Vegetable and Potato Production in Western Australia - A Reference Manual (2002)
 - Environmental Management for Animal-based Industries - Dairy Farm Effluent (1998)
 - Environmental Guidelines for New and Existing Piggeries: Bulletin 4416 (May 2000) (Copies available from the Department of Agriculture)
 - Environmental Guidelines for the Establishment and Maintenance of Turf and Grassed Areas (December 2001)
 - Environmental Guidelines for Horse Facilities and Activities (December 2002)
 - Code of Practice for Environmentally Sustainable Vegetable and Potato Production in Western Australia (2002)
 - Guidelines for the Environmental Management of Beef Cattle Feedlots in Western Australia (July 2002)
 - Environmental Management Guidelines for Vineyards (June 2002)
 - Guidance Notes on Dangerous Goods Storage (October 2002)
- Guidelines for Direct Land Application of Bio-solids and Bio-solids Products (Draft) (February 2002)

2. DoE Position Statements, Policies, Guidelines, and Water Quality Protection Notes

- These are available on the Department of Environment website: www.environment.wa.gov.au
- The Cockburn Sound Management Council documents are located at: www.wrc.wa.gov.au/policy/csmc