

**North East
Planning Referrals Committee**

**Guidelines for the Protection of
Water Quality**



10 April 2000

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ABBREVIATIONS

<i>AHD</i>	Australian Height Datum - is the adopted national height datum that generally relates to height above mean sea level.
<i>ARI</i>	Average Recurrence Interval - is the likelihood of occurrence expressed in terms of the long-term average number of years between the occurrence of a flood as large or larger than the design flood event. For example, floods with a discharge as large as or larger than the 100-year ARI flood will occur on average once every 100 years.
<i>CALP</i>	Catchment and Land Protection
<i>CMA</i>	Catchment Management Authority
<i>EPA</i>	Environment Protection Authority
<i>FO</i>	Floodway Overlay (or Rural Floodway Overlay)
<i>GBCMA</i>	Goulburn Broken Catchment Management Authority
<i>G-MW</i>	Goulburn–Murray Water
<i>GVW</i>	Goulburn Valley Water
<i>LSIO</i>	Land Subject to Inundation Overlay
<i>ML/d</i>	Megalitres per day (Flow discharge)
<i>NECMA</i>	North East Catchment Management Authority
<i>NEPRC</i>	North East Planning Referrals Committee
<i>NE-W</i>	North East Water
<i>NPL</i>	Nominal Flood Protection Level (300mm above the 100-year ARI flood level)
<i>NRE</i>	Department of Natural Resources and Environment
<i>SCARM</i>	Standing Committee on Agriculture and Resource Management
<i>SEPP</i>	State Environment Protection Policy
<i>SPPF</i>	State Planning Policy Framework
<i>UFZ</i>	Urban Floodway Zone
<i>VPPs</i>	Victoria Planning Provisions

INTRODUCTION

The North East Planning Referrals Committee (NEPRC) was formed in 1999 between a number of government authorities with a vision to prepare an integrated set of guiding documents, policies and requirements to cover a wide range of development activities with a particular emphasis on water quality protection.

The purpose of packaging this information is to provide local government, other agencies and the community with knowledge about water quality protection in land development assessment. In addition, the project is intended to provide some clarity towards streamlining referrals.

The guideline information is presented in tables under the types of development that may impact on water quality:

- Clearing of native vegetation;
- Dam constructions;
- Developments in floodplains and natural drainage lines;
- Extractive industries;
- Industrial development;
- Infrastructure development on or adjacent to waterways;
- Intensive animal industries;
- Land forming and laser grading in irrigation areas;
- Septic tanks, including package treatment plants;
- Urban development; and
- Waste water treatments plans

GUIDELINE TABLE CONTENT

Information in the guideline tables comprise four columns covering the following topics:

1. Activities affecting water quality;
2. Planning process;
3. Planning tools; and
4. Fundamental policies and relevant planning conditions.

The first column provides information on the types of activities that impact on water quality, drainage and floodplain issues.

The referrals covered in the Planning Process column are in accordance with Section 55 of the *Planning and Environment Act, 1987* as listed in Clause 66 of the Victoria Planning Provisions (VPPs) and are generally relevant to water quality issues. Issues relating to the provision of other services such as electricity or telecommunications are not included.

Notice of applications, in accordance with Section 52 of the *Planning and Environment Act, 1987* have been provided to ensure authorities are aware of any developments that may impact on water quality or where licensing by a water authority is required. Other referrals may be required in Local Planning Policy pertaining to individual local government areas.

The Planning Tools column provides relevant statutory documents and guidelines that are used in the assessment of land development.

The final column provides the fundamental principles and policies in the protection of water quality and also includes general conditions that may be included in planning permits. The indicative conditions may not be all inclusive for land development or subdivision, and therefore should be used as a guide only.

MINIMUM SETBACKS FROM WATERWAYS AND STORAGES

Included at the back of the guidelines is a *Setback from Waterways and Storages* table providing the various minimum setback criteria. It also lists the Special Water Supply Catchment Areas as listed in Schedule 5 of the *Catchment and Land Protection Act, 1994*.

These are minimum setbacks in relation to the protection of water quality and aesthetic values only. There may be other reasons that exclude buildings and works near waterways such as flooding.

REFERRALS TO WATER AUTHORITIES

In some instances individual applications, for example a dwelling, are being referred to all water authorities and boards in a regional area. The following information is a guide to ensure that referrals are forwarded only to the appropriate authority or board.

Use and Development - “The relevant water board or water supply authority”

- Water Board - reticulated water and sewerage areas
Goulburn Valley Water and North East Water
- Water Supply Authority - non-reticulated areas
Goulburn-Murray Water

Subdivision - “The relevant water, drainage or sewerage authority”

- Pertains mainly to urban development where reticulated supplies are available
Goulburn Valley Water and North East Water
- If subdivision is located in non reticulated areas should be made to the water supply authority, Goulburn-Murray Water.
- Areas suspected to have flooding issues but not identified within a UFZ, FO, LSIO or SBO may be referred to Catchment Management Authorities under section 52 of the Planning and Environment Act, 1987 for comment – refer to Tables.

The phrase “The relevant water, drainage or sewerage authority” has been taken from Melbourne Water, which include floodplain management issues. Therefore, the last dot point has been included to cover this interpretation.

FURTHER INFORMATION

Further Information can be obtained through the following websites

Agency	Website
Goulburn Broken Catchment Management Authority	www.gbcma.vic.gov.au
Department of Natural Resources and Environment	www.nre.vic.gov.au
Environment Protection Authority	www.epa.vic.gov.au
Goulburn-Murray Water	www.g-mwater.com.au
Department of Infrastructure	www.doi.vic.gov.au

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TABLE 1: Guidelines for Clearing Native Vegetation

Activities Affecting Native Vegetation Retention	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<p>Biodiversity losses due to the incremental degradation of remnant vegetation are greater than the losses from large scale clearing</p> <p>Incremental Degradation:-</p> <ul style="list-style-type: none"> • Small scale clearing • Excessive grazing • Lack of active management • General dieback/decline • Loss of understorey • Lack of regeneration • Weed invasion, etc 	<p>Planning Permit</p> <p>A Planning Permit is required to remove, destroy or lop native vegetation</p> <p>Municipal Councils are the responsible authorities</p> <p>Department of Natural Resources and Environment (NRE) is a referral authority</p> <p>Section 55 referral: To NRE where:</p> <ul style="list-style-type: none"> • area to be cleared is 10 ha or greater (exclusive of the number of trees to be removed) • land management plan or works program is submitted • on Crown land and roadsides • timber plantations • timber production from native forest <p>Section 52</p> <p>Other Permit applications may be referred to NRE if required</p> <p>EXEMPTIONS</p> <ul style="list-style-type: none"> • Landholding size less than 0.4 ha • Dead vegetation • Emergency works: <ul style="list-style-type: none"> - Immediate risk of personal injury or damage to property - Emergency access or emergency works by authorities • Fire • Planted vegetation: <ul style="list-style-type: none"> - Timber harvesting under licence 	<p>The incremental degradation is not well addressed by current statutory planning processes. Can be addressed through community awareness programs.</p> <ul style="list-style-type: none"> • Amendment S5 Nov 1989 (Native Vegetation Controls) • Amendment S13 Oct 1993 (Timber Production on Private Land) • Draft Goulburn Broken Native Vegetation Strategy • Draft North East Regional Native Vegetation Plan • Other relevant regional strategies and plans, eg Salinity, Water Quality, Roadside Management, etc • Victorian Biodiversity Strategy 	<ul style="list-style-type: none"> • Fundamental Principles & Policy: <ul style="list-style-type: none"> - Native vegetation is to be protected and conserved - 'Provide net gain to Biodiversity Values' • Need to consider the short-term advantages of clearing vs. the long-term effects • Need to ensure the preservation of the natural environment and landscape values • Need to consider the role of native vegetation in: <ul style="list-style-type: none"> - Conserving flora and fauna - Protecting water quality - Providing shade and shelter - Preventing land degradation - Preventing groundwater recharge • Need to retain vegetation: <ul style="list-style-type: none"> - Where slopes are greater than 20% - Within 30 metres of a wetland or watercourse - Where groundwater recharge occurs - on land subject to erosion, slippage or salinisation - where soil or subsoil may become unstable - in a proclaimed water supply catchment - significant sites (scientific, conservation, cultural) - where rare or supports rare fauna or flora species - where part of a wildlife corridor • Cultural significance • Applications must include a land management plan or works program

TABLE 1: Guidelines for Clearing Native Vegetation

Activities Affecting Native Vegetation Retention	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
	<ul style="list-style-type: none"> • Extractive industry • Surveying • Rural activities: <ul style="list-style-type: none"> - Minimum amount for farm structures - Regrowth less than 10 years old - In accordance with the <i>Catchment And Land Protection Act, 1994</i> Notice - Cutting reasonable amounts of wood for - Grazing by domestic stock • Stock movements on roads • Weeds and vermin • Buildings (10m) • Utility services • Mineral exploration and mining 		<ul style="list-style-type: none"> • Need to consider the potential to establish and maintain native vegetation elsewhere on the land • Timber production covered by: <ul style="list-style-type: none"> - Amendment S13 - Codes of Practice <p>General Conditions only:</p> <ul style="list-style-type: none"> • A land management plan or works program • Restriction of what can be cleared and where • Replanting requirements • Retention and management of remnants • Fencing requirements • Establishment of buffer strips

TABLE 2: Guidelines for Dam Construction

Activities Affecting Water Quality & Quantity	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Finite water resources • Catchment yields • Limited water supply • Environmental degradation • Affect on downstream users • Creates fish barriers • Stream bed erosion • Affects water quality • Bed & bank instabilities • Sediment regime • Salinity • Habitat loss • Ability to purchase license for water • Soil erosion • Riparian zone • Clearing of native vegetation <p>Check Guidelines for Clearing Native Vegetation Biodiversity losses due to the incremental degradation of remnant vegetation are greater than the losses from large scale clearing.</p> <p>Check Guidelines for Development in Floodplains and Natural Drainage Lines If dams are to be constructed where levee banks or water</p>	<p>A Planning permit is required for one of the following types of dams:</p> <ul style="list-style-type: none"> • on a waterway • those that divert water from a waterway • according to the schedule in a rural zone <p>A waterway determination must be undertaken to identify if the location of the dam is on a waterway as defined under Sec. 40 of the Water Act. If the location is defined as a waterway a licence to “Construct and Operate Works on a Waterway” must be obtained from the delegated licencing authority (G-MW). To ascertain if it is a waterway, contact G-MW diversions group.</p> <p>If a licence is not available a planning permit should not be issued.</p> <p>Section 55 Referrals:</p> <p>G-MW</p> <ul style="list-style-type: none"> • Where a dam construction is in a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which provides water to a domestic supply. <p>NRE</p> <ul style="list-style-type: none"> • Removal of native vegetation • Salinity Management Overlay 	<ul style="list-style-type: none"> • Victoria Planning Provisions SPPF - Clause 15, Rural Zones and Local Policy. • <i>Guidelines for Irrigation Development</i> if in the Goulburn Murray Region G-MW publication • <i>Your Dam – an Asset or a Liability</i> NRE publication • <i>Water Act, 1989</i> • <i>Catchment and Land Protection Act, 1994</i> • Catchment Management Strategy • Victoria’s Biodiversity Strategy • <i>Fisheries Act, 1995</i> • <i>Flora & Fauna Guarantee Act, 1988</i> • <i>Heritage Rivers Act, 1992</i> • <i>SEPP Waters of Victoria</i>, (EPA 1988) • <i>Construction Techniques for Sediment Pollution Control</i> (EPA 1991) • Draft Goulburn Broken Native Vegetation Management Strategy. 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • An agreement between G-MW, GBCMA & NRE is that “best practice” is to locate all new dams (for irrigation, commercial or aesthetic use) off-stream. • The applicant must consult with G-MW if irrigation water is required prior to commencement of any works. • Catchment yield must be ascertained for water availability • In some circumstances small “v” notch weirs may be approved to divert water to an off-stream dam • Winter fill licenses are issued from the water authority to ensure that water is only taken between 1 May and 30 October each year. • In some cases fish ladders will be required, to promote fish passage. • The retention of natural drainage corridors with a 30 metre wide vegetated buffer zone along waterways in accord with SPPF. <p>Floodplain Management</p> <ul style="list-style-type: none"> • Not permitted within Flood Overlay (generally greater than 500 millimeters deep in a 100-year ARI flood), unless in accordance with a Local Floodplain Development Plan or a favourable risk management assessment under the VPPs. • In floodway areas sump dams are permitted if spoil material is removed.

TABLE 2: Guidelines for Dam Construction

Activities Affecting Water Quality & Quantity	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<p>diversion methods are to be used.</p>	<p>CMA</p> <ul style="list-style-type: none"> • Floodway Overlay • Land Subject to Inundation Overlay • Urban Floodway Zone <p>Section 52 Notice:</p> <p>Notice of all dams should be given to Goulburn-Murray Water (G-MW) to ensure that water resources and relevant licences are available. Goulburn Broken Catchment Management Authority (GBCMA) & North-East Water (NE-W) to assess impact on waterways.</p> <p>A Hazardous dam must be referred to the Minister of Conservation and Environment under Section 80(4) of the Water Act, 1989 if:</p> <ul style="list-style-type: none"> • A wall is 5 metres or more high above ground level and has a capacity of 50ML or more. • A wall that is 10 metres high above ground level and a capacity of 20ML or more. 		<p>General Conditions Only:</p> <ul style="list-style-type: none"> • A licence must be obtained from G-MW where surface water from a waterway or groundwater supplies are required (eg dam or bore) • For dams greater than 2ML: <ul style="list-style-type: none"> - endorsed engineering designs and computations for dam and spillway by an experienced engineer in dam design. - construction must be supervised by a qualified engineer who will be required to certify that the dam has been completed to design approved by Responsible Authority. • Earthworks should be kept to a minimum and disturbed areas rehabilitated as soon as possible after construction. • All earthworks associated with the dam and spillway construction must be carried out to ensure that surface runoff does not cause sediment transport. • Construction must follow sediment control principles outlined in <i>Construction Techniques for Sediment Pollution Control</i> (EPA 1991) • Exposed batters should have slopes greater than 3:1 (3 horizontal to 1 vertical)

TABLE 3-1: Guidelines for Development in Floodplains and across Natural Drainage Lines – New Dwellings

Activities Affecting Floodplains and Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Availability of water resources • Blocking flood paths • Diverts flood waters • Removal of flood storage • Increased flood damages • Access during floods • Life, health and safety issues • Increase demands on emergency agencies • Increase demands on community infrastructure and recovery services. • Cumulative impacts • Infrastructure or restrictions, such as access roads, across floodplains or natural drainage lines <p>See Tables 3-3 & Table 3-4 below</p>	<p>Most buildings and works are prohibited uses within the Urban Floodway Zone (UFZ) Permit required if located within:</p> <ul style="list-style-type: none"> • Land Subject to Inundation Overlay (LSIO) • Floodway Overlay (FO) <p>Section 55 Referral: Relevant water board or water supply authority if within a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i>, and which provides water to a domestic supply.</p> <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ) • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>Unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>Section 52 Referral: CMA if flooding is suspected.</p>	<ul style="list-style-type: none"> • Victoria Planning Provisions - SPPF – Clause 15.02 • Planning Schemes with Incorporated Local Floodplain Development Plans. • <i>Floodplain Management in Australia, Best Practice Principles and Guidelines</i>, (SCARM, 1999). • Victoria Planning Provisions Flood Management Practice Note, DRAFT (2000). • <i>Flood Plain Management in Victoria</i> (SR&WSC, 1978) • <i>A Planning Guide for Land Liable to Flooding in Rural Victoria</i> (Ministry of Planning and RWC, 1989) • Floodplain Development Studies • Current State and Regional FPM strategies • <i>Minimum Setbacks from Waterways and Storages</i> (Water Authorities, 1999) - see TABLE 12. 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • Most development is prohibited within Urban Floodway Zone (UFZ) • Not allowable within a Floodway Overlay (generally greater than 500 mm in a 1% flood), and/or where access is cut by 800mm (in rural areas) or 500mm (in urban areas) unless in accordance with a Local Floodplain Development Plan or a favourable risk management assessment. • Generally allowable on Land Subject to Inundation Overlay, where adequately defined. <p>Floor level of dwelling extensions may match the existing floor height of the existing dwelling provided that:</p> <ol style="list-style-type: none"> a) the whole extension [in any ten (10) year period] of the proposed floor area is: <ol style="list-style-type: none"> (i) less than 84 square metres; or (ii) no greater than 50% of the existing floor area; b) where the floor level of the extension is <u>not</u> above the NPL, water resistant materials are to be used and designed for any possible flow velocity impacts; and c) the extension is a bona fide for the purposes of accommodating the existing family. d) Where building extensions are greater than 20 m² and below the nominal flood protection level, the applicant/owner must enter into an Agreement with Council under Section 173 of the <i>Planning and Environment Act, 1987</i>, which states that the floor level is below the nominal flood protection level and the applicant/owner takes full responsibility for any damage caused by flooding. This agreement

TABLE 3-1: Guidelines for Development in Floodplains and across Natural Drainage Lines – New Dwellings

Activities Affecting Floodplains and Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
			<p>must be registered on title prior to the Certificate of Occupancy, or similar.</p> <ul style="list-style-type: none"> • Local municipal councils shall assess any local drainage impacts. • The retention of natural drainage corridors with a 30 metre wide vegetated buffer zone along waterways in accord with SPPF. <p>Conditions:</p> <p>If permitted floor levels to be at least 300 mm above the 100-year ARI flood level.</p>

TABLE 3-2: Guidelines for Development in Floodplains and across Natural Drainage Lines – Subdivisions

Activities Affecting Floodplains and Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Availability of water resources • Expectation to construct additional dwellings • New fencing 	<p>Section 55 Referral: To relevant water, drainage or sewerage authority other than:</p> <ul style="list-style-type: none"> • Boundary realignments • Subdivisions of existing buildings already connected to services • Two lot subdivisions • Subdivisions for the creation of lots to correspond with existing flats and car parking spaces. <p>CMA</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ) • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>Unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>Section 52 Referral: CMA if flooding is suspected</p>	<p>As above</p>	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • No further subdivision allowed in UFZ or FO but may realign lot boundaries. • Minimum lot sizes subject to Planning Scheme but generally not less than 40 ha in areas of Land Subject to Inundation. • Local municipal councils shall assess any local drainage impacts. • The retention of natural drainage corridors with a 30 metre wide vegetated buffer zone along waterways in accord with SPPF.

TABLE 3-3: Guidelines for Development in Floodplains and across Natural Drainage Lines – Levee Banks

Activities Affecting Floodplains and Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Blocks flood paths • Diverts flood waters • Removal of flood storage • Increased depth of flooding • Increased flow velocity • Impacts to adjoining property owners • Cumulative Impacts • Increased waterway erosion • Degrade environmental values of wetlands <p>Check Guidelines on Landforming and Laser grading – See TABLE 8</p>	<p>A Planning permit is required for earthworks within most zones or associated within a Section 2 use.</p> <p>Section 55 Referral: Relevant water board or water supply authority if within a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which provides water to a domestic supply.</p> <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ) • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>Section 52 Referral: CMA if flooding is suspected and G-MW & NE-W if activity affects their assets.</p>	<ul style="list-style-type: none"> • As above • <i>Earthworks Planning Controls</i> (G-MW & GBCMA, June 1999) • <i>SIR Significant Drainage Line Plans</i> (G-MW & GBCMA, April 1998) • <i>Water Act, 1989</i> –Section 16-21 • <i>Control of Works in Natural Drainage Systems</i> (G-MW & CALPB, 1996) • Flood Overlay Maps • Drainage Course Declarations 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • Earthworks that change the natural topography of the landscape and subsequently affect the natural flow of water across catchments. • Issues relating to works on natural drainage lines can be closely linked with Floodplain Management Practices, which are controlled by Catchment Management Authorities. • Allowable to protect existing urban type development having regard to social, economic and environmental matters. • No new private levees unless part of an adopted scheme. • Allow maintenance of existing levees provided crest heights are not raised. <p>General Conditions Only:</p> <ul style="list-style-type: none"> • Allow for sufficient “through” flow along existing flow paths to the satisfaction of the Responsible Authority and the CMA. • GBCMA - If maintaining existing levees the proponent must submit pre and post levee height surveys by a licensed surveyor to the satisfaction of the Responsible Authority showing no raising of levees

TABLE 3-4: Guidelines for Development in Floodplains and across Natural Drainage Lines – Infrastructure or Restrictions

Activities Affecting Floodplains and Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Increased rainfall and nutrient runoff • Blocking flood paths • Diverts flood waters • Removal of flood storage • Increased depth of flooding • Increased flow velocity • Impacts to adjoining property owners • Cumulative Impacts • Increased waterway erosion • Impacts on wetlands and receiving waterways <p>Check Guidelines for Landforming and Laser grading – see TABLE 8</p>	<p>Section 55 Referral: G-MW or NE-W if within a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which provides water to a domestic supply.</p> <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ), • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>Section 52 Referral: CMA if flooding is suspected and G-MW & NE-W if activity affects their assets.</p>	<ul style="list-style-type: none"> • Regional Drainage Strategy • <i>Earthworks Planning Controls</i> (G-MW & GBCMA, June 1999) • <i>SIR Significant Drainage Line Plans</i> (G-MW & GBCMA, April 1998) • <i>Water Act, 1989</i> -Section 16-20 • <i>Control of Works in Natural Drainage Systems</i> (G-MW & CALPB, 1996) • Flood Overlay Maps • Drainage Course Declarations 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • Earthworks that change the natural topography of the landscape and subsequently affect the natural flow of water across catchments. • Issues relating to works on natural drainage lines can be closely linked with Floodplain Management Practices, which are controlled by Catchment Management Authorities. • In accordance with a Local Floodplain Development Plan or a favourable risk management assessment. • Obligations under the Water Act 1989 • In accordance with Policy and Practice for Drainage Works (to be developed). • The retention of natural drainage corridors with a 30 metre wide vegetated buffer zone along waterways in accord with SPPF. <p>General Conditions Only:</p> <ul style="list-style-type: none"> • Provision of on farm storage, re-use systems and flow retardation • Minimum reduction (10%) in passive storage areas. • Provision of adequate openings to maintain 'reasonable flow' in drainage course for 10-year ARI flow to the satisfaction of responsible authority and CMA where drainage issues prevail. • Provision of adequate openings to maintain identified flood paths for a 100-year ARI flood to the satisfaction of

TABLE 3-4: Guidelines for Development in Floodplains and across Natural Drainage Lines – Infrastructure or Restrictions

Activities Affecting Floodplains and Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
			responsible authority and CMA where flooding issues prevail

TABLE 4: Guidelines for Extractive Industries and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> Alteration of sediment transfer initiating bed and bank instabilities Soil erosion Loss/disturbance of vegetation and habitat Potential to initiate an avulsion (ie change in watercourse) Nutrient and sediment discharge into waterways 	<p>A Work Plan must be lodged and approved by Minerals and Petroleum (NRE) in conjunction with the issuing of a Planning Permit from the Responsible Authority. Following approval of the Work Plan and the issuing of a Planning Permit a Work Authority will be issued by Minerals and Petroleum.</p> <p>The planning permit should be concerned with off-site effects, and the relationship of the site with surrounding land uses. The Work Authority should cover operational matters of the extractive industry and rehabilitation.</p> <p>Section 55 Referrals:</p> <ul style="list-style-type: none"> Minerals and Petroleum (NRE) (who administer the <i>Extractive Industries Development Act, 1995</i>) Secretary to the Department administering the <i>Archaeological and Aboriginal Relics Preservation Act, 1972</i> and Part 11A of the <i>Aboriginal and Torres Strait Islander Heritage Protection Act, 1984</i> (Commonwealth) Secretary to the Department administering the <i>Heritage Act, 1995</i>. <p>NRE</p> <p>On Crown land or land abutting Crown land, other than a government road. In areas with communities or taxa listed or critical habitat determined under the <i>Flora and Fauna Guarantee Act, 1988</i> On land which has been identified in a planning scheme as containing sites of flora or fauna significance.</p>	<ul style="list-style-type: none"> Victoria Planning Provisions - Clauses 52.08 & 52.09 Guidelines about Work Plan information for Extractive Industries have been prepared under the <i>Minerals and Petroleum Regulations, August 1999</i> and can be obtained NRE for the following types of applications: <ul style="list-style-type: none"> an area not exceeding 5 hectares and not exceeding 2 metres in depth (Doc. G4) an area of 5 hectares or more or greater than 2 metres in depth (Doc G3) <i>Extractive Industries Development Act, 1995</i> Goulburn Broken Native Vegetation Management Strategy <i>Construction Techniques for Sediment Pollution Control</i> (EPA 1991) 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> Extractive industries must not contribute to sediment entering waterways and threaten waterway health. Extraction on a floodplain shall not threaten floodplain stability. Discharge of process solutions or quarry waste must not enter waterways All discharge from the site must meet the standards of the EPA. To be located greater than 100 metres from waterway. The retention of natural drainage corridors with a 30 metre wide vegetated buffer zone along waterways in accord with SPPF. <p>General Conditions Only:</p> <p>Planning Permit conditions:</p> <ul style="list-style-type: none"> Off-site effects and the relationship with the surrounding land Planning administration matters such as: <ul style="list-style-type: none"> Commencement of extraction works External buffer zones Preparation of an overall development plan; in most cases this requirement will be satisfied by the work plan Requirement to comply with conditions of a planning permit or a work authority Access roads, traffic routes, truck movements, road safety and impact on local road network Fauna and flora protection

TABLE 4: Guidelines for Extractive Industries and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
	<ul style="list-style-type: none"> • On land which has been identified in a planning scheme as being subject to salinity management. • In Special Areas declared under Section 27 of the <i>Catchment and Land Protection Act, 1994</i> • On land where the use or development involves the removal or destruction of native vegetation if the total area to be cleared is 10 hectares or greater. <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ), • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>EPA</p> <ul style="list-style-type: none"> • If a licence to discharge or emit waste is required or an amendment to an existing licence. • To use or develop land for extractive industry if the land is intended to be used for landfill at a future date. (refer to EPA) <p>VICROADS</p> <ul style="list-style-type: none"> • On land which abuts a local road that intersects with a road declared under the <i>Transport Act, 1983</i> and if the development is expected to increase traffic movement at the intersection of the local road and the declared road by ten 		<ul style="list-style-type: none"> • Performance standards for controls regarding impact on the neighbouring properties (eg dust, noise) • Visual impact and landscaping requirements • Lighting • Control of sewage effluent disposal • Protection of flood prone areas • Fire prevention measures, especially in areas of designated high fire risk • Building approvals and regulations • Services • Parking areas • Protection of natural and cultural values • Identification signs <p>The work authority conditions should cover operational matters of the quarrying proposal:</p> <ul style="list-style-type: none"> • Work plans • Fencing and security • Internal Roads • Surface disturbance • Drainage and discharge control • Slimes and water dams • Erosion control • Noxious weeds • Hydrocarbons storage • Dust Emissions • Noise Emissions • Derelict and redundant plan • Internal visual screening

TABLE 4: Guidelines for Extractive Industries and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
	<p>percent or more.</p> <ul style="list-style-type: none"> On land which abuts a road declared under the <i>Transport Act, 1983</i>. This does not apply to a development which generates less than one hundred commercial trips per day, with road works at the entrance to the site built in accordance with the layout found under Clause 66.02 (VPPs) and the declared road is not a freeway. <p>Section 52 Notice: Notice must be given to Minerals and Petroleum for the following:</p> <ul style="list-style-type: none"> An application, if a permit is granted, would allow residential land use, rural residential or land use with a substantial residential or rural residential component within an extractive industry interest area. An application which, in the opinion of the Responsible Authority, may materially affect an extractive industry site approved under the <i>Extractive Industries Act, 1966</i> or an extractive industry site in respect of which an application was made under the <i>Extractive Industries Act, 1966</i>. <p>CMA</p> <ul style="list-style-type: none"> On land where flooding is suspected 		<ul style="list-style-type: none"> Progressive rehabilitation Final rehabilitation

TABLE 5: Guidelines for Industrial Development and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Availability of water resources • Inappropriate management of waste waters • Accidental spillages • Contaminated runoff • Inappropriate disposal of waste • Chemicals, dangerous goods • Sediment control during construction • Stormwater management 	<p>Section 55 Referral:</p> <p>Relevant water, drainage and sewerage authority for:</p> <ul style="list-style-type: none"> • Industrial subdivision (>2 lots) - See Clause 66.01 <p>Relevant water board or water supply authority:</p> <ul style="list-style-type: none"> • Where the subject land is in a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which supplies water to a domestic water supply. <p>EPA: if proposal involves a Works Approval, licence to discharge or a licence amendment.</p> <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ) • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>If dangerous goods are to be stored or handled referral is required to the Minister administering the <i>Dangerous Goods Act, 1985</i>.</p> <p>Section 52 Notice:</p> <p>EPA to ascertain if a Works Approval,</p>	<ul style="list-style-type: none"> • Victoria Planning Provisions Clause 52.09 & 52.10 • <i>Best Practice Environmental Management Guidelines for Urban Stormwater</i> (CSIRO, 1999) • EPA Pub 275, <i>Construction Techniques for Sediment Pollution Control</i> (1991) • EPA Pub 480, <i>Environmental Guidelines for Major Construction Sites</i> • <i>Water Act, 1989</i> • Best Practice Environmental Management Guidelines - produced by relevant industries • <i>Minimum Setbacks from Waterways and Storages</i> (Water Authorities, 1999) - see TABLE 12 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • No development must impact on water quality, during both the development or construction stage. • Sediment management will be a key requirement to development • No net increase in sediment to the catchment • Rezoning to Industrial 1: Not within 100m of a residential area or other potentially sensitive land use or zone, e.g. public open space, kindergarten/pre-school. • Not on slopes greater than 20% (1 in 5) • The retention of natural drainage corridors with a 30m wide vegetated buffer zone along waterways in accord with SPPF. <p>General Conditions Only:</p> <ul style="list-style-type: none"> • All allotments must be connected to a reticulated sewerage system if appropriate. • All wastewater and contaminated stormwater must be treated and contained on site. • A wastewater management plan prepared by a consultant. • A stormwater management plan. • All chemical storage/loading/unloading areas must comply with EPA Publication No TG 347/92 "<i>Bunding Guidelines</i>"

TABLE 5: Guidelines for Industrial Development and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
	<p>licence to discharge or a licence amendment is required.</p> <p>Relevant Water Authorities require notice if industrial development located near a waterway.</p> <p>CMA require notice of industrial development where flooding is suspected.</p>		

TABLE 6: Guidelines for Infrastructure Development on or Adjacent to Waterways (eg bridges, culverts, roadworks, piping, water and sewerage works)

Activities Affecting Waterways	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<p>Infrastructure:</p> <ul style="list-style-type: none"> • Reduced stability of bed or banks • Structure undermined by deepening • Structure bypassed by bank instability • Waterway restriction • Fish passage • Flooding • Erosion • Public safety • Aesthetics <p>Diversion of waterway through piping, draining swamps etc:</p> <ul style="list-style-type: none"> • Stream aggradation or degradation • Loss of habitat • Interaction of terrestrial environment with waterway • Stability, particularly in high flow events • Sediment movement • Fish passage • Energy dissipation at outlet • Aesthetics <p>See guidelines on Land-forming and Laser grading - TABLE 8</p>	<p>If works are to be located on a waterway a licence to “Construct and Operate Works on a Waterway” must be obtained from G-MW or NE-W.</p> <p>If a licence is not available a planning permit should not issue.</p> <p>Section 55 Referral:</p> <ul style="list-style-type: none"> • Relevant water board or water supply authority if within a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which provides water to a domestic supply. • NRE if Crown land or native vegetation removal is required e.g. stream reserve • EPA if works approval required for a licence to discharge or emit waste or amendment to existing licence <p>Section 52 Notice:</p> <ul style="list-style-type: none"> • CMA requests notice to be given for site assessment for works that may impact on waterways. • If works are to be located on a waterway or adjacent to a waterway, G-MW and NE-W to ensure that licensing requirements are met. 	<ul style="list-style-type: none"> • Victoria Planning Provisions • Heritage River Act, 1992 • Water Act 1989 • Fisheries Act, 1995 • Flora and Fauna Guarantee Act, 1988 • <i>State Environment Protection Policy (SEPP) - Waters of Victoria, 1988</i> • <i>Catchment and Land Protection Act, 1994</i> • <i>Victoria’s Biodiversity Strategy (NRE, 1998)</i> • <i>Construction Techniques for Sediment Pollution Control (EPA 1991)</i> • VPPs – Clause 62.02 - Buildings and works not requiring a permit 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • Development on a waterway shall result in no net reduction in waterway health. • No reduction in waterway capacity or increase in flooding as a result of construction works • Ensure nutrient and sediment controls are considered • Ensure fish passages are not disturbed • Minimal disturbance to bed and banks during construction <p>General Conditions Only:</p> <ul style="list-style-type: none"> • Erosion and sediment control plans must be approved • Nutrient management or treatment must be approved • The impact on a waterway through plant and site facilities must be addressed in OHS &E (Occupational Health Safety and Environment Plan) • Directional boring where practicable • Any damage to stream bed and banks to be rehabilitated through revegetation and rock beaching • Rock beach bridge abutments • The bottom of bridge decks must be 600mm above the top of the bank measured from the high water mark • Horizontal and vertical stream stability must be considered in the siting of bridge and culvert structures

TABLE 7: Guidelines for Intensive Animal Industries and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> Wastewater from farms is poorly treated and/or inappropriately applied to land Overstocking according to disposal process Lack of suitability of site/soil for waste disposal High concentrations in waterways immediately downstream of outfall. Excessive nutrients leaving aquaculture farms due to poor feed design and management <p>If native vegetation is to be removed a permit may also be required to do so.</p>	<p>Section 55 Referral:</p> <p>EPA The following require an EPA works approval (licence needed only if they discharge):</p> <ul style="list-style-type: none"> Mammals i.e. piggeries, cattle feedlots with >5,000 animals confined for agricultural production. Livestock saleyards /holding pens with an annual through put >10,000 animal units per year. Fish farms and other edible aquatic cultivators with a discharge water flow rate of >0.2ML/d. <p>NRE To use or develop land for a cattle feedlot</p> <p>CMA & G-MW or N-EW To use or development land for a cattle feedlot if the site is located within a Special Water Supply Catchment Area under the <i>Catchment and Land Protection Act, 1994</i>, the relevant water authority under the <i>Water Act, 1989</i> and the Secretary to the Department administering the <i>Catchment and Land Protection Act, 1994</i>.</p> <p>Section 52 Referral: The CMA would like to see all applications for intensive animal industries.</p>	<ul style="list-style-type: none"> Victoria Planning Provisions SPPF - Clause 17.06 Intensive animal industries and Clause 52.26 <i>Victorian Code for Cattle Feedlots</i> (EPA, 1995) <i>Code of Practice: Piggeries</i> (EPA 1992) <i>State Environment Protection Policy</i> (Waters of Victoria, 1998. EPA Pub. 168, <i>Guidelines for Wastewater Irrigation, 1991</i> EPA Pub 464 <i>Guidelines for Wastewater Reuse, 1996</i> EPA Pub 570 <i>Environmental Guidelines for Dairy Processing Industry, 1997</i> Dairy Shed Waste Management, 1993 Information can be obtained for Dairy Shed Waste Management at NRE website www.nre.vic.gov.au Information regarding publications on intensive animal industries can be obtained from the EPA website www.epa.vic.gov.au <i>Minimum Setbacks from Waterways and Storages</i> (Water Authorities, 1999) - see TABLE 12 <i>Environment Protection Act, 1970</i> <i>Water Act, 1989</i> 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> No intensive animal industry should impact on surface or ground water quality. All waste should be treated in accordance with their relevant code of practice or EPA licence, and contained on site. Land areas must be sufficient to ensure effluent disposal methods are achievable and not cause water and land degradation. No net increase in nutrient loads to the catchment. All effluent disposal systems must be located 100 metres from a waterway. The retention of natural drainage corridors with a 30 metre wide vegetated buffer zone along waterways in accord with SPPF. <p>General Conditions Only:</p> <ul style="list-style-type: none"> All works must be in accordance with EPA works approval. If no works approval is required Council must ensure that the following points are taken into consideration: <ul style="list-style-type: none"> No discharge of waste beyond the boundaries of the premises. Effluent storage ponds are to be constructed at least 100 metres from any waterway and should not go down to, or below, ground water levels. Storage embankments must not be located in a floodway and must be above the 1 in 100 year flood level in

TABLE 7: Guidelines for Intensive Animal Industries and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
			<p>all other areas.</p> <ul style="list-style-type: none"> - A wastewater management plan must be prepared by a person qualified to do so. - Effluent ponds must have an impervious liner consisting of no less than 600 mm clay of maximum hydraulic conductivity 1×10^{-9} m/s or equivalent. - All works must comply with EPA Pub. 168, <i>Guidelines for Wastewater Irrigation</i>, EPA Pub 464 <i>Guidelines for Wastewater Reuse</i> and EPA Pub 500 <i>Code of Practice for Small WWTP</i>.

TABLE 8: Guidelines for Landforming and Laser Grading in Irrigation Areas

Activities Affecting Natural Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Increases runoff • Blocks flood paths • Removal of flood storage throughout an area • Diverts flood waters • Increased flood height • Impacts to adjoining property owners • Cumulative Impacts • Impacts on wetlands and waterways • Native vegetation removal <p>Check Guidelines for Clearing of Native Vegetation – see TABLE 1</p>	<p>A Planning permit is required for earthworks within most zones, or associated within a Section 2 use, where:</p> <ul style="list-style-type: none"> • Direction of existing drainage flow is changed • Point of drainage outfall over a property boundary is changed • Rate or volume of flow across a property boundary is changed • Discharge of saline groundwater is increased <p>Exemptions:</p> <ul style="list-style-type: none"> • Approved drainage schemes or approved drainage outfall • A G-MW drain • A registered Community Drainage Scheme • A private or municipal drain where the applicant is authorised and outfall formally approved <p>Section 55 Referral: G-MW or NE-W if within a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which provides water to a domestic supply.</p> <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ), • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). 	<ul style="list-style-type: none"> • Victoria Planning Provisions - SPPF - Clause 15.02 • <i>Planning Controls for Earthworks in the Shepparton Irrigation Region</i> (G-MW & GBCMA, June 1999) • <i>Shepparton Irrigation Region (SIR) Significant Drainage Line Plans</i> (G-MW & GBCMA, April 1998) • <i>Water Act, 1989</i> - Section 16-21 - No unreasonable impacts to adjoining property owners • <i>Control of Works in Natural Drainage Systems</i> (G-MW & CALPB, 1996) • Flood Overlay Maps • Drainage Course Declarations <p>Provision of acceptable farm plans within irrigated areas require the following information to be submitted to assist assessment:</p> <ul style="list-style-type: none"> • General layout plan • Natural surface levels to AHD • Cut and fill levels • Top & bottom of bay elevations • Width and length of bays • Farm channel & drainage details • Drainage outfall details • Tree locations • Re-use systems • Groundwater details • Effluent discharge • G-MW Full Supply levels (if 	<p>Fundamental Principles & Policy:</p> <ul style="list-style-type: none"> • Earthworks that change the natural topography of the landscape and subsequently affect the natural flow of water across catchments. • Issues relating to works on natural drainage lines can be closely linked with Floodplain Management Practices, which are controlled by the Catchment Management Authorities. • Works permitted in passive storage areas are depression reshaping, provided the volume of depression storage is not reduced by more than 10%. <p>Passive storage areas are characterised by low basins, backwaters, depressions, loops, etc, into which water will spill during a flood event, and which will provide flood detention storage capacity that moderates the flow through a system.</p> <p>General Conditions Only:</p> <ul style="list-style-type: none"> • Allow for sufficient “through” flow along natural drainage lines to the satisfaction of the Responsible Authority and the CMA. • Minimum reduction of 10% in passive storage area.

TABLE 8: Guidelines for Landforming and Laser Grading in Irrigation Areas

Activities Affecting Natural Drainage Lines	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
	unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule. Section 52 Referral: CMA if flooding is suspected, and G-MW & NE-W if activity affects their assets.	applicable) • Easements or reserves	

TABLE 9: Guidelines for Septic Tank Systems Including Package Treatment Plants (<5,000 Litres Per Day)

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<p>Septic tanks & package treatment plants for rural dwellings & subdivisions</p> <ul style="list-style-type: none"> Systems installed in inappropriate areas where an impact can occur to waterways and groundwater through discharge of nutrients Systems installed where soil, slope and rainfall are not conducive to sustainable effluent disposal. The lack of ongoing maintenance to ensure septic tank systems and package treatment plants are operating efficiently. The land area may need to be greater than 0.4 hectares to sustain effluent disposal systems due to soil conditions and terrain, etc. High density of septic tanks in an area. Systems greater >5,000 litres/day require an EPA Works Approval and Licence. <p>See Guidelines for Wastewater Treatment Plants – see TABLE 9 & TABLE 11</p>	<ul style="list-style-type: none"> Clause 40 of the <i>State Environment Protection Policy - Waters of Victoria</i> requires that councils are responsible for ensuring new residential subdivisions are provided with reticulated sewerage. In accordance with the VPPs the rural, environmental rural and rural living zones must be capable of treating and retaining wastewater within the boundaries of each allotment if reticulated sewerage is not available. The minimum allotment size in these zones is 0.4 ha (or 4,000m² or 1 acre), but other factors such as soil capability and terrain must be considered. Councils are responsible for systems designed to discharge up to 5,000L effluent/day. Internal referrals should be given to Environmental Health Officers or the designated officer prior to the issuing of a planning permit to ensure lot sizes are capable of sustaining the effluent system. Council must refuse to issue a permit if a proposed system is not of a type approved by EPA, or the land size is insufficient to support an effluent disposal system. <p>Section 55 Referral:</p> <ul style="list-style-type: none"> To relevant water board or water supply authority where proposal involves septic tanks or small package 	<ul style="list-style-type: none"> Ministerial Direction No. 6, states that councils must undertake appropriate land assessments prior to rural residential subdivision. Victoria Planning Provisions, SPPF Clause 18.09 - Water Supply, Sewerage and Drainage <i>Environment Protection Act, 1970</i>, Part IXB. State Environment Protection Policy, SEPP - Waters of Victoria, 1988, Clause 40. EPA Code of Practice -Septic Tanks (1996) Local Laws or S173 Agreements. <i>Water Act, 1989</i> <i>Minimum Setbacks from Waterways and Storages</i> (Water Authorities, 1999) - see TABLE 12 	<p>Fundamental Principles & Policy:</p> <p>Council should satisfy itself that:</p> <ul style="list-style-type: none"> Adequate land review and land capability assessment is done prior to rezoning and subdivision. Lot sizes are capable, and of adequate size, to treat and retain wastewater within allotment boundary. Adequate information is received by council to assess application and clear information of land features where system will be located is provided. Effluent disposal is an approved EPA system and has a Certificate of Approval. Ongoing wastewater management is feasible and achievable. Includes an ongoing management and monitoring program. <p>General Conditions Only:</p> <ul style="list-style-type: none"> Septic tanks, including package treatment plants must be a system approved by the Environment Protection Authority. Applications for the Installation of septic tanks must be lodged with the local Council. System must be 100m from any surface waters and at least 300m from a domestic water supply. The premises owner must: <ul style="list-style-type: none"> comply with the requirements of EPA Pub. 451, <i>Code of Practice - Septic Tanks</i>, 1996

TABLE 9: Guidelines for Septic Tank Systems Including Package Treatment Plants (<5,000 Litres Per Day)

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
	<p>treatment plants in a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which supplies water to a domestic supply.</p> <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ), • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p>		<ul style="list-style-type: none"> - undertake an inspection and maintenance program in accordance with the system manufacturer's specifications and EPA Pub 451; - keep a copy of the system manufacturer's specifications for maintenance and inspection of the system on-site at all times; - undertake annual maintenance by a person or company experienced or familiar with the operation of the system; - maintain a record of maintenance, monitoring, upgrades and inspections carried out on the system; - desludge the tanks once every three (3) years (EPA).

TABLE 10: Guidelines for Urban Development and the Protection of Water Quality

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Inappropriate management of waste water • Sediment and nutrient runoff • Stormwater management • Solid waste disposal • Chemicals 	<p>Section 55 Referral:</p> <p>Relevant water, drainage and sewerage authority for:</p> <ul style="list-style-type: none"> • Subdivision (>2 lots) <p>Relevant water board or water supply authority:</p> <ul style="list-style-type: none"> • Where the subject land is in a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i> and which supplies water to a domestic water supply. <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ) • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>Section 52 Referral:</p> <ul style="list-style-type: none"> • CMA require notice of industrial development where flooding is suspected. • Notice is requested to relevant water drainage and sewerage authority for all urban development. 	<ul style="list-style-type: none"> • Victoria Planning Provisions • EPA Pub 275, <i>Construction Techniques for Sediment Pollution Control</i> (1991). • EPA Pub 480, <i>Environmental Guidelines for Major Construction Sites</i> (1996) • <i>Best Practice Environmental Management Guidelines for Urban Stormwater</i>, (CSIRO, 1999). • <i>Water Act, 1989</i> • <i>Minimum Setbacks from Waterways and Storages</i> (Water Authorities, 1999) - see TABLE 12 	<p>Fundamental Principles & Policies:</p> <ul style="list-style-type: none"> • Urban development should be designed to consider the environmental qualities of an area. • No development should impact on water quality, during either the development or construction phase • Sediment and nutrient management will be a key to development • All development to be in accordance with Stormwater Management Plans • No net increase in sediment from the catchment • Not on slopes greater than 20% (1 in 5). • The retention of natural drainage corridors with a 30 metre wide vegetated buffer zone along waterways in accord with SPPF. <p>General Conditions Only:</p> <ul style="list-style-type: none"> • All allotments should be connected to reticulated sewerage. • Stormwater Management Plans must be prepared prior to approval. • Construction & operation should follow relevant EPA guidelines. • A minimum 30 metre of undisturbed vegetation is required along all waterways. This buffer acts as a filter to protect water quality. • Construction works must be revegetated and left in a stable condition to prevent soil erosion. • All buildings must be located above the 100-year ARI flood level of all waterways.

TABLE 11: Guidelines for Wastewater Treatment

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
<ul style="list-style-type: none"> • Wastewater treatment plants > 5,000L/day • Festivals • Wineries and distilleries • Subdivision • Systems installed in inappropriate areas where impact to waterways and groundwater can occur through nutrient discharge. • Systems installed where soil, slope and rainfall are not conducive to sustainable effluent disposal. • The lack of monitoring and ongoing maintenance to ensure wastewater treatment plans are operating efficiently. • Insufficient land area to support wastewater treatment plants. • Dairy sheds and processing plants • Tanning and related industries • Intensive piggeries • Aqueous wool scouring and carbonising 	<p>Section 55 Referral:</p> <ul style="list-style-type: none"> • Environment Protection Authority where: <ul style="list-style-type: none"> - EPA Works Approval is required - A licence to discharge is required - A licence amendment is required • The relevant water board or water supply authority that is in a Special Water Supply Catchment Area listed in Schedule 5 of the <i>Catchment and Land Protection Act, 1994</i>, and which supplies water to a domestic supply • NRE if native vegetation is to be removed <p>CMA if in:</p> <ul style="list-style-type: none"> • Urban Floodway Zone (UFZ), • Land Subject to Inundation Overlay (LSIO) • Flood Overlay (FO). <p>unless in accordance with an incorporated Local Floodplain Development Plan or listed as exempt in an Overlay Schedule.</p> <p>Section 52 Referrals:</p> <p>To relevant water supply authority if wastewater treatment plant is to be located adjacent to a waterway, major drainage line or water storage facility.</p>	<ul style="list-style-type: none"> • EPA Scheduled Premises & Exemption Regulations • EPA Pub 464 <i>Guidelines for Wastewater Reuse</i>, 1996 • EPA Pub 500 <i>Code of Practice for Small WWTP</i> (June 1997) • EPA Pub. 168, <i>Guidelines for Wastewater Irrigation</i> (1991) • EPA Pub. 473, <i>Managing Sewage Discharge to Inland water's</i> (1995) • <i>Environmental Protection Act, 1970</i> • State Environment Protection Policy (SEPP); Groundwaters of Victoria (1997) • State Environment Protection Policy (SEPP) – Waters of Victoria, 1988 • Best Practice Environmental Management Series for numerous industries (See Appendix 1) • Section 173 agreements • Preliminary Nutrient Guidelines for Victorian Inland Streams (June 1995) • <i>Water Act, 1989</i> • National Water Quality Management Strategy – Agriculture and Resource Management Council of Australia and New Zealand, ANZECC; <ul style="list-style-type: none"> - Effluent Management Guidelines for Wineries and Distilleries (1995) - Draft Effluent Management 	<p>Fundamental Principles & Policies:</p> <ul style="list-style-type: none"> • To protect surface and groundwater. • To ensure the land area is capable of supporting a wastewater treatment plant. • To have land disposal of wastewater that is in balance with evapotranspiration requirements of the land use. • To ensure that long term accumulation of salt & nutrients does not occur. • Preference is 100% reuse, sewer connection, land irrigation, if not possible discharge to water after tertiary treatment. <p>General Conditions Only:</p> <ul style="list-style-type: none"> • All works must be in accordance with EPA Works Approval. • If no Works Approval is required council must ensure that the following points are taken into consideration: <ul style="list-style-type: none"> - Effluent ponds must have an impervious liner consisting of no less than 600 mm clay of maximum hydraulic conductivity 1×10^{-9} m/s, or equivalent. - All works must comply with EPA Pub. 168, '<i>Guidelines for Wastewater Irrigation</i>,' EPA Pub 464 '<i>Guidelines for Wastewater Reuse</i>' and EPA Pub 500 '<i>Code of Practice for Small WWTP</i>'. - The treatment plant must be operated in accordance with any current Environment Management Plan approved by EPA. - A monitoring program must be

TABLE 11: Guidelines for Wastewater Treatment

Activities Affecting Water Quality	Statutory Planning Process	Planning Tools	Policies and Relevant Planning Conditions
		<p>Guidelines for Dairy Processing Plants (1995)</p> <ul style="list-style-type: none"> - Draft Rural Landuses and Water Quality (1996) - Draft Implementation Guidelines (1995) - Draft Effluent Management Guidelines for Tanning and Related Industries (1995) - Draft Effluent Management Guidelines for Dairy Sheds (1995) - Draft Effluent Management Guidelines for Intensive Piggeries (1995) - Draft Effluent Management Guidelines for Aqueous Wool Scouring and Carbonising (1995) 	<p>prepared and the results submitted annually to EPA.</p> <ul style="list-style-type: none"> - Disposal does not create long term sodic or saline soils. - Any disposal area, including irrigation must be developed in accordance with a whole farm plan approved by G-MW. - The disposal area, including irrigation is to be located more than 100 metres from any waterway. - Gauge boards must be installed in effluent evaporation ponds to enable volume to be calculated. - An annual water balance must be calculated to determine if the rate of seepage to groundwater is greater than 1×10^{-9} m/sec. This will indicate the necessity for liner repair.

TABLE 12: Minimum Setbacks from Waterways and Storages

These are minimum setbacks in relation to the protection of water quality and aesthetic values only.

There may be other reasons that exclude buildings near waterways, ie severe flooding.

(Taken as distance from the top of the bank, or high water mark if there is no bank, unless noted otherwise)

TYPE OF WATERWAY	SEPTIC TANKS ^a	BUILDINGS ^b	BUFFERS ALONG WATERWAYS ^d
Heritage River ¹ Example: Goulburn River	100 metres	50 metres minimum	30 metres
Storage, natural lake or wetland. Example: Lake Eildon, Lake Nagambie, Kinnairds Wetland	100 metres	<i>The greater of:</i> <ul style="list-style-type: none"> • 50m from Full Supply Level or • 300mm above the 100-year ARI flood level 	30 metres
Domestic water supply ^g channel Example: Aqueducts	200 metres	50 metres minimum	30 metres
Domestic water supply ^g storage Example: Violet Town	300 metres	100 metres	30 metres
Waterway ^e in a special water supply ² catchment area Example: Delatite River	100 metres	30 metres	30 metres
Any waterway ^e outside a special supply catchment and not a heritage river Example: Broken Creek	60 metres	30 metres	30 metres
G-MW Drain/ Community Surface Drain Example: Deakin Main Drain, Ardmona Drain II	100 metres	30 metres ^f	N/A
G-MW Irrigation Supply Channel Example: Central Goulburn Channel No. 7	60 metres	30 metres ^f	N/A

^a Minimum requirement under Code of Practice – Septic Tanks (EPA, 1996) and State Environment Protection Policy (Waters of Victoria)

^b Includes dwellings, shed, tourist accommodation, and auxiliary structures, eg carports and decking.

^d Minimum width of undisturbed vegetation along all waterways (from NRE policy and Clause 15.01 of the SPPF- Victoria Planning Provisions)

^e Section 3 of the *Water Act, 1989*

^f G-MW recommendation

^g Water used for human consumption

¹ *Heritage Rivers Act, 1992*

² *Catchment and Land Protection Act, 1994*

Supporting Information for Minimum Setbacks from Waterways and Storages

Special Water Supply Catchment Areas in the G-MW and CMA areas (Catchment and Land Protection Act 1994):

Goulburn Broken CMA	North Central CMA	North East CMA
Honeysuckle Creek	Avoca Town Water Supply	Bakers Gully (Bright)
Kilmore	Cairn Curran	Barambogie Creek (Chiltern)
Lake Nillahcootie	Creswick	Buckland River
Nine Mile Creek (Longwood)	Crusoe Group Reservoirs (Bendigo)	Buffalo River (Lake Buffalo)
Ryans Creek	Eppalock	Diddah Diddah Creek (Springhurst)
Seven Creeks & Mountain Hut Creek	Loddon River (Laanecoorie)	Fifteen Mile Creek (Glenrowan)
Sunday Creek (Kilmore – Broadhurst)	McCallum Creek	King River (Lake William Hovell)
Upper Goulburn	Mollison Creek (Pyalong)	Lake Hume (Victorian section)
	Spring Creek Reservoirs (Bendigo)	Nine Mile, Clear and Hurdle Creeks
	Tullaroop Reservoir	Ovens River (Bright)
		Ovens River (Wangaratta)
		Upper Kiewa

Domestic Water Supply Storages (i.e. for supply to urban systems only):

Storages managed by North East Region Water Authority, Goulburn Valley Water, Coliban Water and Lower Murray Water.

Domestic Water supply Channels (i.e. for supply to urban systems only):

Open supply channels managed by North Eastern Region Authority, Goulburn Valley Water, Coliban Water and Lower Murray Water.

Heritage Rivers (Heritage Rivers Act 1992):

Goulburn River Howqua River
 Ovens River Mitta Mitta River
 Big River

References:

Environment Protection Agency, (1996) *Code of Practice – Septic Tanks, On-site Domestic Wastewater Management*, Best Practice Environmental Management series, Publication 451.
 Environment Protection Agency (1988), *State Environment Protection Policy (Waters of Victoria)*, Publication S13.
 Environment Protection Act 1970 (Vic)
 Water Act 1989 (Vic)
 Heritage Rivers Act 1992 (Vic)
 Catchment and Land Protection Act 1994 (Vic)

Prepared by Ellen Hogan, Strathbogie Shire Council and Mark Bailey, Goulburn-Murray Water following consultation with:

Goulburn Broken Catchment Management Authority	Goulburn-Murray Water	Shire of Strathbogie
North East Catchment Management Authority	Goulburn Valley Water	Environmental Health Officers, City of Greater Shepparton

APPENDIX ONE

Best Practice Environmental Management Series

- National Water Quality Management Strategy – Agriculture and Resource Management Council of Australia and New Zealand, Australian and New Zealand Environment and Conservation Council.
- Urban Stormwater; Best Practice Environmental Management Guidelines, CSIRO, 1999
- Effluent Management Guidelines for Wineries and Distilleries, 1995
- Draft Effluent Management Guidelines for Dairy Processing Plants, 1995
- Draft Rural Landuses and Water Quality, 1996
- Draft Implementation Guidelines, 1995
- Draft Effluent Management Guidelines for Tanning and Related Industries, 1995
- Draft Effluent Management Guidelines for Dairy Sheds, 1995
- Draft Effluent Management Guidelines for Intensive Piggeries, 1995
- Draft Effluent Management Guidelines for Aqueous wool Scouring and Carbonising, 1995