Water Act 1989

Guidelines to Address Key Issues relating the Construction of New Farm Dams within Irrigation Districts in the Loddon-Murray and Shepparton Irrigation Regions

Goulburn-Murray Water

October 2004

GOULBURN-MURRAY WATER

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1. Purpose of this Paper

The primary purpose of this paper is to provide an accepted common interpretation of the implications of the amendments to the *Water Act 1989* resulting from the *Water (Irrigation Farms Dams) Act 2002* for new farm dams constructed within Irrigation Districts in the Loddon-Murray and Shepparton irrigation regions. The Paper particularly focuses on new re-use dams where, in applying the intent of the legislation, there is a need to have a balance between the equitable sharing of the resource and the need to minimise runoff from irrigation lands to protect the water quality in receiving waters.

The Paper has been developed in consultation with the Department of Sustainability and Environment (DSE), Goulburn-Murray Water Rural Water Authority (G-MW), the Goulburn Broken Catchment Management Authority (GBCMA) and the North Central Catchment Management Authority (NCCMA) since the Act came into operation. The Paper provides an agreed approach to a range of issues relating to the construction of new re-use dams, taking into consideration the sometimes differing views and objectives of the natural resource management agencies.

Although representing the situation as at October 2004, this is an evolving issue, as such, it is intended that this document will be modified as further issues and questions are raised with the construction of new re-use dams and land planning changes in the Loddon-Murray and Shepparton Irrigation Region.

2. Background

Following the farm dam amendments to the *Water Act 1989*, DSE produced a Compendium of Ministerial Guidelines and Procedures which provide guidelines to managing agencies to support the implementation of the new arrangements.

The Compendium includes a specific section relating to re-use dams, referred to as the "Re-Use Dams Order 2002". The Order, which is signed by the Minister administering the Water Act 1989, outlines the criteria that must be satisfied before a dam can be classified as a re-use dam under the legislation. It also clearly states the design capacity requirements of re-use dams prior to the need for a surface water entitlement to be secured. A copy of the Re-Use Dam Order 2002 is included as **Attachment 2**.

For the purpose of this paper, where it is stated that a surface water entitlement needs to be secured for an oversized re-use dam, the property owner constructing the new re-use dam will also need to obtain a take and use (diversion) licence. There is no requirement however, to have a take a take and use (diversion) licence for a new aesthetic dam. The owners of aesthetic dams may therefore forfeit their right to have a take and use licence. Once forfeited, however, their right can not be reinstated.

While the Minister has the right to make unsolicited changes to the Compendium of Ministerial Guidelines and Procedures, the process for initiating changes to the Compendium, by others impacted by its implementation (e.g. the irrigation industry Groups), is still relatively unclear. As such, guiding principals were developed as part of the preparation of this paper. These principles, which specifically relate to amendments to the "Re-use Dams Order 2002", are presented in **Section 4**.

To avoid replication of information and aid readability, a Glossary of Common Terms has been developed as is included as **Attachment 1**. This Glossary of Terms applies to the examples addressed in the Questions and Answers section and is directly relevant to Irrigation Districts directly administered by G-MW. The Glossary of Terms may, in many cases, also be applicable to new dams constructed outside designated Irrigation Districts.

3. Questions and Answers

A. General Types of Re-use Dams

No.	Question	Response
1.1	What is a re-use dam?	Refer to 'Glossary of Terms' and the Ministerial Re-use Dams Order 2002 in Attachment 2.
1.2	What is a multi-source dam?	Refer to 'Glossary of Terms'.
1.3	What is a multi-source re-use dam?	Refer to 'Glossary of Terms'.

B. Classification of Waterways

No.	Question	Response
2.1	What is the definition of a waterway?	Refer to 'Glossary of Terms'.
2.2	Where a meander loop or part of a waterway has been cut off by a drain or a flood erosion bypass (i.e. it become a lagoon or isolated loop which only contains water during floods) is it still classified as a waterway?	Independent of whether the waterway has been cut off naturally, or as a result of man-made obstacles, the lagoon or meander loop waterway is still classified as a waterway.
2.3	Is a G-MW owned regional drain (i.e. Primary Drain or Community Surface Water Management Scheme) classified as a waterway?	A G-MW owned regional drain servicing land located within an Irrigation District is to be treated as "Works of an Authority".
2.4	Is a privately owned regional drain classified as a waterway?	A privately owned regional drain (i.e. Community Surface Water Management Scheme) servicing land located within an Irrigation District is to be treated as "Works of an Authority", irrespective of whether the drain outfalls to a G-MW owned drain or waterway.
2.5	Can a new regional Drain be constructed in waterway?	A new regional drain servicing land located within an Irrigation District may be constructed along the alignment of a waterway so long as the relevant State and Local Government approvals processes have been satisfied.

C. Aesthetic or Ornamental Dams

No.	Question	Response
3.1	What is an aesthetic Dam?	Refer to 'Glossary of Terms'. *Note: A dam from which domestic and stock water is used will be treated as an aesthetic dam under the legislation if it is larger than what is needed for the demonstrated reasonable domestic and stock water use.*
3.2	What is an ornamental Dam?	Refer to 'Glossary of Terms'.
3.3	What is the preferred location for the construction of a new aesthetic or ornamental dam?	The preference is for all new aesthetic dams to be constructed off waterways (which includes but is not limited to natural channels or depression lines.)
3.4	Can aesthetic or ornamental dams be constructed on a waterway?	Aesthetic or ornamental dams may be constructed on a waterway, where: • a construction licence is obtained for the aesthetic dam and its associated works, and the relevant conditions of the construction licence are adhered to. A mandatory condition of the construction licence is that the design of the dam allows for the passage of summer flows; and • the construction of the aesthetic dam and, its associated works, do not adversely impact on the existing ecological values of the waterway and other downstream environmental beneficiaries (as assessed by DSE as part of the planning process); and • the location of the aesthetic dam can be justified from a financial perspective (i.e. the landholder can demonstrate that alternate sites are not economically viable); and • the location of the aesthetic dam can be demonstrated not to adversely affect neighbouring properties (i.e. through the proposal being advertised consistent with existing planning guidelines); and • the property owner has purchased a surface water entitlement for the volume of water equal to the annual evaporation and seepage from the aesthetic dam, less any water entering the dam from sources other than catchment runoff (e.g. G-MW channels, urban supply systems, building runoff including roof area, etc.). The property owner may choose to forfeit their right to have a take and use (diversion) licence. Once forfeited, however, their right can not be reinstated.
3.5	Does a surface water entitlement need to be secured for a quarry or mine that has been rehabilitated to become a lake or water feature?	A surface water entitlement does not need to be secured and a take and use (diversion) licence is not required for quarries or mines (which include G-MW borrow pits) that are rehabilitated to become a lake or water feature, provided: • water is not taken and used from the lake or water feature for irrigation purposes • water is not diverted from a waterway or extracted from a bore and used to fill the lake or water feature. *Further details relating to the requirements for quarries and mines are presented in the Guidelines for Quarries and Mines prepared by DSE (2004).*

D. Surface Water Entitlement and Take and Use (Diversion) Licences

No.	Question	Response
4.1	What is a surface water entitlement?	Refer to 'Glossary of Terms'.
4.2	What is a take and use (diversion) licence?	Refer to 'Glossary of Terms'.
4.3	When does a property owner (or applicant) need to secure a surface water entitlement in relation to a new re-use dam?	A surface water entitlement must be permanently secured by the property owner (or applicant) where they seek to construct a new re-use dam which is sized above the volumetric capacity requirements specified in Re-use Dams Order – 2002 (see Attachment 2).
4.4	When does a property owner (or applicant) need to obtain a take and use (diversion) licence in relation to a new re-use dam?	A take and use (diversion) licence must be obtained by the property owner (or applicant) where they seek to use water from a new re-use dam which is sized above the volumetric capacity requirements specified in Re-use Dams Order – 2002 (see Attachment 1). For aesthetic dams, the property owner may choose to forfeit their right to obtain a take and use (diversion) licence.
4.5	Who is responsible for paying the fees and charges associated with the surface water entitlement, and take and use (diversion) licence?	All fees and charges associated with the surface water entitlement, and take and use (diversion) licence will be borne by the property owner or holder of the licence.
4.6	How are the exchange rates applied to the volume of water that needs to be permanently secured?	The volume of water to be permanently secured for over sized re-use dams or aesthetic dams may need to be adjusted based on defined exchanges rates relating water entitlements on regulated waterways to those on unregulated waterways. These exchange rates vary depending on where the water is being sourced. A copy of the "Exchange Rates Order 2002" is presented in Attachment 3.
4.7	What volume will the annual G-MW charges be based on for new re-use dams?	Generally the annual G-MW charges will be based on the component of the re-use dam which is above the volumetric capacity requirements of the Re-use Dams Order – 2002 (see Attachment 2) after applying the "Exchange Rates Order 2002" (see Attachment 3).
4.8	Who is responsible for securing the surface water entitlement, and take and use (diversion) licence in relation to a new re-use dam?	The property owner (or applicant) is responsible for permanently securing the surface water entitlement, for the equivalent volume which the re-use dam is sized above the volumetric capacity requirements of the Re-use Dams Order – 2002. This should occur prior to the construction of the new re-use dam
4.9	Where can the property owner (or applicant) secure a surface water entitlement for the oversize component of their re-use dam?	The surface water entitlement must be secured by the property owner (or applicant) through either permanently transferring (purchasing) the water entitlement on the open market (based on agreed trading guidelines) or surrendering the equivalent volume of water from the Property's Irrigation Water Entitlement (allowing for the exchange rate as specified in the Exchange Rates Order 2002).
4.10	Can a drainage diversion licence/permit or groundwater licence be used to secure the surface water entitlement?	The property owner (or applicant) **cannot** transfer all or part of an existing groundwater licence volume or temporary water entitlement to offset the need to secure a surface water entitlement. The property owner (or applicant) **cannot** transfer all or part of an existing drainage diversion licence/permit to offset the need to secure a surface water entitlement, except where particular water quality outcomes are specifically required at that site (Refer to Questions in Section H).
4.11	Does the property owner need to secure a surface water entitlement where a dam does not capture irrigation runoff?	An additional surface water entitlement is not required for a dam where the only source of water to a newly constructed dam is groundwater, G-MW channel water (direct) or metered low flow drainage water or high flow drainage water diverted under an Agreement with G-MW.

Cont.

D. Surface Water Entitlement and Take and Use (Diversion) Licences (Cont.)

No.	Question	Response
4.12	Does a surface water entitlement need to be secured if the re-use dam was constructed prior to 4 April 2002?	If a re-use dam was constructed prior to 4 April 2002, and G-MW was not advised of the re-use dam prior to 30 June 2004, the property owner will be required to secure a surface water entitlement for the additional volume of water above the volumetric capacity requirements of the Re-use Dams Order – 2002.

E. Siting of Re-use Dams and Multi-source Re-use Dams

No.	Question	Response
5.1	What is the preferred location for the construction of a new re-use dam (including multi-source re-use dam)?	The preference is for all new re-use dams, including multi-source re-use dams, to be constructed such that they are not on a waterway (which includes but is not limited to a natural channel or depression line). See worked examples, No. 3.1 and No. 3.2 in Attachment 4.
5.2	Can a re-use dam and multi-source re-use dam be constructed on a waterway?	A dam constructed on a waterway, may be classified by G-MW as a "Re-use Dam", where: • the re-use dam is on an irrigated property within an Irrigation District covered by a Government endorsed Land and Water Management Strategy/Plan and Regional Surface Water Management and/or Nutrient Management Strategy; and • it can be demonstrated that the irrigated land on that property is able to be drained to that re-use dam; and • the property owner, at the time of construction of the re-use dam, has either a Whole Farm Plan (WFP) which is less than 5 years old and has been approved to the satisfaction of G-MW and the relevant local planning authority or a Plan prepared in accordance with the New Irrigation Development Guidelines to the satisfaction of G-MW; and • a construction licence is obtained for the re-use dam and its associated works, and the relevant conditions of the construction licence are adhered to; and • the construction of the re-use dam and, its associated works, do not adversely impact on the existing ecological values of the waterway and other downstream environmental beneficiaries (as assessed by DSE as part of the planning process); and • the location of the re-use dam can be justified from a financial perspective (i.e. the landholder can demonstrate that alternate sites are not economically viable); and • the location of the re-use dam can be demonstrated not to adversely affect neighbouring properties (i.e. through informing the neighbour that the re-use dam is to be constructed and identifying any of their concerns and through technical calculations which demonstrate that most of the yield for the dam is from within the Irrigation District and from the property on which the re-use dam is located).
5.3	Are there any restrictions on the maximum size of a new re-use dam constructed on a waterway?	Where approval is given by G-MW to construct a re-use dam on a waterway, and the re-use dam is sized greater than the volumetric capacity requirements of the Re-use Dams Order – 2002, the property owner will be required to secure a surface water entitlement for the additional volume of water above the volumetric capacity requirements of the Re-use Dams Order – 2002. In addition, a re-use dam constructed on a waterway can not be sized greater than 2 ML / 10 ha of irrigated land on the property containing the re-use dam. This threshold has been put in place to limit the volume of rainfall runoff that the property owner is able to capture from the catchment area above the re-use dam.
5.4	Can a new dam be classified by G-MW as a re-use dam if it is constructed on a regional drain?	A new dam constructed on a regional drain cannot be classified by G-MW as a re-use dam (i.e. a credit cannot be issued based on the irrigated area that drains to the dam). Where a new dam is constructed on a regional drain (i.e. Primary Drain or Community Surface Water Management Scheme (CSWMS)), all water diverted is to be metered, and the irrigator will be required to obtain a diversion licence/agreement for any water diverted from the re-use dam.
5.5	Can an existing re-use dam located on the proposed alignment of a new CSWMS be retained?	The existing re-use dam may be retained provided the re-use dam receives runoff from the property on which it is located and it meets the sizing requirements for a re-use dam (refer to Question 5.3.)

Cont.

E. Siting of Re-use Dams and Multi-source Re-use Dams (cont.)

No.	Question	Response
5.6	Can on-line sumps, from which water is not diverted or used, be installed on regional drains to achieve nature conservation benefits?	On-line sumps may be constructed on regional drains to achieve nature conservation benefits where their construction is approved by DSE.
5.7	Can an existing re-use dam, located on the proposed alignment of a regional drain, be reinstated without the owner needing to secure an additional surface water entitlement?	Independent of whether the existing re-use dam satisfies the volumetric capacity requirements of the Re-use Dams Order – 2002, it may be reinstated to the same volumetric size off the proposed alignment of a regional drain without the owner needing to secure an additional surface water entitlement, so long as: • the property owner has registered the volume in excess of the volumetric capacity requirements of the Re-use Dams Order – 2002 prior to the re-use dam being relocated; and • the re-use dam remains on the same Irrigated Property in and with the same Re-use Source Area. If the property owner has not registered their existing oversized re-use dam, the re-use dam can only be reinstated to the same volumetric size, if the owner secures a surface water entitlement equal to the volume of water above the volumetric capacity requirements of the Re-use Dams Order – 2002. If the property owner wishes to enlarge the re-use dam when it is being reinstated any increase in size from the original dam will be treated the same as an enlargement of any existing re-use dam.
5.8	Can an existing catchment dam, located on the proposed alignment of a regional drain, be reinstated without the owner needing to secure an additional surface water entitlement?	The catchment dam may be reinstated to the same volumetric size, but off the proposed alignment of a regional drain, without the owner needing to secure a surface water entitlement, so long as the owner has registered the volume of the dam with G-MW: • If the catchment dam receives tailwater runoff in its new location (i.e. is reclassified as a re-use dam), a surface water entitlement will need to be secured for any volume in excess of the volumetric capacity requirements of the Re-use Dams Order – 2002. • If the owner has not registered the existing catchment dam, the catchment dam can only be reinstated to the same volumetric size, if the property owner secures a surface water entitlement for the volume of water equal to the new dam size. • If the property owner wishes to enlarge the catchment dam when it is being reinstated any increase in size from the original dam will be treated the same as an enlargement of any other catchment dam.
5.9	Should a re-use dam or multi-source re-use dam constructed in the Barr Creek catchment be treated any differently?	Given that Barr Creek is classified as a "No Rain – No Outfall or Flow Drain", the property owner is entitled to construct a multi-source dam up to a maximum size of the total annual volume of the Low Flow Drainage Water Diversion Agreement on their property, without needing to secure an additional surface water entitlement for the dam. This assumes that the conditions outlined in the Questions in Section H.2 have also been satisfied.
5.10	How is a re-use dam, or multi-source re-use dam, located in a closed catchment to be treated?	Re-use dams or multi-source re-use dams located in a closed catchment (i.e. a terminal system) are to be treated the same as re-use dams and multi-source re-use dams located in any other catchment.

F. Sizing of New Re-use Dams and Multi-source Re-use Dams

No.	Question	Response
6.1	How large can a new re-use dam, or multi-source re-use dam, be constructed?	A new re-use dam or multi-sourced dam may be sized up to 1 ML for every 10 ha (i.e. 1 ML/ 10 ha) of irrigated (or proposed to be irrigated) land which is able to be drained to the re-use dam, for all irrigated plants other than rice and, up to 2.5 ML for every 10 ha of irrigated (or proposed to be irrigated) land which is able to be drained to the re-use dam for rice. Land proposed to be irrigated however, must be fully developed and irrigated within 5 years of the construction of the re-use dam or multi-source re-use dam (refer to Section 7.3). These volumes are documented in the Re-use Dams Order 2002 (refer to Attachment 2).
6.2	May a new re-use dam or multi-source re-use dam be sized above the volumetric requirements of the Re-use Dams Order 2002?	A new re-use dam or multi-source re-use dam may be sized above the volumetric requirements of the Re-use Dams Order 2002, so long as a surface water entitlement is secured for the volume in excess of the volumetric requirements specified in Response 6.1.
6.3	How are the volumes of re-use dams treated when there is more than one dam on the same property?	Where more than one re-use dam is located on the same property and they are hydraulically separated from each other they are treated as separate entities, with the requirements for a surface water entitlement being determined based on the irrigated area on the Property draining to each re-use dam, and the respective capacity of each re-use dam. See worked examples No. 2.1 to No. 2.7 in Attachment 4. Where the re-dams are suitably hydraulically connected to each other they are treated as combined storages and combined irrigated areas to the extent this can be achieved by the hydraulic connectivity. The need for a surface water entitlement to be secured will be based on the combined irrigated areas on the Property draining to each of the connected re-use dams, and the combined volumes of the respective re-use dams. See worked examples No. 2.5 to No. 2.7 in Attachment 4.
6.4	If the land use <u>permanently</u> changes from rice to another irrigated crop, and the existing re-use dam is sized based on the volume capacity limits for rice, does the property owner need to secure a surface water entitlement?	The property owner will either need to reduce the re-use dam to 1 ML/ 10 ha of irrigated land of the new crop or secure a surface water entitlement for the volume capacity of the re-use dam in excess of 1 ML/ 10 ha of irrigated land of the new crop.
6.5	Can a new re-use dam be sized larger where it captures irrigation tailwater runoff from an adjacent property?	The maximum size of the re-use dam, prior to the property owner needing to secure a surface water entitlement, is based on the area irrigated and drainable to the re-use dam, on the property containing the re-use dam. Any additional drainage water or runoff from irrigated land that reaches the re-use dam from an adjacent irrigated property is <u>not</u> to be considered in the sizing of the new re-use dam.
6.6	Where a re-use dam captures irrigation tailwater from an adjacent property, can the adjacent property owner still construct a re-use dam?	A property owner may construct a new re-use dam independent of whether irrigation tailwater runoff from their property historically entered a dam located on an adjacent property. The property owner building the new re-use dam would only need to secure a surface water entitlement where the re-use dam is sized above the volumetric capacity requirements of the Re-use Dams Order – 2002.
6.7	How is the Declaration of a Drainage Course over a waterway or regional drain impacted by the Farm Dams Legislation?	The presence of a Drainage Course Declaration over a waterway or drain has no impact on the conditions outlined in the Farm Dams legislation.

G. Whole Farm Plans

No.	Question	Response
7.1	What is a Whole Farm Plan?	Refer to 'Glossary of Terms'.
7.2	What are the Whole Farm Plan requirements relating to re-use dams?	Whole Farm Plans should detail at least the following which are relevant to the Water (Irrigation Farms Dams) Act 2002: • existing and proposed topographic levels • the location and size of the area irrigated or proposed to be irrigated • the sources of water for each area irrigated and proposed to be irrigated • the location and size (volume when full) of any existing and proposed new dam(s) • the area of irrigated land to be drained to each dam(s) • the location and size of any farm drains (piped or open) and pumping systems connecting reuse dams • the timeframe by which all of the agreed works will be undertaken (the property should be fully laid out to irrigation within 5 years of the construction of any proposed re-use dam).
7.3	Can the sizing and construction of a re-use dam be based on the proposed area to be laid out to irrigation?	If the property owner either has a: • Whole Farm Plan (WFP) (less than 5 years old), which is approved to the satisfaction of G-MW and the relevant local planning authority; or • a Plan which has been prepared in accordance with the New Irrigation Development Guidelines to the satisfaction of G-MW; the re-use dam may be sized based on the area of land that is to be ultimately irrigated. The planned irrigated area however, must be fully developed and irrigated within 5 years of the new re-use dam being constructed.
7.4	If a property owner is to build a re-use dam on a property that is being progressively laid out to irrigation based on an approved Whole Farm Plan, does the owner need to secure a surface water entitlement?	A property owner will only need to secure a surface water entitlement if the re-use dam is to be sized above the volumetric capacity requirements of the Re-use Dams Order – 2002, based on the area to be ultimately irrigated, as defined in the approved Whole Farm Plan (less than 5 years old) or Plan prepared in accordance with the New Irrigation Development Guidelines. If the planned area is not fully developed within the 5 years following the construction of the re-use dam, G-MW will request the property owner to either secure a surface water entitlement for that volume of the re-use dam which is sized above the volumetric capacity requirements of the Re-use Dams Order – 2002, at that point in time, or reduce the re-use dam size.

H. Re-use Dams Constructed for Nutrient Management Purposes

H.1 High Flow Diversion Storages

No.	Question	Response
8.1	What is a High Flow Diversion Storage?	Refer to 'Glossary of Terms'.
8.2	Does a property owner need to secure an additional surface water entitlement where a High Flow Diversion Storage, which is sized greater than volumetric capacity requirements of the Re-use Dams Order – 2002, is to be constructed?	A High Flow Diversion Storage can be constructed up to a maximum size of the total annual volume of the High Flow Drainage Water Diversion Agreement, without needing to secure an additional surface water entitlement where, • it is on an irrigation property within an Irrigation District; and • it collects irrigation runoff from the property on which it is located; and • the high flow drain diversion has been appropriately justified from a social, environmental and economic perspective and accepted as part of a Government endorsed Land and Water Management Strategy/Plan and Regional Surface Water Management and/or Nutrient Management Strategy; and • G-MW, the GBCMA or the NCCMA has undertaken appropriate hydrological assessments and entered into a volumetrically specified High Flow Drainage Water Diversion Agreement for water to allow water to be diverted into the dam from its drains. The hydrological assessments must be endorsed by G-MW; and • it is constructed in accordance with a Whole Farm Plan (less than 5 years old), which is approved to the satisfaction of G-MW and the relevant local planning authority, or a Plan prepared in accordance with the New Irrigation Development Guidelines; and • it is constructed in accordance with the local planning Authority's approvals process. See worked examples No. 5.1 and No. 5.2 in Attachment 4.
8.3	How are High Flow Diversion Storages that are suitably hydraulically connected to a re-use dam located on the same property to be treated?	Where a High Flow Diversion Storage has been constructed such that it is suitably hydraulically connected to a re-use dam located on the same Property, the **combined** volume of the High Flow Storage and re-use dam must not exceed the total annual volume of the High Flow Drainage Water Diversion Agreement. See worked example No. 5.1 in Attachment 4
8.4	What are the volumetric requirements where a High Flow Diversion Storage is not hydraulically connected to a re-use dam located on the same property?	Where a property contains a High Flow Diversion Storage and a re-use dam that are not hydraulically connected, the two storages are to be treated separately. That is, the High Flow Diversion Storage can be sized up to the total annual volume of the High Flow Drainage Water Diversion Agreement, without needing to secure an additional surface water entitlement, and the re-use dam can be sized such that it meets the volumetric capacity requirements of the Re-use Dams Order – 2002, without needing to secure an additional water entitlement. See worked example No. 5.2 in Attachment 4.
8.5	Is there a requirement to meter water extracted from drains under High Flow Diversion Agreements?	High Flow Diversion Storages must be metered if requested by G-MW however, given the difficulty and high costs associated with metering High Flow Diversions, there will generally be no requirement to meter High Flow diversions from the drainage system. The property owner must however, have a High Flow Drainage Water Diversion Agreement which is volumetrically specified with the required annual volume. The Agreement must be based on a catchment yield assessment, which has been endorsed by G-MW.

Cont.

H.1 High Flow Diversion Storages (cont.)

No.	Question	Response
8.6	Can a High Flow Diversion Storage be sized greater than the total annual volume of the High Flow Drainage Water Diversion Agreement?	The size of the High Flow Diversion Storage can only exceed the total annual volume of the High Flow Drainage Water Diversion Agreement, where High Flow water diversions are metered. Where metering does occur, the property owner must secure an additional surface water entitlement equal to any storage volume in excess of the High Flow Drainage Water Diversion Agreement volume.
8.7	What are the property owners' obligations if the volumetric limit of the High Flow Drainage Water Diversion Agreement is permanently reduced?	Where a High Flow Diversion Storage has been constructed such that its volumetric capacity is equal to the property owner's High Flow Drainage Water Diversion Agreement, and the High Flow Drainage Water Diversion Agreement is permanently reduced, the property owner must either: • reduce the size of their High Flow Storage to be equal to the new High Flow Drainage Water Diversion Agreement volume; or • meter the water taken under the High Flow Diversion Agreement and secure an additional surface water entitlement equal to the volume that the High Flow Storage is in excess of the new High Flow Drainage Water Diversion Agreement volume. Short-term/annual reductions in Diversion Volumes should not initiate the need to undertake either of the above actions.

H.2 Multi-source Re-use Dams Receiving Water Diverted from "No Rain-No Outfall or Flow Drains"

No.	Question	Response
8.8	What is a "No rain – No Outfall or Flow Drain"?	Refer to 'Glossary of Terms'.
8.9	Does a property owner need to secure a surface water entitlement where a new multi-source re-use dam is to be constructed that stores drainage water diverted from a "No Rain – No Outfall or Flow" Drain"?	A multi-source re-use dam may be constructed up to a maximum size of the total annual volume of the Low Flow Drainage Water Diversion Agreement, without needing to secure an additional surface water entitlement where, • it stores drainage water diverted from a regional surface drain classified as a "No Rain - No Outfall or Flow" Drain (i.e. this is a specific condition of the drain's construction/or operation was that low flow outfall, or flow past a particular point in the drain, was not to occur for say, environmental reasons.); and • the property owner has a Low Flow Drainage Water Diversion Agreement which is volumetrically specified and the volume of water diverted from the drain is metered; and • it is constructed on an Irrigation Property within an Irrigation District; and • it is constructed in accordance with a Whole Farm Plan (less than 5 years old), which is approved to the satisfaction of G-MW and the relevant local planning authority, or a Plan prepared in accordance with the New Irrigation Development Guidelines to the satisfaction of G-MW; and • it is constructed in accordance with the local planning Authority's approvals process; and • its construction has been appropriately justified from a social, environmental and economic perspective, and low flow drain diversion is specified as being required as part of, a Government endorsed Land and Water Management Strategy/Plan and Regional Surface Water Management and/or Nutrient Management Strategy; and • it collects irrigation runoff from the property on which it is located. See worked example No. 5.3 in Attachment 4.

Cont.

H.2 Multi-source Re-use Dams Receiving Water Diverted from "No Rain-No Outfall or Flow Drains" (cont.)

No.	Question	Response
8.10	What are the volumetric requirements where drainage water is diverted to two or more hydraulically connected re-use dams located on the same property?	Where drainage water is diverted from a "No Rain - No Outfall or Flow" Drain to two or more re-use dams located on the same property, and the re-use dams are hydraulically connected, the combined volume of the re-use dams must not exceed the total annual Low Flow Drainage Water Diversion Agreement volume.
8.11	Can CSWMS's be treated as "No Rain – No Outfall or Flow" Drains?	Where a condition of construction is that the outfall of flow is to be zero unless rainfall has recently occurred in the catchment, and G-MW has approved of the drain owners diverting water up to a specified annual volume, a CSWMS can be treated as a "No Rain – No Outfall or Flow" Drain.
8.12	What are the volumetric requirements where drainage water is diverted to **two or more** re-use dams which are **not** hydraulically connected but located on the same property?	Where drainage water is diverted from a "No Rain - No Outfall or Flow" Drain to two or more re-use dams located on the same property, and the re-use dams are not hydraulically connected, the combined volume of the re-use dams must not exceed the total annual Low Flow Drainage Water Diversion Agreement volume.
8.13	What are the volumetric requirements where drainage water is diverted to only one of two re-use dams located on the same property and the re-use dams are not hydraulically connected?	Where drainage water is diverted from a "No Rain - No Outfall or Flow" Drain to only one of two re-use dams located on the same property and the re-use dams are not hydraulically connected; • the volume of the re-use dams receiving Low Flow Drainage Diversion Water must not exceed the total annual Low Flow Drainage Water Diversion Agreement volume; and • the re-use dam can be sized such that it meets the volumetric capacity requirements of the Re-use Dams Order – 2002, without needing to secure an additional surface water entitlement. See worked examples No. 2.1 to No. 2.7 in Attachment 4.
8.14	Can a multi-source re-use dam be sized greater than the total annual volume of the Low Flow Drainage Water Diversion Agreement?	A multi-source re-use dam(s) may be sized greater than the total annual volume of the Low Flow Drainage Water Diversion Agreement, so long as any diversions to the re-use dam is metered and the property owner secures a surface water entitlement equal to the storage volume in excess of to the Low Flow Drainage Water Diversion Agreement volume. See the worked examples in Section 4 of Attachment 4.
8.15	What are the obligations of the property owner if the volumetric limit of the Low Flow Drainage Water Diversion Agreement is permanently reduced?	Where a multi-source re-use dam(s) has been constructed such that its volumetric capacity is equal to the property owner's Low Flow Drainage Water Diversion Agreement, and the Low Flow Drainage Water Diversion Agreement is permanently reduced, the property owner must either: • reduce the size of the multi-source re-use dam(s) to be equal to the new Low Flow Drainage Water Diversion Agreement volume; or • meter the flow (if this does not already occur) and secure an additional surface water entitlement equal to the volume the capacity of the multi-source re-use dam exceeds the new Low Flow Drainage Water Diversion Agreement volume. Short-term/annual reductions in Diversion Volumes should not initiate the need to undertake either of the above actions.

H.3 Nutrient Reduction Re-use Systems

No.	Question	Response
9.1	What is a Nutrient Reduction Re-use System Nutrient Reduction Re-use System (NRRS)?	Refer to 'Glossary of Terms'.
9.2	Does a property owner need to secure a surface water entitlement to construct a NRRS dam?	A NRRS dam can be constructed up to a maximum size of 2.5 ML/ 10 ha of irrigated land on the property on which it is located, without having to secure a surface water entitlement where, • the property is not serviced or planned to be serviced by a regional drain (i.e. Community Surface Water Management Scheme or Primary Drain); and • it is not economically, socially and/or environmentally feasible to construct a regional drain to service the Property; and • NRRSs are accepted as being the preferred way of providing regional surface drainage in the specific area in question as part of, a Government endorsed Land and Water Management Strategy/Plan and Regional Surface Water Management and/or Nutrient Management Strategy; and • it is constructed on an irrigation Property within an Irrigation District; and • it collects irrigation runoff from the property on which it is located; and • its construction has been appropriately justified from a social, environmental and economic perspective; and • it is constructed in accordance with a Whole Farm Plan (less than 5 years old), which is approved to the satisfaction G-MW and the relevant local planning authority, or a Plan prepared to the satisfaction G-MW in accordance with the New Irrigation Development Guidelines; and • it is constructed in accordance with the approvals process of the local planning Authority. See worked example No. 5.4 in Attachment 4.
9.3	Can a NRRS dam be constructed with a volumetric capacity greater than 2.5 ML/ 10 ha of irrigated land?	A NRRS may be sized greater than 2.5 ML/ 10 ha of irrigated land, if the property owner secures a surface water entitlement equal to the volume in excess of 2.5 ML/ 10 ha of irrigated land on the Property on which it is constructed.

I. Metering

No.	Question	Response
10.1	What are the metering requirements relating to new re-use dams?	Metering is not required where a new re-use dam satisfies the volumetric capacity requirements of the Re-use Dams Order – 2002, nor is it required where the re-use dam is sized above the volumetric capacity requirements of the Re-use Dams Order – 2002, but still fulfils the definition of a re-use dam.
10.2	What are the metering requirements relating to new multi-source re-use dams?	For all new multi-source re-use dams, the irrigation runoff from the Re-use Source Area and catchment rainfall runoff component of supply are not required to be metered. Water supplied from other sources, such as G-MW's supply system, groundwater, waterways, and drainage diversion must be metered where required under the property owner's licensing arrangements and/or conditions of extraction of water from those water sources.
10.3	Who is required to meet the costs associated with metering?	The cost of metering must be met by the re-use dam owner, multi-source re-use dam owner or licence holder.

J. Transitional Support Measures

No.	Question	Response
11.1	Do the transitional support measures apply to property owners located in gazetted Irrigation Districts?	To be eligible for Farm Dam Transitional Support Measures the applicant must be proposing to construct a dam that is: • on a property outside of a gazetted Irrigation Districts • constructed off a waterway • used for irrigation or commercial purposes. The Farm Transitional Support Measures are not available for: • existing dams • the construction of re-use dams solely to collect runoff from irrigation • aesthetic or domestic and stock dams. *Refer to Section 5 – Guidelines for Transitional Support Measures*

K. Sub-Division of Properties

No.	Question	Response
12.1	Where a property is sub-divided, are the owners of the sub-divided lots entitled to construct a new re-use dam(s)?	Where a property is sub-divided, and the sub-divided lots do not contain a re-use dam, the property owners of each of the sub-divided lots are entitled to construct a new re-use dam(s) up to the volume specified in the Re-use Dams Order – 2002 and based on the area irrigated on only the lot in question, without having to secure an additional surface water entitlement. See the worked examples in Section 6 of Attachment 4.
12.2	Can a property owner retain a registration licence following subdivision of a Property?	Where a property owner has a registration licence, at the time of subdivision, the property owner must convert it to a standard take and use (diversion) licence.
12.3	Can a property owner retain a standard take and use (diversion) licence after a Property is sub-divided?	Where a property has an existing re-use dam(s) that is in excess of the volumes specified in the Re-use Dams Order – 2002, and the property owner has a standard take and use (diversion) licence, that licence may be retained on any of the subdivided lots after sub-division.
12.4	Can a property owner divide the take and use (diversion) licence between more than one re-use dam when a Property is subdivided?	Where a property has more than one re-use dam with a take and use (diversion) licence at the time of sub-division, when the property is sub-divided, the sub-divider may divide the volume of the take and use (diversion) licence between more than one of the existing re-use dams, or lots on the sub-division, in whatever proportion the subdivider chooses. Refer to Question 12.5.

K. Sub-Division of Properties (cont.)

No.	Question	Response
12.5	What are the obligations of a property owner when the property is sub-divided and it contains an existing re-use dam?	If the existing re-use dam exceeds the volumetric capacity requirements of the Re-use Dams Order 2002, based on the Irrigated Area on each of the respective new lots, the lot owner which has the existing re-use dam must either: • secure a surface water entitlement, for the lot in question, based on the formula: $X = C - R - L$ where considering each lot separately: X = additional surface water entitlement needed to be secured by the property owner C = the actual total volumetric storage capacity of the re-use dam(s) on each lot R = the allowable volumetric capacity of the re-use dam as specified in the Re-use Dams Order – 2002 and the Irrigated Area on only that lot L = the current take and use (diversion) licence volume allocated to the new lot (where one exists). **Or** • reduce the size of the existing re-use dam, based on the following formula: $Y = C - R - L$ where considering each lot separately: Y = the volume by which the property owner must reduce the re-use dam(s) C = the actual total volumetric storage capacity of the re-use dam(s) on each lot R = the allowable volumetric capacity of the re-use dam as specified in the Re-use Dams Order – 2002 and the Irrigated Area on only that lot L = the current take and use (diversion) licence volume allocated to the new lot (where one exists). The owner(s) of any other lots on that subdivision without re-use dams are entitled to construct a re-use dam up to the volumetric capacity requirements of the Re-use Dams Order – 2002, without needing to secure a surface water entitlement. See the worked examples No. 6.5 and No. 6.6 of Attachment 4.
12.6	What are the obligations of a property owner when a property is sub-divided and it contains more than one existing re-use dam?	If, considering each lot of the sub-division separately, the sum of the volume of the existing re-use dams on each lot exceeds the volumetric capacity requirements of the Re-use Dams Order – 2002, based on the Irrigated Area of the new sub-divided lots, each lot owner must either: • secure an additional surface water entitlement based on the formula noted in Question 12.5; **or** • reduce the size of one or more of their existing re-use dams, based on the formula noted in Question 12.5. See the worked examples No. 6.5 and No. 6.6 of Attachment 4.

K. Sub-Division of Properties (cont.)

No.	Question	Response
12.7	How is a re-use dam to be treated where, as a result of sub-division, it is straddling a property boundary?	Where as a result of sub-division, an existing re-use dam straddles a property boundary (i.e. it is part of more than one Lot), the capacity of the dam will be divided between the Lots in question based on the volume of the re-use dam calculated to be in each lot when the re-use dam is full. Each lot will then be considered separately as per Question 12.5 with that part of the shared storage on each lot being considered in conjunction with any other re-use dams on each lot. Refer to worked examples No. 6.7 and No. 6.8 in Attachment 4.

L. Dams Constructed for Other Purposes

No.	Question	Response
13.1	Does a surface water entitlement need to be secured where a retardation basin is constructed as part of a rural irrigation drainage system?	Provided water stored in the retardation basin is not used for any purpose other than to reduce the peak drainage flow (including aesthetic purposes), a surface water entitlement does not need to be secured. Where water is used for irrigation or commercial purposes from the retardation basin, a surface water entitlement will need to be secured and the usage is to be metered.
13.2	Does a surface water entitlement need to be secured where a retardation basin is constructed as part of an urban drainage system?	Due to the highly impervious nature of an urban catchment, water stored in the retardation basin for aesthetic purposes or used for irrigation within the serviced urban catchment, will not require a surface water entitlement. Any other irrigation or commercial use of water stored in the retardation basin will require a surface water entitlement to be secured and the usage is to be metered.
13.3	Is a quarry or mine a dam?	For the purposes of administering the Water Act 1989, a quarry or mine (which include G-MW borrow pits) will not be considered to be a dam, even though it may hold water, if the collection of the water in the excavation is incidental rather than by design, is small in scale and occurs due to site specific geologic or geomorphic conditions. *Further details relating to the requirements for quarries and mines are presented in the Guidelines for Quarries and Mines prepared by DSE (2004).*

Cont..

L. Dams Constructed for Other Purposes (cont.)

No.	Question	Response
13.4	Under what circumstances does a surface water entitlement need to secured in relation to a quarry or mine?	A surface water entitlement will only need to be secured, in relation to a quarry or mine, where: • water is taken from a waterway and stored in the quarry or mine; and/or • groundwater is taken or used from a quarry or mine; and/or • the quarry or mine is rehabilitated to become a lake or water feature, and the water stored in the lake or water feature is used for irrigation or commercial purposes, and the storage volume is sized above the volumetric capacity requirements of the Re-use Dams Order – 2002 (where water is used for irrigation purposes) (i.e. the lake or water feature would be classified, and treated, as a re-use dam). *Further details relating to the requirements for quarries and mines are presented in the Guidelines for Quarries and Mines prepared by DSE (2004).*
13.5	Does a surface water entitlement need to be secured where a re-use dam is sized above the volumetric capacity requirements of the Re-use Dams Order – 2002, but its primary purpose is to satisfy EPA conditions relating to wastewater disposal?	A property owner, supplied with grey water/reclaimed water by an Urban Water Supply Authority water treatment plant or an industry (such as Bonlac, or Murray Goulburn) with an EPA discharge licence, or needing to dispose of its own effluent on-site, is required to: • contain the runoff from a 1:10 year rainfall event their property; and • adher to any discharge licensing requirements. Under these circumstances a surface water entitlement only needs to be secured where the re-use dam is sized above the EPA requirements for grey water/reclaimed water retention. If the Urban Water Supply Authority Water or industry ceases to supply water to the property, and the property owner continues to use water from the dam for irrigation purposes, the property owner must either secure a surface water entitlement for that component of the re-use dam above the volumetric capacity requirements of the Re-use Dams Order – 2002, or reduce the size of the re-use dam to satisfy the volumetric capacity requirements of the Re-use Dams Order – 2002.
13.6	Does a surface water entitlement need to be secured where a re-use dam captures dairy shed effluent runoff?	A surface water entitlement only needs to be secured where the re-use dam captures both dairy shed effluent runoff and irrigation tailwater runoff, and is sized above the volumetric capacity requirements of the Re-use Dams Order – 2002. If the dam only captures dairy shed effluent runoff, a surface water entitlement does not need to be secured, even if the water from the dam is used for irrigation purposes.
13.7	Does a surface water entitlement need to be secured where a dam is constructed to temporarily capture floodwater to mitigate flooding impacts?	Where a dam is constructed for flood mitigation purposes and all of the water is ultimately released from the dam for non-irrigation or commercial purposes (i.e. if water is not permanently stored for any purpose (including aesthetic purposes), a surface water entitlement does not need to be secured. Where water is captured temporarily and used for commercial, irrigation or aesthetic use, the requirements are those which apply to that particular dam type (e.g. re-use, catchment dam or aesthetic dam).
13.8	Does a surface water entitlement need to be secured where a dam is constructed for erosion control or nature conservation purposes.	A surface water entitlement does not need to be secured for dams constructed for erosion control or for nature conservation purposes, where these dams have been designed specifically to provide environmental benefits and have been approved by DSE. If a dam constructed for erosion control or nature conservation purposes, is constructed on a waterway, a construction licence must be obtained for the dam and its associated works, and the relevant conditions of the construction licence will need to be adhered to.

4. Guidelines for Amending "Re-use Dams Order – 2002"

The Re-Use Dams Order 2002 is an integral part of the Irrigation Farm Dams Compendium of Ministerial Guidelines and Procedures. The Order, which is signed by the Minister administering the Water Act 1989, outlines the criteria that must be satisfied before a dam can be classified as a re-use dam under the legislation. It also clearly states the design capacity requirements of re-use dams prior to the need for take and use (diversion) licence to be obtained.

In preparing this paper it was recognised that the criteria outlined in the Re-use Dams Order 2002 was based on the best available information at the time and generally related to specific irrigated industries, while representing the industry as a whole. In the future, the Minister or a particular irrigation industry may seek to amend the Re-use Dams Order 2002.

While the Minister has the right to make unsolicited changes to the Compendium of Ministerial Guidelines and Procedures, the process for initiating changes to the Compendium, by others impacted by its implementation (e.g. the irrigation industry groups), is relatively unclear.

In consultation with DSE, the following guiding principles were developed to alleviate any uncertainty as to the process to be followed by those involved in the irrigation industry, other than the Minister, seeking to amend the "Re-use Dams Order 2002":

- The request to vary the Re-use Dams Order 2002 must be endorsed and driven by an Irrigation Industry Association or an organisation at a similar level (the sponsor).
- Where possible, the request must be pertinent to the relevant industry on a Statewide basis. However, so long as the final outcomes are endorsed by the sponsor, the work required to demonstrate the need for a variation to the Re-use Dams Order 2002 may be initiated by an individual or regional group.
- Where facts or trials to demonstrate the need for a variation to the Re-use Dams Order 2002 are required, the Government submission process is to be managed by either a Rural Water Authority (such as G-MW) or, where the variation would apply across more than one Authority, cooperatively by multiple Authorities. If more than one Rural Water Authority is involved one Authority must become the lead Rural Water Authority.
- It will be the responsibility of the managing Rural Water Authority to liaise with the other Water Authorities across the State and DSE in the development of any variation to Re-use Dams Order 2002.
- Any proposed variation to the Re-use Dams Order 2002 must be demonstrated to be based on the agreed "Best Management Practices" for the relevant industry type.
- Once the need and acceptability is demonstrated and endorsed by the sponsor, managing Rural Water Authority and DSE, the variation to the Re-use Dams Order 2002 for the relevant industry type will be submitted to the Minister by DSE for approval
- Following approval by the Minister, the Re-use Dams Order 2002 will be amended by DSE to include the specific design criteria for the relevant irrigation industry.

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Attachment 1 – Glossary of Terms

Term	Definition
Aesthetic Dam	A dam from which water is not used for domestic and stock, irrigation and commercial purposes.
Closed Catchment	A terminal drainage system which normally drains to an inland waterbody.
Diversion Licence	Refer to Take and Use (Diversion) Licence.
Exchange Rates Order	Is an Order issued by the Minister under the Water Act 1989 which defines the rules for adjusting water entitlement volumes when permanent water transfers between different catchments or water sources occur. Exchange Rates Order 2002 is an example (refer to Attachment 3).
High Flow Diversion Agreement	An Agreement with G-MW that allows a property owner to take water from a drain at anytime when drain flows are above 50% of the design drain flow depth.
High Flow Diversion Storage	A dam which is at least 50 ML in size, which receives water diverted from a regional drain (i.e. Primary Drain) in accordance with High Flow Diversion Agreement with the Drain owner. The volume water allocation under the Agreement is determined by G-MW and takes into account the water quantity and water quality requirements of the receiving waters.
Irrigated Area	Irrigated Area must be on a Property (see definition) and is defined as follows (also refer to the worked examples in Sections 1 and 2 of Attachment 4): • Land must be either; - laid out to irrigation and have been irrigated at some point in time in the last five years (refer to worked example No. 2.1 in Attachment 4), or - planned to be laid out for irrigation as demonstrated by the property owner having either an approved Whole Farm Plan (WFP), which was no older than 5 years at the time of dam construction or a Plan prepared in accordance with the New Irrigation Development Guidelines to the satisfaction of G-MW. The Plan should specify the area to be laid out to irrigation, and any existing and proposed dams (refer to worked example no. 2.4 in Attachment 4). The planned irrigated area must be fully developed and irrigated within 5 years of the dam being built. • Land laid out to irrigation must have been irrigated during the last 5 years (except where it is a new development) but does not have to be watered every year. • The area may be irrigated with water received from G-MW's supply system, G-MW drainage system, re-use dam, a catchment dam and/or a groundwater bore. • The runoff from the land irrigated must outfall to the re-use dam. • The area defined as Irrigated may include minor works associated with irrigated land including standard internal tracks, supply channels and drains, where this area cannot be easily measured and separated from the actual area of land on the Property that is irrigated. Areas do not include areas of dryland farming, native vegetation or un-irrigated crops, etc.. All of the land laid out to irrigation must be on the same Property but does not have to be contiguous on that Property refer to worked examples No. 2.2 to No. 2.7 in Attachment 4. Where the land laid out to irrigation is not contiguous, or is spread over separate sub-catchments, for the irrigated areas to be considered collectively in sizing the re-use dams, the re-use dams must be shown to be appropriately hydraulically connected such that the drainage water can be transferred between the irrigated areas or the separate re-use dams. See worked examples No. 2.5 to No. 2.7 in Attachment 4.
Irrigation District	Any area of land declared by Order of the Minister under the Water Act 1989 to be an Irrigation District.

Term	Definition
Irrigation Tailwater	Any irrigation water which leaves an irrigation bay (excludes run-off resulting from rainfall > 10 mm in a catchment). That is, it assumes that run-off from up to 10 mm of rain contains irrigation water, or would not have occurred if there was no irrigation.
Low Flow Diversion Agreement	An Agreement with G-MW that allows a property owner to extract water from a drain during the irrigation season. The volume of water that can be extracted is generally dependent on where the water is being extracted and the available flows in any one particular year.
Mine	Refer to 'Quarry'.
Multi-source Dam	A dam that receives water from two or more of the following sources, G-MW's supply channel, a G-MW owned drain or a groundwater bore. See worked example in section 4.1 of Attachment 4
Multi-source Re-use Dam	A dam that receives water from two or more different sources of water, one of which is irrigation tailwater runoff. See worked example in section 4.2 of Attachment 4.
New Irrigation Development Guidelines	These guidelines include similar elements to those considered as part of the preparation of a Whole Farm Plan, however the assessment and approvals process is more detailed and formalised (e.g. sign-off is required by the relevant referral authority for each component of the guidelines). In general, the New Irrigation Development Guidelines apply to all irrigation development outside of the Irrigation Districts, and for land within the Irrigation Districts that has not previously been irrigated.
"No Rain – No Outfall or Flow Drain"	A regional surface drain which is managed by G-MW, the GBCMA or the NCCMA such that non-rainfall generated drainage water either does not outfall from the drain or does not flow through certain sections of the drain, for environmental and/or water quality management purposes. See worked example No. 5.3 of Attachment 4.
Nutrient Reduction Re-use System (NRRS)	A NRRS is a larger scale re-use dam and drainage network constructed in areas where the construction of regional drains is not feasible. A NRRS has sufficient storage capacity to manage and store rainfall runoff either from a number of small runoff events, or from one large rainfall event. NRRSs also cater for the management of irrigation tailwater in areas where their use will protect the downstream values from adverse environmental, social and financial impacts. A NRRS is not the same as 'High Flow Diversion Storages' which are used to store water pumped or otherwise diverted from Primary Drains during high drain flow events. See worked example no. 5.4 of Attachment 4.
Ornamental Dam	Refer to 'Aesthetic Dam'.
Property	Property is defined as follows (also refer to the worked examples in Section 1 of Attachment 4): • Must be located in an Irrigation District (as defined in the Water Act 1989) • Must be all, or part, of a single register entry in the Register of Lands with a Water Supply Authority Service Number (A Holding as defined in the Water Act 1989) • Must comprise of a single land title, or multiple whole land titles (i.e. cannot be part of a title) (refer to worked example No. 1.2 and No. 1.3 in Attachment 4) • If comprising more than one land title, the adjacent titles must be contiguous, with land title boundaries having a common boundary of at least 10 m (refer to worked examples No. 1.3 and No. 1.4 in Attachment 4) • The area covered by the land titles must be operated as a single farming enterprise under a formal company or written partnership arrangement. • The property does not have to totally contain any drainage line or the entire natural catchment of its re-use dam(s). • The property must contain the dam or re-use dam in question.
Quarry	A site where stone, metals, minerals or construction materials are extracted. In relation to an irrigation District a Quarry can also mean a borrow pit, where clay is excavated to refurbish earthen water supply channel and drain banks.

Term	Definition
Retardation Basin	A temporary storage used to reduce the peak flow generated from a rainfall event. Typically, they are open excavated storages that have a restricted outfall capacity. Flow in excess of the discharge capacity is stored and released as capacity becomes available. Discharge is either by gravity or by pumping. Strictly speaking retardation basins are not designed to hold water for extended periods.
Re-use Dam	A dam that receives irrigation tailwater runoff. This runoff may be from one or more Irrigated Areas located on the one Property in an Irrigation District. Also refer to Attachment 2 for the Re-use Order - 2002 definition.
Re-use Source Area	An Irrigated Area, located on one Property, in an Irrigation District where the runoff from that irrigated area is collected and re-used on that property either directly or via a dam.
Rural Drainage System	A network of open channels and/or pipes which transports drainage water from an area of land of which the majority of this area is currently irrigated or laid out for future irrigation.
Surface Water Entitlement	Is a volumetric entitlement to water specified under a water right, take and use (diversion) licence or agreement issued by G-MW, in accordance with the *Water Act 1989*, to a person or company or partnership.
Take and Use (Diversion) Licence	Is a licence issued by G-MW to take and use water from either a waterway, spring or soak, groundwater or dam. They are mainly issued for irrigation or commercial use but in some instances where large volumes are diverted are issued for domestic and stock use.
Urban Drainage System	A network of open channels and/or pipes which transports drainage water from an area of land of which the majority of this area is zoned urban/residential.
Waterway	Is defined in the Water Act 1989, as: a. a river, creek, stream or watercourse; or b. a natural channel in which water regularly flows, whether or not the flow is continuous; or c. a channel formed wholly or partly by the alteration or relocation of a waterway as described in (a) or (b); or d. a lake, lagoon, swamp or marsh, being – i. a natural collection of water (other than water collected and contained in a private dam or a natural depression on private land) into or through or out of which a current that forms the whole or part of the flow of a river, creek, stream or watercourse passes, whether or not the flow is continuous; or ii. a collection of water (other than water collected and contained in a private dam or a natural depression on private land) that the Governor in Council declares under Section 4 (1) to be a lake, lagoon, swamp or marsh; or *e.* land on which, as a result of works constructed on a waterway as described in paragraph (a), (b) or (c), water collects regularly, whether or not the collection is continuous; or f. land which is regularly covered by water from a waterway as described in paragraph (a), (b), (c), (d) or (e) but does not include any artificial channel or work which diverts water away from such a waterway; or g. of any land described in paragraph (f) forms part of a slope rising from the waterway to a definite lip, the land up to that lip.
Whole Farm Plan	Is a series of maps of the farm showing existing features, including natural features, and irrigation and farm management infrastructure. The maps and supporting documentation also outline the improvements to be made on the property in relation to farm management, engineering requirements (i.e. farm layout and drainage requirements), protection and enhancement of environmental features, and agronomic aspects of the property, all of which are aimed at improving the property owners future financial sustainability.

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Attachment 2 – Re-Use Dam Order 2002

Water Act 1989

I, Sherryl Garbutt, Minister for Environment and Conservation, make the following Order:

RE-USE DAMS ORDER 2002

1. This Order is called the Re-use Dams Order 2002.
2. The purpose of this Order is to establish-
   a) design criteria for private dams for the re-use of water; and
   b) a formula to determine the maximum volume of water that may be re-used each year by a person by means of a re-use dam.
3. This Order is made under the powers conferred by Section 80A of the *Water Act* 1989.
4. This Order takes effect on and from the date it is published in the Government Gazette.
5. For the purpose of this Order a re-use dam includes any private dam that-
   a) is used to capture irrigation drainage water so that it can be reused; or
   b) is used to store effluent from washing down a dairy; or
   c) as a result of the provisions of any Act requires water to be contained in a dam to prevent nutrients or chemical residue from escaping from the site;

   - but does not include a dam that is constructed on a waterway.

Design Criteria

6. The capacity of a re-use dam shall not exceed the capacity as calculated in accordance with the following table.

Type of plant irrigated	Capacity of a re-use dam
All plants other than rice	1 megalitre for every 10 hectares irrigated
Rice	2.5 megalitres for every 10 hectares irrigated

Formula to determine the maximum volume of water that may be re-used

7. The maximum volume of water that a person or a group of people may re-use each year by means of a re-use dam or a jointly operated re-use dam that complies with the design criteria is unlimited.

Dated 1/7/2002

SHERRYL GARBUTT
Minister administering the Water Act 1989

Attachment 3 – Exchange Rates Order 2002

Water Act 1989

I, Sherryl Garbutt, Minister for Environment and Conservation, make the following Order:

EXCHANGE RATES ORDER 2002

1. This Order is called the Exchange Rates Order 2002.

2. The purpose of this Order is to set rules for adjusting entitlement volumes when permanent transfers are made of:

   a) licences issued under Part 4 of the Act, and

   b) water rights under Part 11 of the Act.

3. This Order is made under the powers conferred by section 22(6) of the **Water Act 1989**.

4. This Order applies to Victorian catchments north of the Great Dividing Range.

5. This Order takes effect on and from the date it is published in the Government Gazette.

6. In this Order –

   "Act" means the **Water Act 1989**;

   "catchment dam" means a private dam which harvests rainfall run-off, located on or off a waterway, and which may include a re-use dam within an irrigation district or area;

   "exchange rate" means a factor by which the volume of an entitlement is multiplied when it is transferred;

   "regulated trading zone" means one of the zones listed in Schedule 2 in which entitlements are supplied as part of a public irrigation district or area or from a waterway where flows are regulated by a public storage;

   "entitlement" means a right to use a volume of water under section 51 and 222 of the Act;

   "unregulated waterway" means a waterway where flows are not regulated by a public storage.

   "winter fill" means the harvesting of water during the months July to October inclusive.

7. If an application to transfer an entitlement is made from a regulated trading zone or zones listed in column 1 of Schedule 1 to a person who is subsequently issued with a winter fill licence from an unregulated waterway or catchment dam, the volume of water deemed to be transferred is calculated in accordance with the exchange rate listed in column 2 opposite that regulated trading zone or zones.

8. If an application to transfer an entitlement is made from a winter fill licence from an unregulated waterway or catchment dam to a person who is subsequently issued with an entitlement in a regulated trading zone or zones listed in column 1 of Schedule 1, the volume of water deemed to be transferred is calculated in accordance with the exchange rate inversely listed in column 2 opposite that regulated trading zone or zones.

9. The exchange rate to apply to a transfer not specified in Schedule 1 or in any other legal instrument under the Act or under the Murray-Darling Basin Agreement, is 1.00.

Dated: 14·10·02

Sherryl Garbutt
Minister administering the **Water Act 1989**

Schedule 1: Exchange rates for trade between regulated trading zones and unregulated waterways or catchment dams

Regulated trading zone or zones	Exchange rate
Zones 6, 7 (Murray system above Nyah)	1.48
Zone 8 (Murray system below Nyah)	1.19
Zones 9A & 9B (Ovens)	1.00
Zones 1A, 1B, 3, 5A (Goulburn/Loddon system)	1.61
Zone 5B (Bullarook)	1.00
Zone 2A & 2B (Broken system)	1.00
Zone 4A (Campaspe system)	1.88
Zone 4B (Coliban System)	1.19
Zone 21 (Wimmera irrigation system)	1.00

Schedule 2: Trading zones for regulated supply systems in northern Victoria

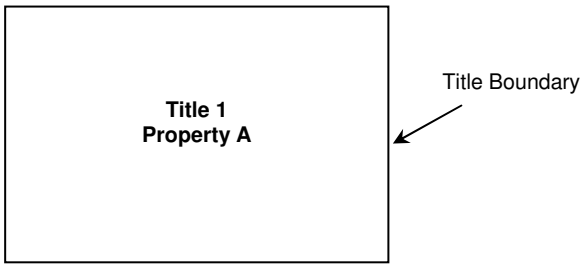
Zone	District/area or waterway
1	**Greater Goulburn** 1A: Lake Eildon; Goulburn River from Lake Eildon to Goulburn Weir; Lake Nagambie; Shepparton, Central Goulburn, Rochester and Pyramid-Boort irrigation areas except the Boort sub-area; Lower Broken Creek. 1B: Boort sub-area.
2	**Broken** 2A: Lake Nillahcootie; Broken River from Lake Nillahcootie to top of Casey's Weir pool. 2B: Casey's Weir pool; Broken River from Casey's Weir pool to the Goulburn River; Broken Creek from Broken River to Waggarandall Weir; Lake Mokoan.
3	**Lower Goulburn** Goulburn River below Goulburn Weir.
4	**Campaspe** 4A: Lake Eppalock; Campaspe River from Lake Eppalock to Waranga Western Channel; Campaspe irrigation district. 4B: Coliban channel system.

5	**Loddon** 5A: Tullaroop Reservoir; **Tullaroop Creek from Tullaroop Reservoir down to Loddon River;** Cairn Curran Reservoir; Loddon River from Cairn Curran Reservoir down to Loddon Weir; **Serpentine Creek system above Bear's Lagoon.** 5B: Hepburns Lagoon, and downstream to Bullarook Creek; Newlyn Reservoir; **Bullarook Creek from Newlyn Reservoir to Lawrence Weir.**
6	**Hume to Barmah** Lake Hume; **River Murray from Lake Hume to Barmah Choke;** Lake Dartmouth; Mitta Mitta River below Lake Dartmouth; **Murray Valley irrigation area, excluding Lower Broken Creek.**
7	**Barmah to Nyah** River Murray from Barmah Choke to the northern boundary of the Woorinen irrigation area; Torrumbarry irrigation area; **Tresco irrigation district.**
8	**Nyah to South Australian border** River Murray from the northern boundary of the Woorinen irrigation area to the South Australian border; Nyah irrigation district; Robinvale irrigation district; Red Cliffs irrigation district; Merbein irrigation district; **First Mildura irrigation district.**
9	**Ovens** 9A: Lake Buffalo; Buffalo River downstream of Lake Buffalo; Ovens River downstream of the confluence with the Buffalo River. 9B: Lake William Hovell; King River downstream of Lake William Hovell.
21	**Wimmera** Coromby, Murtoa, Drung, Riverside, Haven, Burnley and Quantong areas; Horsham weir pool.

Attachment 4 – Worked Examples

1. Definition of a Property in an Irrigation District

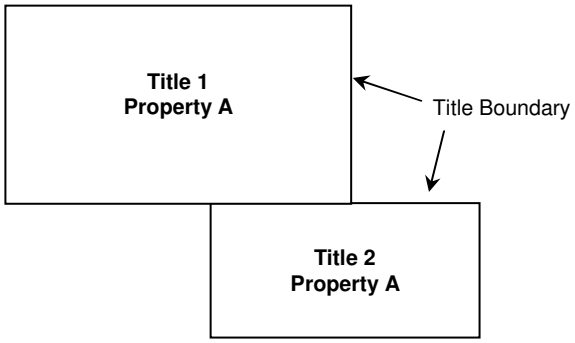
1.1. Single Land Title Property



Defined as a Single Property

- Property is located in an Irrigation District
- Single entry in G-MW's Register of Lands with a Service Number
- A whole land title (can not be part of a title)
- Operated as a single farming enterprise

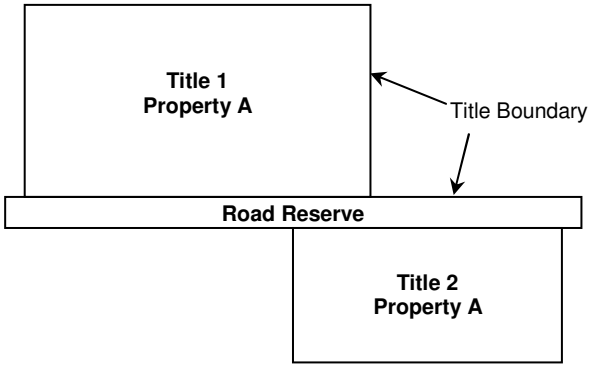
1.2. Multiple Land Title Property (Contiguous) – Example A



Defined as a Single Property

- Property is located in an Irrigation District
- Single entry in G-MW's Register of Lands with a Service Number
- Two or more whole land titles
- Adjacent land titles must be contiguous, with a sufficient section of adjoining land to allow the transfer of water between the two land titles
- Two areas are operated as a single farming enterprise

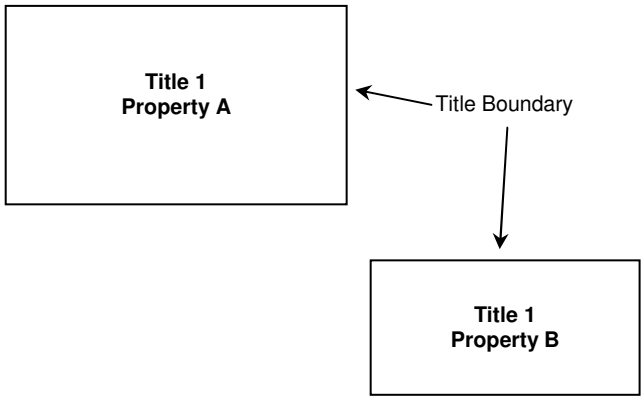
1.3. Multiple Land Title Property (Contiguous) – Example B



Defined as a Single Property

- Property is located in an Irrigation District
- Single entry in G-MW's Register of Lands with a Service Number
- Two or more whole land titles
- Adjacent land titles must be contiguous, with a sufficient section of adjoining land to allow the transfer of water between the two land titles
- Two areas may be separated by a road reserve or other public reserve which can be crossed with a drainage water conveyance device
- Two areas operated as a single farming enterprise

1.4. Multiple Land Title Property (Non-Contiguous)

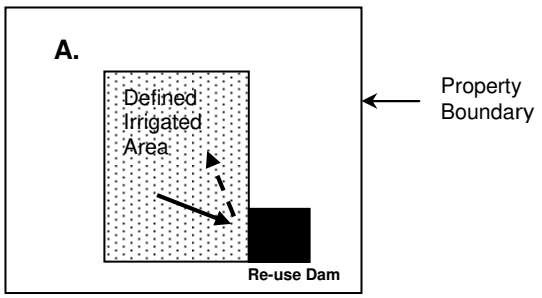


Defined as Two Properties

- Property is located in an Irrigation District
- Single entry in G-MW's Register of Lands with a Service Number
- Two land whole titles
- Two areas are operated as a single farming enterprise
- Land titles are not contiguous (See examples 1.2, and 1.3).

2. Definition of the Irrigated Area in an Irrigation District

2.1. Single Irrigated Area



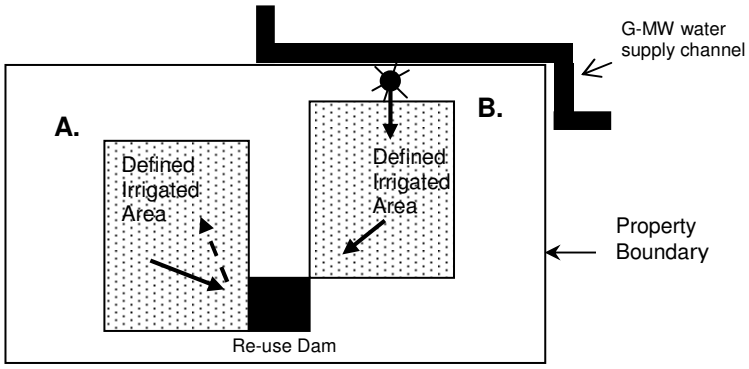
Single Irrigated Area

- Defined as a single Property
- Single area laid out to irrigation
- Area irrigated in last 5 years
- Irrigation area runoff must flow to the dam

Example: ***If*** *Area A = 100 ha*
Then the defined Irrigated Area = 100 ha

(Re-use dam can be sized up to 10 ML without needing to secure a surface water entitlement for the re-use dam).

2.2. Multiple Irrigated Areas – Treat collectively



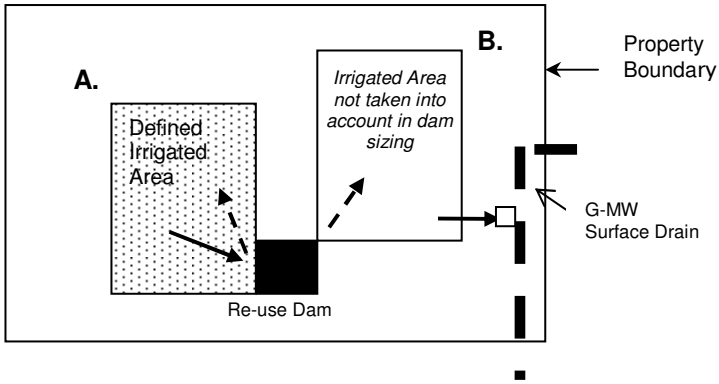
Multiple Irrigated Areas (One Re-use Dam)

- Defined as a single Property
- Two non-contiguous areas laid out to irrigation
- Both areas irrigated in the last 5 years
- Irrigation area runoff must flow to the dam
- Both areas outfall to a single re-use dam

Example: ***If*** *Area A = 100 ha and Area B = 100 ha*
Then the defined Irrigated Area = 200 ha

(Re-use dam can be sized up to 20 ML without needing to secure a surface water entitlement for the re-use dam).

2.3. Multiple Irrigated Areas – Area A only considered



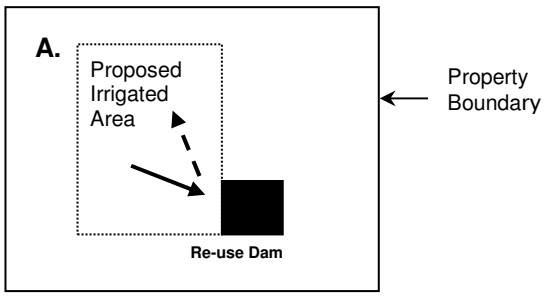
Multiple Irrigated Areas (Outfall to a G-MW Drain)

- Defined as a single Property
- Two non-contiguous areas laid out to irrigation
- Both areas irrigated in the last 5 years
- Runoff from Area A flows to the dam
- Runoff from Area B outfalls directly to a regional drain or another catchment

Example: ***If*** *Area A = 100 ha and Area B = 100 ha*
Then the defined Irrigated Area = 100 ha

(Re-use dam can be sized up to 10 ML without needing to secure a surface water entitlement for the re-use dam).

2.4. Single Area Planned to be Irrigated



Area Planned to be Irrigated within 5 Years

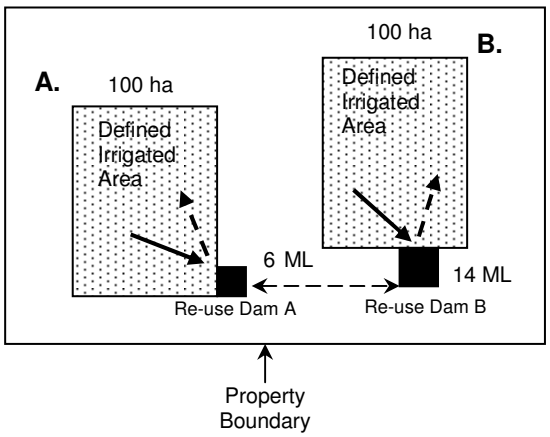
- Defined as a single Property
- Single or multiple areas planned to be laid out to irrigation
- Either a Whole Farm Plan has been prepared for the property (less than 5 years old), or a Plan has been prepared for the property in accordance with the New Irrigation Development Guidelines
- Irrigation area runoff must be able to flow to the dam
- The planned irrigated area must be fully developed and irrigated within 5 years of the new re-use dam being constructed.

Example: ***If*** *Area A = 100 ha*
Then the defined Irrigated Area = 100 ha

(Re-use dam can be sized up to 10 ML without needing to secure a surface water entitlement for the re-use dam).

2. Definition of the Irrigated Area in an Irrigation District (Cont.)

2.5. Multiple Irrigated Areas – Treat collectively

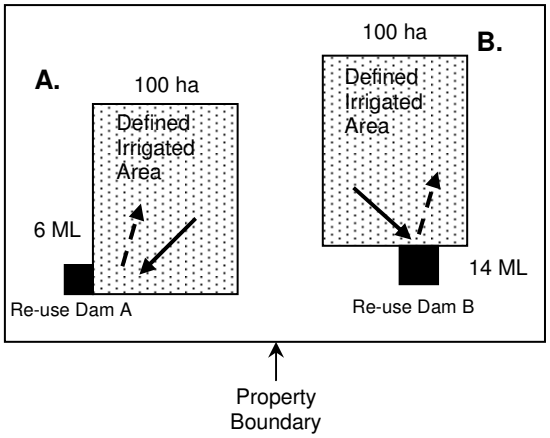


Multiple Irrigated Areas (Two Re-use Dams)

- Defined as a single Property
- Two non-contiguous areas laid out to irrigation
- Both areas irrigated in the last 5 years
- Runoff from Area A and Area B flows to two separate re-use dams located on the same property
- Re-use dams are suitably hydraulically connected via a pipe (pumped or gravity), constructed channel or natural channel and water can flow in both directions
- Irrigated areas and re-use dam sizes are to be treated collectively

***Example**: **If** Area A = 100 ha and Area B = 100 ha and the re-use dams are 6 ML and 14 ML, respectively, and they are suitably hydraulically connected **then** a surface water entitlement does not need to be secured).*

2.6. Multiple Irrigated Areas – Treat separately



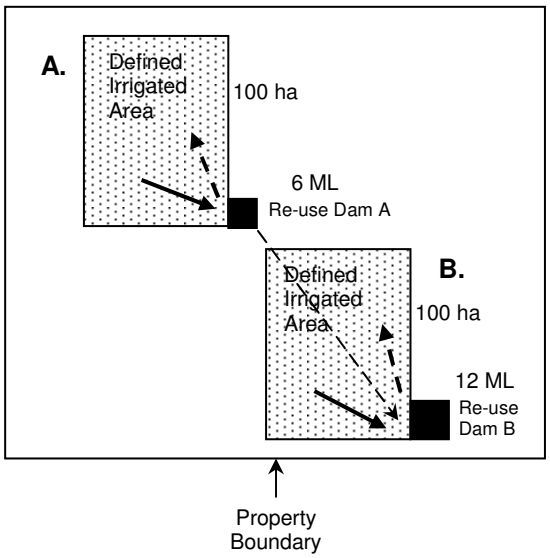
Multiple Irrigated Areas (Two Re-use Dams)

- Defined as a single property
- Two non-contiguous areas laid out to irrigation
- Both areas irrigated in the last 5 years
- Runoff from Area A and Area B flows to two separate re-use dams located on the same property
- Re-use dams are not suitably hydraulically connected
- Irrigated areas and re-use dam sizes are to be treated separately

***Example: If** Area A = 100 ha and has a 6 ML re-use dam which is not suitably hydraulically connected to re-use dam B **then** the re-use dam A can be sized up to 10 ML without needing to secure a surface water entitlement for re-use dam A.*

***Example**: **If** Area B = 100 ha and has a 14 ML re-use dam which is not suitably hydraulically connected to re-use dam A **then** a 4 ML surface water entitlement will need to be obtained for re-use dam B or the capacity of the re-use dam* B will need to be reduced to 10 ML.

2.7. Multiple Irrigated Areas – Treat collectively



Multiple Irrigated Areas (Two Re-use Dams)

- Defined as a single property
- Two non-contiguous areas laid out to irrigation
- Both areas irrigated in the last 5 years
- Runoff from Area A and Area B flows to separate re-use dams located on the same property
- Re-use dam A is suitably hydraulically connected to the re-use dam B such that water can flow from re-use dam A to re-use dam B via a pipe (pumped or gravity), constructed channel or natural channel
- Re-use dam B is not suitably hydraulically connected to the re-use dam A (water cannot flow from re-use dam B to re-use dam A)
- Irrigated Area A is to be treated separately from Irrigated Area B when sizing re-use dam A
- Irrigated Area A and B, and re-use dam A and re-use dam B, are to be treated collectively when sizing the re-use dam B

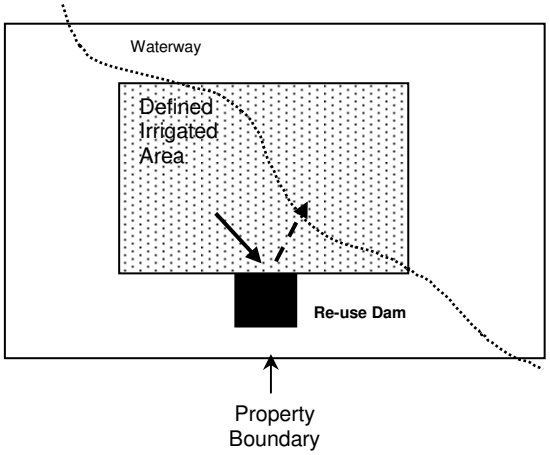
***Example**: **If** Area A = 100 ha and has a 6 ML re-use dam which is not suitably hydraulically connected to re-use dam B **then** re-use dam A can be sized up to 10 ML without needing to secure a surface water entitlement for the re-use dam.*

***Example**: **If** Area B = 100 ha and has a 12 ML re-use dam which is suitably hydraulically connected to re-use dam A, which is sized 6 ML, **then** a surface water entitlement will not need to be secured.*

Based on the irrigated area and size of re-use dam A, re-use dam B may be sized up to 14 ML without needing to secure a surface water entitlement for the re-use dam.

3. Locating Re-use Dams in Irrigation Districts

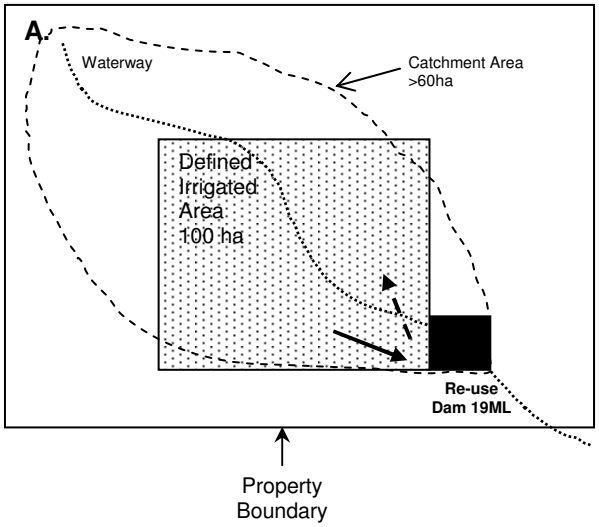
3.1. Re-use Dam Constructed off a Waterway



A new dam to be constructed off a waterway can be classified as a "Re-use Dam" by G-MW where the following apply:

- The dam is located on an irrigated property within an Irrigation District.
- It can be demonstrated that the irrigated land is able to be drained to the dam.
- The dam meets the requirements of the "Re-use Dams Order 2002".

3.2. Re-use Dam Constructed on a Waterway



A new dam constructed on a waterway, can be classified as a re-use dam by G-MW, where the following apply:

- the re-use dam is on an irrigated property within an Irrigation District covered by a Government endorsed Land and Water Management Strategy/Plan and Regional Surface Water Management and/or Nutrient Management Strategy; and
- it can be demonstrated that the irrigated land on that property is able to be drained to that re-use dam; and
- the property owner, at the time of construction of the re-use dam, has either a Whole Farm Plan (WFP) which is less than 5 years old and has been approved to the satisfaction of G-MW and the relevant local planning authority or a Plan prepared in accordance with the New Irrigation Development Guidelines to the satisfaction G-MW; and
- a construction licence is obtained for the re-use dam and its associated works, and the relevant conditions of the construction licence are adhered to; and
- the construction of the re-use dam and, its associated works, do not adversely impact on the existing ecological values of the waterway and other downstream environmental beneficiaries (as assessed by DSE as part of the planning process); and
- the location of the re-use dam can be justified from a financial perspective (i.e. the landholder can demonstrate that alternate sites are not economically viable); and
- the location of the re-use dam can be demonstrated not to adversely affect neighbouring properties (i.e. through informing the neighbour that the re-use dam is to be constructed and through technical calculations which demonstrate that most of the yield for the dam is from within the Irrigation District and from the property on which the re-use dam is located).

A surface water entitlement will need to be secured where the re-use dam is sized above the volumetric capacity requirements specified in the Re-use Dams Order 2002. In addition, the re-use dam will not be able to exceed 2 ML / 10 ha of irrigated land on the property containing the re-use dam.

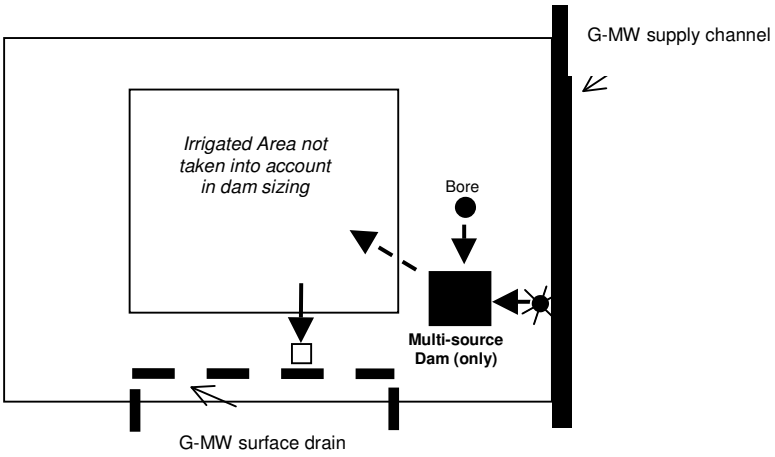
A new dam cannot be classified as a Re-use Dam by G-MW where it is constructed on a regional drain. Where a dam is constructed on a regional dam, an irrigator will be required to obtain a diversion licence for any water diverted from the dam and all water diverted is to be metered.

***Example**: If the landowner for Area A has Property with 100ha irrigated and draining to a 19 ML re-use dam this is allowable **however** a 9 ML surface water entitlement will need to be secured for the volume of the re-use dam in excess of that allowed in the Re-use Dams Order 2002.*

4. Definition of Multi-source Dams

4.1. Definition of a Multi-source Dam in an Irrigation District

4.1.1. Multi-source Dam (No Re-use)

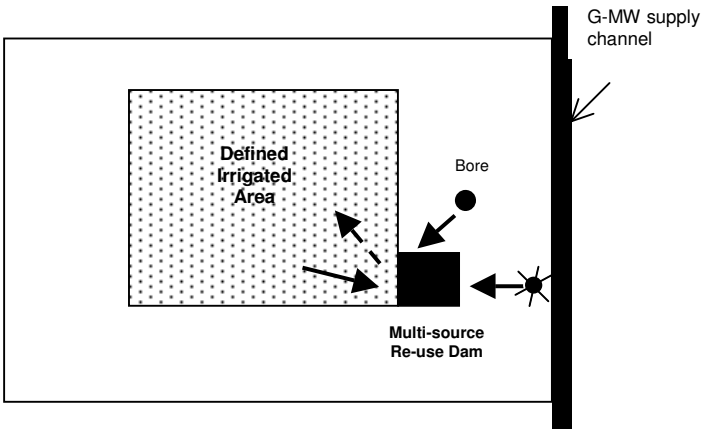


Defined as a Multi-source Dam (No Re-use)

- The dam is located on an irrigation property within an Irrigation District
- Dam receives water from two or more sources
- Irrigation runoff does not outfall to the dam, as such the dam is not classified as a re-use dam
- Metering of extraction from G-MW's supply system and the groundwater bore is to occur where required under existing licensing arrangements and/or where required as part of the conditions of extraction.

4.2 Definition of a Multi-source Re-use Dam in an Irrigation District

4.2.1. Multi-source Re-use Dam

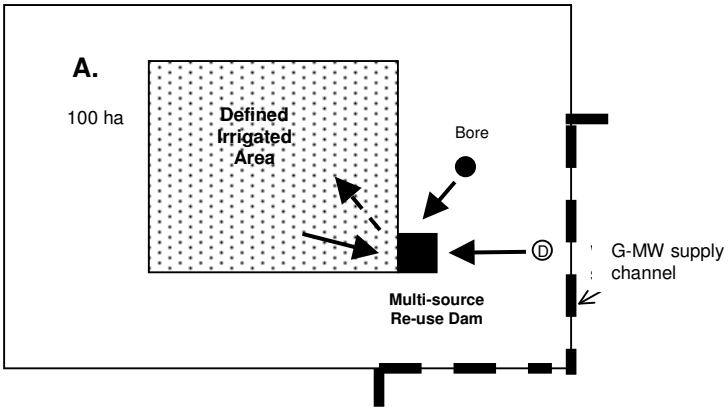


Defined as a Multi-source Re-use Dam

- The multi-source re-use dam is located on an irrigation property within an Irrigation District.
- It can be demonstrated that the irrigated land is able to be drained to the multi-source re-use dam.
- Multi-source re-use dam receives water from two or more sources, one of which is irrigation runoff.
- The maximum size of the multi-source re-use dam, prior to needing to secure a surface water entitlement is based on the irrigated area of the property that is able to be drained to that re-use dam.
- The irrigation runoff and catchment rainfall runoff components of supply are not required to be metered.
- Metering of extraction from G-MW's supply system and the groundwater bore is to occur where required under existing licensing arrangements and/or where required as part of the conditions of extraction.

4.2. Definition of a Multi-source Re-use Dam in an Irrigation District (cont.)

4.2.2. Multi-source re-use dam only – Satisfies Re-use Dam Design Capacity Criteria



Multi-source Re-use Dam – Satisfies Criteria

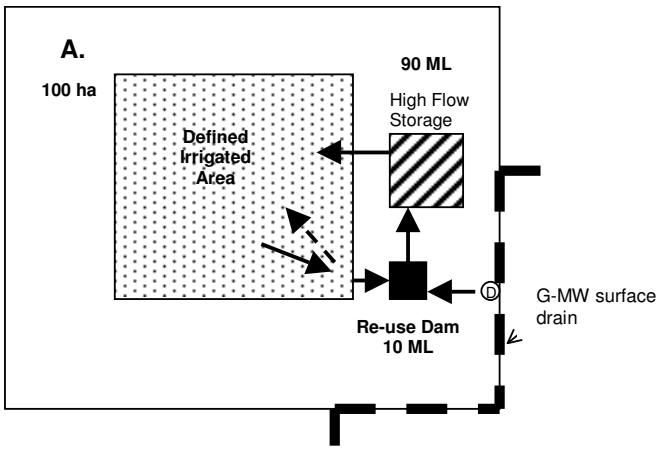
- The multi-source re-use dam is located on an irrigation property within an Irrigation District
- The multi-source re-use dam receives water from two or more sources, one of which is irrigation runoff
- It can be demonstrated that the irrigated land is able to be drained to the multi-source re-use dam

  The maximum size of the multi-source re-use dam, prior to needing to secure a surface water entitlement is based on the irrigated area of the property that is able to be drained to that re-use dam
- The irrigation runoff from the Re-use Source Area and catchment rainfall runoff component of supply are not required to be metered
- Water supplied from other sources, such as G-MW's supply system, groundwater, waterways, and drainage diversion must be metered where required under the property owners licensing arrangements and/or conditions of extraction of water from those water sources

***Example**: **If** Area A = 100 ha, **then** the multi-source re-use dam can be sized up to 10 ML without needing to secure a surface water entitlement for the multi-source re-use dam.*

5. Approved Nutrient Management Works and Measures

5.1. High Flow Diversion Storages Located in an Irrigation District

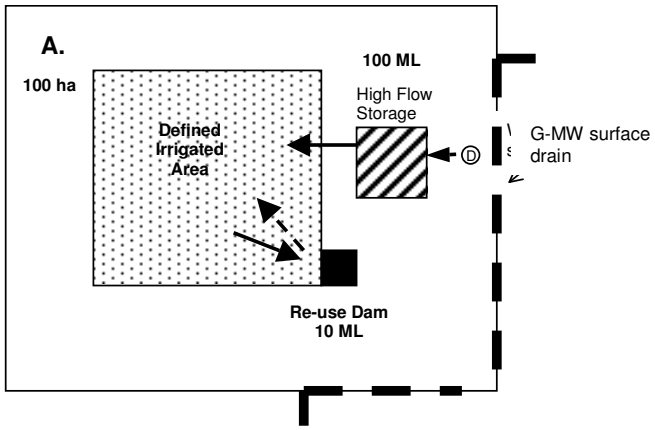


High Flow Diversion Storage - Surface Water Entitlement Exemption

- The re-use dam is located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the re-use dam
- The construction of the High Flow Diversion Storage has been justified from a social, environmental and economic perspective in a Government approved Plan/Strategy
- The property owner has a volumetrically specified High Flow Drainage Water Diversion Agreement
- It is constructed in accordance with a Whole Farm Plan (less than 5 years old), which is approved to the satisfaction of G-MW and the relevant local planning authority, or a Plan prepared in accordance with the New Irrigation Development Guidelines which is approved to the satisfaction of G-MW
- Construction approval is obtained through the relevant local planning Authority's approvals process.
- The High Flow storage and the re-use dam are hydraulically connected
- The combined volume of the High Flow Storage (and any hydraulically connected re-use dams located on the same property) must not exceed the total annual volume of the High Flow Drainage Water Diversion Agreement
- Given the difficulty and high costs associated with metering High Flow diversions, there will be no requirement to meter High Flow diversions from the drainage system
- The volume of the High Flow Storage can only exceed the total annual volume of the High Flow Drainage Water Diversion Agreement, where High Flow diversions are metered.

Example: ***If*** *the landowner for Area A has an annual High Flow Drainage Water Diversion Agreement of 100 ML,* ***then*** *the combined volume of the re-use dam and the High Flow Diversion Storage can not exceed 100 ML, unless the high flow diversions are metered, and a surface water entitlement for the volume in excess of the High Flow Diversion Agreement is secured.*

5.2. High Flow Diversion Storages Located in an Irrigation District but separate from a Re-use Dam



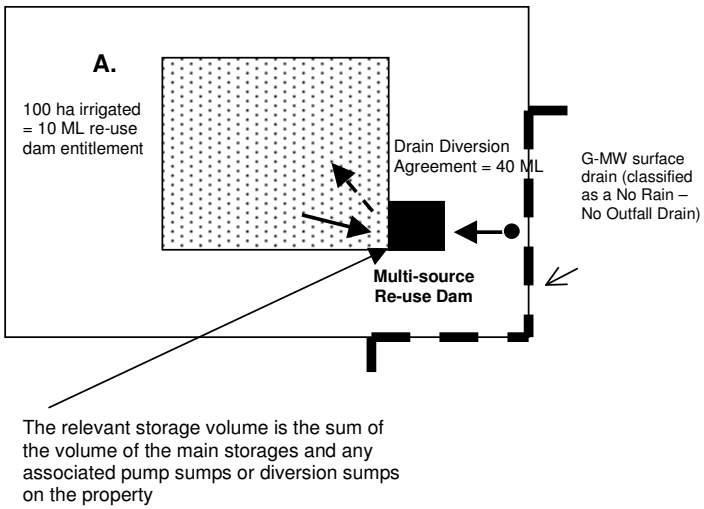
High Flow Diversion Storage - Surface Water Entitlement Exemption

- The re-use dam is located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the re-use dam
- The construction of the High Flow Diversion Storage has been justified from a social, environmental and economic perspective in a Government approved Plan/Strategy
- The property owner has a volumetrically specified High Flow Drainage Water Diversion Agreement
- It is constructed in accordance with a Whole Farm Plan (less than 5 years old), which is approved to the satisfaction of G-MW and the relevant local planning authority, or a Plan prepared in accordance with the New Irrigation Development Guidelines is approved to the satisfaction of G-MW
- Construction approval is obtained through the relevant local planning Authority's approvals process.
- The High Flow Diversion Storage and the re-use dam are not suitably hydraulically connected
- The volume of the High Flow Diversion Storage must not exceed the total annual volume of the High Flow Drainage Water Diversion Agreement
- Given the difficulty and high costs associated with metering high flow diversions, there will be no requirement to meter high flow diversions from the drainage system
- The volume of the High Flow Diversion Storage can only exceed the total annual volume of the High Flow Drainage Water Diversion Agreement, where high flow diversions are metered and the additional volume is secured by the landowner.

***Example: If** the landowner for Area A has an annual High Flow Drainage Water Diversion Agreement of 100 ML and an irrigated area of 100 ha, t**hen** the* High Flow Diversion Storage *can not exceed 100 ML (and the combined volume of the* High Flow Diversion Storage *and re-use dam can not exceed 110 ML), unless the high flow diversions are metered and an additional surface water entitlement for the volume in excess of 110 ML is secured.*

5. Approved Nutrient Management Works and Measures (cont.)

5.3. No Rain - No Outfall or Flow Drains Located in an Irrigation District



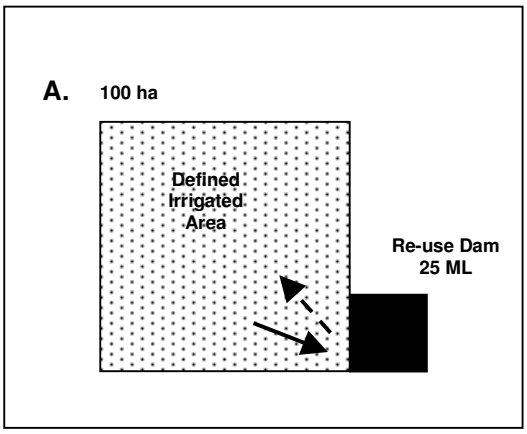
Drain Diversion – Surface Water Entitlement Exemption

- The multi-source re-use dam stores drainage water diverted from a regional surface drain classified as a "No Rain - No Outfall or Flow" Drain (i.e. this is a specific condition of the drain's construction/or operation was that low flow outfall, or flow past a particular point in the drain, was not to occur for say, environmental reasons) The multi-source re-use dam is located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the multi-source re-use dam
- The construction of the re-use dam has been justified from a social, environmental and economic perspective in a Government approved Regional Surface Water and/or Nutrient Management Strategy
- The multi-source re-use dam is constructed in accordance with a Whole Farm Plan (less than 5 years old), which is approved to the satisfaction of G-MW and the relevant local planning authority, or a Plan prepared in accordance with the New Irrigation Development Guidelines which is approved to the satisfaction of G-MW
- Construction approval is obtained through the relevant local planning Authority's approvals process
- The landowner has a Low Flow Drainage Water Diversion Agreement which is volumetrically specified and the volume of water diverted from the drain is metered
- The volume of the multi-source re-use dam must not exceed the total annual volume of the Low Flow Drainage Water Diversion Agreement.
- If the volume of the multi-source re-use dam(s) exceed the total annual Low Flow Drainage Water Diversion Agreement volume, the landowner will be required to obtain a take and use (diversion) licence equal to any storage volume in excess of to the Low Flow Drainage Water Diversion Agreement volume.

***Example: If** the landowner for Area A has an annual Low Flow Drainage Water Diversion Agreement of 40 ML, **then** the multi-source re-use dam can not exceed 40 ML, without needing to secure an additional surface water entitlement.*

5. Approved Nutrient Management Works and Measures (cont.)

5.4. Nutrient Reduction Re-use System (NRRS) Located in an Irrigation District



Nutrient Reduction Re-use System - Surface Water Entitlement Exemption

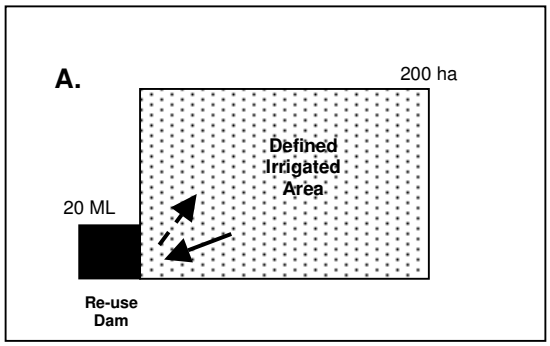
- The property is not serviced or planned to be serviced by a regional drain (i.e. Community Surface Water Management Scheme or Primary Drain)
- It is not economically, socially and/or environmentally feasible to construct a regional drain to service the Property
- NRRSs are accepted as being the preferred way of providing regional surface drainage in the specific area in question as part of a Government endorsed Land and Water Management Strategy/Plan and Regional Surface Water Management and/or Nutrient Management Strategy
- The re-use dam is located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the re-use dam
- The re-use dam can capture runoff from one or more irrigated properties
- The re-use dam is constructed in accordance with a Whole Farm Plan (less than 5 years old), which is approved to the satisfaction of G-MW and the relevant local planning authority, or a Plan prepared in accordance with the New Irrigation Development Guidelines which is approved to the satisfaction of G-MW
- Construction approval is obtained through the relevant local planning Authority's approvals process
- The volume of the NRRS must not exceed 2.5 ML / 10 ha of irrigated land
- If the volume of the NRRS exceeds 2.5 ML / 10 ha of irrigated land, the landowner will be required to secure a surface water entitlement equal to this volume
- There will be no requirement to meter inflows or outflows from the dam.

Example: *I**f** Area A = 100 ha, t**hen** the Nutrient Reduction Re-use System can be sized up to 25 ML without needing to secure a surface water entitlement.*

In the example noted above a surface water entitlement would not need to be secured by the landowner.

6. Sub-division of Properties located in an Irrigation District

6.1. Base Case A



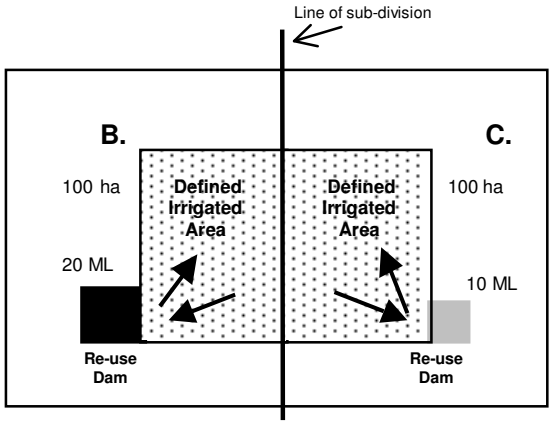
Base Case A

- The re-use dam is located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the re-use dam
- The re-use dam satisfies the volumetric capacity requirements of the "Reuse Dams Order 2002".

***Example: If** Area A = 200 ha and has a 20 ML re-use dam **then** the re-use dam satisfies the volumetric capacity requirements "Reuse Dam Order 2002" and a surface water entitlement does not need to be secured.*

There is also no requirement to meter inflows or outflows from the reuse dam.

6.2. Base Case A – Sub-divided



Base Case A (sub-division) - Example

- Property A is sub-divided into two lots (B & C), with both lots being sized with 100 ha being irrigated.

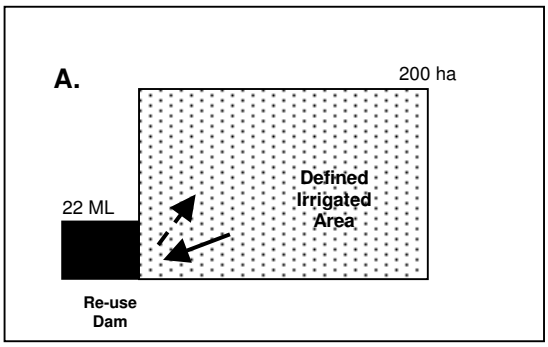
***Example: If** Area B = 100 ha and has a 20 ML re-use dam **then** the owner of Lot B at the time of subdivision must either secure a 10 ML surface water entitlement or reduce the size of their re-use dam to 10 ML.*

***Example: If** Area C = 100 ha **then** the owner of Lot C will be entitled to construct a re-use dam with a capacity up to 10 ML, without needing to secure a surface water entitlement for the re-use dam.*

There is also no requirement to meter inflows or outflows from the re-use dam.

6. Sub-division of Properties located in an Irrigation District (cont.)

6.3. Base Case B



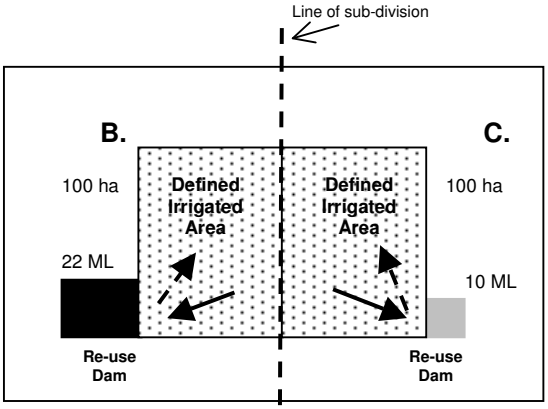
Base Case B

- The re-use dam is located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the dam
- The re-use dam is sized greater than the volumetric capacity requirements of the "Reuse Dams Order 2002"
- The landowner has registered the volume of water that is greater than the volumetric capacity requirements of the "Reuse Dams Order 2002" with G-MW

Example: *Area A = 200 ha and has a 22 ML re-use dam with a 2 ML registration licence.*

There is also no requirement to meter inflows or outflows from the reuse dam.

6.4. Base Case B – Sub-divided



Base Case B (sub-division) - Example

Unsubdivided property has a 2 ML registration licence which is converted to a standard licence prior to the subdivision.

Property A is sub-divided into two lots (B & C), with both lots being sized such that 100 ha is irrigated. The total 2 ML licence is allocated to Lot B.

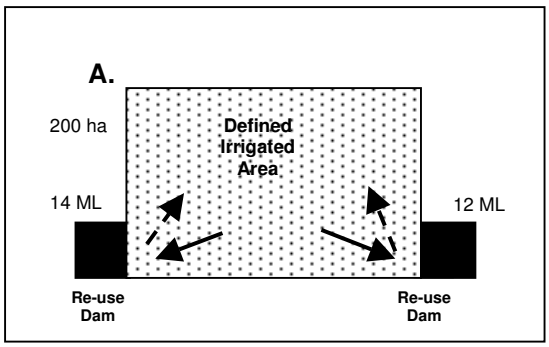
Example: ***<u>If</u>*** *Area B = 100 ha and has a 22 ML re-use dam* ***<u>then</u>*** *the owner Lot B at the time of subdivision will need to either secure a 10 ML surface water entitlement or reduce the size of the re-use dam to 12 ML.*

Example: ***<u>If</u>*** *Area C = 100 ha* ***<u>then</u>*** *the owner of Lot C will be entitled to construct a reuse dam with a capacity of up to 10 ML, without needing to secure a surface water entitlement for the re-use dam.*

There is also no requirement to meter inflows or outflows from the re-use dams.

6. Sub-division of Properties located in an Irrigation District (cont.)

6.5. Base Case C



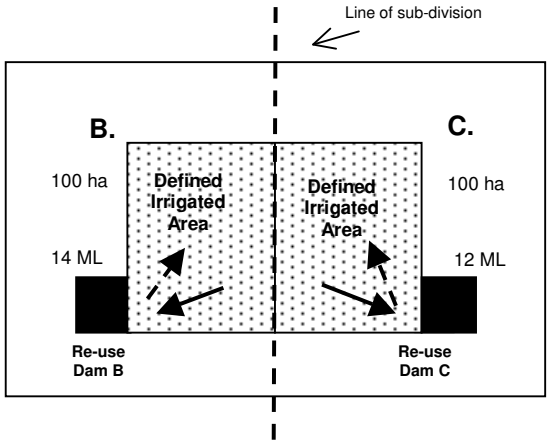
Base Case C

- The re-use dams are located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the re-use dams
- The combined volume of the reuse dams is greater than the volumetric capacity requirements of the "Reuse Dams Order 2002"
- The landowner has registered the volume of water that is greater than the volumetric capacity requirements of the "Reuse Dams Order 2002" with G-MW.

Example: *Area A = 200 ha and has two re-use dams with a combined volumetric capacity of 26 ML and a 6 ML registration licence.*

There is no requirement to meter inflows or outflows from the reuse dam.

6.6. Base Case C – Sub-divided



Base Case C (Sub-division) - Example

Unsubdivided property has a 6 ML registration licence which is converted to a standard licence prior to the subdivision

Property A is sub-divided into two lots (B & C), with both properties being sized such that 100 ha is irrigated.

The 6 ML is split between both Lots with Lot B being allocated 2 ML and Lot C being allocated 4 ML.

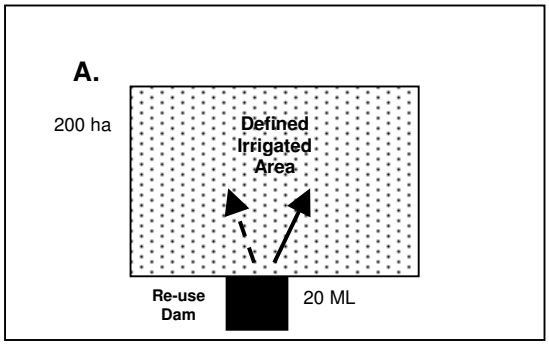
Example: If *Area B = 100 ha and has a 14 ML re-use dam (2 ML of which is already licenced) then the owner of Lot B at the time of subdivision will need to either secure a 2 ML surface water entitlement or reduce the size of the re-use dam to 12 ML.*

Example: If *Area C = 100 ha and has a 12 ML re-use dam (4 ML of which is already licenced) then the owner of Lot C at the time of subdivision will be entitled to enlarge its re-use dam by 2 ML without needing to secure an additional surface water entitlement.*

There is also no requirement to meter inflows or outflows from the re-use dams.

6. Sub-division of Properties located in an Irrigation District (cont.)

6.7. Base Case D



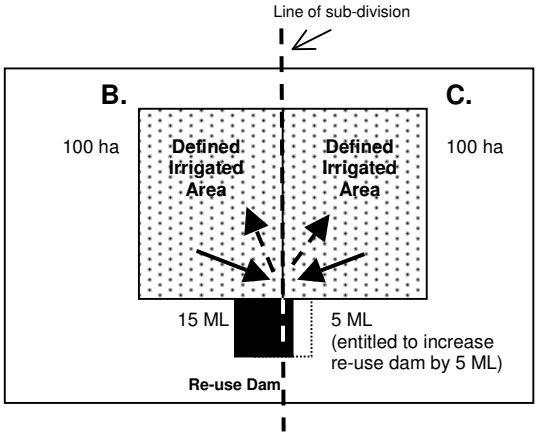
Base Case D

- The re-use dam is located on an irrigation property within an Irrigation District
- It can be demonstrated that the irrigated land is able to be drained to the re-use dam
- The re-use dam satisfies the volumetric capacity requirements of the "Re-use Dams Order 2002".

***Example: If** Area A = 200 ha and has a 20 ML re-use dam **then** the re-use dam satisfies the volumetric capacity requirements "Re-use Dam Order 2002" and a surface water entitlement does not need to be secured.*

There is also no requirement to meter inflows or outflows from the re-use dam.

6.8. Base Case D – Sub-divided



Base Case D (sub-division) - Example

Property A is sub-divided into two lots (B & C), with both lots being sized with 100 ha being irrigated.

The capacity of the re-use dam will be divided between Area B and Area C based on the volume of the re-use dam determined to be in each Lot.

***Example: If**, when the re-use dam is full, the capacity of the re-use dam that is located Area B is 15 ML, **then** the owner of Lot B must either secure a 5 ML surface water entitlement or reduce the size of the part of the re-use dam on Lot B to 10 ML.*

***Example: If**, when the re-use dam is full, the capacity of the re-use dam that is located in Area C is 5 ML, **then** the owner of Lot C will be entitled to increase the capacity of the re-use dam located on their property to 10 ML, without needing to secure a surface water entitlement.*

There is also no requirement to meter inflows or outflows from the re-use dam.

xxxxXXXXxxxx