

# GMID Drainage Management Strategy

## SUMMARY

JULY 2022



## THIS DOCUMENT

This document is a condensed summary of the main points of the GMID Drainage Management Strategy. The full Strategy document should be referred to for the supporting detail.

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Fundamental changes to climate and irrigation in the Goulburn Murray Irrigation District (GMID) require a re-think of irrigation drainage management; and by adapting drainage to meet changing needs, GMW, Goulburn Broken CMA and North Central CMA can actively contribute to building the region's resilience.

### **Acknowledgement of Traditional Owners**

We pay our respects to Elders past and present, and acknowledge and recognise Traditional Owners' obligations, rights and responsibilities to use and care for their traditional lands and waters.

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## Introduction

Effective, fit for purpose surface and subsurface drainage is essential for sustainable irrigated agriculture<sup>1</sup>.

Goulburn Broken CMA and North Central CMA have a lead role in identifying irrigation drainage and salinity mitigation needs across the Goulburn Murray Irrigation District (GMID) through the development of Regional Catchment Strategies and Land and Water Management plans. A collaborative, partnership approach to drainage issues, and a positive approach to working with regulatory agencies has proven to be an effective way to manage drainage needs across the GMID.

More recently, there have been a range of significant changes to irrigated agriculture in the GMID and the external environment within which irrigation drainage service providers like Goulburn-Murray Water (GMW) and North Central CMA operate. The GMID Drainage Management Strategy (the Strategy) has been developed to provide a clear direction for the future management of irrigation drainage in the GMID. Importantly the Strategy recognises that the future is uncertain, and it has been developed using resilience principles. These principles aim to enable a more flexible approach to the way surface and subsurface drainage services are provided; as well as supporting a structured, continuous review, improvement and adaption process into irrigation drainage management.

## Vision for the Strategy

All stakeholders work collaboratively to manage GMID drainage systems adaptively to support viable agriculture, vibrant communities, and to enhance environmental and cultural values.

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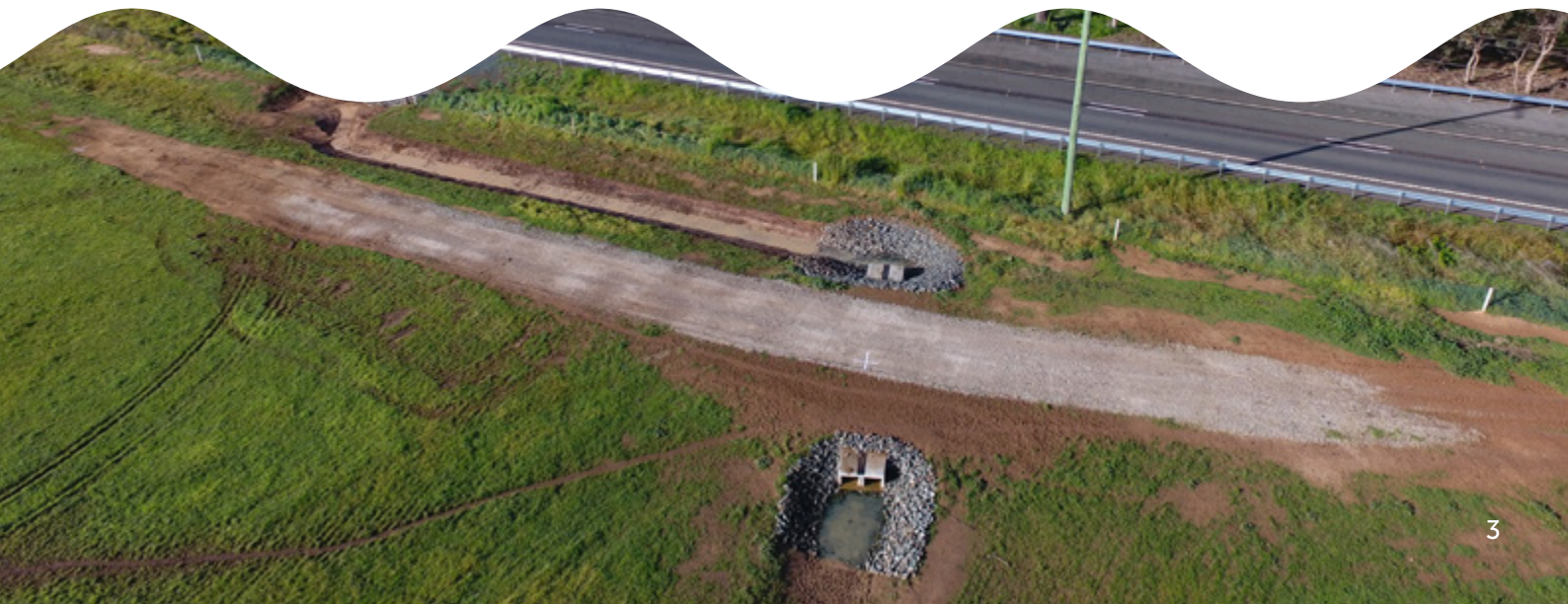
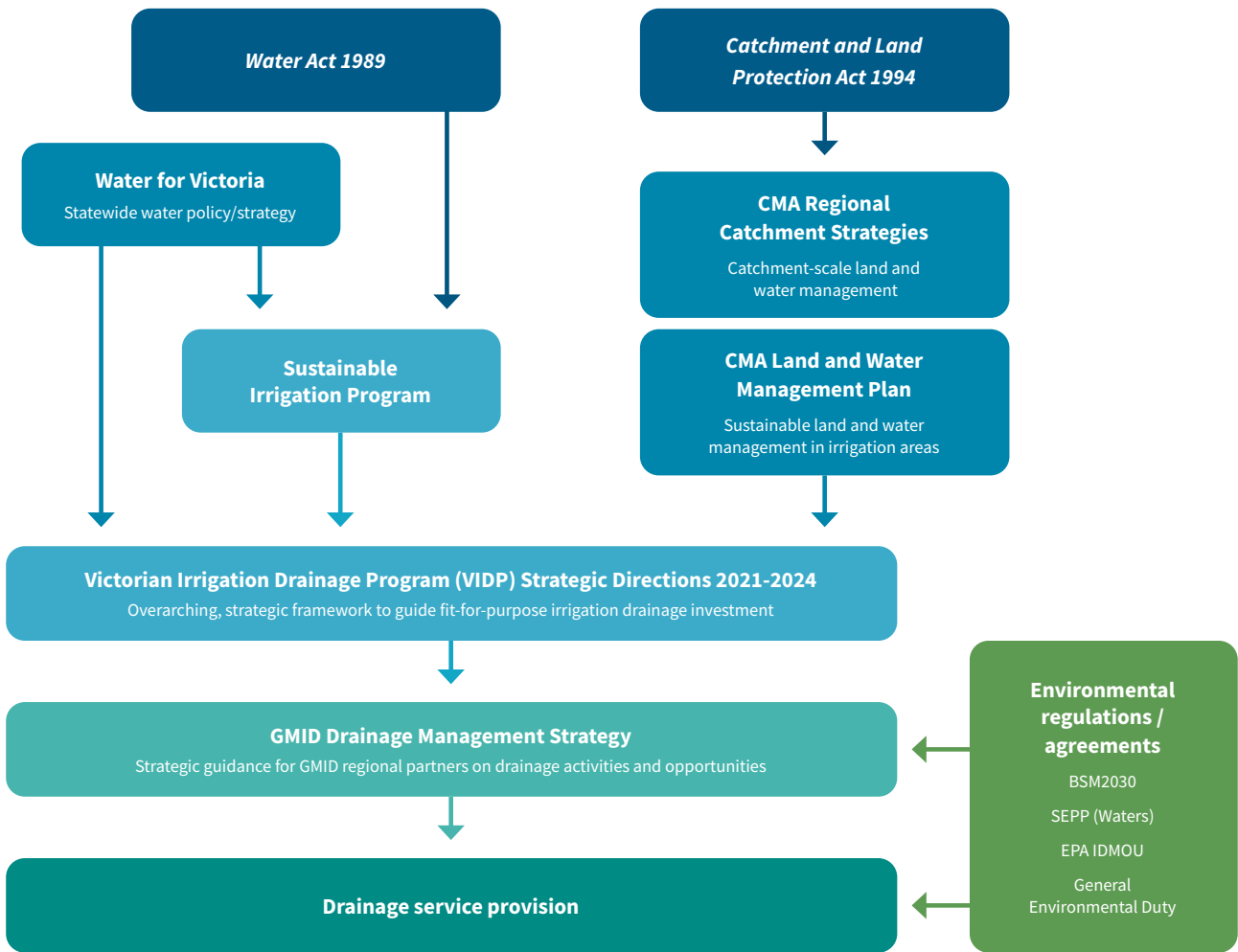
<sup>1</sup> Note that there are some areas within the GMID that have been assessed as having adequate natural drainage and do not require constructed drainage



# Policy Context

The Victorian Irrigation Drainage Program (VIDP) is Victoria’s state-wide irrigation drainage policy and has been running in various forms for approximately 25 years. Over this time, a range of policy responses have been implemented to support the development and management of fit-for-purpose surface and sub-surface irrigation drainage measures in Victoria. Development of the draft Strategy has had appropriate regard for the range of legislative and policy measures relevant to irrigation drainage.

**Figure 1: Key policy and legislative context for drainage management**



# Context for Developing the Strategy

The GMID is a major irrigation system, which historically has accounted for almost 90 per cent of water used in irrigation across Victoria.

Effective drainage is closely linked to the sustainability of irrigated agriculture; however, drainage systems also connect catchments to rivers and accountability for the downstream impacts comes with managing irrigation drainage schemes. This means GMID drainage service providers have to meet regulatory requirements and are a critical part of Murray Darling Basin (MDB), State and regional natural resource management (NRM) arrangements.

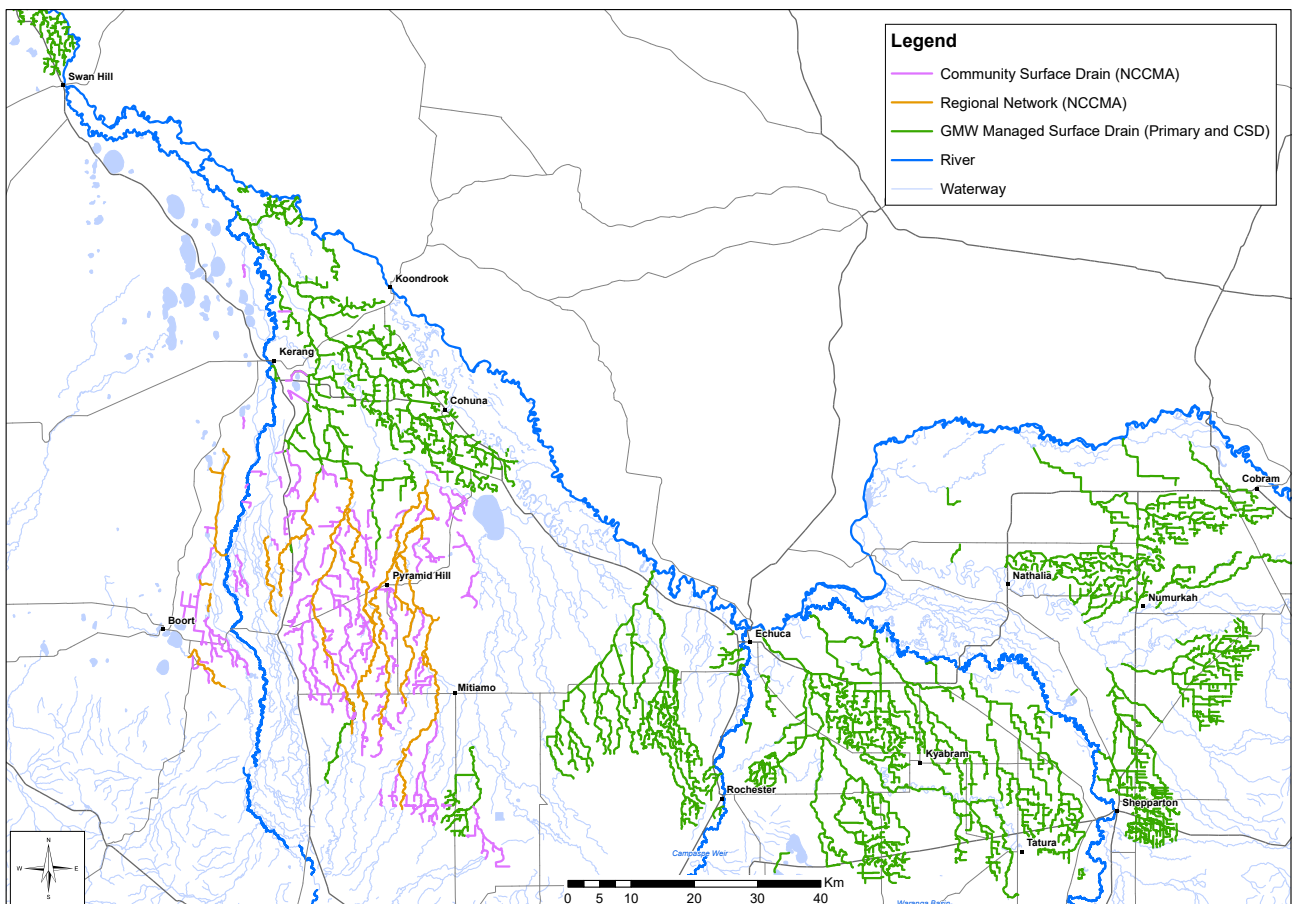
There are extensive drainage networks across the GMID which includes a diverse mix of GMW, CMA, local government, and privately constructed drains, as well as natural drainage courses.

The draft Strategy encompasses the following irrigation drainage service providers:

- GMW primary drains, community surface drains (CSDs), hybrid schemes and subsurface drainage.
- North Central CMA managed Bullock Creek surface drainage network and other areas.
- Local Government CSDs and roadside drains.
- Private landowner CSDs that are formally constituted.

Figure 2 shows a map of the scope of current major irrigation drainage systems in the GMID.

**Figure 2: Major irrigation drainage systems in the GMID**



## What has Changed?

Key changes affecting irrigation drainage since the early 1990s can be summarised as follows:

- The amount of water in surface drains has reduced enormously as a result of climate change and reduced overall rainfall, reduced irrigation application to land, more efficient on-farm irrigation and widespread installation of reuse systems. Modernisation of the irrigation system has significantly reduced channels outfalls to drains.
- A drier, more variable climate has reduced, but not eliminated, salinity and watertable threats and waterlogging in all but the lowest elevation areas of the landscape.
- The distribution of the benefits of drainage has changed compared to the 1990s. Given the overall reduction in irrigated production, the relative benefits have moved from being dominated by irrigated agriculture to a more even sharing of the major benefits between agriculture, transport infrastructure protection and the environment. Urban drainage benefits can be locally important.
- In most cases now the cost of constructing new surface drains is not justified by the benefits.

Drainage continues to provide significant regional benefits. For instance, the value of benefits of existing drainage are still around 4 times greater than GMW's current operations, maintenance and management costs. While climate change will continue to reduce overall annual rainfall, it is also likely to result in more frequent intense rainfall events. Access to drainage will be important in helping to mitigate the impacts of these intense rainfall events.

New lower-cost 'hybrid' surface drainage systems, based on connecting natural drainage lines through drainage course declarations (DCDs), are being implemented in areas with active irrigation, where there is community support and clear public benefit.

In the past, the focus of GMID drain management has primarily been on removing water from properties as quickly and efficiently as possible. This has generated significant benefits through preventing waterlogging and salinity problems, which has also benefitted regional environmental outcomes. However, the traditional approach of constructing drains along the lowest points in the landscape has sometimes negatively impacted on wetlands and local environmental features. There is a need to seek multiple benefits from drainage management and to consider the role drains can play in moving water across the landscape. This could include regulating water to and from wetlands enabling more natural wetting-drying cycles to occur.

Traditional Owner groups are partners in NRM matters. Indigenous water values and interests need to be recognised and protected. GMID drainage service providers need to understand cultural values and work in collaboration with Traditional Owners in the planning and delivery of drainage management activities and projects.

## Developing the Strategy

Critical issues and directions for development of the Strategy were established through workshops with key stakeholders, including irrigation farmers, other Government agencies and GMW.

The development process involved significant analysis of available data, DELWP policy and CMA strategies, and in-field reconnaissance with and input from GMW operational managers and field operators. Useful insights were also gained from the 2015 GMW Drainage Tariff Review process.

Importantly drainage management also needs to be more adaptable. The need for adaptability, embracing and learning for change and designing for flexibility, are some of the principles from the recently released GMID Resilience Strategy, which have strongly guided the thinking and approaches contained in the draft



## Strategy Directions in Summary

The GMID Drainage Management Strategy is seen as an important step forward in the contemporary management of irrigation drainage, and how that could be implemented across the GMID in future, by all of the regional partners working together. The proposed strategy directions are summarised below (refer to the full Strategy document for further detail).

It is important to note that, given GMW is a significant drainage service provider in the GMID, much of the Strategy and the strategy directions developed, relate directly to the future of GMW's drainage services to its customers. GMW aims to build on key Strategy outcomes and, in consultation with its customers, develop a Drainage Service Plan. This process is to occur during 2021 and 2022.

### NEW SURFACE DRAINS

- 1 No new conventional drains (e.g. primary drains) will be constructed unless there is a compelling business case to do so.
- 2 GMW, CMAs, Local Government and DELWP will work together to seek funding to extend the GMID drainage network subject to the following conditions:
  - Irrigation in the area is considered to have a long-term future, there is a high level of landowner support and the business case is sound; and
  - Lower cost hybrid DCD-based schemes will be the general approach used in the future for new surface drainage across the GMID.
- 3 The transfer of existing drains to GMW ownership will be subject to the same pre-conditions as a new drain.

### NORTH CENTRAL CMA BULLOCK CREEK DRAINAGE NETWORK

- 4 The renewal of the North Central CMA Loddon Murray Irrigation Region (LMIR) Surface Water Management Strategy (SWMS) 2022, to provide guidance that supports the ongoing sustainable management and maintenance of the Bullock Creek drainage network in the Loddon Valley Irrigation Area.

### DIFFERING LEVELS OF GMW DRAIN SERVICE

- 5 A low intensity drain maintenance regime could potentially be an option that some GMW customers would consider depending on the attractiveness of the service-cost-risk trade-off.
- 6 If there is sufficient customer interest in a lesser level of drainage service at a lower cost, the details around this option is proposed to be worked through with customer groups as part of GMW's Drainage Service Plan development process.

### VALUE PROPOSITION OF GMW DRAINAGE SERVICES

- 7 There needs to be clear statements of the value proposition for future GMW drainage services relevant to each identified beneficiary group, including the environment.
- 8 That drainage service value propositions need to be included as part of GMW's Drainage Service Plan development process.



## PUBLIC GROUNDWATER PUMP ADAPTIVE MANAGEMENT

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- 9 Maximise private groundwater pumping and continue the implementation of the adaptive management of GMW public groundwater pumps in the Shepparton Irrigation Region in response to changes in groundwater levels.
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## APPROACHES TO DRAINAGE COST SHARING AND PRICING

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- 10 No change is proposed to the current cost share basis between GMW customers and State and Local Governments.
  - 11 A review of the pricing approaches GMW applies to its drainage services is required to reflect future needs.
  - 12 The details around GMW's future pricing structures for the suite of GMID surface and subsurface drainage services is to be worked through with customers and stakeholders as part of GMW's Drainage Service Plan development process.
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## STRATEGY COORDINATION GROUP

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- 13 An Agency Coordination Group with representatives from Goulburn Broken CMA, North Central CMA, GMW, AgVic and DELWP is established to coordinate overall implementation and provide ongoing high-level oversight of the Strategy.
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## CYCLIC REVIEW AND ADAPTATION

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- 14 The Agency Coordination Group is to respond to issues that require adjustments to strategy directions as they arise.
  - 15 A two-step 'review and adapt' process to be undertaken on a 4-5 year cycle to monitor the Strategy and take stock of changes.
  - 16 The detail around the Agency Coordination Group oversight and the cyclic review process is to be developed in collaboration with catchment partners as part of the Strategy implementation phase and include identifying shared outcome-focused indicators and reporting arrangements.
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## GMW DRAINAGE SERVICE STANDARDS

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- 17 The development of more definitive measures of the level of service that customers can reasonably expect to receive from GMW surface drains in future are needed.
  - 18 Separately identified service standards for GMW public groundwater pumps are not meaningful. Regional salinity control performance needs to be assessed at the overall Shepparton Irrigation Region Land and Water Management Plan level.
  - 19 Deriving a new standard of services and performance measures is to be undertaken by GMW in consultation with its customers as part of GMW's Drainage Service Plan development process.
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## LOCAL GOVERNMENT ROLE

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- 20 Engage with individual Councils across the GMID to better understand their respective positions on irrigation drainage management, their future roles in drainage and how that may be brought together in a more integrated manner to achieve the greatest benefit.
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## ENVIRONMENTAL MANAGEMENT

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- 21 Drain owners should identify opportunities for existing drains to perform environmental-ecological functions based on their ability at times to hold or move water across the landscape.
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## TRADITIONAL OWNER COLLABORATION

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- 22 Drainage service providers will work in partnership with Traditional Owners in the planning and delivery of drainage management activities and projects.
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## GMW DRAINAGE ASSET MANAGEMENT APPROACH

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- 23 Outside the modernised channel backbone, GMW should consider an asset management ‘holding pattern’ approach for the next decade. With this approach assets will only receive essential maintenance and renewals required for safety and continuity of service, based on asset condition and land use, until future drainage needs are clarified and agreed with the community.
  - 24 Other drain owners should put in place asset management approaches appropriate to their future asset and service needs.
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## GMW SURFACE DRAIN RATIONALISATION AND DECOMMISSIONING

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- 25 GMW to explore the potential to maintain surface drains in varied forms of readiness, mothball or decommission.
  - 26 The details around drain rationalisation and decommissioning approaches need to be worked through with catchment partners and GMW customer groups as part of the Strategy implementation phase.
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## REDUCTION OF GMW DRAINAGE OPERATING AND MAINTENANCE (O&M) COSTS

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- 27 To reduce surface drainage O&M costs it is proposed that GMW continue to develop risk-based management approaches and place more focus on driving costs down in response to seasonal and catchment variability across the GMID.
  - 28 Different cost-risk balances and how far trade-offs can occur without having an unacceptable service impact will be explored with GMW customers and key stakeholders to gauge the level of support for change.
  - 29 The inter-related drain service, cost and risk issues to be worked through with GMID customers and stakeholders as part of GMW’s Drainage Service Plan development process.
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## GMW DRAINAGE RATING EXEMPTIONS

- 30 GMW to review the historic drainage fee exemptions and assess from first principles GMID properties against the future tariff structures to decide whether or not the exemptions should continue.
- 31 A review of the fee exemptions and the issues arising to be worked through with drainage customers as part of GMW's Drainage Service Plan development process.

## PUMPING EXCESS WATER INTO GMW CHANNELS

- 32 That GMW review the future operating rules, costs, risks and opportunities of pumping drainage water into GMW channels across the GMID.
- 33 The review to be undertaken as part of GMW's Drainage Service Plan development process.

## GMW DRAINAGE DIVERSION

- 34 If there is customer support GMW will assess the merits of alternative management approaches for GMID drainage diversion in future.
- 35 The details around alternative drain diversion regimes to be worked through in consultation with customers as part of GMW's Drainage Service Plan development process.

## MANAGEMENT OF PRIVATE GROUNDWATER PUMPS IN THE SHEPPARTON IRRIGATION REGION

- 36 Continue the low intensity management of private groundwater pumps in the Shepparton Irrigation Region.

## LEGACY COMMUNITY SURFACE DRAINS (CSDs)

- 37 Undertake a scoping audit of all formal CSDs across the GMID that are managed by Local Government or Landowner groups in order to better understand their current status and future direction.

## DRAINAGE AND SALINITY INFORMATION

- 38 The Agency Coordination Group will assess the need for targeted landowner and community information on irrigation drainage and work together on ways to share the most current and relevant information through its catchment partner networks.



