

# Working together to develop water sensitive communities

Development Planning Annual Report 2007/08





# Foreword

At Melbourne Water, we understand the importance of facilitating appropriate, innovative and sustainable development. We also understand that it is impossible to deliver best practice development standards on our own.

Our Development Planning team works closely with the development industry, landowners, other government agencies, councils, community and environment groups, and a variety of industry associations to manage land development.

Our objectives are to ensure that urban development achieves appropriate standards of flood protection while providing infrastructure in new growth areas that can protect water quality and the environment and contribute to community wellbeing.

To meet these objectives, we put in place policies and guidelines for developers planning to undertake urban development. We prepare drainage schemes – known as Development and Redevelopment Services Schemes – to identify infrastructure requirements and charges to fund drainage works.

Melbourne Water has produced this, our first Development Planning annual report, to consolidate our strong relationship with the industry and to increase understanding of our role.

We would like your views on this report so that we can make further improvements for 2008/09.

We want to know how to make the report as valuable as possible to you, our development partners. We encourage you to send your comments to Raffaella Crupi at [raffaella.crupi@melbournewater.com.au](mailto:raffaella.crupi@melbournewater.com.au).

**Chris Chesterfield**  
General Manager, Waterways

## Who we are

Melbourne Water is owned by the Victorian Government. We manage Melbourne's water supply catchments, remove and treat most of Melbourne's sewage, and manage rivers and creeks and major drainage systems throughout the Port Phillip and Westernport region.

We are responsible for managing \$8.4 billion in water supply, sewerage and drainage assets, and we are committed to looking after these in a way that protects and improves their environmental, social and financial values.

Our people have diverse skills and expertise and we place a high priority on building strong partnerships and relationships with the community and all our other stakeholders. Our customers include the metropolitan retail water businesses, local councils and the land development industry.

## Our partners in land development

Melbourne Water's Development Planning group employs 32 people with diverse skills and expertise including town planning, environmental science, natural resource management, environmental and civil engineering and geographical information systems.

Development Planning works with key stakeholders to prepare and implement Development Services Schemes. These stakeholders include landowners, community and environment groups, developers, engineering and planning consultants, state and local government agencies, other water businesses: City West Water, South East Water, Western Water and Yarra Valley Water, and associations such as the Urban Development Institute of Australia,

Association of Land Development Engineers, Housing Industry Association, Master Builders Association, Municipal Association of Victoria and the Victorian Local Governance Association.

Development Services Schemes set standards for development, the infrastructure required to protect waterways and water quality, and to provide a safe level of flood protection for the community.

The schemes, which establish developer charges to equitably fund the construction of this infrastructure as development occurs, are prepared consistent with industry-endorsed principles.



## Development Services Schemes – the year in review

### Income

About 130 greenfield schemes were active as at 30 June 2008. In 2007/08, developers paid Melbourne Water \$36.5 million of drainage contributions for these schemes. The following schemes generated the most income from development contributions:

DEVELOPMENT SERVICES SCHEME	LOCATION	CONTRIBUTIONS RECEIVED (\$M)
KAYES DRAIN	DERRIMUT/LAVERTON	5.35
LAVERTON CREEK	LAVERTON NORTH/RAVENHALL	2.97
DERRIMUT	DERRIMUT/LAVERTON NORTH	2.95
STONY HILL CREEK	CAROLINE SPRINGS/HILLSIDE	2.38
SAYERS DRAIN	TARNEIT	2.07
TI-TREE CREEK	BERWICK/CRANBOURNE NORTH	1.89
EDGARS CREEK	EPPING	1.42
EAST MORETON	PLUMPTON	1.34
UPPER HENDERSONS CREEK	SOUTH MORANG	1.21
AITKEN CREEK	CRAIGIEBURN	1.21

### Expenditure

Melbourne Water reimbursed \$24.5 million to developers for drainage works constructed in greenfield schemes in 2007/08. The largest reimbursements were made for the following schemes:

DEVELOPMENT SERVICES SCHEME	LOCATION	REIMBURSEMENTS (\$M)
LYNDHURST	LYNDHURST	5.13
KAYES DRAIN	DERRIMUT/LAVERTON	2.16
LAVERTON CREEK	LAVERTON NORTH/RAVENHALL	1.66
DEEP CREEK SOUTH	PAKENHAM	1.47
TI-TREE CREEK	BERWICK/CRANBOURNE NORTH	1.45
CARDINIA RD	OFFICER/PAKENHAM	1.43
ROXBURGH PARK	ROXBURGH PARK	1.37
MERENDA SOUTH	MERENDA	1.17
FORSYTH RD DRAIN	TRUGANINA/LAVERTON	0.82
LOWER CARRUM DOWNS	CARRUM DOWNS	0.86

In 2007/08, developers received reductions in their contributions of about \$671,300 when they included onsite stormwater quality works in the development beyond the scheme requirements. For developments outside scheme areas, developers received reductions in their contributions of about \$88,300.

## Projects

Developers constructed about 130 infrastructure projects on behalf of Melbourne Water in 2007/08, with a total capital expenditure in excess of \$32M. Another \$10M of assets were built in Melbourne Water's new operating areas. (Melbourne Water's waterways and drainage boundary was extended in late 2005 and now encompasses the entire Port Phillip and Westernport region.) In these areas, several projects were not located within a Development Services Scheme at the time of development. This meant that all works were fully funded by individual developers.

The trend to utilise water features as a selling point for new estates continued, with more wetlands and waterways being designed and constructed as new Melbourne Water assets. More than 40 wetland projects were instigated during 2007/08, almost double the number of previous years.

Projects constructed in 2007/08 included eight retarding basins, seven wetlands, four sediment ponds, four urban lakes, three gross pollutant traps, 24km of pipelines and 4km of waterway improvement works.

The following projects demonstrate how innovation provided improvements and solved onsite issues:

### Avoiding a major gas line

*Project scope:*

680m of open landscaped floodway next to South East Business Park, Pakenham

**Cost: \$1.8M**

The floodway had to cross a large gas line that was higher than the invert of the designed floodway.

The crossing was achieved by pushing the floodway through box culverts under the gas line. This innovation enables a pedestrian crossing of the floodway to be created in future.

### Using in-situ rock to retain a natural profile

*Project scope:*

380m of open landscaped floodway east of Plenty Road through the Riverdale On Plenty estate, Mernda

**Cost: \$571,000**

After the project began, it was revealed that sections of the works had excellent in-situ rock. A minor redesign of the scope of works enabled most of the in-situ rock to be retained, which provided a more authentic finish to the floodway profile. This also saved significant excavation, rock importation and placement costs to the developer and Melbourne Water.

### Boardwalk meets community and maintenance needs

*Project scope:*

25,000 cu m of wetland and 280m of pipeline associated with the Woodland Grove estate, Craigieburn

**Cost: \$1.7M**

The developer wanted to erect boardwalks across the wetland. Melbourne Water often has concerns about boardwalks because they can obstruct access to structures. To overcome these concerns and meet maintenance requirements and aesthetic objectives, the developer installed removable steel deck panels along the length of the boardwalk.



## Changes to contribution rates in 2007/08

Each year Melbourne Water undertakes a financial review of Development Services Schemes to ensure that contribution rates reflect the cost of works identified. Scheme rates may increase or decrease to reflect changed costs.

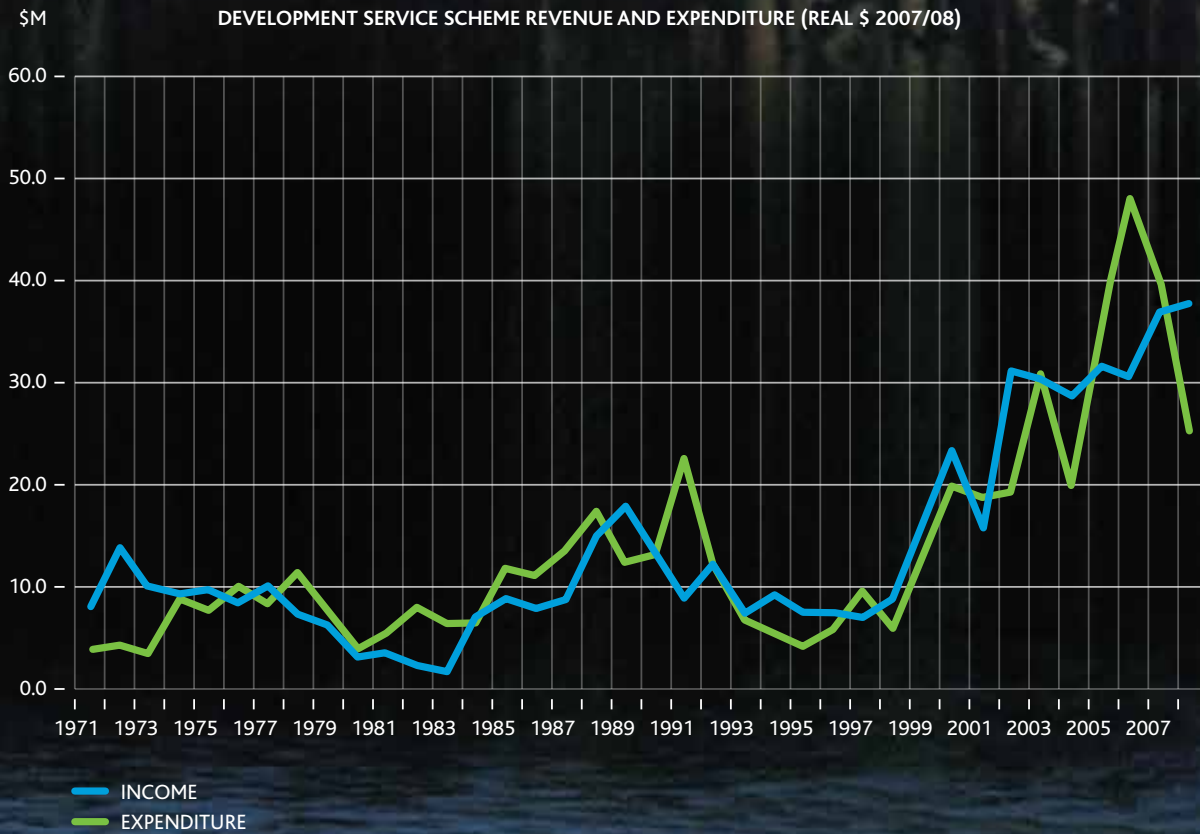
### Greenfield Development Services Schemes where contribution rates increased from 2006/07:

SCHEME	LOCATION	RATES PER HA 2006/07 TO 2007/08	KEY REASON FOR RATE INCREASE
POINT COOK	POINT COOK	\$47,964 TO \$52,901	ESCALATIONS IN LAND ACQUISITION AND CONSTRUCTION COSTS
SAYERS DRAIN	TARNEIT	\$36,379 TO \$40,017	ESCALATIONS IN LAND ACQUISITION AND CONSTRUCTION COSTS
TROUPS CREEK WEST	NARRE WARREN NORTH	\$28,171 TO \$30,988	PRELIMINARY CONSTRUCTION COSTS UNDERESTIMATED COMPARED WITH ACTUAL TENDER COSTS
GOLF LINKS RD	NARRE WARREN	\$24,300 TO \$26,730	ESCALATIONS IN LAND ACQUISITION COSTS
BAXTER EAST	MORNINGTON/BAXTER	\$16,927 TO \$18,620	INCREASES IN SCHEME EXPENDITURE

### Greenfield Development Services Schemes where contribution rates decreased from 2006/07:

SCHEME	LOCATION	RATES PER HA 2006/07 TO 2007/08	KEY REASONS FOR RATE DECREASE
EAST MORETON	PLUMPTON	\$30,329 TO \$27,296	REDUCTION IN FORECAST CAPITAL EXPENDITURE AND REDUCTION IN LAND TO BE ACQUIRED UNDER THE SCHEME
CHEETHAM CREEK	POINT COOK	\$19,580 TO \$17,622	DEVELOPMENT OCCURRED AT A SIGNIFICANTLY FASTER RATE THAN FORECAST, AND REDUCTION IN FORECAST CAPITAL EXPENDITURE
HALLAMVALLEY CONTOUR DRAIN	NARRE WARREN	\$9,280 TO \$8,352	AN ADDITIONAL AREA OF DEVELOPABLE LAND WAS INCLUDED WITHIN THE SCHEME BOUNDARY
LATHAMS RD	CARRUM DOWNS	\$9,850 TO \$8,872	REDUCTION IN FORECAST CAPITAL EXPENDITURE

# Melbourne Water income and expenditure for Greenfield and Redevelopment Services Schemes since the 1970s



## Development Services Schemes in Melbourne Water's new operating areas

In November 2005, Melbourne Water became the responsible authority for waterway, regional drainage and floodplain management throughout the Port Phillip and Westernport region. The new operating areas include the Upper Maribyrnong and Werribee catchments, the Mornington Peninsula, Phillip Island and French Island.

This substantial extension to Melbourne Water's operating area (now totalling 13,000 sq km) resulted in several new urban growth areas requiring Development Services Schemes to facilitate waterway, drainage and floodplain services.

Some 19 Greenfield Development Services Schemes in these extended areas were progressed in 2007/08 and at 30 June 2008 were in various project phases such as investigation, completed strategies and consultation with councils and landowners.

Townships and areas where new Greenfield Development Services Schemes are being developed to support urban growth are:

- › Tarneit and Wyndham Vale in Wyndham City Council
- › Bacchus Marsh in Moorabool Shire Council
- › Gisborne and New Gisborne in Macedon Ranges Shire Council
- › Phillip Island in Bass Coast Shire Council
- › Beveridge and Wallan in Mitchell Shire Council
- › Melton in Melton Shire Council
- › Sunbury in Hume City Council

Other townships and areas for which Greenfield Development Services Schemes will be prepared are Melton West, Romsey, Ballan, Riddells Creek, Loch and Nyora.

## Reviews of Development Services Schemes

In addition to an annual financial review, Melbourne Water periodically undertakes engineering reviews of Greenfield Development Services Schemes to keep schemes up to date with urban growth boundary movements and rezoning, changes as a result of development and impacts of legislation such as net gain.

In 2007/08, the following Greenfield Development Services Schemes were reviewed and the updated schemes approved for implementation:

- › Deep Creek South
- › McGregor Road Pakenham
- › Dohertys Drain – this catchment was part of the original Laverton Creek scheme, which is being reduced into a number of smaller Development Services Scheme catchments
- › Lower Carrum Downs
- › Lyndhurst



## Sustainability in action

### Stormwater reuse at Mernda Villages

Melbourne Water strongly supports sustainable practices applied in new urban development, such as stormwater reuse to complement well established water sensitive urban design principles. Mernda Villages in Mernda is the first development in Melbourne to incorporate aquifer storage and recovery.

Development of the estate began in 2004 and in collaboration with Melbourne Water and the City of Whittlesea, the developer, Stockland, constructed about 40 raingardens along local street edges, which form part of the streetscape design.

Stormwater from roads flows into the raingardens where the stormwater is filtered before entering a wetland for further treatment.

An investigation was undertaken on the incorporation of an aquifer storage and recovery system beneath the wetland. In wet weather the aquifer storage and recovery system would capture excess surface water from the wetland after it has been treated.

The water would be held in an underground aquifer where it could be used to irrigate the surrounding parks and gardens during dry weather. This project has recently been tendered by the City of Whittlesea under a design and construct arrangement.

Melbourne Water encourages developers to consider alternative ways of managing stormwater, such as the initiative at Mernda Villages, including the installation of rainwater tanks.

### Mordialloc Creek wetland protects the bay

A wetland is being constructed within the Mordialloc Creek corridor from Wells Road to the Waterways estate. The creek profile is being enlarged to improve flood management. Flooding occurs under current conditions on the north side of the creek in Braeside between the creek and Canterbury Street.

Project works include removing the levee bank, removing soil and silt from the floodplain and using this material to reshape the north side of the creek. The works will increase the creek's capacity to carry floodwater, and enable this land to be developed. Civil works have begun and are expected to be completed by June 2009. Planting will follow from September to November 2009.

The \$7M Mordialloc Creek wetland will be one of Melbourne Water's largest constructed wetlands and will remove 1.7 tonnes of nitrogen from entering Port Phillip Bay annually.

The project will be funded by Melbourne Water and developer contributions from future industrial development in Braeside.



## Major infrastructure projects undertaken by other authorities

Melbourne Water has a significant role in construction projects such as freeways and railway lines where the infrastructure crosses a Melbourne Water waterway, main drainage, sewerage or water supply asset.

In 2007/08, major infrastructure works included the completion of works associated with EastLink, and impacts resulting from the Monash Freeway upgrade. The 39km EastLink tollway required eight major waterway realignments, four waterway/retarding basin modifications and 12 waterway crossings, along with major water transfer main and sewer relocations.

Water Sensitive Road Design (WSRD) was implemented for the entire length, resulting in sedimentation basins/small wetlands, and two large wetlands on Heatherdale and Dandenong Creeks, to treat stormwater run-off from the tollway.

The Monash Freeway upgrade addressed design considerations around Melbourne Water's waterways, main drainage and sewerage assets, along with options for implementing WSRD within a limited road reserve.

VicRoads was a key partner on freeway and urban projects including the Pakenham and Deer Park bypasses and numerous road duplications.

Melbourne Water's role included overseeing the design of seven major waterway interfaces and protecting waterways by ensuring appropriate WSRD initiatives were implemented.

Melbourne Water was part of the Frankston Bypass Technical Reference Group and contributed to the development of an environment effects statement (completed in November 2008). It also overviewed the hydraulics associated with new bridge structures across waterways and site environmental management of the Melbourne-Sydney railway line upgrade at Craigieburn.

## Redevelopment Services Schemes

Redevelopment in established areas of Melbourne will continue to occur across many catchments. The Government's Melbourne 2030 directs redevelopment into specific areas. Based on this policy, Melbourne Water has identified priority catchments in established areas that will be investigated and Redevelopment Services Schemes that will be put in place where they are feasible and justified.

Redevelopment Services Schemes aim to ensure that redevelopment does not adversely impact on the existing drainage service. They are long-term schemes in which drainage infrastructure replacement or duplication is undertaken.

A total of 68 Redevelopment Services Schemes have been investigated since the program began in 2004/05. Some 28 of these schemes have been approved and implemented with development contributions collected via statutory referrals made to Melbourne Water. A further 28 investigations are complete with the remaining 12 in the investigation phase.

### Redevelopment Services Schemes investigated in 2007/08:

SCHEME	MUNICIPALITY
BACK CREEK	BOROONDARA
BEAUFORT RD DRAIN	MAROONDAH
BELL ST MAIN DRAIN	DAREBIN
BROADWAY DRAIN	DAREBIN
CLAYTON DRAIN	MONASH
DUBLIN RD	MAROONDAH
GLASS'S CREEK	BOROONDARA
HEATHERDALE CREEK	MAROONDAH
KEW MAIN DRAIN	BOROONDARA
MEEK ST DRAIN	BAYSIDE
UPPER OLD JOES CREEK	KNOX
PURINUAN RD DRAIN	DAREBIN
RINGWOOD LAKE DRAIN	MAROONDAH
RINGWOOD SOUTH	MAROONDAH
SALT CREEK	BANYULE
SOUTHERN RD DRAIN	BANYULE
STEANE ST	DAREBIN

### More information on Development Planning and Melbourne Water

For more information or to view our Waterways Operating Charter, visit [melbournewater.com.au](http://melbournewater.com.au)

Melbourne Water's Land Development Manual and principles for provision of waterway and drainage services for urban growth can be found at: [ldm.melbournewater.com.au](http://ldm.melbournewater.com.au)

## Melbourne Water

100 Wellington Parade, East Melbourne  
PO Box 4342 Melbourne Victoria 3001  
Telephone 131 722  
Facsimile 03 9235 7200  
[melbournewater.com.au](http://melbournewater.com.au)

ISBN 978-1-921603-28-0 (print)  
ISBN 978-1-921603-29-7 (web)

Disclaimer: This publication may be of assistance to you but Melbourne Water and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

© Copyright May 2009  
Melbourne Water Corporation  
All rights reserved

Printed on Tudor RP an Australian made  
100% recycled paper.

