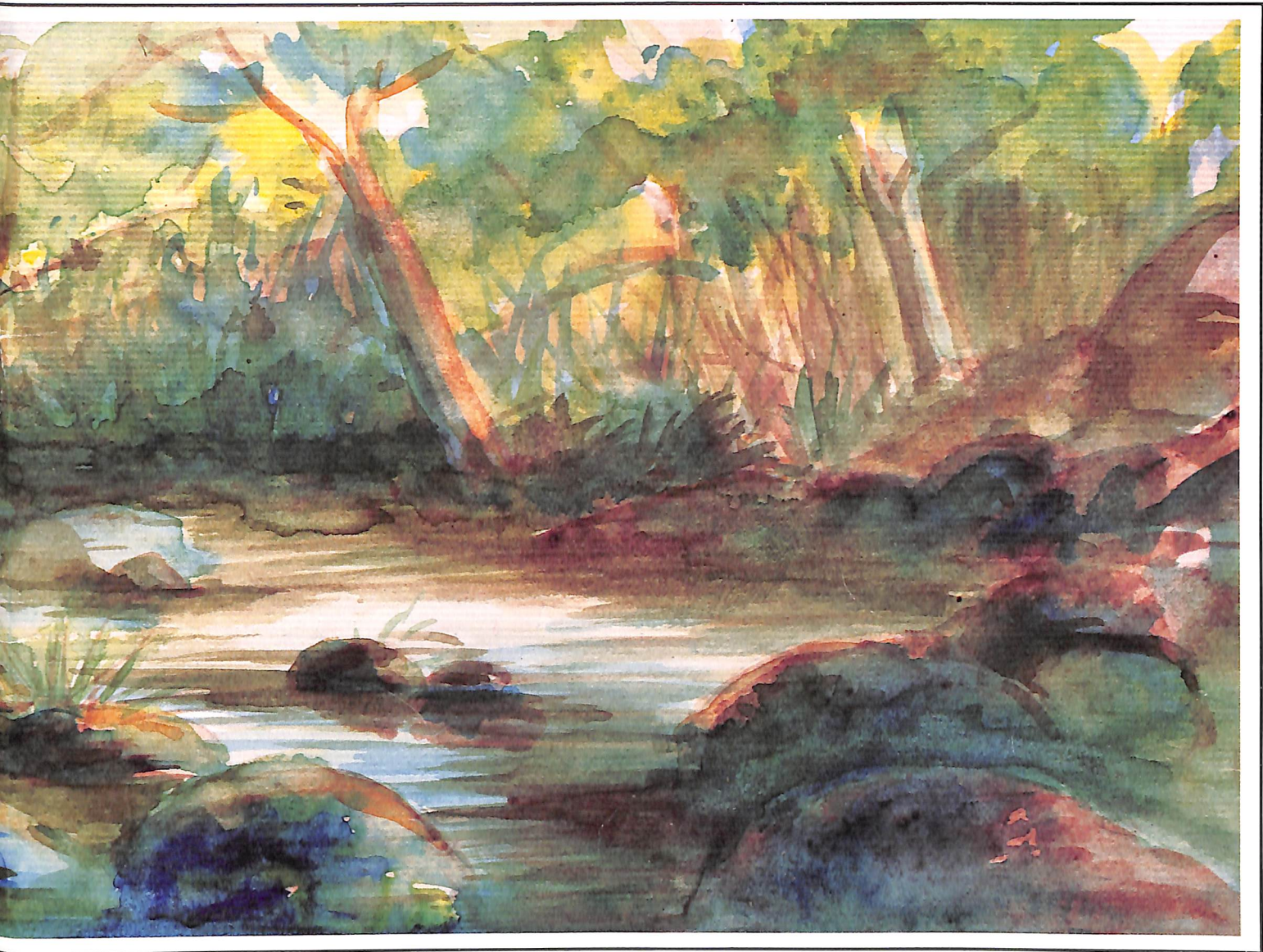
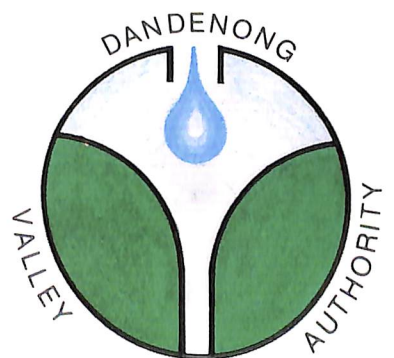




DANDENONG VALLEY AUTHORITY



DANDENONG VALLEY AUTHORITY
Constituted 1964

20th Annual Report
for the year ended 30th September, 1984

CHAIRMAN:	Maurice Leslie Portingale, B.E.M., J.P.	Representing City of Chelsea
DEPUTY CHAIRMAN:	Noel Owen Ferguson	City of Frankston
COMMISSIONERS:	Robyn Barker Michael Stansmore Bishop, D.D.A. Neville Franklin Bromley Francis John Corr William Coyne Leonard Steven Crowe Dip. M.E., F.A.I.M. Ray Gunston B. Com., (Hons) Dip. Ed. Terence Michael Heffernan Francis Joseph Holohan, J.P. Betty Margaret Marsden George L. Pile, F.S.A., A.C.I.S. Walter H. Tew, M.B.E., J.P. John Gladstone Thomas, A.A.S.A. (deceased 4th Oct.'84) Ivan Geo. Neil Warner, O.A.M. Arthur Wren, J.P. Keith Wishart	Shire of Lillydale Shire of Pakenham City of Oakleigh City of Ringwood City of Nunawading Government Nominee Government Nominee City of Waverley City of Dandenong Shire of Sherbrooke City of Croydon City of Knox Government Nominee City of Springvale Shire of Cranbourne City of Berwick
	Commissioners Retiring During Year: John K.P. Byron, J.P. Leone Medlyn, A.A.S.A. Robert John Newman, A.A.S.A., R.C.A. Anne O'Shaughnessy Bernard Milton Seebeck, M.B.E., J.P.	City of Berwick City of Oakleigh Government Nominee City of Croydon City of Knox
PRINCIPAL OFFICERS:	Chief Engineer-Manager Deputy Manager Secretary Executive Engineer Director of Technical Services	D.G. Thompson, B.C.E., Dip. T.R.P. E.W.S., C.E., M.I.E. Aust. F.A.I.M. K.G. Abberton, F.A.S.A., C.P.A. J.H. Ellis, Dip. C.E., E.W.S. (Retired 19th April, '84) G.C. Rooke, Dip. C.E. M.I.E. Aust.

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Part 2 HIGHLIGHTS AND ACHIEVEMENTS

■ TASK FORCE RECOMMENDATION

The recommendation of the Task Force review and the ministerial statement on the eighth report of the Public Bodies Review Committee, was that "the authority should continue to exist". This was also the conclusion of an enquiry that caused concern, but so far little benefit to the DVA, or those interested in improving the effectiveness of this organisation, or those desiring a more widely understood system of accountability.

Possibly too much was expected of an enquiry which became directed primarily at the sections of the water industry involving supply, sewerage and irrigation. It did not have the time nor the understanding of the complexities of waterways management and stream environs, to provide purposeful direction. As a consequence, a series of further investigations and enquiries are to be undertaken which should create a greater community awareness and responsiveness of the essential character of proper stream management and protection. If successful in attaining a favourable shift in public attitude towards this field, then its commencement of these enquiries during this year will become a significant highlight in the history of the water management industry, as well as the particular interest of the Dandenong Valley Authority.

■ HIGHLIGHTS OF 18TH SEPTEMBER 1984 FLOOD

The storm of 18th September 1984 resulted in the largest flows recorded in the Authority's district since 1934. The flood frequency for the northern portion of the Dandenong Creek Catchment and the Pakenham Catchment, has been assessed at between 25 and 50 year return period. Some fifteen retarding basins filled to levels in excess of previous records, with two actually overflowing.

The Authority's drainage system operated well, mitigating both flooding and erosion, particularly in the Cardinia/Toomuc Creek system. The stream stabilisation, major drop structures and retarding basins completed by the Authority since 1979, prevented any significant damage to this area. Previously these streams had been eroding extensively for many years, causing heavy sedimentation and damage to the sea grass beds in Western Port Bay. The event provided valuable experience for staff in implementing the Authority's Counter Disaster Plan, as well as a wealth of hydrographic information and recordings.

■ KANANOOK CREEK PUMP STATION

The construction of the Kananook Creek Pump Station undertaken by the Authority's Day Labour Organisation between June 1983 and January 1984, was officially opened by the State Treasurer, The Honourable R.A. Jolly on 25th February 1984.

The station which cost \$900,000 will ensure a continuous flow of sea water along Kananook Creek and improve the quality of the creek water.

■ NATIONAL WATER SPORTS CENTRE

The feasibility study for locating the National Water Sports Centre on Patterson River upstream of Carrum, was completed by the Authority during the year and presented to the Minister for Youth, Sport and Recreation. It is envisaged that Government funding will be approved in the near future to enable construction of the initial stages.

■ CONFERENCE OF ASSOCIATION OF VICTORIAN RIVER IMPROVEMENT TRUSTS

The Authority hosted the annual two day Conference of the Victorian River Improvement Trusts in March 1984. The theme of the Conference was Waterway Management "The Way to Go". Speakers at the Seminar were Mr Ian Sargeant, Mr Ron Hodges, Mr Peter Dunk, Mr Bob Welch and Mr Don Thompson. A total of 86 representatives were in attendance. On the second day of the Conference, 95 members toured the area of the Authority inspecting its works. The Conference was a great success with many thank-yous since being received.

■ BIRD'S LAND

The Authority assisted The Shire of Sherbrooke in purchasing 68 hectares of farm land immediately upstream of the Monbulk Creek Retarding Basin, with the view of conserving the area for public use.

An official opening was jointly performed by the Shire President and the Authority's Chairman on 14th April, 1985. This property together with the Monbulk Creek Retarding Basin, is now to be used by the public under Sherbrooke Shire Management, with input from the Ferny Creek-Monbulk Creek Advisory Committee.

■ SPECIAL STUDIES

During the year a number of special studies and reports were prepared and published, and some new ones initiated. The status of heavy metals in Mordialloc Creek and the impact of Ash Wednesday bushfires on creeks are two interesting publications. Others such as Devon Meadows strategy and Pakenham Flood Study, involve the more mundane but necessary approaches to flood mitigation. With the use of consultants, new studies into Seaford Wetlands environment and Dandenong Creek Flood Plain development have been started. An important study of the treatment of wastewaters by aquacultural methods is nearing its completion after some three years of effort.

■ SUBDIVISION INCREASES

With the increase in economic activity, the Authority has experienced a 400 per cent increase on last year in subdivisional enquiries. This has put a strain on Authority resources and additional staff have been appointed to cope with the extra workload.

Part 3 **ROLE, FUNCTION AND OBJECTIVES**

STATUTORY ROLE

The DVA is a statutory body created by an Act of the Victorian Parliament. The DVA Act 1963 quotes "An Act to constitute a Dandenong Valley Authority for the drainage of the waters of the Dandenong Creek and its tributaries, channels and watercourses, the improvement of lands within the catchment thereof and for the prevention of flooding, pollution and other purposes." Amendments to legislation have enabled the Authority to maintain a firm control over new developments within the catchment, ensuring adequate drainage provision for new subdivisions. In 1977 an amending Act extended the district to encompass the catchments of the Cardinia, Toomuc, Deep and Gum Scrub creeks, upstream of the Koo Wee Rup Flood Protection District.

AREA OF OPERATION

The Authority's district encompasses an area of 1036 square km, which contains 740 square km in the Dandenong Creek and 296 square km in the Cardinia-Toomuc Creek catchments. The population serviced is approximately 640,000 located within 15 municipalities in the eastern suburbs of Melbourne.

STRUCTURE

The Authority comprises of one representative from each of the 15 member municipalities, plus three Government nominees. The Authority employs approximately 200 persons under the direction of the Chief Engineer-Manager, of which 60 are associated with Management, Administration, Technical and water quality functions, with the balance involved in field operations.

FUNCTION

The major functions of the Authority include flood prevention and mitigation, pollution control, drainage and land improvement programs.

The prevention and mitigation of flooding includes:

- (a) a general works program aimed at correcting inadequacies in flood protection arising from past decisions relating to community development
- (b) drainage scheme program aimed at providing adequate outfall drainage to subdivisions and/or development of land within the district
- (c) an information and data collection program aimed at improving the basis for future decision making and advisory services
- (d) the operation of a counter disaster program covering the emergency flooding events which includes food forecasting, advising State Disaster plan controllers during the event and assisting ratepayers and others in the aftermath phase

- (e) the identification declaring and controlling (including some buy-back) of flood plains and other water oriented lands with the aim of preserving and enhancing the natural flood carrying characteristics of such lands as part of the urbanising process
- (f) the proper operation and maintenance of the DVA waterway/drainage system in order to preserve its functional capability at all times.

The prevention of pollution activity involves:

- (a) a delegated responsibility from the EPA covering licensing of discharges of wastewaters to streams, and surveillance thereof
- (b) the preparation and implementation of strategies and works programs aimed at mitigating pollution from diffuse sources
- (c) the investigation and undertaking of works designed to improve environmental conditions of water quality in streams and stability of banks, etc.
- (d) applied research and development of practice and technique for better management of the water oriented environment and the preservation of beneficial uses thereof
- (e) the provision of lake and other water body, water quality monitoring service that includes provision of consulting services to other public bodies

Management of water oriented lands for recreational and other beneficial uses involves:

- (a) agreements with member Councils to develop retarding basin lands and other lands owned by the DVA for local recreational purposes
- (b) arrangements for the development of regional recreational facilities or wildlife sanctuaries on lands and waterways owned or under the control of the Authority, either by direct management of the DVA or via the creation of a Management Committee under the DVA Act.
- (c) the licensing of lands not being required for public secondary purposes to farmers, graziers and others, usually on an annual basis
- (d) the undertaking of studies of selected areas of flood land with the aim of establishing guidelines for its proper future management
- (e) arrangements with governmental departments that enable the development and/or continuance of water sporting and allied activities on waterways under the DVA's control.

Other activities include acting as consultants to public bodies and Councils in the specialist field that the Authority is experienced.

BROAD OBJECTIVES

Direction	Within the concept of the State Water plan as applied to catchment management, further the practice of waterway management within the present DVA district and prudently accept opportunities to provide consulting services.	Provide direction, preserve charisma and sustain the values and principles of the Authority and its employees, in the carrying out of the operational duties.
Capacity	Enhance the collation and analysis of basic data technology to more clearly establish the fundamental factors that make up the practice of waterway management.	Organisational Structure As necessary to review and modify organisational structure to best suit the functions and duties to be handled by the Authority and its staff. To favour simplicity in structure and organisational effectiveness.
Review	Consolidate and update the policies of the DVA having regard to the State Water Plan, Legislative amendments, policies and procedures adopted by Government, or other appropriate regional bodies.	Finance Develop in consultation with other agencies appropriate financial policies, directed towards meeting governmental requirements relating to the financial resources and assistance employed in DVA operations.
Planning	Prepare the 1985-95 10-year planning document.	Develop within government policy guidelines, appropriate financial strategies and evaluation techniques, for the continued operations of the DVA and review same at appropriate intervals.
Computerisation	Implement a five-year EDP Plan, with regular reviews, to enable Authority operations to be provided with appropriate computer services to more satisfactorily handle the functions and tasks that make up those operations. In co-operation with other organisations, play an appropriate role in recording and storing of information relating to the characteristics of land and the relevant environment.	Public Consultation and Communication Foster excellent relations and communications with the ratepayers of the DVA as well as the community and their organisations within its district. Develop improved techniques that enhance effective interest and understanding of the role and function of DVA within its community.
Renewable Natural Resources	Contribute to practice of sustaining those renewable natural resources involved in or interacting with water, water resources and the water environment. Participate in development and implementation of strategies for managing renewable natural resources.	Residual Responsibilities Be prepared to prudently evaluate community problem areas amenable to the expertise and capabilities of the DVA.
Counter Disaster Activities	In conjunction with the State Emergency Services, develop an appropriate counter disaster role in the field of flooding and pollution spillage. Contribute to this plan in regard to other forms of disaster in and around the DVA District.	Employees To develop and monitor programs which will provide training and further technical education at appropriate stages of the employees career, such that programs are complementary and are based on assessed needs. To develop working practices and conditions which minimise risks in respect to health and safety, and maximise job satisfaction and performance. To maintain and encourage participation of employees in the management and policy making of the organisation.
Operational Emphasis	Monitor, review and update the operational practices of the Authority with the intention of effective and efficient service delivery in accordance with Authority policy.	

Part 4

ADMINISTRATION

COMMUNITY INVOLVEMENT AND ACCOUNTABILITY

COMMITTEES

The three Committees of Management established under the Dandenong Valley Authority Act contributed effectively to the management of proclaimed environmental and recreation areas during the year. Advisory Committees continued to assist the Authority and Committees of Management giving advice on a range of recreational and environmental matters.

DETAILS OF COMMITTEES OF MANAGEMENT ARE:

Committee	Chairman	Function
Edithvale-Seaford Wetlands Environmental Area	Mr John Scholes	To develop and control the declared wetlands environmental areas in a manner compatible with the interests of drainage, flood control and conservation of wildlife.
Patterson River Recreation Area	Mr Don Thompson	To develop and maintain the gazetted Patterson River Recreation Area so that ultimate use can be derived by the members or the Community.
Tirhatuan Park Recreation Area	Commissioner Len Crowe	To administer and further develop the gazetted Tirhatuan Park Recreation Area ensuring that recreational uses are compatible with the prime function of the land for flood mitigation.

DETAILS OF ADVISORY COMMITTEES ARE:

Committee	Chairman	Function
Cardinia Creek Conservation	Dr George Silberbauer	To determine by way of stream classification, the degree of environmental significance of streams in the Cardinia Creek and adjacent Catchments, and to advise on works planned in these catchments.
Ferny Creek - Monbulk Creek	Mr Col Kennan	To advise on waterway management of streams in the Shire of Sherbrooke.
Kananook Creek	Commissioner Noel Ferguson	To make recommendations to the Authority on ways of improving the amenity of Kananook Creek.
Patterson Lakes	Mr Ian Wightwick	To advise on the operation and maintenance of Patterson Lakes.
National Water Sports Centre — Victoria Steering Committee	Mr Michael Higgs	To advise the Authority during the preparation of the master plan for the National Water Sports Centre and Patterson River.
Edithvale-Seaford Wetlands Environmental Area Advisory Committee	Mr Les Williams	To advise the Edithvale-Seaford Wetlands Environmental Area Committee of Management on the operation and control of the Wetlands.
Dandenong Creek Flood Plain	Mr C. Hay	The Committee comprising representatives of the Department of Youth, Sport and Recreation, the City of Berwick, the City of Dandenong and the Dandenong Valley Authority was established during the year to advise the Authority in the preparation of a strategy plan for development of the Dandenong Creek Flood Plain between Stud and Kidds Roads.

PUBLIC RELATIONS AND EDUCATION

The Authority continued to be involved and keep the general public aware of its activities. This has been achieved through literature publication, personal contact, press releases, attendance at public meetings and seminar participation. Educational tours of the Authority's area were conducted for many schools within the district. In addition to tours for member councils, the Authority hosted visits and tours for the member of Youth Sport and Recreation, Minister for Environment and Planning, Chairman of the EPA and Chairman of the RWC. Several visitors from interstate were also shown over the Authority's area.

The Authority hosted the 1984 Conference for the Association of Victorian River Improvement Trusts held in March 1984.

PUBLICATIONS AND LITERATURE

Technical publications of interest made available during the year were "The Effects of the Ash Wednesday Bush Fires" and the "Heavy Metals Study for the Mordialloc Creek". A complete list of Authority publications is detailed in the attached appendix.

COUNCILS AND GOVERNMENT

Relationships with member Councils and their staff continued to be satisfactory and a number of opportunities for co-operative effort were accepted. Representatives were provided to DVA Management and Advisory Committees. Some studies and projects were jointly financed. The procedure leading to budgetary and annual works program determinations was modified to allow an opportunity for specific council input at that time and this in turn, has led to further steps being taken to improve communications and response. In those instances where Council support to the Dandenong Valley Authority was officially and strongly expressed, such action was appreciated as it helped in many ways.

Dealings with Government were more difficult than in previous years. Central management restructuring of the water industry has had a destabilising effect to lower the level of predictability of central decisions, and to modify confidence levels.

As a result of a financial review that did not achieve its agreed objectives, general grant

ENGINEERING AND DEVELOPMENT CONTROLS

PLANNING SCHEMES AND PERMITS

Planning schemes prepared by planning authorities were received by the Authority. Comments were offered in respect to implications on existing and proposed drainage, and flood mitigation proposals.

The Authority commented with conditions in respect to planning permit applications forwarded by the various Councils or planning authorities.

assistance to Authority works stops in the 1984/85 year and other changes are recommended that are not based on practical wisdom. The rebuttal of such concepts is time consuming and divisive to established relationships.

It is expected that a more enlightened attitude will prevail in the water industry in the future, when dealings with Dandenong Valley Authority are involved.

COUNTER DISASTER

During the year, the Authority had two significant rainfall events (14-16 October 1983 and 18-19 September 1984) which necessitated the activation of the Emergency Operations Centre as part of the Counter Disaster Plan. During the September 1984 flood, the northern part of the Dandenong Creek catchment experienced a flood event which was assessed as a once-in-50-years or two per cent probability of occurrence. In the central areas and in the Pakenham catchments, the events were assessed at a once-in-25-years or lesser probability. Considering the nature of these floods, the drainage system operated remarkably well. However, there were some minor problem areas which will require corrective works.

As a result of our experience with the October event, 29 special plans were prepared for use in the Emergency Operations Centre. These plans show sections through retarding basins and relate bank levels to gauge board heights, structure levels and storage capacity. Plans were also prepared of those areas prone to flash flooding, e.g. road culverts, low lying houses etc., showing the relationship of water level to existing permanent features such as road posts (for gauging depth of water over roadways) brick fence levels and levee bank levels. These special plans were found to be extremely useful during the flood event of September 18th 1984.

COMMUNITY AWARENESS

The Authority continues to respond promptly to complaints and requests from the Community for assistance with regard to grass cutting, noxious weeds, minor drainage and flooding problems.

Complaints relating to trail bike activity declined throughout the year.

SUBDIVISION AND DEVELOPMENT

During the year 461 plans of subdivision were submitted for the Authority's consent to the development of 5,394 hectares of residential, industrial or commercial land. Engineering construction plans associated with the developments were also reviewed and comment made in relation to Authority assets.

PERMITS AND CERTIFICATES

Permits for works within declared flood plains numbered 56 and 27,834 certificates were issued indicating whether land was affected by flood plain declaration or building line prescription. Where necessary the certificates highlighted other information relating to drainage.

POLLUTION AND ENVIRONMENT

The Authority continues to place requirements on new developments to ensure that polluted waters

will not cause detriment to the drainage system and in particular ensure that low density subdivisions are capable of absorbing wastes within the property boundary.

In its role as a delegated agency of the EPA the Authority undertook licence issue and enforcement, together with water pollution control and stream sampling.

GENERAL ACTIVITIES

ARTERIAL DRAIN DECLARATIONS

During the year 96 new drains or sections thereof were formally declared by publication in the Government Gazette, bringing them under the control and management of the Authority.

DRAINAGE SCHEMES

Investigations were undertaken on four contributory Drainage Schemes during the year. The schemes were formulated to provide co-ordinated and adequate outfall facilities from developing properties, at a time compatible with development. The Authority now has a total of 77 such schemes in operation or in the process of formulation.

FLOOD PLAIN INVESTIGATION

As part of the Authority's overall strategy for the proper management of major waterways and flood plains, investigations are being undertaken for two major waterways in order to estimate the level, extent and frequency of flooding. A review is also underway to identify factors relevant to the procedure for the future declaration of land liable to flooding along waterways.

LAND ACQUISITION

During the year the Authority acquired 126 Ha of lands costing \$424,360. Significant acquisitions were in the areas of the Hallam Valley, Dandenong Creek, Ferny Creek Floodplains, Edithvale Wetlands and the Miles Grove Retarding Basin. These properties were acquired to enable the proper management, control and use of flood plains, the construction of mitigation works and preservation or protection by way of buffer zones for environment significance.

FERNTREE GULLY ROAD DUPLICATION — DANDENONG CREEK FLOOD PLAIN — Cities of Knox and Waverley

Investigations were undertaken for the Road Construction Authority and councils, to determine the affect on flood levels of the proposed Ferntree Gully Road and bridge duplication across Dandenong Creek and its flood plain. Work will continue on this project as plans near completion.

DEVON MEADOWS - CANNONS CREEK DRAINAGE STUDY — REPORT 2 Rural Water Commission & Shire of Cranbourne

Following on from the first part of this study which was completed during 1982/83, the Authority substantially completed the second and final stages. The investigation was carried out by the Authority for the Rural Water Commission and the Shire of Cranbourne, on a catchment outside but adjacent to the Authority's district. The first part of the study identified the nature, cause, frequency and extent of flooding. The second part completed this year, evaluated measures for the control and alleviation of the drainage and flooding problems. A regional drainage strategy has been proposed for the implementation and management of the proposed measures.

During the year, the Authority was represented on a consultative committee comprising public and local interests. A public meeting was also held in order to facilitate the dissemination of information concerning the proposed drainage strategy, and to promote feedback.

TOONALOOK HARBOURS

Subject to the approval of the Minister for Water Resources, the Authority will be acting as consultants to the Shire of Bairnsdale, in conducting water quality monitoring of a real estate lake system at Paynesville.



Bank battering and re-vegetation of Toomuc Creek.



Submersible pumps for Kananook Creek Pumping Station.

COMPUTERISATION

A five year computerisation plan was formulated on the basis of greatly improving efficiency of the storage, manipulation and retrieval of data used in authority operations. Subsequently 40 copies of an equipment and software specification were distributed to potential suppliers, following placement of newspaper advertisements outlining requirements. An implementation schedule based on the final choice of system will be initiated mid 1985.



FORWARD PLANNING

Investigations have commenced in the preparation of a forward look document of the Authority's activities, policies and works, for the ensuing 10 year period between 1985-1995.

STAFF TRAINING AND DEVELOPMENT

Senior officers continue to participate in the Rural Water Commission's "Introduction to Management and Middle Management Training Program". Other officers have attended training courses related to supervision, administration and technical skills improvement. Field personnel have attended courses related to safety, works planning, supervision and works construction training.

SAFETY

The Authority's safety awareness program has resulted in a further reduction of days lost due to work related injuries. There were three significant injuries recorded during the year. Total days lost for the year were 318 compared with 360 for the previous year. The lost time hourly accident rate was reduced from 117 per million man hours last year to 73.6 per million manhours this year.

The formation of the Occupational Health and Safety Committee and the election of safety representatives from the various work areas, has been a further step in the effective management of safety within the Authority.

INDUSTRIAL RELATIONS

Harmonious relations continue to exist between management, staff and employees.

The Authority recorded no lost days during 1983/84 because of industrial action.

Part 5

DESIGN AND INVESTIGATION

ENGINEERING PLANNING

Substantial increase in subdivisional activity has placed heavy demands on planning and co-ordination between designs and construction, to ensure the provision of outfall drainage facilities in advance of the subdivisional construction works.

To maintain this goal, it has been necessary to make greater use of consulting engineers, construction of works by contract, and by arrangement with the subdivisional developer.

Corresponding with the increased development, is the rise in submissions by other servicing Authorities seeking advice and/or approval to their service installations.

A comparison of the increased activity can be gained by comparing the contributions received by way of drainage scheme contributions for 1982/83 of \$1.32 million as against \$3.94 million for 1983/84.

DESIGN

The design function involves the programming and preparation of detail design plans, specifications, estimates and reports for the engineering components of the Authority's works.

Detailed plans for 14 Construction projects were completed during the year, of which 11 were associated with contributory drainage schemes which reflects the significant surge in the urban development industry.

DRAINAGE SCHEMES — GENERAL

The Authority continued to provide outfall drainage services for developing properties by way of stage construction of works within contributory drainage schemes. The dramatic upsurge in development activity during the year is reflected by the 44 individual projects which were designed by the Design Section and external consultants, compared with 20 the previous year.

The Authority's policy of minimising delays in the development industry by permitting the design of drainage works to be carried out by the developers' consultants in conjunction with the design of other services, was successfully maintained despite the large increase in supervisory duties entailed.

In total 15,502 lineal metres of 225mm to 2400mm diameter pipeline and 765 lineal metres of concrete-lined channel at a total estimated value of \$4.91 million were designed, of which \$3.09 million or 63 per cent was completed internally.

SIGNIFICANT SCHEME DESIGNS

Parkmore Drainage Scheme, Stage 2 *City of Springvale*

282 lineal metres of 1200 to 1350mm diameter pipeline. Estimated cost \$126,361.

Lysterfield West Drainage Scheme, Stage 2 *City of Knox*

252 lineal metres of 1800 to 1950mm diameter pipeline. Estimated cost \$169,961.

Upper Bungalook Creek Drainage Scheme, Stage 3 *Shire of Lillydale*

1172 lineal metres of 1500 to 1575mm diameter pipeline. Estimated cost \$469,740.

Blind Creek Drainage Scheme, Stage 10 *City of Knox*

745 lineal metres of 1500 to 1650mm diameter pipeline. Estimated cost \$485,737.

Lysterfield West Drainage Scheme, Stage 3 *City of Knox*

462 lineal metres of 1800mm diameter pipeline. Estimated cost \$278,272.

Upper Dandenong Creek Drainage Scheme, Stage 13 — *City of Knox*

500 lineal metres of 900 to 1350mm diameter pipeline. Estimated cost \$152,919.

Hallam Road North Drainage Scheme, Stage 4 *City of Berwick*

1290 lineal metres of 825 to 1875mm diameter pipeline. Estimated cost \$347,852.

Carrum Downs Drainage Scheme, Stage 2 *Shire of Cranbourne*

242 lineal metres of 1200mm diameter pipeline. Estimated cost \$179,156.

To meet development programming needs, arrangements were made with councils and developers' consultants to prepare designs under

supervision of the section, for a further 33 stages of various drainage schemes and two waterway remodelling projects. Significant involvement was maintained in consultative activities (on a free basis where applicable) and special projects such as the National Water Sports Centre.

Coppelia Street Drainage Scheme, Stage 4 *City of Knox*

200 lineal metres of 1950mm diameter pipeline. Estimated cost \$209,435.

Dandenong South Drainage Scheme, Stage 11 *City of Dandenong*

765 lineal metres of grassed waterway with concrete lined invert and 155 lineal metres of 600 to 2400mm diameter pipeline. Estimated cost \$873,149.

Lyndhurst South Drainage Scheme, Stage 11 *Shire of Cranbourne*

495 lineal metres of 1125 to 1275mm diameter pipeline. Estimated cost \$259,502.

DRAINAGE IMPROVEMENT WORKS

Consistent with the Authority's objectives to improve the drainage of lands, prevent or mitigate flooding, and enhance or protect natural waterways through urban areas, the following designs were completed:

Dingley Drain upstream of Lower Dandenong Road — *City of Springvale*

Consultants carried out designs for 95 metres of 1200 to 1275mm diameter pipeline, providing out-

fall drainage facilities for future developments. All costs of this work were to be met by the developer.

Development of DVA land — Police Road, Rowville — *City of Knox*

In response to a demand for fill disposal sites, designs were completed for filling a portion of Authority-owned land near Police Road.

Dunlops Drain Remodelling, Stage 4 (Follett Road to Mornington Peninsula Freeway Reserve) *City of Springvale*

Consultants completed designs for the remodelling of this drain by way of a low-flow pipeline, and grassed overflow channel. In addition to supervisory tasks, the section provided extensive advisory services to the consultant during the design.

During the year, considerable efforts were directed to site investigation and preliminary design of several complicated projects, including the remodelling of Mile Creek East Branch downstream of Centre Road, the Miles Grove Retarding Basin in Seaford, and the reconstruction of the Patterson River Seawall.

SPECIAL PROJECTS

National Water Sports Centre, Victoria *City of Springvale*

Preliminary designs were completed for the hydraulic components of the centre as part of the master plan document.

INVESTIGATION

Investigations undertaken during the year involved the preparation of contributory drainage schemes, flood plain investigation and hydraulic studies, the formulation of waterway management strategies, investigation of arterial drainage problems, and the evaluation of options prior to detail design.

DRAINAGE SCHEMES

Deep Creek South Drainage Scheme *Shire of Pakenham*

The proposed scheme serves an area of 320 ha of mainly industrial land located south of the township of Pakenham, at a total cost in the order of \$3.2 million.

Tally Ho Drainage Investigation *City of Nunawading*

In conjunction with the City of Nunawading, the Authority examined appropriate arrangements for the provision of outfall drainage, including a Retarding Basin, for an area of about 53 hectares of developing industrial and residential land.

Upper Bungalook Creek Drainage Scheme *City of Croydon and Shire of Lillydale*

A review of this drainage scheme, including computer analysis of a proposed system of three retarding basins within the scheme boundary, has been completed. The scheme will serve some 100 hectares of mainly industrial land fronting Canterbury Road, Kilsyth, and a further 135 hectares of mainly residential land to the south. Proposed pipeworks are estimated to cost approximately \$2.2 million.

Hampton Park East Extension Drainage Scheme *City of Berwick and Shire of Cranbourne*

This drainage scheme will serve a residential area of some 900 hectares on the upstream side of Pound Road, Hampton Park. An integral part of the proposed drainage scheme works, is the retention of the Hampton Park East Flood Plain. Proposed pipeworks and the acquisition of some 145 hectares of flood plain are estimated to cost approximately \$7 million.

Mile Creek West Branch Drainage Study
Cities of Oakleigh, Waverley and Springvale

This study, which has extended through the last couple of years, has examined flooding problems along the water way. Based on an assessment of the flood risk and potential damage, several structural options have been analysed regarding their effectiveness and efficiency in mitigating these problems. The study has now reached a stage which has enabled preliminary decisions to be made concerning the most favoured alternative. This alternative involves the construction of three retarding basins in the catchment, which would control flood peaks along the waterway and remove the need to carry out major waterway remodelling works along the length of the waterway. Further investigation work is now proceeding in order to investigate some elements of the favoured alternative in greater detail.

FLOOD PLAIN STUDIES

As part of the Authority's overall strategy for the proper management of major waterways and flood plains, investigations are carried out in order to estimate the level, extent and frequency of flooding along major watercourses.

Ti Tree Creek Flood Plain Study
City of Berwick and Shire of Cranbourne

The catchment area of Ti Tree Creek is approximately 27 square kilometres in area, situated between Cranbourne Township and the Hallam Valley Contour Drain. Computer modelling of the flood plain which commenced in the 1982/83 year, has been completed and plans of the flood plain prepared.

HYDROLOGIC STUDIES

The aim of hydrologic studies is to estimate the magnitude and frequency of a range of storm-water flows, at a point (or points) within the catchment. This requires an examination and understanding of the hydrologic processes relevant to each catchment, which influence the conversion of rainfall to runoff.

Pakenham Flood Control Strategy Review
Shire of Pakenham

This study commenced during the year. Its aim is to review and develop further the strategy for the flood control of Pakenham, including the catchment runoff to the levee-banked outfall which drains through the Koo Wee Rup Flood Protection District to Western Port Bay. In order to facilitate this task, extensive hydrologic computer modelling has been undertaken. This modelling examines the effect on runoff rates of various catchment conditions, and packages of structural options for flood control.

WATERWAYS STUDIES

The primary objective of waterway studies is to evaluate the critical factors and available options, for the management and control of waterways.

Pakenham Creek Remodelling Study
Shire of Pakenham

Council has been concerned for some time, that flooding of adjacent land occurs along Pakenham Creek through Pakenham as it does not have adequate capacity for existing conditions. The aim of this investigation is to determine the requirements for detailed design of remodelling works. To date, flows from 5, 50 and 100 year recurrence informal storms have been determined, so that various remodelling alternatives may be appraised.

Mordialloc Creek Remodelling, Stage 3
Cities of Chelsea, Springvale and Mordialloc

Following the completion of the Mordialloc Creek Flood Study in 1982-83, moves were made to finalise the assessment of the need for any remodelling works, which would complete the Authority's staged improvement and development of Mordialloc Creek.

Police Road Drain Management Study
City of Springvale

At the request of the City of Springvale, the Authority has been examining drainage problems, options for remedial works, and alternatives for the future improvement and development of this waterway. This includes appropriate drainage management arrangements between the Authority and the City of Springvale. The investigation was completed during the year, with the preparation of a draft report.

Investigation of Flooding Problems
August and October 1983 — All Municipalities

Following flooding in some areas throughout the Authority's district during the months of August and October 1983, the Authority investigated the nature and cause of each problem. Where necessary, remedial works were recommended.

DATA CONTROL

Involves the collecting and recording of all field data, including survey, hydrographic and meteorological information. Investigations have also commenced into the establishing of a computer based land information system.

SURVEYING

The Authority's surveying activities include the undertaking of investigation surveys for the design of engineering works; flood plain mapping; the setting out and checking of construction projects; cadastral surveys; the establishment and recording of bench marks; and the purchasing and cataloguing of maps, plans and aerial photography.

INVESTIGATION AND CONSTRUCTION SURVEYS

Wherever possible, investigation surveys and plan preparation conform to the "Official Map and Plan Systems, Victoria" and as such can be readily used by others, added to with ease or digitised for computer compilation of maps at varying scales, and will contribute to the cadastral map base of the computerised land information system.

Twenty six investigation surveys were completed during the year resulting in the preparation of 110 new plans (including cross-sections), and the updating of thirty four existing plans. Fifty plans were prepared on the Australian Map Grid format.

Where the Authority carries out construction projects, either by contract or direct management, the Survey Group provides a setting out service in the form of pegged reference lines and levelled bench marks.

Regular checking of lines and levels is carried out as construction progresses, to ensure the works meet the required specifications and standards. This information is also used to provide the "as constructed" record.

Setting out and checking services were supplied to 23 construction projects during the year.



Pipeline Construction Works.

Cadastral Survey

The re-establishment of title boundaries and alignments is part of the daily routine of the Survey Group. It ensures that works are correctly located within easements, reserves and Authority property. Cadastral surveys are also undertaken to define land to be acquired, and land required for easement purposes.

Thirty cadastral surveys were completed during the year.

Aerial Mapping

No large scale aerial mapping projects were undertaken this year, however transparent positives of 350 existing base maps showing cadastral and topographic detail, were purchased from the Rural Water Commission and the Melbourne and Metropolitan Board of Works. The Survey Group now has an up-to-date library of available metric maps within the Authority's district, at scales of 1:2500 and 1:5000. An index book was prepared, showing available maps at scales of 1:10,000, 1:5,000 and 1:2,500 for the Yarra, Carrum, Bunyip and Horsefall prime rectangles, which cover the existing district of the Authority and the Westernport Catchment.

As part of the Dandenong Creek Flood Plain recreational study, colour aerial photographs were taken along the creek between Ferntree Gully Road and Pillars Crossing. These photographs were then enlarged four times to a scale of approximately 1:2,500 so that the cadastral and topographic map sheets of the same scale could be superimposed, as an aid to consultants carrying out the recreational study.

Survey Co-ordination Act

Quarterly reports were submitted to the Surveyor General, giving details of cadastral surveys undertaken, plans prepared that conform to the "Official Map and Plan Systems" Victoria, and miscellaneous non-conforming plans.

To date the Survey Group has prepared a total of 465 conforming plans.

Third Order Base Levelling

During the 1983/84 summer period, maintenance levelling was carried out on all the bench marks located south of the Princes Highway within the Authority district. Using the in-house computer, a mathematical re-adjustment was carried out, permitting more up-to-date levels to be quoted, and isolating those marks that have been moved or disturbed.

LAND INFORMATION SYSTEMS

One of the recommendations of the first five year EDP plan for the Authority, was that a property/land information system be included as part of the adopted broad information system strategy. The computerised land information system would provide a data base of all information relating to land status, tenure, zoning, valuation and natural resources, on a spatial framework. The system would be supported by the State Government's

HYDROGRAPHIC

Network Development

The existing hydrographic network was extended with the installation of a tide recorder and gauge boards on the Pier at Frankston, and the establishment of gauge boards near the mouth of the Kananook Creek. Gauge boards were also installed at the Kananook Creek Pumping Station, Patterson Lakes and the Seaford Swamp.

The hydrographic network developed within the district incorporates 30 stream gauging stations, 32 pluviographs, seven water level recording stations and 190 rain gauges, together with numerous gauge boards, water level indicators and other instrumentation required for measurement and recording of pump operation, evaporation, wind, ground water and structure movement.

METEOROLOGY

Weather conditions for the 12 month period consisted of above average rainfall for October and November 1983, with October comprising of widespread general rain and November being extremely varied, and included wind gusts, high temperatures, cold snaps, hail and intense localised thunderstorms. From December 1983, to June 1984, respective monthly rainfall totals were below the long term monthly averages, except for January and March 1984. May was extremely dry and mean maximum temperature was also below its respective long term average. July and August 1984, generally consisted of frequent widespread showers with temperature slightly below the

Landata project, which would provide the legal, fiscal and cadastral map base. The land information system would reduce costly duplication of basic data capture, and ensure that all users have the availability of common and up-to-date data. Towards this end, the survey group has computerised all its records of Certificates of Title, Lodged Plans, Field Notes, Miscellaneous Plans, bench mark records and co-ordinates of co-ordinated marks, and has cross referenced all the field books and level books.

average. Rainfall for September was well above the longterm average.

Of the six significant storms throughout the year, the most worthy of note was rainfall occurring over a 65 hour period and in particular throughout September 18th, resulting in a maximum of 198.4mm at Mount Dandenong.

The waterways within the Authority experienced the largest peaks for almost fifty years. The peak discharge in Dandenong Creek at Dandenong was recorded at 20,000 megalitres/day, compared with 31,100 mgl/day in November 1934, 21,100 mgl/day in October 1937 and 17,500 mgl/day in May 1974.

Assuming a similar rainfall temporal pattern to a nearby pluviograph, the peak rainfall at Mount Dandenong computed in excess of a 1 in 100 year event for the two to 24 hour duration. Statistics recorded for the year 1 October 1983, to September 1984, are as follows:

Station	Municipality	Total(mm)	Av'age(mm)
Croydon South	Croydon	996	895
Dandenong	Dandenong	798	775
Frankston	Frankston	860	746
Narre Warren	Berwick	994	940
Pakenham Upper	Pakenham	1,126	946

The yearly rainfall totals are approximately 9.5 % above the long term average.

Part 6

Field Operations involving the construction, maintenance and mechanical functions of the Authority include:

- Day Labour Construction
- Contract Administration and Supervision
- Subdivisional Drainage Scheme Construction Supervision
- Maintenance of DVA Assets
- Operation of Pump Stations and Floodgates
- Purchasing of Materials, Plant and Vehicles
- Quality Control and Materials Testing
- Site Investigations

CONSTRUCTION

Expenditure on Capital Works undertaken by the Authority for 1983-84 amounted to \$3.23m. These works were constructed by day labour, contract, direct management and by arrangement with sub-divisional developers.

Significant projects in excess of \$100,000 were:

Kananook Creek Pump Station	
<i>Cities of Springvale, Chelsea and Frankston</i>	\$530,028 (\$339,701 82/83)
Easton Avenue — <i>City of Frankston</i>	\$106,977
Nunawading Outfall Drain	
<i>City of Waverley</i>	\$110,250
Blind Creek Remodelling Burwood Highway	
<i>City of Knox</i>	\$281,978
Sheltons Drain East, Stage 2	
<i>City of Springvale</i>	\$100,000
Upper Bungalook Creek Drainage Scheme	
<i>City of Croydon and Shire of Lillydale</i>	\$249,218
Blind Creek Drainage Scheme, Stage 8	
<i>City of Knox</i>	\$217,350
Lysterfield West Drainage Scheme, Stage 2	
<i>City of Knox</i>	\$180,736
Lysterfield West Drainage Scheme, Stage 3	
<i>City of Knox</i>	\$184,201

The planned works program for 1984/85 includes projects involving 1.5 km of concrete lined channel. Various construction techniques and methods have been investigated, including concrete channel paving machines. These machines are new to Australia, but have been widely used in the USA for a number of years. Our five year forward look works program includes a number of concrete lined channels. Together with the need to replace some of our existing channels within the next ten years, a detailed investigation and report into the suitability of a channel paving machine was undertaken. The report concluded that a concrete channel paver would result in quality works, safely and more efficiently, and recommended the purchase of such a machine. The Authority invited tenders for the supply and delivery of a concrete channel

FIELD OPERATIONS

paving machine, with a varying profile shape to a width of 9m. The successful tender was CMI Bidwell USA with delivery being late 1984.

MAINTENANCE

Under the direction of the maintenance section, works funded by the State Government's Employment Initiatives Program were finalised. A major achievement was the completion of toilet and recreational facilities at Monbulk Creek Retarding Basin.

In addition to regular maintenance works, the following major works have been carried out:

River Improvement

Davidsons Creek — *Shire of Pakenham*

Following the Ash Wednesday fires, the thick growth of ti-tree on Davidsons Creek between the Princes Highway and the railway line was destroyed. This provided a good opportunity to clean out and remodel this section of waterway. The result is more effective drainage of the Princes Highway and adjoining rural land.

Kananook Creek — *City of Frankston*

The condition of Kananook Creek has improved following flushing, by pumping clean water from Patterson Lakes. In addition to this, accumulated rubbish has been removed from the creek, trees have been pruned and the silt deposits removed at the pipe outlets along the creek. The mouth of the creek was dredged several times to remain navigable. This work is carried out for the City of Frankston and Ports and Harbors Division of the Ministry of Transport.

Dandenong Creek Floodway — Golf Course
City of Knox

The spillway at the top end of the floodway was completed, which involved importing fill material and re-shaping the earthworks.

Sediment Control

Liverpool Road Retarding Basin — *City of Knox*

As a result of wave action in the lake at Liverpool Road Retarding Basin, erosion has occurred at the toe of the embankment. Work commenced on treated pine structures to rectify this problem. This is similar to the edge treatment used at the lake in Sandown Park Racecourse.

Ferny Creek — *Shire of Sherbrooke*

Erosion of the banks of Ferny Creek in the vicinity of Kumbada Avenue has been stabilised, utilising log structures and rock spalls.

Dandenong Creek — *City of Dandenong*

This major desilting operation over a distance of 1,000 metres downstream of the Mile Creek confluence, involved the removal of 8,000 cubic metres of accumulated silt.

Mordialloc Creek — *City of Mordialloc*

Approximately 30,000 cubic metres of silt was removed from Mordialloc Creek between Boundary Road and the railway line. The cost of the work was apportioned between the Authority and the MMBW.

Dandenong Creek — *Cities of Knox & Ringwood*

A section of grassed waterway downstream of Bungalook Creek has been desilted. Five thousand cubic metres was removed and used to topdress embankments and waterways in the northern area.

Hallam Valley Contour Drain *Shire of Cranbourne and City of Berwick*

A cleanout of Hallam Valley Contour Drain between the South Gippsland Freeway and Narre Warren-Cranbourne Road (14 kilometres) was carried out during the year. A major cleanout of these rural drains is generally necessary once every five years.

Tidal Waterways

The main emphasis in the Tidal Waterways area is the operation and maintenance of the Authority's pump stations and tidal gates, along with the maintenance of the quiet and tidal lake systems. The Authority works in close consultation with the Patterson Lakes Advisory Committee in determining management guidelines for the lake systems.

Tree Planting and Beautification

The plantings carried out at the Sandown Park Racecourse were handed over to the Racecourse management during the year. A further 2,500 trees were planted around the Authority on capital works projects.

Weedicide Program

Following a five year moratorium on weed spraying, the Authority recommenced a controlled program to eradicate water weeds and blackberries. During 1983/84 the main attention was centred on the waterweeds in rural drains in the lower part of the catchment. While regrowth has been retarded in these drains, it is anticipated that it will take three years of repeated spraying to completely eradicate them.

Mechanical Workshop

There were no major items of plant or equipment purchased during the year. Work is still progressing on the development of a small suction dredge for the maintenance of tidal estuaries, and a weed cutting machine for lakes and streams.

The workshop has continued a preventative maintenance program including sampling and monitoring on all major plant, ensuring a high availability during the peak construction period.

The Authority workshop maintains:

- 7 Pumping Stations
- 59 Vehicles including trucks
- 28 Major items of plant
- 180 Minor items of plant and equipment

Quality Control

Field and laboratory testing was carried out on all construction materials purchased to ensure compliance with the Authority's specification. Construction materials purchased during the year included:

- Crushed Rock 12,760 Tonnes
- Concrete 570 cu.m
- Concrete Pipes 15,400 metres

All construction projects were preceded by a soil and ground water investigation, and quality assurance checks were made during the construction period of each project.

Part 7

INTRODUCTION

The Authority is responsible for the physical, chemical and biological monitoring of water bodies, and the provision of information and advice on a range of waterway management, environmental and scientific matters. The Authority operates the Delegated Agency of the Environment Protection Authority for water quality control within the DVA district.

EPA AGENCY OPERATIONS

During the year the Branch maintained operations as an agency of the Environment Protection Authority, undertaking licence issue and enforcement, together with water pollution control and stream sampling activities.

Due to the continuing extension of sewerage reticulation services throughout the district, 27 EPA licences administered by the DVA were lost, with only nine new licences being issued. This left a total of 244 licences in force at the end of the year. The number of licence enforcement inspections conducted during the year was 875, with a further 491 inspections being carried out for possible unlicensed discharge. Some 912 water samples were analysed in the laboratory. Waterway conditions continued to improve, with only 30 complaints being registered during the year. This is down from 45 the previous year, and 57 the year before that.

One night survey was conducted during the year to assess licence compliance during times of peak loading of restaurants, hotels, fast food outlets and sporting facilities.

Only two prosecution cases were heard during the year:

One offender was placed on a \$1,000 bond, and paid \$450 costs for an unlicensed and polluting discharge of chromium wastes to Heatherdale Creek.

The other was fined a total of \$2,250, and paid \$660 in costs in connection with four charges of unlicensed discharge.

Two other briefs forwarded to the EPA were not recommended.

Water quality in streams and impoundments under the Authority's control continued to improve. Monitoring of these water bodies continued on a routine basis, with a total of 24 sampling runs being undertaken.

State Environment Protection Policy W-28A "Waters of the Dandenong Valley" still has not been gazetted, as future discharge arrangements for sewerage authorities have yet to be finalised. A submission on the matter was prepared prior to

ENVIRONMENTAL

discussions with the ALP Caucus Committee on Planning and Environment. The Minister for Planning and Environment Mr Evan Walker, visited the Authority during the year. He was conducted on a tour of the lower Dandenong Valley and shown the current sewerage authority discharge arrangements.



SPECIAL STUDIES

Aquaculture Project

Field work was completed in this three-year project, which was undertaken to investigate the potential for floating water plants to upgrade the effluent from sewage treatment lagoons. The study was undertaken at the treatment works of the Dandenong Sewerage Board. The final report is now substantially complete and in the final editing phase.

Half the funds for the project were supplied by the Australian Water Resources Council, with the balance being split evenly between the Authority and the Dandenong-Springvale Water Board.

The following project jointly funded by the Authority and the Dandenong-Springvale Water Board, will be conducted during 1985.

Heavy Metals Study

A technical report detailing results of a twelve-month study into levels of heavy metals in the waters, sediments and biota of Mordialloc Creek and environs was published during the year.

Bushfire Study

A short report on the effects of the Ash Wednesday bushfires on the water quality and biota of Stoney Creek, Upper Beaconsfield, was published during the year.

Lang Lang Catchment

A short study of waterway conditions and wet-weather flow characteristics in the Lang Lang River was undertaken for the Westernport Catchment Co-ordinating Group.

Tree Study

A draft report detailing desirable uses of trees in waterway management was completed during the year.

Wetlands Study

The Authority and the City of Frankston commissioned the Monash University Graduate School of Environmental Science to perform a comprehensive study of the Seaford Swamp, and produce recommendations for future management for both the Environmental Area and the public open space to be developed by the city of Frankston. The study due for completion in March 1985, is being funded on a 2:1 basis by the Authority and the City of Frankston.

Control of Cumbungi

Preliminary studies into the possible biological control of Cumbungi were commenced during the year, following an extensive literature search.

Patterson Lakes

On-going water quality studies were conducted in both the quiet lakes and the tidal canals for the Patterson Lakes Advisory Committee.



Tidal Waterways Patterson Lakes.

Part 8

FINANCIAL

In our opinion the accompanying financial statements comprising of Balance Sheet, Revenue Statement, Statement of Sources and Applications of Funds, and the notes forming part of the accounts are drawn up so as to present fairly the state of affairs of the Dandenong Valley Authority, as at 30 September 1984, and the results of its operations for the year ended on that date.

M.L. Portingale, B.E.M., J.P.
CHAIRMAN
12.2.1985

K.G. Abberton, F.A.S.A., C.P.A.
DEPUTY MANAGER-SECRETARY
12.2.1985



In my opinion the accompanying financial statements comprising of Balance Sheet, Revenue Statement, Statement of Sources and Applications of Funds, and the notes forming part of the accounts, are drawn up so as to present fairly the state of affairs of the Dandenong Valley Authority as at 30 September 1984, and the results of its operations for the year ended on that date.

P.N. Sorensen, A.A.S.A., C.P.A.
Chief Accounting Officer
12.2.1985

AUDIT INSPECTOR'S REPORT

The accompanying financial statements comprising of Balance Sheet, Revenue Statement, Statement of Sources and Applications of Funds and the notes forming part of the accounts of the Dandenong Valley Authority have been audited as required by Section 169 of the Water Act 1958 and in accordance with Australian Auditing Standards. In my opinion the financial statements have been properly drawn up so as to present fairly the state of the affairs of the Dandenong Valley Authority as at 30 September 1984 and the results of its operations for the year ended on that date.

P. Rorke
AUDIT INSPECTOR
15.2.1985

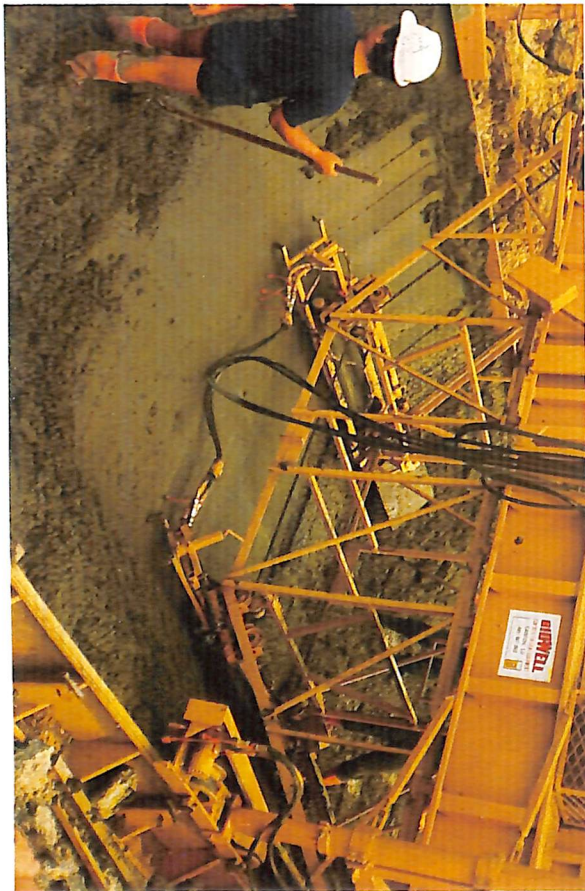
DANDENONG VALLEY AUTHORITY — BALANCE SHEET AS AT 30 SEPTEMBER 1984

	Note	1983-84 \$	1982-83 \$		Note	1983-84 \$	1982-83 \$
CAPITAL AND LIABILITIES				ASSETS			
Current Liabilities				Current Assets			
Sundry Creditors	12	808093	715337	Cash at Bank —			
Contractors Deposits		14971	17471	Loan Fund		373098	94238
Provision for Long Service Leave	22	294929	526267	General Bank Account	13	225280	9315
		<u>1117993</u>	<u>1259075</u>	Other —			
Deferred Liabilities				Sundry Debtors	19	430031	516179
Government Loan Liability	10	595751	598385	Stores		112521	111333
Loan Liability	11	15393995	13903111	Petty Cash		<u>300</u>	<u>300</u>
Advances from Property Owners & Subdividers		53000	53000			<u>1141230</u>	<u>731365</u>
Provision for Long Service Leave	22	341931	—	Investments			
		<u>16384677</u>	<u>14554496</u>	Statutory Depreciation Investment Fund	7	1671848	1403858
Grants and Contributions				Loan Repayment Sinking Fund	8	971034	789807
Government Grants	5	264890	203660	Plant Replacement Fund	9	955802	736300
Capital Expenditure borne by the State	4	8391397	7947928	Works Emergency Fund		37303	38325
Contributions from Landowners and Subdividers	6	31429336	26706484	Building Extension Fund		8275	88551
Recoups from Environment Protection Authority		124882	124082	Long Service Leave Fund		303521	210419
Rural Employment Grant		29000	29000	Computerisation Fund		139495	112692
Regional Employment Development Scheme		7346	7346	Drainage Scheme Funds	6	<u>7787778</u>	<u>4696235</u>
Flood Restoration Grant		34500	34500			<u>11875056</u>	<u>8076187</u>
National Water Resources Grant		458675	398507	Fixed Assets			
Employment Initiative Grant		61120	32017	Land and Buildings (at cost less depreciation)	14	2861890	2917477
		<u>40801146</u>	<u>35483524</u>	Plant and Equipment (at cost less depreciation)	15	1452207	2492538
Reserves				Laboratory and Office Equipment paid by			
Statutory Depreciation-Works	7	1671848	1403858	Environment Protection Authority (at cost)		50515	49715
Loan Repayment Sinking Fund	8	971034	789807	Office Furniture and Machines (at cost less depreciation)	16	101047	100407
Plant Depreciation	9	1096275	1017825	Capital Works (at cost less depreciation)	17	<u>44969870</u>	<u>47444619</u>
Plant Replacement	9	209527	135112			<u>49435529</u>	<u>53004756</u>
Building Extension		8275	88551				
Computerisation		139495	112692				
Works Emergency		37303	38325				
		<u>4133757</u>	<u>3586170</u>				
Ratepayers Equity							
Accumulated Surplus	18	14242	6929043				
		<u>14242</u>	<u>6929043</u>				
Total Grants, Contributions, Reserves and Liabilities		<u>62451815</u>	<u>61812308</u>	Total Assets		<u>62451815</u>	<u>61812308</u>



Earthworks for
Kanaook Creek
Pumping Station.

Construction of concrete
lined channel utilising
concrete paving machine
on Dandenong South
Drain.



Control of Cumbungi
using weedicides.

**GENERAL REVENUE ACCOUNT
FOR THE YEAR ENDED 30 SEPTEMBER 1984**

	Note 2	1983-84 \$	1982-83 \$
INCOME			
Precept — Original District		5358956	4750124
— Cardinia Catchment		126166	111676
— Special		82000	16000
Cardinia Catchment Revenue Subsidy		123073	183710
Certificate Fees		55682	45988
Rent		3262	2390
Grazing Licence Fees		14624	5934
Miscellaneous		15709	189
Consultancy Fees		15000	29013
Recoup from Environment Protection Authority		242185	247704
Employment Initiative Program Grant		6415	121026
Interest on Investments	23	1154094	388219
Hire of Authority Plant & Equipment		649073	—
Operating Income		7846239	5901973
EXPENDITURE			
Maintenance of Works			
Operation and Maintenance		2208048	1359162
Pollution Control		303175	305283
Cardinia Creek Catchment		276137	278472
		2787360	1942917
Depreciation			
Works		884363	169762
Office Furniture and Equipment		18133	13464
Plant and Equipment		201921	28272
Offices & Depots inc. Land & Buildings		145591	—
		1250008	211498
Debt Service			
Interest on Loans		1535675	1322503
Loan Expenses		185	150
Interest on Overdraft		24975	20903
		1560835	1343556
Survey Investigation and Design		772321	748250

Administration			
Members Allowances and Expenses	5823	5747	
Salaries	357350	334331	
Superannuation	276200	277691	
Payroll Tax	195623	193407	
Insurance	288473	271459	
Printing Stationery and Advertising	64383	53831	
Telephone and Postage	33206	23435	
Audit Fees	9200	9100	
Legal Expenses	6491	2839	
Technical Publications	4662	3120	
Long Service Leave	28278	28843	
Other Administrative Expenses	23181	18610	
Computer Services	10992	13503	
Public Relations	36012	30640	
Computerisation-System Development	92468	44071	
	1432342	1310627	
Loss on Realisation of Assets	—	2225	
Less: Oncosts and Overheads charged to capital works	21	624132	667315
Operating Expenses		7178734	4891758
Operating Surplus		667505	1010215
ABNORMAL ITEMS			
Depreciation on Capital Works for previous years	5253382	—	
Depreciation on Motor Vehicles and Equipment for previous years	1017825	—	
		6271207	—
Surplus/(Deficit) after Abnormal Items		(5603702)	1010215
APPROPRIATION ACCOUNT			
Balance 1 October	6929043	5149285	
Plus — Transfer from Plant Replacement Reserve	125090	54340	
Transfer from Expenditure Borne by State-Cardinia Revenue Subsidy	—	356967	
Transfer from Grants — Cardinia Revenue Subsidy	—	77053	
Transfer from Recoups from Environment Protection Authority	—	1277492	
Transfer from Works Emergency Reserve	11800	—	
Transfer from Building Extension Reserve	90000	—	
Surplus on Realisation of Assets	32106	—	
Operating Surplus/(Deficit) for Year	(5603702)	1010215	
	1584337	7925352	
Less — Transfer to Provision for Long Service Leave	110592	390147	
Transfer to Loan Repayment Sinking Fund	181227	147646	
Transfer to Building Extension Reserve	9724	88551	
Transfer to Computerisation Reserve	26804	112692	
Transfer to Works Emergency Reserve	4257	38325	
Transfer to Statutory Depreciation Reserve	267989	125977	
Transfer to Plant Replacement Reserve	244592	92971	
Transfer to Contributions from Landowners and Subdividers	724910	—	
Accumulated Surplus as at 30 September 1984	14242	6929043	

	1983-84 \$	1982-83 \$
Sources of Funds		
1. Net Funds derived from Revenue Operations	681977	799512
2. Reduction in Assets		
Current Assets		
Petty Cash	—	400
Sundry Debtors	86148	—
Stores	3108	—
	89256	400
3. Increase in Liabilities		
Current Liabilities		
Sundry Creditors	92756	179368
Deferred Liabilities		
Loan Liability	1490884	1406284
4. Increase in Grants and Contributions		
Grants	594770	730507
Contributions from Landowners and Subdividers	4665800	2539644
	5260570	3270151
	7615443	5655715
Applications of Funds		
1. Increase in Assets		
Current Assets		
Cash at Bank	215965	9315
Loan Fund	278860	94238
Sundry Debtors	—	47693
Stores	—	1662
	494825	152908
Fixed Assets		
Offices & Depots incl.		
Land and Buildings	92030	1025171
Plant & Equipment	226264	84586
Office Furniture & Equipment	23030	56348
Capital Works	2975291	2938726
Total	3316615	4104831
2. Reduction in Liabilities		
Current Liabilities		
Contractors Deposits	2500	2500
Bank Overdraft	—	199274
	2500	201774
Deferred Liabilities		
Government Loan Liability	2634	2552
3. Increase in Investments	3798869	1193650
	7615443	5655715

The following notes are to be read in conjunction with the certified Balance Sheet as at 30 September 1984 and the General Revenue Account for the year ended 30 September 1984.

1. SUMMARY OF ACCOUNTING POLICIES

- The financial statements have been prepared in accordance with the provisions of the Authority's Act and on the basis of historical cost accounting. The Statements of Accounting Standards issued jointly by the two Australian Accounting Bodies have generally been complied with where applicable.
- Full accrual accounting has been adopted with trade creditors being included as sundry creditors at balance date.

Changes in Accounting Methods

In order to include certain income and expenditure not shown previously the format of the General Revenue Account has been changed as follows:

- Interest received on drainage scheme bank accounts has been shown as income. The effect is to increase the operating surplus in the General Revenue Account, however in line with Authority policy the interest received is transferred through the appropriation account to Contributions from Landowners and Subdividers in the balance sheet and has no effect on the accumulated surplus shown in the balance sheet.
- Depreciation of Authority works funded from all sources has been shown as an expense item. The effect is to reduce the operating surplus in the general revenue account and reduce the accumulated surplus shown in the balance sheet. Previously the Authority only depreciated works funded from revenue.
- Depreciation on Plant and Equipment has been shown as an expense item in the general revenue account. The effect is to reduce the operating surplus in the general revenue account and reduce the accumulated surplus in the balance sheet. Previously depreciation shown in the general revenue account represented the loss on the sale of assets when traded.
- So as to conform with Australian Society of Accountants standards depreciation on Offices, Depots and Buildings has been shown for the first time as an expense item in the general revenue account. The effect is to reduce the operating surplus shown in the general revenue account and reduce the accumulated surplus shown in the balance sheet by \$145591. In future valuations for all buildings will be obtained every five years.

- Shown in the general revenue account is the hiring of Authority plant and equipment which has been treated as income and the operating expenses on this equipment which is shown as an expense under operation and maintenance expenditure. The effect is to increase the operating surplus in the general revenue account however because the difference between income and operating costs is transferred to the plant replacement and depreciation revenues via the appropriation account there is no effect on the accumulated surplus shown in the balance sheet. In previous years the income and expenditure on plant and equipment was netted off against each other with the balance being transferred directly to the reserves and not shown in the general revenue account.

2. GENERAL REVENUE ACCOUNT

The Authority has no power to directly make or levy a rate, but obtains its revenue by issuing precepts upon Municipalities having areas within the District of the Authority. The amounts required in each year are determined on the basis of estimates of expenditure as approved by the Minister for Water Resources.

The Authority had Ministerial approval to issue a precept for the year ended 30 September 1984 at the rate of 1.07 % of the total Net Valuations of rateable property within the Authority's district compared with a rate of 0.97% for the year ended 30 September 1983. This precept is collected by the Municipalities through their normal council rates and a deduction of not more than five per centum can be made by the Municipalities for collecting the moneys.

The amount of revenue raised by precept for the year ended 30 September 1984 was \$5567122, which, after adding certificate fees, \$55682, interest received on bank accounts \$1154094, miscellaneous income \$48595, grants and subsidy of \$129488 and recoups from the Environment Protection Authority, \$242185, and hire of Authority Plant, \$649073, gave a total income of \$7846239.

This was applied to:	\$
(a) Maintenance of Works	2787360
(b) Depreciation	1250008
(c) Debt Service	1560835
(d) Survey, Design and Investigation	772321
(e) Administration	1432342

giving a total expenditure of \$7802866 less oncosts and overheads charged to capital works \$624132, leaving an operating surplus of \$667505. From this abnormal items totalling \$6271207 for adjustments to depreciation were deducted leaving a deficit of \$5603702 to be transferred to the Appropriation Account.

3. CAPITAL WORKS PROGRAM

The Authority's total capital works expenditure for the year ended 30 September 1984 is shown hereunder together with the sources of funds:

Expenditure	\$
Land Acquisition and Compensation	424360
River Improvement Works	288842
Piped or Lined Drainage Channels	2271112
Flood Retarding Basins	217557
Pumping Installations	461125
	3662996
Source of Funds	\$
Loans	1371140
Grants	472719
Contributions from	
Landowners & Subdividers	1625073
Revenue and Overdraft	164960
Grants — Employment Initiative Program	29104
	3662996

4. CAPITAL EXPENDITURE BORNE BY THE STATE

	1983-84 \$	1982-83 \$
River Improvement Works	5188773	5090814
Mordialloc Creek Restoration	1321276	1319889
Cardinia Creek Catchment	964268	943145
Kananook Creek		
Pumping Station	583593	310593
Edithvale Wetlands	333487	283487
	8391397	7947928

5. GOVERNMENT GRANTS

	1983-84 \$	1982-83 \$
River Improvement Works	159066	106926
Mordialloc Creek Restoration	15824	1386
Cardinia Creek Catchment	—	18731
Kananook Creek Pumping		
Station	—	47451
Edithvale Wetlands	90000	29166
	264890	203660

Grants

Details of State Government grants for the year were:

	River Improvement Works \$	Mordialloc Creek Restoration \$	Edithvale Wetlands \$	Cardinia Creek Catchment \$	Cardinia Revenue Subsidy \$	National Water Resources Program \$	Kananook Ck Pumping Station \$	Total \$
Outstanding Grants as at 1 October 1983	13171	1386	29166	18731	86477	2362	47451	198744
Grants claimed for year ended 30 September '84	145776	15824	110834	2284	123181	60169	225549	683617
	158947	17210	140000	21015	209658	62531	273000	882361
Less:								
Grants received during year ended 30 Sept. '84	97959	1386	50000	21015	209658	62531	273000	715549
Outstanding Grants as at 30 September 1984	60988	15824	90000	—	—	—	—	166812

Of the \$715549 received, \$443468 has been included in the Balance Sheet under Capital Expenditure borne by the State and in the notes to the accounts under item 5 which is summarised as:

	River Improvement Works \$	Mordialloc Creek Restoration \$	Cardinia Creek Catchment \$	Kananook Ck Pumping Station \$	Edithvale Wetlands \$	Total \$
Balance as at 1 October 1983	5090814	1319890	943145	310593	283487	7947929
Part of grants for year ended:						
30 September 1983	13171	1386	18731	47451	29166	109905
30 September 1984	84788	—	2392	225549	20834	333563
Balance as at 30 September 1984	5188773	1321276	964268	583593	333487	8391397

6. CONTRIBUTIONS FROM LANDOWNERS AND SUBDIVIDERS

The following is a summary of receipts and expenditure for drainage schemes including Development of Authority Drainage Schemes moneys (see below) for the 18 years ended 30 September 1984.

(a) Contributions from Landowners and Subdividers in Drainage Schemes.

	Contributions including Interest \$	Expenditure \$	Bank Balance \$
Balance as at 1 October 1983	25561357	21012236	4549121
Plus:			
Contributions for year ended 30 September 1984	3940890	—	—
Interest for year ended 30 September 1984	777320	—	—
Less:			
Expenditure for year ended 30 September 1984	—	1515573	—
Transfer to Works Emergency Fund	6521	—	—
Sub Total	30273046	22527809	7745237

(b) Contributions from Landowners and Subdividers not in Drainage Schemes.

Balance as at 1 October 1983	1145127	998013	147114
Plus: Interest for year ended 30 September 1984	11163	—	—
Less: Expenditure for year ended 30 September 1984	—	115736	—
Sub Total	1156290	1113749	42541
Total	31429336	23641558	7787778

Development of Authority's Drainage Schemes

Details of moneys received under this section are recorded hereunder. The total moneys received are included under Contributions from Landowners and Subdividers in the balance sheet.

	Cash Received inc. Interest \$	Transferred to Fund A/C \$	Transferred to Works Emergency A/C \$	Bank Balance \$
Prior to 1 October 1983	2418983	2277134	28787	113062
Year ended 30 September 1983	853659	184000	6521	776200
Total	3272642	2461134	35308	

The contribution rate varies according to a formula adopted by the Authority which takes into account both labour costs and price variations in the cost of concrete pipes. This rate had increased to \$1736 per hectare for residential land and \$2605 per hectare for industrial or commercial land by the end of the financial year.

7. STATUTORY DEPRECIATION INVESTMENT FUND AND RESERVE

Depreciation has been calculated on capital expenditure figures as at 30 September 1983. The Funds invested into the Statutory Depreciation Fund is in accordance with Section 38 of the Dandenong Valley Authority Act 1963, and the various rates applied are as advised by the Rural Water Commission on 4 February 1976.

Balance as at 30 September 1983	\$ 1403858
Allocation for year ended 30 Sept. 1984	114995
Interest	152995
Balance as at 30 September 1984	1671848 *

* Consisting of local and semi-government securities \$801989 and bank term deposits \$869859.

8. LOAN REPAYMENT SINKING FUND

	Loan Repayment Sinking Fund — General \$	Contribution by State to Loan Repayment Sinking Fund — Cardinia \$	Total \$
Balance as at 30 Sept. 1983	733807	56000	789807
Transfer from Appropriation	77395	16000	93395
Interest	87832	—	87832
Balance as at 30 Sept. 1984	899034	72000	971034*

* Consisting of local and semi-government securities \$253850 and bank term deposits \$717184.

9. DEPRECIATION PLANT AND PLANT REPLACEMENT RESERVE

	Depreciation Reserve \$	Plant Replacement Reserve \$	Plant Replacement Fund \$
Balance as at 30 Sept. 1983	1017825	135112	1152937
Allocation for year ended 30 Sept. 1984	78450	124348	202798
Interest	—	75157	75157
	1096275	334617	1430892
Transfer as interest free loan to Building Extension Fund			350000
Transfer for purchase of new equipment	—	125090	125090
Balance as at 30 Sept. 1984	1096275	209527	955802*

* The difference of \$350000 between the Bank Account and Reserves is to be repaid from Revenue over the next 4 years i.e. \$100000 for 3 years and \$50000 in year 4.

10. GOVERNMENT LOAN LIABILITY

The Government Loan Liability as at 30 September 1984 was \$595751. This is the amount outstanding on the assets of the Carrum Drainage District transferred from the Rural Water Commission to the Authority on 1 July 1966.

11. LOAN LIABILITY

The Authority took up loans to the value of \$1650000 in 1983-84 compared with its approved allocation of \$1800000.

	1983-84 \$	1982-83 \$
Loan Liability	15195000	13545000
Loan Liability — Cardinia	1000000	1000000
	16195000	14545000
Less: Redemption	801005	641889
	15393995	13903111

Included in the loan liability and redemption figures is loan number 7 for \$50000, and loan number 8 for \$50000, which have been fully paid.

12. SUNDRY CREDITORS

The sundry creditors amount of \$808093 comprises \$509933 for interest on outstanding loans, \$7800 for audit fees and \$290360 for trade creditors.

13. GENERAL BANK ACCOUNT

The overdraft provisions were utilised during the year pending receipt of loans arranged, grants claimed and the recoup of expenditure incurred on behalf of drainage schemes. The Dandenong Valley Authority Fund Account was in debit (cash in hand) to the extent of \$225280 as at 30 September 1984. The Authority at no time exceeded its overdraft limit of \$800000.

14. LAND AND BUILDINGS (At Cost)

	1983-84 \$	1982-83 \$
Land and Buildings	2706047	2616043
Land and Buildings — Cardinia	227067	227067
Land and Buildings paid by Environment Protection Authority	74367	74367
	3007481	2917477
Less Depreciation	145591	—
	2861890	2917477

15. PLANT AND EQUIPMENT

	1983-84 \$	1982-83 \$
Plant and Equipment	2517152	2449516
Plant and Equipment — Cardinia	43130	43022
	2560282	2492538
Less: Depreciation	1108075	—
	1452207	2492538

16. OFFICE FURNITURE AND MACHINES

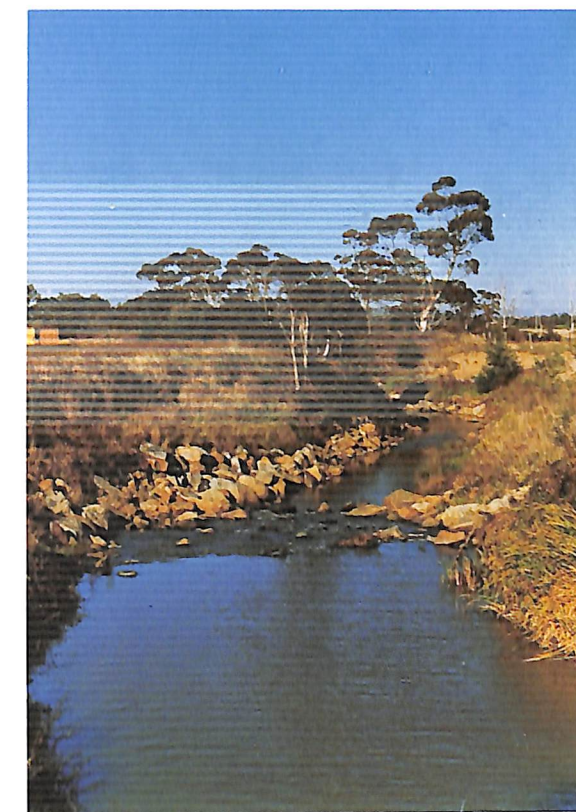
	1983-84 \$	1982-83 \$
Office Furniture and Machines (at Cost)	205971	194691
Less: Depreciation	104924	94284
	101047	100407

17. CAPITAL WORKS

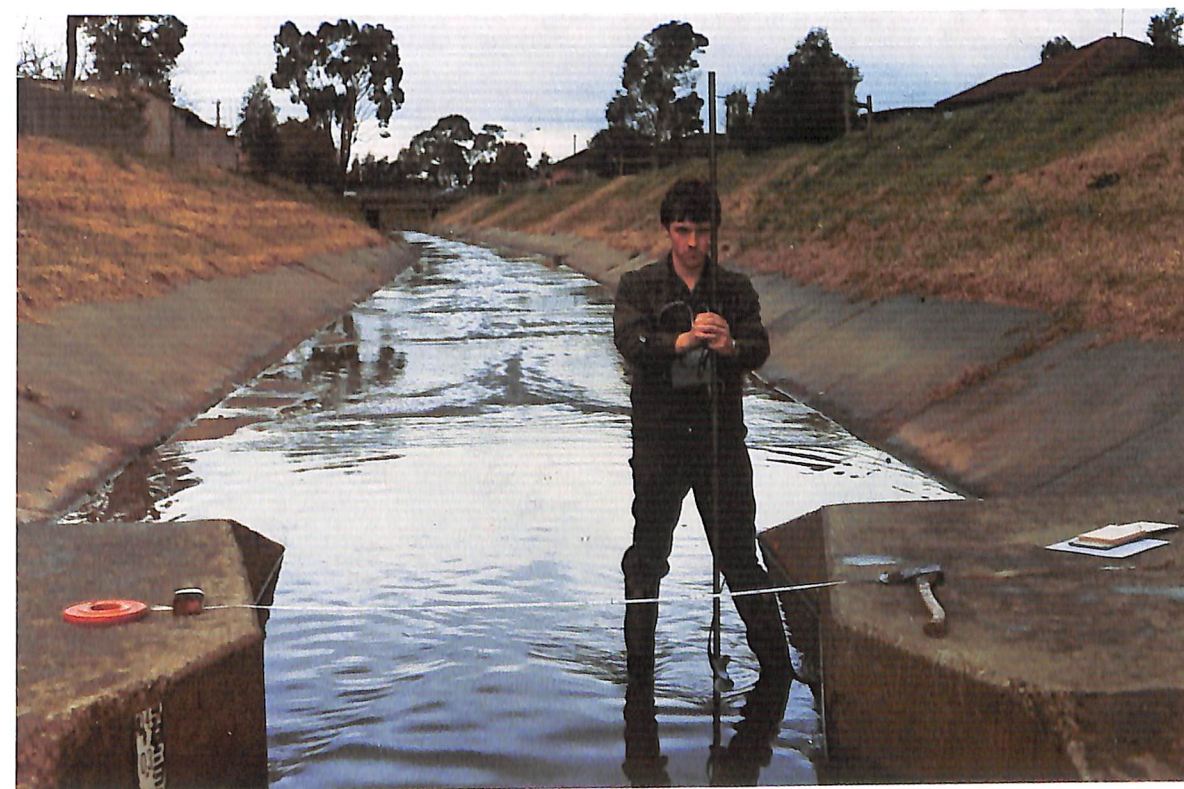
	1983-84 \$	1982-83 \$
Land Acquisition and Compensation	4742637	4325128
Land Acquisition & Compensation — Cardinia	407410	400559
	5150047	4725687
Gauging Stations and Pluviometers	144454	146973
Gauging Stations and Pluviometers - Cardinia	55049	55049
	199503	202022
River Improvement Works	7817035	7531513
River Improvement Works — Cardinia	993053	987214
	8810088	8518727
Structures connecting to Arterial Waterways	3624	3624
Bridges over Arterial Waterways	38283	38283
Pumping Installations	1274047	812922
Piped or Lined Drainage Scheme	28962589	26691477
Piped or Lined Drainage Scheme — Cardinia	149278	149278
	29111867	26840755



Removing Pollution spill in Kananook Creek using oil mop.



Rock Stabilisation along Dandenong Creek.



Data Collection — Operation of Current Meter.

Flood Retarding Basins	5688784	5481861
Flood Retarding Basins — Cardinia	28562	17928
	<u>5717346</u>	<u>5499789</u>
Carrum Drainage District	1773614	1773614
	<u>52078419</u>	<u>48415423</u>
Less: Capital Works written down	7108549	970804
	<u>44969870</u>	<u>47444619</u>

18. ACCUMULATED SURPLUS

The accumulated surplus shown in the balance sheet has been applied to the purchase of fixed assets including capital works, plus the repayment of loans.

19. SUNDRY DEBTORS

The sundry debtors amount of \$430031 comprises \$166812 for outstanding grants, \$78838 for outstanding reimbursements from the Environment Protection Authority, \$21492 outstanding from Tirhatuan Park Recreational Area Management Committee, \$14000 reimbursement in respect of contract 381B, \$59130 for outstanding invoices and \$89759 for superannuation paid in advance which is recoverable from Authority employees.

20. CONTRACTS

Total progress and final payments on contracts for the year ended 30 September 1984 amounted to \$657355. The contingent liability on incomplete contracts as at 30 September 1984 was \$188834 and this figure is not reflected in the accounts. On contract number 381B an overpayment of \$14000 has been made. This amount has been taken into sundry debtors and will be recouped in the 1984-85 financial year.

21. ONCOSTS AND OVERHEADS CHARGED TO CAPITAL WORKS

Oncosts are charged to direct labour on capital works at the rate of 50 per cent to cover sick leave, long service leave, holiday pay, payroll tax, protective clothing, superannuation, disability benefits, workers compensation insurance, small tools and facilities attributable to labour. Overheads are charged to capital works at the rate of 10 per cent on total cost to cover administration and engineering expenses.

22. PROVISION FOR LONG SERVICE LEAVE

The Authority's Provision for Long Service Leave has been increased to the actual liability as at 30 September 1984. The Authority has adopted the policy that funds to cover 75 per cent of the actual liability will be provided and have approved a program to meet this goal by 1985/86.

23. INTEREST ON INVESTMENTS

	1983-84	1982-83
	\$	\$
General Fund Account	67536	49580
Works Emergency Fund	4257	4444
Building Extension Fund	9724	22250
Long Service Leave Fund	21128	17299
Computerisation Fund	10555	6447
Statutory Depreciation Fund	152994	125977
Loan Repayment Sinking Fund	87832	69251
Plant Replacement Fund	75157	92971
Drainage Scheme Fund		
Bank Account	724911	—
	<u>1154094</u>	<u>388219</u>

Bank Guarantees

The Authority has guaranteed a bank overdraft of \$85000 for the Tirhatuan Park Recreational Area Management Committee. As at 30 September 1984 the Management Committee had repaid \$15000 reducing the overdraft commitment to \$70000.

STATEMENT OF CONTRACTS FOR YEAR ENDED 30 SEPTEMBER 1984

Contract No.	Contractor	Details	Balance as at 30.9.83 \$	Amount of Contracts Let 1983/84 \$	Net Adjustments		Total Paid \$	Balance \$
					Extras \$	Deductions \$		
319A	Monier Ltd	Supply of Pipes — Lyndhurst South Drainage Scheme, Stage 4	47955	—	—	47955	—	—
332A	Humes Ltd	Supply of Pipes — Kananook Creek Pumping Station	2425	—	—	2425	—	—
350A	Humes Ltd	Supply of Pipes — Ordish Road Drainage Scheme, Stage 1	6251	—	—	—	—	6251*
354A	Humes Ltd	Supply of Pipes — Dandenong South Drainage Scheme, Stage 9	9025	—	1336	10361	—	—
370A	Monier Rocla Ltd	Supply of Pipes — Riddell Road Drainage Scheme, Stage 11	17117	—	—	—	16075	1042
375A	Humes Ltd	Supply of Pipes — Nunawading Outfall Drain	27237	—	—	—	19801	7436
376A	Monier Rocla Ltd	Supply of Pipes — McCools Drain Remodelling, Stage 2	23761	—	150	5124	18787	—
380A	Monier Rocla Ltd	Supply of Pipes — Narre Warren Township, Stage 2	—	10903	150	991	10062	—
381A	Bibby Construction Pty Ltd	Alteration and Additions to Existing Office at 208 Princes Hwy, Dandenong	(20202)CR	—	6202	—	—	(14000)CR
388A	Monier Rocla Ltd	Supply of Pipes — Blind Creek Drainage Scheme, Stage 8	47898	—	—	—	41944	5954
391A	Monier Rocla Ltd	Supply of Pipes — Jells Road South Drainage Scheme, Stage 14	—	23990	476	2222	22244	—
392A	Monier Rocla Ltd	Supply of Pipes — Kelletts Road Drainage Scheme, Stage 9	—	27165	514	2470	25209	—
393A	Monier Rocla Ltd	Supply of Pipes — Lower Shelton Drain East Branch Stage 2	—	33134	2468	5556	30046	—
395A	Monier Rocla Ltd	Supply of Pipes — Lysterfield West Drainage Scheme, Stage 2	—	56353	714	6104	50963	—
397A	Humes Ltd	Supply of Pipes — Blind Creek Drainage Scheme, Stage 10	—	128953	—	—	116012	12941
399A	Humes Ltd	Supply of Pipes — Essex Park Extension Drainage Scheme, Stage 3	—	27542	1273	2504	26311	—
400A	Monier Rocla Ltd	Supply of Pipes — Lysterfield West Drainage Scheme, Stage 3	—	101582	—	—	90738	10844
402A	Humes Ltd	Supply of Pipes — Carrum Downs Drainage Scheme, Stage 2	—	35045	—	—	31966	3079
403A	Monier Rocla Ltd	Supply of Pipes — Upper Bungalook Creek Drainage Scheme, Stage 3	—	207522	—	—	157197	50325
0615/2	Humes Ltd	Supply of Pipes — Berwick South Drainage Scheme, Stage 2	—	104962	—	—	—	104962
			<u>\$ 161467</u>	<u>\$ 757151</u>	<u>\$ 13283</u>	<u>\$ 85712</u>	<u>\$ 657355</u>	<u>\$ 188834</u>

We thank the Minister for Water Resources, the Hon. David White, MLC for the interest and assistance given to the Authority during the year.

The local Parliamentarian Members have been most helpful throughout the year and we thank them for their continued support.

The members of Management and Advisory Committees under the Authority's control who give their time in the interest of the community development, we thank them for their keenness and involvement.

We acknowledge and appreciate the co-operation extended by Mayors, Councillors, Senior Management and staff of the 15 municipalities that form the Authority.

The Management and Staff of the Rural Water Commission have continued to be of great assistance to the Authority throughout the year.

All employees have again given loyal and faithful service to the Authority and our achievements are due to their dedication.

My personal thanks are extended to my fellow Commissioners and the Principal Officers of the Authority for their continued support and efforts throughout the year. On behalf of all, I express my appreciation for the opportunity of being your Chairman during this most interesting year.



M.L. Portingdale
CHAIRMAN

REFERENCE LIST OF DECLARATIONS
AND PROCLAMATIONS;

PROCLAIMED FLOOD-PLAIN AREAS:

- Area No. 1 — Dandenong Creek
- Area No. 2 — Centre Swamp Drain
- Area No. 3 — Seaford Swamp Drain
- Area No. 4 — Dandenong Creek —
Boronia Road to Police Road
- Area No. 5 — Dandenong Creek —
Police Road to Clow Street
- Area No. 6 — Eumemmerring Creek
- Area No. 7 — Croydon Main Drain
- Area No. 8 — Blind Creek
- Area No. 9 — Kilsyth Main Drain
- Area No.10 — Corhanwarrabul Creek
- Area No.11 — Mordialloc Main Drain
- Area No.12 — Ferny Creek
- Area No.13 — Hallam Valley Contour Drain
- Area No.14 — Hampton Park East Drain
- Area No.15 — Kananook Creek
- Area No.16 — Bangholme North
- Area No.17 — Upper Eumemmerring Creek

- Government Gazette No. 69 dated 14th September, 1966
- Government Gazette No. 76 dated 5th October, 1966
- Government Gazette No. 83 dated 26th October, 1966

- Government Gazette No. 44 dated 24th May, 1967

- Government Gazette No. 73 dated 27th September, 1967
- Government Gazette No. 96 dated 20th December, 1967
- Government Gazette No. 96 dated 20th December, 1967
- Government Gazette No. 35 dated 24th April, 1968
- Government Gazette No. 63 dated 17th July, 1968
- Government Gazette No. 88 dated 23rd October, 1968
- Government Gazette No. 88 dated 23rd October, 1968
- Government Gazette No.105 dated 26th November, 1969
- Government Gazette No. 13 dated 18th February, 1970
- Government Gazette No. 68 dated 28th July, 1971
- Government Gazette No. 68 dated 23rd September, 1970
- Government Gazette No. 96 dated 20th October, 1971
- Government Gazette No. 20 dated 19th March, 1975

DECLARED ARTERIAL DRAINS:

- Government Gazette No. 23 dated 31st March, 1965
- Government Gazette No.105 dated 22nd December, 1965
- Government Gazette No. 48 dated 6th July, 1966
- Government Gazette No. 5 dated 18th January, 1967
- Government Gazette No. 7 dated 25th January, 1967
- Government Gazette No. 81 dated 25th October, 1967
- Government Gazette No. 3 dated 17th January, 1968
- Government Gazette No. 53 dated 19th June, 1968
- Government Gazette No. 4 dated 15th January, 1969
- Government Gazette No. 15 dated 5th March, 1969
- Government Gazette No. 47 dated 11th June, 1969
- Government Gazette No. 73 dated 20th August, 1969
- Government Gazette No.112 dated 19th December, 1969
- Government Gazette No. 50 dated 20th May, 1970
- Government Gazette No.104 dated 18th November, 1970
- Government Gazette No. 87 dated 22nd September, 1971
- Government Gazette No. 96 dated 20th October, 1971
- Government Gazette No. 11 dated 28th February, 1973
- Government Gazette No. 57 dated 27th June, 1973
- Government Gazette No. 67 dated 18th July, 1973
- Government Gazette No. 58 dated 6th June, 1974
- Government Gazette No. 20 dated 19th March, 1975
- Government Gazette No. 46 dated 5th May, 1976
- Government Gazette No. 84 dated 15th September, 1976
- Government Gazette No. 20 dated 6th April, 1977
- Government Gazette No. 64 dated 27th July, 1977
- Government Gazette No. 32 dated 18th April, 1978
- Government Gazette No. 19 dated 7th March, 1979
- Government Gazette No. 52 dated 27th June, 1979
- Government Gazette No. 94 dated 14th November, 1979
- Government Gazette No.104 dated 26th November, 1980
- Government Gazette No. 49 dated 18th April, 1984
- Government Gazette No. 77 dated 11th July, 1984
- Government Gazette No.126 dated 14th November, 1984

DISTRICT OF THE AUTHORITY:

- Government Gazette No. 73 dated 26th August, 1964
- Government Gazette No. 57 dated 21st July, 1965
- Government Gazette No.102 dated 15th December, 1965
- Government Gazette No. 48 dated 6th July, 1966
- Government Gazette No. 88 dated 23rd October, 1968
- By Order-in-Council dated 18th November, 1969
- Government Gazette No. 98 dated 2nd October, 1974
- Government Gazette No. 76 dated 10th September, 1975
- Government Gazette No. 56 dated 9th June, 1976
- Government Gazette No. 40 dated 17th May, 1977

BUILDING LINES:

- Government Gazette No. 73 dated 20th August, 1969
- Government Gazette No. 38 dated 7th April, 1976

**THE FOLLOWING PUBLICATIONS ARE CURRENTLY AVAILABLE
FROM THE AUTHORITY'S OFFICES**

TECHNICAL REPORTS

- No. 5 Report on Water Quality and Tidal Flushing of Patterson River
- No. 6 Kananook Creek Rehabilitation Strategy. Kananook Creek Rehabilitation Strategy, Part 2.
- No. 7 The jacking of a concrete pipe through dry running sand
- No. 8 Patterson River Boat Ramp.
- No. 9 Preliminary Oxygenation Trial Mordialloc Creek.
- No.10 Engineering Features of Overseas Tour.
- No.11 Vegetation Survey of Monbulk Creek Retarding Basin at Lysterfield.
- No.12 Materials Report 1978/79.
- No.14 The Sunset Concept.
- No. 15 An evaluation of the performance of a flood detention storage — Liverpool Road Flood Retarding Basin.
- No.17 Biological Survey of Kananook Creek — Victoria.
- No. 19 Lower Dandenong Valley Waterway Management Plan.
- No.20 A Guide to The Identification of Larvae of the Zygoptera (Odonata) of Victoria.
- No.21 A Brief Assessment of Water Quality in the Dandenong Valley, with Emphasis on the Lower Dandenong and Kananook Creek Catchments.
- No.22 Brady Road Retarding Basin Study Vol.1 and Vol.2.
- No.24 Temporal Changes in Water Quality in the Dandenong Creek Catchment.
- No.25 Water Quality Management in Developing Catchments.
- No.26 Comments on Discussion Paper on a State Conservation Strategy for Victoria.
- No.27 Non Point Source Pollution Mitigation. A Catchment Management Activity.
- No.28 Levels of the Trace Metals, Copper, Lead, Cadmium and Zinc in the waters, Mussels and sediments of Mordialloc Creek and environs.
- No.29 The effects of the Ash Wednesday Bushfires on the water quality of Stoney Creek, Upper Beaconsfield, Victoria.

REPORTS

- No. 1 An overall Plan for works of Drainage and Flood Protection in the Dandenong Valley.
- No. 2 Financing Authority Works.
- No. 3 Financing Authority Works.
- No. 4 The second 10-year Plan 1975/85 regarding Drainage, Flood Protection, Pollution Control in the Dandenong Valley.
- No. 5 Financing Works for the second 10-year Plan.
- No. 6 Cardinia Creek Catchment.

ENVIRONMENTAL REPORTS

- Environmental Effects Statement — Mordialloc Creek
- No. 1 Mordialloc Creek
- No. 2 Edithvale Wetlands Buffer Area Analysis.

TECHNICAL INVESTIGATION REPORTS

- Technical Investigation Report — No. 1 Melton Drainage Study
- Technical Investigation Report — No. 2 Barrabool Drainage Study
- Technical Investigation Report — No. 3 Healesville Retarding Basin Study
- Technical Investigation Report — No. 4 Cardinia Creek Retarding Basin Study
- Technical Investigation Report — No. 5 Brady Road Retarding Basin — Hydraulic Flood Plain Study
- Technical Investigation Report — No. 6 Sheltons Drain Hydrologic Study
- Technical Investigation Report — No. 7 State Water Sports Centre — Hydraulic and Sediment Study
- Technical Investigation Report — No. 8 Fussell Road Retarding Basin — Outlet Diversion
- Technical Investigation Report — No. 9 Skye Road Retarding Basin
- Technical Investigation Report — No.10 Drainage Complaints Action Plan
- Technical Investigation Report — No.11 Mordialloc Creek Flood Study
- Technical Investigation Report — No.12 McGregor Road Drainage Scheme
- Technical Investigation Report — No.13 Deep Creek South Drainage Scheme
- Technical Investigation Report — No.14 Devon Meadows — Cannons Creek Drainage Study, Report 1.
- Technical Investigation Report — No.18 Ti-Tree Creek Flood Plain Study
- Technical Investigation Report — No.19 Hampton Park East Extension Drainage Scheme

OTHER REPORTS

- Submission by DVA to the Public Bodies Review Committee, Exhibit 2
- Exhibit 4
- Crane Operation Course
- Development of the Stream Gauging Crane
- Rainfall Networks
- Dandenong Creek Catchment Pollution Problem
- Rainfall Frequency Study — Dandenong Creek Catchment
- Design of Retarding Basin in an Urban Drainage System
- Barrabool Drainage Study
- Conservation and Managements Proposals for the Edithvale-Carrum-Seaford Wetlands Areas
- Policy & Practice Manual — Draft Copy
- Dandenong Valley Catchment Water Quality Data, November 1973 - August 1975
- Bendigo College of Advanced Education — Flood Retarding Basins
- Irrigation Projects in Australia
- Melton Drainage Study First Report March 1980
- Maintenance Manual
- Introduction of Pre-Cast Pits to Authority Works — Draft Copy
- Patterson River Recreation Potential
- Aspects of E. Coli in Receiving Waters
- Heatherton Road Crossing over Dandenong Creek
- Landscape Report — Mile Creek Reserve Upstream of Springvale Road
- Urban Flood Warning and Water Shed Management
- Advances in Metropolitan Melbourne
- WASP
- Stormplot