

Stormwater Directory of New Zealand

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Stormwater Directory of New Zealand – New Zealand Water & Wastes Association
PO Box 1316 Wellington
(04) 472 8925
www.nzwwa.org.nz

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- 1 A Critique of Instream Flow Incremental Methodology (IFIM) - Instream Habitat Simulation in the New Zealand Context**

This report examines a widely used approach for evaluating effects of changing flow regimes (IFIM) in particular physical habitat simulation using PHABSIM/RHYHABSIM. Department of Conservation, October 2003
- 2 A Guide to Environmental Management Systems and ISO14001 for Local Government**

This guide has been developed to help local authorities to develop environmental management systems containing the elements described in ISO14001. Part A of this guide gives a general introduction to EMSs and ISO14001 and identifies the issues that any local authority needs to address when preparing to develop an EMS. Part B demonstrates the organisational commitment needed to develop an EMS. Part C shows the steps that need to be taken to develop an EMS based on the requirements of ISO14001. The steps are shown in Figure 1. Part D contains useful information such as a bibliography, a glossary of terms and contact details for organisations and websites related to local authority environmental management. Pattle Delamore Partners Ltd, August 1999
- 3 A Review of Contaminants & Toxicity Associated with Particles in Stormwater Runoff (Appendix)**

United States Caltrans Publication. Appendix presenting annotated bibliography of journal articles and reports reviewed as part of the project. Available in portable document format (PDF) from the Ministry or directly from the California Department of Transportation. Ministry of Transport, August 2003
- 4 A Review of Sustainable Drainage Management Concepts and Practices**

A review of sustainable drainage management in Southland Regional Council managed drains. Environment Southland, June 1998
- 5 A Review of the Contaminants and Toxicity Associated with Particles in Stormwater Runoff - Roadway Pollutants**

United States Caltrans Publication. Primary purposes of the report are to 1) document what is known about the relationship between particle size, pollutant levels, and toxicity in stormwater runoff from highway facilities 2) critically examine existing methods for collection of storm water samples, etc and 3) identify knowledge gaps that currently limit Caltrans' ability to mitigate stormwater pollution. Available in portable document format (PDF) from the Ministry. Ministry of Transport, August 2003
- 6 A Review of the Rating of Drainage Services for the Disposal of Matamata Township Stormwater to the Hungahunga and Waiheke Drainage Subdivisions TR94-06**

Review of the stormwater disposal rating arrangement from approximately 310ha of Matamata township. A review of the rating of drainage services for the disposal of Matamata township stormwater to the Hungahunga and Waiheke drainage subdivisions. Copies available from Environment Waikato for \$10.00. Environment Waikato, January 1994
- 7 A Review of Urban Catchment Management & Environmental Impacts**

Review of general characteristics of urban stormwater, identifying and assessing likely effects of urban stormwater on streams, rivers, estuaries and lakes in five main urban centres of New Zealand. Ministry for the Environment, June 2002

- 8 A Strategy for the Lakes of the Rotorua District**
Identifies and addresses problems arising from a lack of co-ordination between the many groups interested in the management of the lakes. Environment Bay of Plenty, August 2000
- 9 Ageing Pipes and Murky Waters Urban Water Issues for the 21st Century**
A discussion document. The supply of adequate drinking water and the removal of polluted waters are the two most fundamental needs of towns and cities, and without these services, cities rapidly become uninhabitable. This paper identified key social, environmental and economic issues affecting the sustainable management of urban water systems and presents a series of relevant questions to encourage debate. Parliamentary Commissioner for the Environment, June 2000
- 10 Ageing Pipes and Murky Waters Urban Water System Issues for the 21st Century - Summary of Submissions**
Urban water systems, legislative framework, pricing and charges for water services, risk management, urban ecosystem management, integrated management of water services, new solutions, recognition and valuation of ecosystem services, linkages between the reviews. Parliamentary Commissioner for the Environment, January 2001
- 11 An Assessment of Stormwater Quality and the Implications for Treatment of Stormwater in the Auckland Region TP5**
A review of existing data on stormwater quality collected between 1988 and 1992. Included management implications for Auckland stormwater base on its characteristics and major treatment options. Available for a fee of \$60.00. Auckland Regional Council, January 1992
- 12 An Investigation into the Disposal of Matamata Township Stormwater to the Hungahunga and Waiheke Drainage Subdivisions Final Report TR94-05**
Review of the stormwater disposal rating arrangement from approximately 310ha of Matamata township. A review of the rating of drainage services for the disposal of Matamata township stormwater to the Hungahunga and Waiheke drainage subdivisions. Final report. Availability : Copies available from Environment Waikato for a fee of \$10.00. Environment Waikato, January 1994
- 13 An Investigation into the Disposal of Matamata Township Stormwater to the Hungahunga Drainage Subdivision Draft Report TR93-10**
The objectives of this investigation are to examine the appropriateness of the existing maintenance payment formula and to provide information which will facilitate informed discussion and decision-making by Council on this issue. The first part of this draft report summarises significant historical developments including capital works. The second part describes an analysis of the township's stormwater discharge characteristics. Limited copies available from Environment Waikato for a fee of \$10.00. Environment Waikato, January 1993
- 14 An Overview of the Water Quality of the Rivers and Streams of the Canterbury Region**
This report reviews the current state of water quality in river and stream types for Canterbury over the past 11 years. Classification of rivers into 6 main types enabled characterisation of each river type based on nutrient, microbial and sedimentation data.

Environment Canterbury, November 2002

- 15 Analysis of Catchment and Receiving Environments Stormwater Management Strategy TR2**
Cost \$150.00. Auckland Regional Council, January 1997
- 16 Annual Construction Compliance Review Plan**
This report provides compliance review plan for construction projects in California. United States California Department of Transportation, July 1992
- 17 Annual Environmental Incident Report 2002**
Summary of the work done and findings of the Council's pollution response service. Greater Wellington, August 2003
- 18 Approaches to Managing Discharges to Land and Water in Taranaki**
Managing water quality in Taranaki. Taranaki Regional Council, January 1994
- 19 Approved Document for the New Zealand Building Code E1 Surface Water**
The objective of this provision is to safeguard people from injury or illness and property from damage caused by surface water. It aims to protect the outfalls of drainage systems. Sales enquiries should be directed to customer services, Victoria University Book Centre, Wellington. Building Industry Authority, January 2002
- 20 Approved Document for the New Zealand Building Code G10 Piped Supplies**
The objective of this is to safeguard people from injury or illness caused by extreme temperatures or hazardous substances associated with building services. Sales enquiries should be directed to customer services, Victoria University Book Centre, Wellington. Building Industry Authority, February 1998
- 21 Assessment Guide for Hazardous Facilities**
The Assessment Guide for Hazardous Facilities was prepared in response to a workshop and survey of territorial local authorities carried out by the Auckland Regional Council in 1997. It established that more than 90% of participating councils rated guidance on how to assess hazardous facilities for resource consent purposes as a very high priority. Ministry for the Environment, March 2000
- 22 Asset Management Plan 2002: How We Look After the Assets You Own**
Contains 11 asset management plans for art galleries, closed landfills, community facilities, leisure facilities, libraries, parks open spaces and street environments. Auckland City Council, January 2002
- 23 Asset Management Plan Land Drainage Asset Register Volume 2 PS99-11**
This report identifies the specific required activities, costs and proposed funding arrangements to sustainably managed the drainage assets administered by Environment Waikato. Copies available from Environment Waikato for a fee of \$15.00 for two volumes. Environment Waikato, January 1999
- 24 Asset Management Plan Land Drainage Volume 1 PS2001-21**
This report identifies the specific required activities, costs and proposed funding arrangements for sustainable management of the land drainage assets in the nine

drainage areas administered by Environment Waikato. Environment Waikato, January 2001

- 25 Asset Management Plan Land Drainage Volume 1 PS99-11**
This report identifies the specific required activities, costs and proposed funding arrangements to sustainably managed the drainage assets administered by Environment Waikato. Copies available for a fee of \$15.00 for two volumes. Environment Waikato, January 1999
- 26 Auckland Region Urban Stormwater Management Project Strategy Statement**
This strategy outlines why stormwater management is an important issue in Auckland Region, and is designed to be a guide to assist Councils to target limited resources in areas where it is needed most. Free or \$6.00 to consultants. Auckland Regional Council, July 1998
- 27 Auckland: A Dynamic Region**
A strategy document aiming at accommodating growth in a way that enables people and communities to provide for their social, economic and cultural well-being. Auckland Regional Council, January 1998
- 28 Australasian Chapter of International Erosion Control Association Conference**
The 3rd South Pacific Conference and 10th Annual Conference. Communication and linkages for aquatic resource protection. CD-ROM available. New Zealand Water and Wastes Association, May 2003
- 29 Baseline Environmental Monitoring at the Collingwood Street Stormwater Outfall**
Report on Collingwood St upgrade to a more extensive stormwater system. Quote Cawthron Report 756. Nelson City Council, September 2002
- 30 Bay of Plenty Environmental Education Directory**
Lists places to visit, speakers and educational resources available in the Bay of Plenty but not included in the national environmental education directory. Environment Bay of Plenty, October 2003
- 31 Bay of Plenty Regional Land Management Plan**
Addresses policies contained in the regional policy statement. Environment Bay of Plenty, February 2002
- 32 Bay of Plenty Regional Policy Statement**
Promotes the sustainable management of the Bay of Plenty regions natural and physical resources. Environment Bay of Plenty, February 2002
- 33 Bay of Plenty Transitional Regional Plan and Transitional Regional Coastal Plan**
Promotes sustainable management of the natural physical resources of the Bay of Plenty coastal environment. Environment Bay of Plenty, July 2001
- 34 Be The Difference Stormwater Pollution**
Explains what Greater Wellington is doing about stormwater pollution and what members of the public can do. Greater Wellington, January 2004
- 35 Bell Block Catchment Management Plan**

36 Best Management Practice Retrofit Pilot Program

The objective of this program was to acquire experience in the installation and operation of a wide range of structural BMPs for treating stormwater runoff from existing Caltrans facilities and to evaluate the performance and costs of these devices. Technical feasibility and costs were assessed through detailed records kept on the process of designing, building, operating and maintaining each retrofit device. Technical feasibility considered siting, design, construction, operation, maintenance, safety, performance and public health issues. In addition, by establishing the life-cycle costs and performance for each of the technologies, a basis for selecting one technology over another was developed. The benefit assessment used in this project was based primarily on the pollutant removal of each of the tested technologies. Each BMP was designed, constructed, and maintained at what was "state-of-the-art" at the time the project began. United States California Department of Transportation, January 2004

37 Beyond Ageing Pipes Urban Water Systems for the 21st Century

This report presents findings of PCE's investigation into urban water systems. Parliamentary Commissioner for the Environment, April 2001

38 Bridge Scour

This book by Bruce Melville and Stephen Coleman, covers the description of, analysis of, and design for scour at bridge foundations. The central focus is the combination of old and new design methods into a comprehensive methodology for bridge-scour design. The book is based upon an extensive summary of existing research results and design experience, such material not being previously adequately collated. "A comprehensive state-of-the-art treatment of scour and bridge foundations - both a handy reference text and a manual for the practicing bridge designer." Often used by Transit New Zealand. United States Water Resource Publications, LLC, August 1999

39 Broad-Scale Assessment of Urban Stormwater Issues in the Waikato Region

This report identifies and assesses the importance of potential adverse effects of urban stormwater in a range of receiving waters in the Waikato region, including urban streams, small lakes, the Waikato River at Hamilton, and estuarine embayments (at Raglan and Tairua). POA to Environment Waikato. Environment Waikato, January 1999

40 BuffaTank Device

BuffaTank systems are manufactured from prefabricated modular units that are connected on site with simple coupling bands. Standard tange modular units are available with shorter lead times. BuffaTank systems are custom manufactured to the requirements of the project. HELCOR Pipe is the system's principal component. Ingal Environmental Services Ltd, January 2004

41 Canterbury Strategic Water Study

Canterbury has 58% of all water allocated for consumptive use in New Zealand, and 70% of the nation's irrigated land. Water is highly valued by the regional community for a variety of economic, environmental and social reasons. On-going land use change, primarily in the form of irrigation development, continues to increase demand for water abstraction. At the same time, there has been a shift in values within communities towards greater recognition of the Tangata Whenua's values for water, and towards increased protection of the natural environment and maintenance of biodiversity. Environment Canterbury, August 2002

- 42 Characterisation of Liquid Waste Practices, Trends and Issues in the Waikato Region IS92-05**
 This report has been prepared as an initial technical input to the Liquid Wastes Guidelines Project initiated in late 1991. Its purpose is defined in the technical brief as follows: "having regard to point source discharges of the following types : urban and industrial stormwater; agricultural discharges; industrial discharges; sewage discharges; septage, grease trap discharges -characterise and quantify (to the extent practicable) liquid waste characteristics in the region focusing on location, volumes, treatment and disposal practices. Summarise key problems and issues". Limited copies available for a fee of \$5.00. Environment Waikato, January 1992
- 43 CleansAll Device Monitoring Assessment**
 Observations and results from field installation indicate that CleansAll device is capable of collecting large amounts of gross pollution, oils and sediments. Hynds Environmental Systems Ltd, March 2000
- 44 CleansAll Device Performance Report for Anns Creek, Mt Wellington, Auckland**
 Auckland City Council commissioned Hynds Environmental to install three Hynds CleanAll units at Mt Wellington, prior to discharge into Anns Creek. The units successfully captured approximately 10 cubic metres of gross pollutants, 750kg of sediment and hydrocarbons during the twelve months of monitoring. Hynds Environmental Systems Ltd, December 2003
- 45 Clearwater Program Website Australia**
 The Clearwater Program is a joint initiative of the Municipal Association of Victoria (MAV) and the Stormwater Industry Association of Victoria (SIAV), assisted by funding through EPA Victoria as part of the Victorian Stormwater Action Program. Clearwater Program, April 2004
- 46 Coastal Pressures - Stormwater Pollution**
 Public education material describing what stormwater is and how it becomes polluted. Gives public guidance on how to avoid polluting stormwater. Environment Waikato, May 2003
- 47 Comprehensive Stormwater and Aquatic Ecosystem Management Conference Volume 1**
 Wide range of subjects and papers relating to stormwater management. Two volume set \$100.00. New Zealand Water and Wastes Association, January 1999
- 48 Comprehensive Stormwater and Aquatic Ecosystem Management Conference Volume 2**
 Resource assessment techniques and results, framework for solutions, posters. Two volume set \$100.00. New Zealand Water and Wastes Association, February 1999
- 49 Comprehensive Urban Stormwater Management Strategy and Action Plan - Draft**
 Covers stormwater management issues, objectives, policies, explanations, implementation methods and monitoring. Waitakere City Council, September 2000

- 50 Comprehensive Urban Stormwater Strategy and Action Plan**
This is a comprehensive strategy and action plan for the long-term, sustainable management of stormwater within Waitakere City. The CUSSAP project comprises 12 separate reports. Much of the content is aimed at technical experts but each report has a three-page summary that makes it easier for the layperson to digest the main points. Download from the Ecowater website. Waitakere City Council, January 1999
- 51 Confirmed Indicators for the Marine Environment**
This report confirms the environmental performance indicators (EPI's) for the marine environment. It explains how indicators were modified following submissions received to the draft discussion document, identifies roles for each EPI, and provides details for monitoring and reporting requirements. Ministry for the Environment, June 2001
- 52 ConstructionPod Device**
The ConstructionPod is a removable, adjustable catchpit insert developed to be placed downstream of a contractor performing minor works, or used as a secondary form of treatment in conjunction with traditional treatment such as a silt fence or pond during major works. Geotextile or nylon micron rated Enviropod Filterbags are available and are extremely effective at removing fine sediments, flakey paint, and other construction related debris. ConstructionPods are monitored and maintained by contractors on site. Ingal Environmental Services Ltd, January 2004
- 53 Contaminant Levels in Stream Sediments for Tahunanui Industrial Area**
Prepared by Leigh Stevens, Cawthron Institute. Analysis of sampled stream sediments in and around the Tahunanui industrial area and comparison of these findings with sediment quality criteria. The aims of the work were to determine sediment contaminant levels in and adjacent to the Tahunanui industrial area, gather site specific information adjacent to selected timber treatment sites, highlight areas with elevated contaminant levels. Quote Cawthron report 333 to the Council. Nelson City Council, April 1996
- 54 Contaminant Levels in Stream Sediments York Stream Industrial Area**
Analysis of six sampled sites within the York Stream industrial catchment and comparison of these findings with sediment quality criteria. Quote Cawthron Report 627 to the Council. Nelson City Council, February 1998
- 55 Contaminants Database Support Manual Version 1.2**
Provides background information and presents a procedure for evaluating the environmental and ecological risk associated with the presence of specific organic contaminants in the discharges and emissions from New Zealand transport sources to aquatic ecosystems. Prepared by Kingett Mitchell Ltd for the Ministry of Transport. Publication reference 84912/Risk10. Ministry of Transport, September 2000
- 56 Costs and Benefits of Stormwater Management TR6**
Free or \$6.00 to consultants. Auckland Regional Council, January 1998
- 57 Countryside and Foothills Stormwater Management Code of Practice**
Water quality management in New Zealand and Waitakere City. Waitakere City Council, January 2001

- 58 Coventry University Testing of Downstream Defender Device**
Coventry University conducted a full scale laboratory test of the Hynds Downstream Defender unit. Five different flows were tested for three different pollutants, oil, sand and peat. Trapping efficiencies reached over 90% for all product. Hynds Environmental Systems Ltd, July 2000
- 59 Creaking Local Infrastructure, Water and Wastewater as a Case Study**
Highlights issues and suggests solutions to local infrastructure problems due to tourism in New Zealand. Tourism Industry Association, September 2002
- 60 Creating Customer Value from Community Assets Edition 1.0**
Guidelines for agreeing service levels with customers. To assist local government in providing value to their customers; by establishing the product and service quality customers are prepared to pay for and by using these as the basis of planning for prudent and accountable management of public assets. Price on application. Ingenium, June 2003
- 61 Creating Our Future, Sustainable Development for New Zealand**
A review of the progress of sustainable development in New Zealand, with particular reference to environmental management performance since the 1992 Earth Summit in Rio de Janeiro. The report highlights the opportunities and challenges for the future in maintaining a healthy environment, social well-being and a strong economy. Parliamentary Commissioner for the Environment, June 2002
- 62 Development and Connection Standards, Water, Sewerage and Stormwater**
Developed by Metrowater for water and sewerage standards which applies to the water and sewerage pipe networks of Metrowater in the Auckland Area. Metrowater Limited, July 1997
- 63 Discharge of Stormwater from Wellsites, Resource Consent Information**
Gives consent information requirements for applicants. Taranaki Regional Council, January 2000
- 64 Domestic Installations**
AS/NZS 3500.5:2000. Specifies the requirements for installation of hot and cold water supply, sanitary plumbing and drainage, and stormwater drainage, for domestic plumbing work associated with buildings not exceeding three floors in height. Standards New Zealand, January 2000
- 65 Don't Tip The Coromandel Down The Drain**
Covers stormwater pollution advice and effects. Thames Coromandel District Council, January 2001
- 66 Downstream Defender and Stormceptor Devices, Comparison of Treatment**
Coventry University analysed both the Downstream Defender and Stormceptor to identify comparable treatment flows. The Coventry Uniserity report indicates that the design flow for the Downstream Defender will have at least the same treatment as the bypass flow for the Stormceptor. Hynds Environmental Systems Ltd, January 2000
- 67 Downstream Defender Device Performance Report**
Samples were taken from three Downstream Defender installations and examined for

particle size and pollutant content. A significant amount of captured sediment was smaller than 75 microns. Laboratory analysis was completed to test treatment efficiencies and this was shown to retain over 90% of sediments, at most tested flows, for sediment greater than 150 microns and with a specific gravity of 2.65. Hynds Environmental Systems Ltd, May 1997

68 Downstream Defender Device Specification and Information

Comprehensive information on performance, design and maintenance on the Hynds Downstream Defender including Computational Fluid Dynamics analysis. Hynds Environmental Systems Ltd, January 2000

69 Downstream Defender Device Testing Methodology

A detailed methodology for testing the performance of the Downstream Defender at varying flows and pollutant characteristics in the new, state of the art testing laboratory in United States of America. Hynds Environmental Systems Ltd, November 2002

70 Downstream Defender Device Treatment at Onondaga Lake

A Downstream Defender was installed as part of a larger scale treatment programme aimed at reducing Nitrogen and Phosphorous entering Onondaga Lake from surrounding farms. The Downstream Defender was installed for treating runoff from roads and parking areas; it was found to remove over 13kg per 3785 litres of stormwater treated. Hynds Environmental Systems Ltd, November 2002

71 Drainage Management in New Zealand - Review of Existing Activities and Alternative Management Practices

Review of literature on drainage maintenance activities, both within and outside New Zealand. Current drainage management activities used by regional and district councils were summarised from responses to a mail survey. Science for conservation publication 235. Department of Conservation, January 2004

72 Duck Creek Stormwater Modelling Report

The report details cross sections and inundation areas of Duck Creek as it traverses the former Duck Creek Golf Course. The one year average return interval (ARI), the mean annual flood (MAF), the 10 year flood, and the 50 year flood have all been modelled. An explanation of each of these terms is included in the report. Three scenarios have been modelled for each of the above events. Download from website. Porirua City Council, May 2003

73 Earthwork Guidelines

Provides earthworkers with an understanding of erosion and sediment control. To ensure that the erosion and sediment controls are put into practice to minimise any adverse environmental effects during any earthwork activities. Environment Bay of Plenty, October 2003

74 Ecosystem Health of Canterbury Rivers

Development and implementation of biotic and habitat assessment methods 1999/2000. This report poses the question "how healthy are our streams?" by looking at the biological and physical condition of more than 200 sites throughout Canterbury, representative of five major stream types. Sites have been assessed on a five point scale, ranging from "very good" to "very poor," in terms of both biotic health (as measured by the composition and abundance of invertebrate communities found at each site) and the quality of the habitat.

Report R03/03. Environment Canterbury, January 2003

- 75 Efficiency of an Urban Stormwater Filter TP48**
Assessment of the performance of a sand filter at Unitec in Auckland for the treatment of urban stormwater. Price \$7.00. Auckland Regional Council, January 1994
- 76 Emission Factors for Contaminants Released by Motor Vehicles in New Zealand**
Providing background information for development of MoT of the Vehicle Fleet Emissions Model for Water (VFEM-W). Provides background info for professionals undertaking motor vehicle contaminant loading assessments associated with stormwater management or transport/infrastructure projects. Prepared for Ministry of Transport and Infrastructure Auckland by Kingett Mitchell Ltd. Publication reference 84917/Emission Factors. Ministry of Transport, December 2002
- 77 Engineering Codes of Practice**
Document that provides guidelines on the engineering standards council's use when setting conditions for resource consents for subdivision and land use projects. City and District Councils, January 2004
- 78 Enviro Convention & Exhibition IWA World Water Congress, A Unique Approach to a Unique Environment**
Executive summaries offering unique approach to a unique environmental challenge. Outstanding and comprehensive view of the latest environment industry trends, issues and developments at this moment in time. New Zealand Water and Wastes Association, April 2002
- 79 Environmental Exposure Limits for Water**
The Hazardous Substances and New Organisms (HSNO) Act will only achieve its purpose of protecting the environment, and the health and safety of people and communities, if its provisions are complied with. Everyone involved with Hazardous Substances (applicants, importers, developers, users, research institutions, and those involved in transport, storage and disposal) needs to comply with the Act. In practical terms this means complying with the controls that the Environmental Risk Management Authority applies to Hazardous Substances. ERMA New Zealand expects most people will voluntarily comply with controls because they recognise they are necessary to achieve a safe environment and ensure safety of people and communities. Environmental Risk Management Authority, August 2003
- 80 Environmental Guidelines for Undertaking Works in Regard to Management of Council's Infrastructural Assets**
These Guidelines are an internal policy document to assist the Council in its management responsibilities relating to flood control, drainage and soil conservation schemes within the Waikato Region. Copies available for \$10.00. Environment Waikato, January 1996
- 81 Environmental News Bulletin**
Weekly environmental newsletter taken from a range of sources. Brookers Ltd, January 2004
- 82 Environmental Performance Indicators, Confirmed Indicators for the Marine Environment**
This report confirms the environmental performance indicators (EPIs) for the marine

environment. It explains how indicators were modified following submissions received to the draft discussion document (Environmental Performance Indicators: Proposals for the Marine Environment, MfE 1998a), identifies roles for each EPI and provides detailed monitoring and reporting requirements. Finally, it canvasses the steps involved in implementing the indicators. The key audience for this report will be those implementing and reporting on these indicators, including regional councils, territorial local authorities, industry/commercial operators and, some central government departments. Ministry for the Environment, June 2001

83 Enviropod Device

The Enviropod filter is a catchpit insert that is easily installed into new and existing catchpits without the need for construction. The enviropod consists of a supporting framework, plastic seal and an interchangeable filter bag. These are simply removed, and emptied during maintenance without specialised equipment. The enviropod filter bags come in a range of micron sizes to suit site conditions. Independently tested in Australia and New Zealand the enviropod filter has been proven to remove high rates of gross pollutants and suspended solids. Ingal Environmental Services Ltd, January 2004

84 Enviropod Device Evaluation

Please contact company for more details. Ingal Environmental Services Ltd, August 2002

85 Enviropod Device Trial Wairau Road Auckland

Enviropod trial, please contact company for more details. Ingal Environmental Services Ltd, August 2002

86 Erosion and Sediment Control Guidelines for Earthworks

Erosion and Sediment Control Guidelines for Earthworks. Auckland Regional Council, March 1992

87 Erosion and Sediment Control Guidelines for Land Disturbing Activities TP90

These guidelines outline the principles of erosion and sediment control including detailing the ten commandments of erosion and sediment control in the Auckland Region. The practices detailed in these guidelines are divided into erosion control, sediment control, works within a watercourse, quarries and vegetation removal. Photocopy available for \$20.00. Auckland Regional Council, March 1999

88 Erosion and Sediment Control Guidelines for Soil Disturbing Activities TR2002/01

These guidelines have two main objectives a) To provide users, ranging from those directly associated with various soil disturbing activities to interest groups, with a series of comprehensive guidelines for erosion and sediment control by outlining the principles of erosion and sediment control and the sediment transfer process; and providing a range of erosion and sediment control practices that can be implemented on various soil disturbing activities; and b) To minimise adverse environmental effects of soil disturbing activities through appropriate use and design of erosion and sediment control techniques. Download PDF copy from website. Environment Waikato, January 2003

89 Erosion and Sediment Control Guidelines for the Wellington Region

Non-statutory guidelines on implementing methods and devices for minimising erosion and sedimentation. Greater Wellington, September 2002

90 Evaluation of Road Surface Contaminant Loads in Waitakere City for the

Development of the Vehicle Fleet Emission Model - Water

Intended as a first initial examination in New Zealand of vehicle emission contribution to road surface and comparisons with loads of key contaminants present on road surface. Written by Kingett Mitchell Ltd for the Ministry of Transport. Publication Reference 84918. Ministry of Transport, October 2003

91 Farming for the Sustainable Future

This publication highlights five case studies showing how the sustainable approach to farming in New Zealand has given birth to a vibrant and diversified rural economy, which invests in its resources to ensure long term viability. Federated Farmers of New Zealand Inc, January 2002

92 Flood Events in Taranaki

Covers stormwater control, historical index and the river index. New Plymouth District Council, October 1982

93 Flow Guidelines for Instream Values

These guidelines provide a consistent approach to setting minimum flows and other flow requirements in rivers. Volume A covers the principles of hydrology and hydraulics, discusses various instream values, and sets out by the process by which flow requirements are determined and given practical effect. Volume B provides technical and background information. Download guidelines from the Ministry for the Environment website. Ministry for the Environment, May 1998

94 Frequency of High Intensity Rainfalls in New Zealand

Contains historic stormwater and meteorological data. New Zealand Meteorological Service, January 1963

95 Glen Avon Catchment Management Plan

New Plymouth District Council, May 1997

96 Groundwater Quality Monitoring Annual Summary 2001/02

The Environmental Quality section of Environment Canterbury completed an extensive groundwater quality-monitoring programme in the 2001/02 financial year. This report outlines the programme, summarises the analytical results and records all the samples collected. Report U02/87. Environment Canterbury, December 2002

97 Guidelines for Design of Eaves and Box Gutters

AS/NZS HB114:1998. Provides guidelines in the use of AS/NZS 3500.3.2, National plumbing and drainage Part 3.2: Stormwater drainage - Acceptable solutions, for design of eaves and box gutters. Standards New Zealand, January 1998

98 Guidelines for Earthworks in the Taranaki Region

Provides guidance on practical measures that minimise the adverse environmental effects on water quality of soil disturbance from earthworks activities. Taranaki Regional Council, January 2003

99 Guidelines for Onsite Stormwater Management

The guidelines are due for completion in October 2004 and will include information on the uses, advantages and disadvantages of source control, options and applications

available, and advice on how to select and implement the most appropriate control(s) to improve stormwater quality and reduce quantities at source. New Zealand Water Environment Research Foundation, October 2004

100 Guidelines for Treatment of Stormwater Runoff from the Road Infrastructure

Stormwater runoff from roads has potential to impact aquatic and terrestrial ecosystems through changes to water quality, water quantity and water flowpath. The guideline contains a series of worked examples to present the range of stormwater treatment measures suitable for use in road construction. Publication AP-R232/03 first edition. Austroads, July 2003

101 Guidelines for Urban Stormwater Discharge Consent Applications and Stormwater Management Plans IS2001-01

These guidelines have been prepared to outline Environment Waikato's suggested approach to applying for resource consents for the diversion and discharge of urban stormwater. They are directly applicable to the needs of the Territorial Local Authorities and other utility organisations and developers within the region who are involved in the management of stormwater. Copies available from \$20.00. Environment Waikato, January 2001

102 High Intensity Rainfall Design System (HIRDS V2.0)

The High Intensity Rainfall Design System (HIRDS) version 2.0 offers planners and engineers more certainty about the frequency of high-intensity rainfalls, enabling them to better design stormwater drainage systems and other structures. High Intensity Rainfall Design System is a small, cost-effective, computer-based programme that can estimate rainfall frequency at any point in New Zealand. It can be used to estimate rainfall depths for hydrological design purposes, and to assess the rarity of observed storm events. The user simply enters the latitude and longitude of the location of interest and a table then appears on the screen with a set of depth, duration, and frequency statistics for rainfalls of durations from 10 minutes to 72 hours, and average recurrence intervals (return periods) of up to 100 years. For more information or to purchase the CD, contact NIWA. National Institute of Water and Atmospheric Research, January 2004

103 How Can You Help Stop Stormwater Pollution?

Stormwater pollution education brochure for the public. Wellington City Council, January 2004

104 Independant Evaluation of the Enviropod Device

Please contact company for more details. Ingal Environmental Services Ltd, September 2002

105 Infrastructure Design Standards

Topics covered include geotechnical, roading and traffic, stormwater, water supply, wastewater, parks and reserves, recreational structures design and development. City and District Councils, January 2004

106 Inglewood Stormwater Management Plan

A performance review. New Plymouth District Council, June 1992

107 International Infrastructure Management Manual

This manual outlines a formal systematic process for infrastructure asset management

and also details the asset management activities that are necessary for a robust asset management process. The manual also includes a tool-kit of approaches that can be used to understand asset management activities. The manual is not only orientated to toward the asset managers within an organization which owns and /or operates one or more infrastructure networks. Because of the multi disciplinary nature of asset management executive management as well as financial, information technology, and planning specialists, will also benefit greatly from the manual. Price \$365.00 + GST including postage. Ingenium, October 2002

108 Introduction to Urban Stormwater Management in Australia

This introduction to urban stormwater management has been prepared by Environment Australia as part of the Living Cities Urban Stormwater Initiative. It outlines current challenges and approaches for improving urban stormwater management within a water cycle framework. This is not a technical manual, rather an analysis of current trends, research and best practice for managing stormwater in Australia. It is a starting point for delving into a feature of our cities that has been often ignored, but is now recognised for its capacity to be both a major source of pollution or a major resource. Australia Department of the Environment and Heritage, October 2002

109 ISO14000 Environmental Management Standards

These standards reflect global consensus on good environmental practice in the international context that can be applied pragmatically by organizations all over the world in their particular situation. ISO has a two-pronged approach to meeting the needs of all stakeholders from business, industry, governmental authorities and non-governmental organizations, as well as consumers, in the field of the environment. Firstly, ISO offers a wide-ranging portfolio of standards for sampling and test methods to deal with specific environmental challenges. It has developed more than 350 International Standards for the monitoring of such aspects as the quality of air, water and soil, as well as noise and radiation. They also serve in a number of countries as the technical basis for environmental regulations. Secondly, ISO has developed standards that help organizations to take a more pro-active approach to managing environmental issues. These environmental management standards can be implemented in any type of organizations in either public or private sectors (from companies to administrations to public utilities). International Organization for Standardization, January 2002

110 Lake Okareka Catchment Management Action Plan

Future management and control of the Rotorua Lakes. Environment Bay of Plenty, February 2003

111 Lakes Project Newsletter Number 1 - Lake Rerewhakaaitu

Evidence based farm management decision making to maintain or enhance water quality in shallow lakes. Lakes Project, August 2002

112 Land Use Planning Guide for Hazardous Facilities

A report prepared by the Hazardous Facilities Screening Procedure Review Group in conjunction with the Ministry for the Environment. The Quick Guide summarises and highlights the key issues associated with land use planning for hazardous facilities in general, and the Hazardous Facility Screening Procedure in particular. A comprehensive description of the matters addressed here is provided in the main document, the Land Use Planning Guide for Hazardous Facilities. While the Land Use Planning Guide is intended for more detailed study, the Quick Guide is meant to serve as a frequently used rapid reference. Ministry for the Environment, February 2002

- 113 Landslip and Flooding Hazards in Eastbourne Borough A Guide for Planning Water and Soil**
Assessment of the extent and magnitude of landslip and flooding hazards in Eastbourne Borough by identification of landslips that occurred during a particularly wet winter, and by an assessment of stormwater systems. National Water and Soil Conservation Organisation, January 1982
- 114 Long Term Council Community Plans and Asset Management**
Long term asset management planning philosophies. Montgomery Watson Harza, August 2003
- 115 Low Impact Design Manual for Auckland Region TP124**
Low Impact Design is a design approach for site development that protects and incorporates natural site features into erosion and sediment control and stormwater management plans. The primary purpose of this document is to give an alternative approach to site design and development from a stormwater management context, mainly for residential land development. Download from website. Auckland Regional Council, April 2000
- 116 Managing Waterways on Farms - A Guide to Sustainable Water and Riparian Management in Rural New Zealand**
This publication is aimed at those who provide advice to farmers about how they manage their land and to those farmers who wish to enhance their properties and reduce the impacts of their farming operations. Ministry for the Environment, May 2001
- 117 Mawson Lakes Innovative Development using Gross Pollutant Traps**
A new residential development covering 620 hectares and eventually housing 10,000 people has used CleansAll GPTs and natural wetlands to provide stormwater treatment for this site.
Hynds Environmental Systems Ltd, April 2002
- 118 Maximum Recorded Rainfalls**
Contains historical data of maximum recorded rainfalls of given durations in New Zealand and the Pacific Islands. New Zealand Meteorological Service, January 1979
- 119 Metal-Banded Flexible Couplings for Low-Pressure Application**
AS/NZS 4327:1995. Specifies requirements for metal banded flexible couplings used in low-pressure pipeline systems that convey water, waste water or stormwater. Acceptance criteria for defined imperfections are given for sleeves and adaptor bushes. Includes appendices which set out test methods. Standards New Zealand, January 1995
- 120 Metals in Particulate Material on Road Surfaces**
This report examined the available information on the quality of the particulate material on the surface of urban roads. Info' encompasses data obtained from the examination of contaminants in surface particulates and also material residing in gutters or roads. Prepared by Kingett Mitchell for the Ministry of Transport. Publication reference 84918/Dust7. Ministry of Transport, October 2003
- 121 Methods and Options for Stormwater Management TR5**

Free or \$6.00 to consultants. Auckland Regional Council, January 2003

122 Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas

The guidelines move away from the sole use of guideline values of faecal indicator bacteria, and instead use a combination of a qualitative risk grading of the catchment, supported by the direct measurement of appropriate faecal indicators to assess the suitability of a site for recreation. In addition, alert and action guideline levels are used for surveillance throughout the bathing season. Ministry for the Environment, June 2003

123 Model Exploration Well Site Stormwater Control and Erosion Plan

This is a model plan for the management of stormwater run-off and potential erosion problems which may occur when a piece of land is being developed as an exploration well site. Petroleum Exploration Association of New Zealand, January 2001

124 National Plumbing and Drainage - Stormwater Drainage

AS/NZS 3500.3.2003. Standards New Zealand, January 2003

125 National Water Quality Management Strategy - An Introduction to the Australian and New Zealand Guidelines for Fresh & Marine Water Quality

Introduction to Australian and New Zealand guidelines for fresh and marine water quality, Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand. New Zealand Water and Wastes Association, January 2000

126 Natural Approaches to Stormwater Management - Low Impact Development in Puget Sound

This publication includes a broad range of LID techniques, which are chosen by municipalities and developers for a variety of reasons. Washington Office of the Governor, January 2004

127 Neale Park and Wood Stormwater Discharge

This report fulfilled a condition of resource consent for the discharge of urban stormwater into the Nelson Haven estuary. Providing a baseline of information for assessing the future extent of any impacts of the two stormwater discharges. Quote Cawthron report 691 to the Council. Nelson City Council, October 2001

128 Needs Analysis and Scoping Survey for Stormwater Quality Management

Needs analysis and scoping survey for stormwater quality management. New Zealand Water and Wastes Association, September 2001

129 New Zealand Contract Management Manual Edition 1.0

This manual sources, refines and collates into one document many best practices of contract administration for use by infrastructure asset management organizations in New Zealand. 'Best practices' in project and contract management ensure that contracts are planned and controlled to bring in maximum benefits with respect to: value for money, competitive prices, and cost controls, timeliness technical standards of workmanship, physical quality, and performance increased staff effectiveness and efficiency in the management of tenders and contracts avoidance of legal actions or disputes meeting all corporate, political, legal and other obligations. Price \$210.00 + GST including postage. Ingenium, April 2001

- 130 New Zealand Infrastructure Asset Valuation and Depreciation Guidelines Edition 1.0**
These guidelines outline a suggested method for the valuation and depreciation of roads, water supply, sewerage, stormwater, parks and recreation and land drainage infrastructure assets, however the principles apply to all infrastructure assets. The primary scope of the handbook is to provide compliance with financial reporting requirements of New Zealand Local Government. The Optimised Depreciation Replacement Cost method of valuation is the focus of the guidelines. Price \$160.00 + GST including postage. Ingenium, April 2001
- 131 New Zealand Infrastructure Water Asset Grading Guidelines**
Providing practical methods for assessing the condition and performance of infrastructure assets and determining long-term investment needs for maintaining, enhancing and extending those assets to meet defined service standards. New Zealand Water and Wastes Association, September 1999
- 132 New Zealand Pipe Inspection Manual Second Edition**
To introduce the concept and guidelines for direct electronic recording of pipeline defects and features observed during CCTV inspections. New Zealand Water and Wastes Association, March 1999
- 133 Notes for the Design of Urban Stormwater Systems**
Disposal techniques, toxicity, waste segregation and waste disposal methods. New Plymouth District Council, January 1986
- 134 On Site Monitoring of Charles Stuart Ave CleanAll Gross Pollutant Trap**
The University of South Australia took several samples of sediment from a CleanAll Gross pollutant trap. A sieve analysis was performed on samples and a graph produced to show the sediment size distribution. Hynds Environmental Systems Ltd, April 2001
- 135 Online Map-TV/GIS**
A web-based browser GIS. It displays 18 layers of information including topo, stormwater, water, sewer, streams and other information. New Plymouth District Council, May 2004
- 136 On-Site Stormwater Control Seminar Papers - Waitakere City Council's Code of Sustainable Urban Water Management**
Seminar Papers, On-Site Stormwater Control. Waitakere City Council, June 1998
- 137 On-Site Stormwater Management Manual**
Provides guidelines for the reduction of impacts of stormwater runoff and pollution resulting from intensive development throughout the city. Auckland City Council, March 2003
- 138 People + Places + Spaces - A Design Guide for Urban New Zealand**
Information on what urban design is, and how to achieve better urban design. This is a design guide to provide a broad overview of urban design processes and principles that are appropriate for New Zealand. Aimed at regional and local councils, developers, infrastructure providers, etc. Ministry for the Environment, January 2001
- 139 Preliminary Data Summary of Urban Stormwater Best Management Practices**
Reviews performance of BMPs in the USA. United States Environmental Protection Agency, August 1999

- 140 Preliminary Examination of Organic Compounds Present in Tyres, Brake Pads & Road Bitumen in New Zealand**
Organic Compounds present in tyres, brake pads and road bitumen in New Zealand. Presents results of a preliminary examination of the organic composition of three key components of the vehicle-road transport system that contribute to presence of contaminants. Written by Kingett Mitchell Ltd for the Ministry of Transport. Publication Reference 84913. Ministry of Transport, October 2003
- 141 Prioritisation of Receiving Environments and Catchments TR3**
Free. Auckland Regional Council, January 1998
- 142 Properties of New Zealand Concrete Aggregates**
Technical report 11. This technical report presents the important concrete-making properties of commonly used aggregate of New Zealand. Traditionally, engineers have considered that concrete aggregates are primarily used to provide bulk and economy to concrete. More recently, it has been realized that aggregates play an important role in enhancing concrete strength and stiffness. This information should hopefully enhance existing knowledge and allow engineers to use the material more effectively rather than relying on generic or outdated performance data. A national survey was undertaken throughout New Zealand between October 2001 and September 2003. Aggregates were supplied from 26 concrete readymix plants or associated quarries from Kaitaia to Invercargill. Whilst this survey does not study all aggregate types it is sufficiently broad to establish general trends. Further details may also be added as this becomes available. Cement and Concrete Association of New Zealand, September 2003
- 143 Proposed Regional Coastal Plan for Southland, Planning Document**
Provides a report card on the state of Southland's water resources; considers emerging issues and challenges that the community will have to face relating to water and provides a significant range of information relating to impacts on water quality and quantity. Environment Southland, October 2000
- 144 Proposed Regional Fresh Water Plan**
To promote sustainable management of Southland's rivers, lakes and fresh water resources. The plan is aimed at enabling the use and development of fresh water where this can be undertaken in a sustainable manner. Environment Southland, October 2000
- 145 Proposed Regional Plan Sediment Control**
Incorporating the changes arising from the Council's decision on all submissions received. Auckland Regional Council, September 1995
- 146 Proposed Regional Water and Land Plan**
Addresses issues relating to the adverse effects of developing and using land, water and geothermal resources. Environment Bay of Plenty, November 2003
- 147 Proposed Waikato Regional Plan as Ammended by Decisions and the Environment Court**
Regional plan detailing permitted and controlled discharge of stormwater. Environment Waikato, December 2003
- 148 Protocols for Sampling Macroinvertebrates in Wadeable Streams, New Zealand Macroinvertebrate Working Group Report No. 1**

This protocol identifies and describes standardised protocols for use by agencies throughout New Zealand for macroinvertebrate biomonitoring. Aquatic macroinvertebrates are universally accepted indicators of pollution in freshwaters, but they are sampled and used in widely differing ways nationally. The use of standard methods will enable more defensible and consistent biomonitoring regionally and nationally, increase consultation between water agencies, facilitate national SOE reporting and is an important pre-cursor to the development of consistent national databases. Ministry for the Environment, November 2001

- 149 PVC Pipes and Fittings for Stormwater and Surface Water Applications**
AS/NZS1254:2002. Specifies requirements for PVC pipes and fittings for conveyance of stormwater or surface water. The Standard includes requirements for both plain and structured wall pipes and fittings. Standards New Zealand, January 2002
- 150 Rain and the City - Playing Your Part in Looking After Auckland's Stormwater**
Overview of stormwater management in Auckland aimed at the general public. Auckland City Council, January 2004
- 151 Rangi Road and Spartan Road Pond Systems, Takanini North Catchment**
Funding application to Infrastructure Auckland for a project in the Papakura District. Infrastructure Auckland, July 2003
- 152 Recent Decisions in Resource Management**
Weekly resource management decision newsletter. Brookers Ltd, January 2004
- 153 Recommended Freshwater Classification for Nelson**
Report to assist with development of freshwater provisions to be included in the Nelson Resource Management Plan. Report was commissioned to provide specialist technical advice on appropriate water quality standards for the region. Quote Cawthron report 774 to the Council. Nelson City Council, October 2002
- 154 Regional Coastal Plan for the Wellington Region**
Plan to help manage the adverse effects of human activities on the coastal environment in the Wellington Region. Greater Wellington, May 2000
- 155 Regional Coastal Plan for the West Coast**
The Regional Coastal Plan will enable Council to sustainably manage activities in the coastal marine area of the region. The Plan is intended to both enable low impact activities to be carried out as well as managing other uses with greater impacts, by way of regulatory and non-regulatory methods, in order to sustain the values associated with the coastal marine area. West Coast Regional Council, May 2002
- 156 Regional Flood Estimation - A Design Procedure**
The application of the regional flood estimate method is explained. The method uses a set of regional flood frequency curves in which the only unknown is the mean annual flood. National Water and Soil Conservation Organisation, January 1983
- 157 Regional Fresh Water Plan for Taranaki**
Plan to help manage the adverse effects of human activities on fresh water in Taranaki. Taranaki Regional Council, October 2001

- 158 Regional Fresh Water Plan for the Wellington Region**
Plan to help manage the adverse effects of human activities on fresh water in Wellington Region. Greater Wellington, December 1999
- 159 Regional Plan for Discharges to Land**
This suite of regional plans will assist Council to achieve an integrated approach to sustainable management of resources which are part of their functions under the Resource Management Act 1991. West Coast Regional Council, April 2002
- 160 Regional Policy Statement for Southland**
Policy Statement, intended to provide an overview of resource management issues in the region, and state objectives, policies and methods to achieve integrated management of the natural and physical resources of the region. Intended to assist the decision-making processes when deliberating on resource consent matters. Environment Southland, December 1997
- 161 Regional Policy Statement for Taranaki**
Water quality degradation resulting from the discharge of contaminants from point sources. Waste reduction and treatment practices. Taranaki Regional Council, September 1994
- 162 Regional Policy Statement for the Wellington Region**
This document aims to help manage the resources in the Wellington Region in a way that provides for the needs of present and future generations Greater Wellington, May 1995
- 163 Report on the State of the Bay of Plenty Environment**
Discusses river/streams, wetland, coastal and harbour issues. Environment Bay of Plenty, January 2001
- 164 Resource Management Gazette**
The gazette provides a weekly update on the latest developments in environmental and resource management law. It summarises every Environment Court decision, and all other relevant case law. It also covers relevant issues from a wide range of newspapers, magazines, journals, and reports. Brookers Ltd, January 2004
- 165 Review of MOT Land Transport Pricing Study Discussion Papers TR4**
Free or \$6.00 to consultants. Auckland Regional Council, January 1997
- 166 Review of Sediment Contaminant Levels in Nelson Area Catchments**
This report reviews and compiles information from a range of previous sediment quality surveys and a few supplementary surveys, into a summary of data on a geographical basis. This information can be used as a baseline and can help to identify areas that may require additional work. Quote Cawthron report 627 to the Council. Nelson City Council, March 2003
- 167 Review of the Maitai River**
Document in preparation as at February 2004. A review of everything known about the Maitai river, including hydrology, macroinvertebrates, water chemistry, and stormwater reports. Nelson City Council, April 2004

- 168 Road Runoff and Drainage, Environmental Impacts and Management**
This manual explores the impact of road runoff and drainage on aquatic and terrestrial biodiversity; it aims to assist road infrastructure planners, designers, environmental officers and project managers in achieving improvements in road drainage management, and at the same time maintaining biodiversity. The information relates to protection of habitat areas along the road reserve and in adjacent ecosystems, notably the biodiversity dependent on habitat quality in receiving waterways. Publication number AP-R180-01, available for a fee of A\$55.00. Austroads, January 2001
- 169 Roading and Stormwater Technical Workshop**
Speaker's presentation overheads, 6-7 May 2002, Brentwood Hotel, Kilbirnie, Wellington. New Zealand Water and Wastes Association, May 2002
- 170 Roading Stormwater Pollution Strategy**
Summary of technical studies undertaken to identify target treatment sites and to assess the likely benefits and costs associated with treatment of stormwater runoff from roads. Waitakere City Council, October 2001
- 171 Rotorua Flyer**
Describes pollution of the Rotorua lakes by nutrients. Environment Bay of Plenty, February 2000
- 172 Rotorua Geothermal Plan**
Promotes the integrated and sustainable management of the Rotorua geothermal resource with all other resources in the Rotorua environment. Environment Bay of Plenty, July 1999
- 173 Save The Drain For Rain**
Stormwater pollution problems, tips and solutions. Greater Wellington, August 2003
- 174 Saving our Gisborne Waterways, Ten Tips for Preventing Stormwater Pollution**
Poster aimed at public with information on preventing stormwater pollution. Gisborne District Council, January 2004
- 175 Second South Pacific Stormwater Conference, Rain - The Forgotten Resource**
Treatment, streams, institutional issues, modelling, greenfields/brownfields, poster papers. New Zealand Water and Wastes Association, June 2001
- 176 Secondary Flow Paths Assessment Report**
Stormwater control in Inglewood CBD. New Plymouth District Council, June 2002
- 177 Sediment Contaminant Levels in Nelson Area Catchments**
Prepared for NCC's state of the environment monitoring programme by Cawthron Institute. Reporting on sediment samples from 18 sites around Nelson regions, covering the 8 major catchments. Purpose of report is to identify trends in environmental quality and any major problems that warrant further investigation. Quote Cawthron Report 848 to the Council. Nelson City Council, January 2003
- 178 Selection of Stormwater Treatment Volumes for Auckland TP4**
Gives sizing guidelines for stormwater quality control devices in the Auckland region. Fee \$40.00. Auckland Regional Council, January 1992

- 179 Solid Waste Collection and Disposal Asset Management Plan Section 2**
Implementation plan including sewage, stormwater and waste water. New Plymouth District Council, March 1995
- 180 Solving Stormwater Problems**
Examples of current (2004) stormwater projects and initiatives happening in Waitakere City. Waitakere City Council, January 2004
- 181 Source Control and Distributed Storage -A Cost Effective Approach to Urban Drainage for the New Millenium?**
A nine page paper by RYG Andoh and C Declerck investigating the cost and operational benefits of source control and distributed storage. Hypothetical catchments based on the aggregation of (20 Ha) sub-modules derived from analysis of combined sewer networks in the UK were used as a basis for assessment. The study also reviewed impacts resulting from a general increase in catchment impermeability from 30 to 40% for flat and steeply sloping catchments. Limited copies available from NZWERF. New Zealand Water Environment Research Foundation, September 1999
- 182 Standard Specifications for Sanitary Sewers and Stormwater Drains**
New Plymouth District Council, May 1978
- 183 Standard Specifications for Stormwater**
Stormwater control New Plymouth District Council,
- 184 State of Canterbury Region Water Report**
This report reviews the state of Canterbury's water resources going into the 2002/03 summer. Download the entire report for detailed information on the state of Canterbury's water resources. Report U02/67. Environment Canterbury, October 2002
- 185 State of the Environment Report**
Provides a report card on the state of Southland's water resources; considers emerging issues and challenges that the community will have to face relating to water and provides a significant range of information relating to impacts on water quality and quantity. Environment Southland, October 2000
- 186 StormFilter Device**
The Stormfilter is a unique media filtration system for stormwater. Contaminated runoff is passed through numerous Stormfilter cartridges in the Stormfilter vault. Each cartridge contains granulated filter media is chosen to suit site conditions. The cartridges use a self-cleansing siphonic action to draw the runoff through the media enabling the system to obtain a high degree of filtration at a high treatable flow rate. Stormfilter has received best management practice approval from over 200 US governmental agencies. Ingal Environmental Services Ltd, January 2004
- 187 StormScreen Device**
The StormScreen GPT is a passive, high flow screening system used for the removal of trash and debris and some TSS from stormwater runoff. The system revolves around the float-actuated, siphonic, radial flow StormScreen cartridge. The stormScreen GPT utilizes a patented self-cleaning mechanism that prevents blinding of the screen surface. By utilising a direct screening mechanism, the removal of solids larger than the diameter of the perforations in the screen is guaranteed - regardless of flow rate through the system. Ingal

Environmental Services Ltd, January 2004

- 188 Stormwater**
Overview of stormwater problems and effects. Aimed at the general public. Auckland Regional Council, January 2004
- 189 Stormwater and Flood Protection Policy and Design Manual**
The stormwater and flood protection section provides measures to minimise the flooding of properties and protect the community from excessive stormwater runoff which is beyond their control. North Shore City Council, June 1994
- 190 Stormwater and Flood Protection Section Specifications and Standards Manual**
Stormwater and Flood Protection Section Specifications and Standards Manual. North Shore City Council, June 1994
- 191 Stormwater and Sanitary Sewer Drainage Pipe Material Evaluation**
A final draft report by Woodward Clyde (NZ) Ltd. Metrowater Limited, May 1998
- 192 Stormwater Asset Management Plan**
An A3 plan including drainage maps for the small towns of Egmont Village, Lepperton, Oakura, Okato, Onaero and Urenui. New Plymouth District Council, October 2001
- 193 Stormwater Asset Management Plan**
Queenstown Lakes District Council, June 2000
- 194 Stormwater Asset Management Plan**
This management plan covers asset management issues, risk issues and demand management, asset management improvement programme, asset management, maintenance, renewal and upgrade, risk management, and financial information. Wellington City Council, August 2002
- 195 Stormwater Code of Practice**
Part 5. New Plymouth District Council, January 2004
- 196 Stormwater Code of Practice**
Part 5. New Plymouth District Council,
- 197 Stormwater Conference**
Annual event. Management issues, sustainable management, communication, urban concepts. New Zealand Water and Wastes Association, April 2004
- 198 Stormwater Discharge of Petroleum Hydrocarbons to the Upper Otago Harbour**
University of Otago Marine Science 480 report, submitted in partial completion of a Masters in Marine Science by Luke M Mosley. University of Otago, January 1995
- 199 Stormwater Funding Options TR8**
Available for \$8.00. Auckland Regional Council, January 1998

200 Stormwater Management and Design Manual

The goal of this document is to provide a comprehensive design manual that results in effective, reliable, and economically affordable stormwater systems, it is not meant to stifle technological innovation and evolution. Flexibility is important for site specific conditions. Alternative approaches may be considered if it can be demonstrated that there are better ways of achieving the same objectives. Canada The City of Calgary, December 2000

201 Stormwater Management Devices Design Guideline Manual TP10

TP10 gives guidance for designing, constructing and maintaining stormwater treatment devices. It includes; a preference for wetlands over ponds, promoting detention to protect streams from erosion, more safety features around ponds, enhancements to allow the use of swales as a stand alone practice, more guidance on practice selection and also includes new information on; rain-garden design, integrating landscaping issues with device design, outlet protection for erosion control, construction and maintenance monitoring checklists, household rainwater detention tank design, a method for assessing the effectiveness of proprietary treatment systems, and green roof design. New edition published July 2003. \$30.00 CD-Rom, \$60.00 hard copy, or download free. Auckland Regional Council, May 2003

202 Stormwater Management Plan

A stormwater performance review for Inglewood written by Harrison Grierson Ltd. New Plymouth District Council, May 2000

203 Stormwater Management Plan New Plymouth Central, Waimea, Huatoki and Central Unnamed Catchments

A3 size, includes maps of the drainage systems by Harrison Grierson Ltd. New Plymouth District Council, May 1997

204 Stormwater Management Plan New Plymouth East, Te Henui, Waiwhakaiho and Eastern Unnamed Catchments

An A3 plan including maps of the drainage system by Harrison Grierson Ltd. New Plymouth District Council, April 1997

205 Stormwater Management Plan New Plymouth West, Herekawe, Hongihongi, Mangaoruku and Western Unnamed Catchments

A3 size. Includes drainage system maps by Harrison Grierson Ltd. New Plymouth District Council, June 1997

206 Stormwater Management Plans for Oakura and Okato

Stormwater and flood protection plan by Beca Carter Hollings and Ferner Ltd. New Plymouth District Council, January 1995

207 Stormwater Management Plans for Urenui, Onaero, Leperton, Egmont Village, Oakura and Okato

Stormwater control, rainfall statistics, catchment studies by Beca Carter Hollings and Ferner Ltd. New Plymouth District Council, May 1995

208 Stormwater Management Recommendation for Auckland

Contents include the impacts of urbanisation, general stream and coastal protection

strategies, a pollution loading method, urban stormwater retrofits, BMP recommendations. Auckland Regional Council, June 1991

209 Stormwater Management Seminar Papers

Covers the key issues of urban development and impacts, quality, quantity plus four other sessions relating to effects, responsibilities and practical implementation of stormwater management. New Zealand Water and Wastes Association, March 1998

210 Stormwater Management Strategy Background Report TR1

This report is first in a series to be produced by Stormwater Liaison Group, a working group within the Joint Territorial Local Authorities water/drainage structure, and initiated with representation from the Auckland Regional Council, the Territorial Authorities of the Auckland region, Ministry for the Environment and Environmental Groups. North Shore City Council, February 1996

211 Stormwater Management Strategy Background Report TR1

An introduction to the issue of stormwater pollution and management of urban stormwater runoff. Summary of work done. Territorial Authority Directors Group, February 1996

212 Stormwater Pollution - The Difference Is You

Tips to prevent stormwater pollution aimed at the general public. New South Wales Environment Protection Authority, April 2000

213 Stormwater Priorities

Asset management plans including flooding. New Plymouth District Council, August 2002

214 Stormwater Quality Catalogue

This Catalogue of documents relating to stormwater quality has been sourced from the stormwater quality bibliography (IS Ref.:\\r\swq\biblio.doc). It is designed to be a "live" document and should be regularly up dated as new information is added to the SWQ Bibliography. Keywords have been selected to allow separation of information into topics. When a new entry is added to the catalogue the appropriate Keywords should be assigned and the new entry added to each Keyword list. Auckland Regional Council, September 1999

215 Stormwater Quality Planning Tool for California Watersheds

Available only on the internet, the Water Quality Planning Tool is a database of water quality standards and possible pollutants from Caltrans facilities. This unique Water Quality Planning Tool is another valuable resource being used by Caltrans in its continuing commitment to prevent storm water pollution. The Water Quality Planning Tool was developed by Caltrans in conjunction with the California State University at Sacramento (CSUS) and the University of California at Davis (UCD) as part of the Caltrans Storm Water Program. The Water Quality Standards Database used for this Planning Tool was developed by the Information Center for the Environment (ICE) at UCD. United States California Department of Transportation, April 1996

216 Stormwater Sampling Programme

Document in preparation as at Feb 2004. Report on automatic samples and flow recording equipment installed in stormwater systems in various areas around Nelson. Nelson City Council, April 2004

- 217 Stormwater Spill Ends up in Lake**
Describes unauthorised disposal of contaminants to the stormwater system that discharge into Lake Taupo. Environment Waikato, November 2003
- 218 Stormwater Strategy for North Shore City**
This new stormwater strategy has been developed to assist the Council in meeting two of the primary Strategic Plan objectives: 1. Protecting and enhancing the environment, 2. Improving living and working environments in North Shore City. Version 4.5. North Shore City Council, April 2004
- 219 Stormwater Strategy Workshop, Comprehensive Urban Stormwater Management Strategy and Action Plan**
Seminar and workshop programme presentation overview including introduction, stormwater management issues, objectives, policies, explanations, implementation methods and monitoring, costs and benefits. Waitakere City Council, October 2000
- 220 Stormwater Workshop**
Annual event. Sixteen presentation papers. New Zealand Water and Wastes Association, April 2000
- 221 Stormwater, The Journal for Surface Water Quality Professionals**
If you're looking for information on NPDES Phase II compliance, TMDLs, or any other issues related to surface water quality, look no further. Published 7 times each year, Stormwater reaches more than 21,000 subscribers. United States Forester Communications Incorporated, January 2004
- 222 Streamside Planting Guide**
Part of the Christchurch Waterway Enhancement Programme. The streamside planting guide will help you know what to plant where, and how to plant and maintain your streamside. Available on the Council's website. Christchurch City Council, January 2004
- 223 Surface Water Quality in Nelson Region 2000/2001**
This report provides comprehensive baseline data on habitat quality, water quality and ecological health of streams and rivers within the Nelson City region. Quote Cawthron Report 685 to Nelson City Council. Nelson City Council, May 2002
- 224 Sustainable Drainage Management Progress Report on Needs and Approaches for Southland**
A collation of ideas from the Sustainable Drainage Management Group as interpreted by Henry Hudson. Environment Southland, May 1998
- 225 Sustainable Drainage Management Strategy Revision and Further Development of Best Management Practices**
Revision and further development of best management practices in sustainable drainage. Environment Southland, January 1998
- 226 Sustainable Management of Drainage Outfall Research Requirements**
Covers the research requirements of sustainable management of drainage outfalls. Environment Southland, May 2000

- 227 Take Action, Stormwater Pollution Prevention**
Part of the Wellington Regional Council's environmental education programme, Take Action for Water. The programme is aimed at 8-12 year olds and involves a 4-week teaching unit, a field trip and an action project. For a copy of the teacher manual or for more information contact the Action Crew. Greater Wellington, January 2003
- 228 Tarawera Plan**
Promotes the sustainable management of natural and physical resources within the Tarawera Catchment. Environment Bay of Plenty, February 2004
- 229 Thames Valley and Waikato North Drainage Draft Asset Management Plan Volume 1**
This report identifies the specific required activities, costs and proposed funding arrangements to sustainably manage the assets of the drainage systems in the Waikato North and Thames Valley Drainage Areas. Environment Waikato, January 1997
- 230 The 3rd World Water Forum Final Report**
The water crisis reminds us why we gather at such a forum. World Water Council. Report with CD-ROM. New Zealand Water and Wastes Association, March 2003
- 231 The Australian Water Directory**
Listing of key organisations involved in the Australian water industry; general information which is useful to practitioners. New Zealand Water and Wastes Association, January 2003
- 232 The Design and Testing of Stormwater Infiltration Wells in Permeable Soils**
The procedures outlined in this report are the result of investigation into the feasibility of subsurface disposal of stormwater runoff from roads in the Borough of Matamata. Some suggestions are made regarding the principles of design of infiltration wells and stormwater filters appropriate to this environment. A method of testing infiltration wells is described and a set of design nomograms presented as an aid in determining the appropriate number of infiltration wells and their distribution. Report number 113. Limited copies available for \$5.00. Environment Waikato, January 1981
- 233 The Effects of Road Transport on Freshwater and Marine Ecosystems**
This report examines effects of contaminants derived from road transport on aquatic ecosystems in New Zealand context wherever possible. Overview of what we know about effects of contaminants released by motor vehicles. Written by Kingett Mitchell Ltd for the Ministry of Transport. Publication Reference 84914. Ministry of Transport, October 2003
- 234 The Environmental Impacts of Urban Stormwater Runoff**
Assesses stormwater quality and the impacts on the environment. Includes chapters on ecological health, economic significance and mitigation options. Technical Publication 53. \$115.00 colour, \$35.00 black and white. Auckland Regional Council, January 1995
- 235 The Frequency of High Intensity Rainfalls in New Zealand Part 1**
Presents estimates of rainfalls of various return periods in tables and maps, 1:2000000 scale. Soil Technical Publication Number 19. National Water and Soil Conservation Organisation, January 2004
- 236 The Frequency of High Intensity Rainfalls in New Zealand Part 2**

Estimates of rainfalls of various return periods in tabular form. New Zealand Meteorological Service, January 1980

237 The Ingal Treatment Train

The ITT comprises of installing Enviropod inserts at the source and Stormfilter down stream. In a treatment train application Enviropod filters would be fitted with filter bags suited to catch capture coarse sediments (500 micron and above) organics and litter. Typically this will make up the bulk of the contaminant loading. This bulk loading can easily and economically be removed using by hand or by inductor truck. The pre treated runoff is then passed through the Stormfilter to remove the remaining fine and dissolved contaminates. Ingal Environmental Services Ltd, January 2004

238 The Law Relating to Watercourses

Proceedings from a seminar on 26 - 27 February, involving catchment authorities and other interested parties identifying problems affecting catchment authorities and the public generally and to try and determine actions to overcome the difficulties encountered. Miscellaneous publication 86. National Water and Soil Conservation Organisation, January 1985

239 The NZ Infrastructure, Water & Environment Directory 12th Edition

This annual directory provides a roadmap by which members of participating organisations can access the necessary contacts for their industry. It is also an important window in which to display their activities to non-members who have a keen interest in the management of their activities. New Zealand Water and Wastes Association, May 2004

240 The Performance of Wet Detention Ponds for the Removal of Urban Stormwater Contaminants

Investigation of the performance of two wet detention ponds in Auckland. Analysis includes total soluble solids, heavy metals, nitrogen and phosphorus. University of Auckland, February 1993

241 The Practice of Low Impact Development

The document focuses specifically on technologies that affect both the cost impacts and environmental issues associated with land development. It provides a brief introduction to low impact development and discusses conventional and alternative techniques and technologies that developers can integrate into their existing land development practices. By continually examining the land development process, the home building industry can continue to provide America with built environments that enhance the natural environment. United States Department of Housing and Urban Development, July 2003

242 The Water Programme of Action

A fact sheet providing information on the Water Programme of Action which is an open and participatory process and will examine all aspects of water, cultural, economic, environmental and social to determine how to fairly use, protect and preserve water. Ministry for the Environment, April 2004

243 Transit Bridge Manual Second Edition

Manual with a section on waterway design relating to bridges. Transit New Zealand, January 2003

244 Understanding Stormwater Management: An Introduction to Stormwater

Management Planning and Design

The purpose of this publication is to foster an appreciation of the environmental concerns associated with stormwater and the work done by stormwater management practitioners. The purpose of the publication is to introduce some of the major concepts contained in the Ministry of the Environment's Stormwater Management Planning and Design Manual 2003. Ontario Canada Ministry of the Environment, January 2003

245 Upper Hutt City Council Code of Practice for Civil Engineering Works

Upper Hutt City Council, January 2004

246 Urban Runoff Databook

A manual for the preliminary evaluation of urban stormwater impacts on water quality. Provides information on the quality of urban runoff suitable for use at the preliminary planning level in order to evaluate broad policy measures. The information was drawn from studies from throughout the world. National Institute of Water and Atmospheric Research, January 1991

247 Urban Stormwater

Effects of stormwater discharge on the environment in the BOP. Environment Bay of Plenty, March 2001

248 Urban Stormwater Best Management Practice Performance Monitoring

This guidance has been developed by integrating experience gleaned from field monitoring activities conducted by members of ASCE's Urban Water Resource Research Council and through the development of the ASCE/EPA National Stormwater Best Management Practices Database. The manual is intended to help achieve stormwater BMP monitoring project goals through the collection of more useful and representative rainfall, flow, and water quality information. Many of the recommended protocols (particularly those for reporting monitoring, watershed, and design information) are directly related to requirements of the National Stormwater Best Management Practices Database. Document is co-published by the American Society of Civil Engineers. United States Environmental Protection Agency, April 2002

249 Urban Stormwater Best Practice Environmental Management Guidelines

Provides advice on the selection of components for effective environmental management of stormwater. Australia Environmental Protection Authority, February 1998

250 Urban Stormwater Best-Practice Environmental Management Guidelines

Written for the Victorian Stormwater Committee, the guidelines have been designed to meet the needs of people involved in the planning, design or management of urban land uses or stormwater drainage systems. They provide guidance in ten key areas; environmental performance objectives, stormwater management planning, land use planning, water sensitive urban design, construction site management, business surveys, education and awareness, enforcement, structural treatment measures and flow management. Engineers and planners within local government, along with consultants to the development industry, should find the guidelines especially useful. Government agencies should also find them helpful in assessing the performance of stormwater managers. While developed specifically for application in Victoria, Australia, the information will be of value to stormwater managers everywhere. Order on the CSIRO Publishing website. Australia CSIRO Publishing, January 1999

- 251 Urban Stormwater Pollution**
Before you wash the car on the drive or dispose of leftover paint down the drain, stop and think about where these contaminants will end up and what effect they will have on the environment. Environment Bay of Plenty, February 2004
- 252 Urban Stormwater Quality TP49**
Stormwater quality data from a residential catchment in Pakuranga, Auckland. Available for \$15.00. Auckland Regional Council, January 1994
- 253 Waikato River Runoff and Leaching**
Describes runoff and non-point sources of pollution and how to reduce contamination. Environment Waikato, January 2004
- 254 Waioira Healthy Water**
Educational resource for primary and intermediate teachers includes the water cycle, water use and impacts of landuse. Environment Waikato, November 2003
- 255 Waitakere City Comprehensive Urban Stormwater Management Action Strategy and Action Plan**
Urban runoff and storm sewers - New Zealand and Waitakere City Ministry for the Environment, January 2000
- 256 Waitakere City Stormwater Management Presentation**
Copy of slides from a presentation. Waitakere City Council, February 2003
- 257 Waitara River Scheme Review**
Covers stormwater control, flood flows, flood levels, river works, stopbanks, and sea walls. Taranaki Regional Council, January 1991
- 258 Waitara Stormwater Comprehensive Management Plan**
Covers flood protection and stormwater. Prepared by Beca Carter Hollings and Ferner Ltd. New Plymouth District Council, January 1992
- 259 Waitara West Stormwater Management Plan, Existing and Proposed Drainage Plans**
An A3 plan including drainage system maps prepared by Apex Consultants Ltd. New Plymouth District Council, July 1997
- 260 Waiwhakaiho River Catchment Water Management Plan**
Wastewater discharges and water resource management including dairy farms, piggeries and shingle washing. Taranaki Regional Council, September 1991
- 261 Water Pollution in the Auckland Region**
Describes origins of pollution in stormwater, aimed at industry and general public. Includes a series of brochures on water blasting, spill mitigation and vehicle and equipment washing. Auckland Regional Council, January 2004
- 262 Water, Wastewater and Stormwater Review, Analysis of the Nature of the Industry in New Zealand Volume 1**
The report has a full introduction and background. Followed by process of investigation,

situation analysis and economic analysis. The conclusions give an overview of survey results. Opus International Consultants Ltd, May 1999

263 Waterway Design A Guide to the Hydraulic Design of Bridge, Culverts and Floodways

Available for a fee. Austroads, June 2000

264 Waterways, Wetlands and Drainage Guide Part A: Visions

The guidelines and design process described in this guide are valuable tools for converting the understanding the natural processes linking land and water into good environmental results on the ground. The Guide promotes the protection and restoration of waterways and wetlands. Christchurch City Council, January 2004

265 Waterways, Wetlands and Drainage Guide Part B: Design

The guidelines and design process described in this guide are valuable tools for converting the understanding the natural processes linking land and water into good environmental results on the ground. The Guide promotes the protection and restoration of waterways and wetlands. Christchurch City Council, January 2004

266 What is Stormwater?

Overview of stormwater in the urban environment. Includes educational resources aimed at school children. Waitakere City Council, January 2004

267 York Stream Vanguard Street Environmental Survey and Audit

Sediment sampling in 1997 showed that there were elevated levels of some metals and hydrocarbons in the Saltwater Creek and Maitai River Channels. Survey carried out to determine actual and potential contaminants entering the York Stream/Saltwater Creek environments. Nelson City Council, March 1998