



District of Campbell River
Environmental Action Plan
A 5-Year Plan 2003-2007



December 2003

District of Campbell River

Environmental Action Plan

Acknowledgements

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- Engineering.
- Planning.
- Public Works.
- Maintenance Services.
- Parks and Recreation.
- Fire.

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Environmental Action Plan

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Appendix 1: District of Campbell River Environmental Strategy Draft (1998)

Section 1: Action Plan Overview

Executive Summary

The District of Campbell River has been a leader in protection and restoration of the environment, and salmon habitat in particular.

Environmental objectives have long been recognized in the District's Official Community Plans, and new versions are likely to improve environmental performance. The Campbell River Estuary Management Plan has led to major land acquisition and associated habitat improvements in the estuary in cooperation with senior governments. Tye Spit has been purchased by the District, and will be managed for habitat as well as economic activity. More recently, the Strategic Servicing Plan is investigating a streamlined process and alternative design standards for urban development, with effective protection of the environment a key goal.

To solidify and expand on this leadership, in 1998 Campbell River Council asked staff to produce a draft Environmental Strategy. The strategy created a series of Vision Statements (see Table 1). Following from Council's leadership, this Environmental Action Plan is designed to bring the vision forward into reality, by organizing the objectives and steps required for implementation.

The Environmental Action Plan sets out priorities and assigns tasks to various departments. It organizes a program and tentative budgets for a five year period. The Plan should be seen as a living document, with refinements to priorities and budgets happening each year.

Organization of the Environmental Action Plan

There are four sections in the Environmental Action Plan:

Section 1: Action Plan Overview includes background and context information. It introduces the list of projects to be implemented and estimated new funds required over the next 5 years. At the end of this section, staffing implications and partnership funding strategies are discussed.

Section 2: Action Plan Details – the meat of the Plan - provides a list of tasks, assignments and draft budgets for each project to be completed in each of the next five years.

Section 3: Funding and Partnership Sources provides a summary, in table form, of the relevant funding programs as well as further sources of funding information. Websites for further information are indicated.

Section 4: Examples, Case Studies and Information Sources is a listing and short description of projects and databases pertinent to the Action Plan in that they provide good examples of best management practices in "low impact development" and/or energy efficiency. Again, websites for further information are indicated.

DCR's Draft Environmental Strategy is attached in Appendix 1.

Using the Environmental Action Plan

Uses of the Environmental Action Plan will include:

1. Review by interested public of the environmental vision of the District of Campbell River.
2. Adoption by Council as a working document to set priorities for environmental action.
3. Planning for matching funds and providing background for applications to funding partners.
4. Clarification among DCR departments and staff as to task assignments and environmental responsibilities.
5. Financial background for the DCR as an aid to annual budget planning.
6. Technical references for staff concerning evolving best management practices to avoid or minimize environmental impacts of development.

It is anticipated that the tasks and budgeting aspects of the Environmental Action Plan will be updated annually, to reflect budget decisions by Council.

The fifth year of the Action Plan will focus on a review of program success, and the creation of a renewed Action Plan for the next five years.

Adaptive Management, where plans and actions respond to a steady flow of new information, is at the core of the Environmental Action Plan.

The Need for an Action Plan

The District of Campbell River has been actively involved in protection and restoration of the environment, and salmon habitat in particular. Successful initiatives have included:

- Incorporation of environmental goals and objectives, including streamside area development permit areas and their guidelines, in the Official Community Plan.
- Completion of the Campbell River Estuary Management Plan, which has facilitated the purchase of significant estuary waterfront by all levels of government and Non Government Organizations.
- The Haig-Brown Kingfisher Creek Comprehensive Development Plan, providing a leading example of cooperative planning among the private sector, environmental agencies, the District and a non-government organization (the Haig-Brown Kingfisher Creek Society).
- Completion of the Haig-Brown Kingfisher Creek Restoration Project, which improved fish habitat as well as solving flooding problems.
- Support for the formation of the Discovery Coast Greenways Land Trust, which provides a vehicle to promote habitat conservation, including gifts of ecologically sensitive land, which is being increasingly promoted under Government of Canada tax rules.

Most of these initiatives have been successful due to partnerships – with senior government agencies, non-government organizations or the private sector. With partnership programs on-going at the federal and provincial level, there is a need to coordinate how the District of Campbell River can benefit from these partnerships.

In 1998, Council approved in principle a draft Environmental Strategy. Table 1 summarizes vision statements from that document.

The Environmental Action Plan organizes the objectives and steps required to implement the vision statements. It also provides a sense of priorities over time, and reflects a phasing-in approach to the program, as presented on the attached Table 2.

Key questions that the Action Plan addresses include:

- What specific tasks must be completed to implement the Environmental Visions?
- Who is responsible to see that the tasks are completed?
- How are the tasks funded?
- What partnership opportunities may exist to share the costs and benefits of the District of Campbell River efforts?

Because the answers to the above questions may change over time, it is appropriate that the Action Plan is treated as an evolving document. As such, it is designed to adapt to changes such as staffing and partnership funding opportunities.

The Action Plan forecasts a recommended level of funding over the next five years. Annual funding allocations would need to be included in the future work plans of the Finance Committee and ultimately approved by Council. The budget figures shown on Table 2 represent the approximate requirement for 'new' funding for Environmental Actions. However, many aspects of environmental protection may be accomplished via minor changes to existing construction and operating practices. Where this is the case, these minor changes have been considered as incidental to other capital or budget line items, and no new funding is proposed.

The overall objective of the Environmental Action Plan is to create an attitude where environmental protection and stewardship is 'standard practice'. Over time, the level of investment required to make this change in attitude will decrease, to the point eventually where all environmental protection actions are incidental to normal business.

Environmental Vision Statements Table 1

From the Draft Environmental Strategy, 1998

Theme	Vision Statement
Transportation	To provide a balanced mix of safe and efficient transportation modes throughout the District in a manner that is cognizant of the impacts on the local and global environment.
Waste Management	To minimize the amount of waste generated locally and to effectively and safely manage this waste in an environmentally responsible manner.
Greenway/ESAs	To accurately identify environmentally significant features within the District of Campbell River and to appropriately manage these areas to ensure that their intrinsic values are preserved.
Land Use/Development	To ensure a well-balanced mix of land use/development within the District of Campbell River that clearly recognizes resulting ecological consequences and that appropriately mitigates the environmental impacts through the related planning and design processes.
Air Quality	To secure a year-round safe, pleasurable and aesthetically pleasing airshed both locally and regionally by minimizing the amount of air pollution generated within the limits of the District of Campbell River.
Drinking Water Quality	To provide and maintain a safe, reliable, high quality supply of drinking water to the District of Campbell River in a responsible manner that respects the value of the resource.
Risk Management	To minimize the exposure of the District of Campbell River and the environment to potential risks associated with both natural hazards and man-made activities.
District Operations	To lead the community, by example, in the pursuit of cost-effective environmentally responsible day-to-day operations, focusing specifically on efficiency as well as minimized consumption and waste generation.
District Communications	To effectively communicate the District's environmental objectives, desires and intentions to affected parties and to the community as a whole.

Overview of the Environmental Action Plan

An overview of the Action Plan is provided in the following two Tables.

Table 2 introduces a series of projects for each year of the Plan. For each project, the Table indicates:

- The department(s) responsible for taking the lead role for this project.
- Approximate new budget required of the District for the project (new funds over and above staff time).
- Potential outside funding in the form of grants from senior government agencies, or cooperation from land trusts or other partners.
- Total budget (the sum of the above two items).

Table 3 presents another view of the Action Plan by listing the projects under common themes, indicated by letters "A" thru "N", as they would be carried out from year to year.

A discussion of the implications of the budgets outlined in Table 2 follows the two Tables.

Environmental Action Plan Projects

Table 2

CODE	Projects	Lead Role	DCR New Budget*	Potential \$ other sources	Total
	Year 2003 Focus: Continuing Programs		\$0	\$0	\$0
2003A	MOU – maintain activities, meetings	Eng., PW	\$0		
2003B	Master Drainage Planning Program - continue	Eng.	\$0		
2003C	Campbell Lakes Watershed Plan – implement	Eng.	\$0		
2003D	OCP Update – public consultation, drafting revisions	Planning	\$0	0	
2003E	DPAs - adopt Aquatic Habitat DPAs	Planning	\$0	0	
2003F	Recreational Greenway - support ongoing development of loop by DCGLT	Eng.	\$0	DCGLT	
2003G	Env. Audit – complete preliminary energy audit with BC Hydro	Maint.	\$0	BC Hydro	
2003H	Waste Management - Adopt hazardous routes in Transportation Plan	Fire	\$0	0	
	Year 2004 Focus: Parks Planning & Green Infrastructure		\$80K	\$10K	\$90K
2004A	MOU – maintain activities, meetings	Eng., PW	\$0		
2004B	Master Drainage Planning Program - continue	Eng.	\$0		
2004C	Campbell Lakes WS Plan – design preliminary UV disinfection facility	Eng.	\$0		
2004D	OCP Update – complete and adopt	Plan.	\$0		
2004E	DPAs – review, draft, adopt DPAs for terrestrial habitats	Plan.	\$0		
2004F	Recreational Greenway - continue to support development by DCGLT	Eng.	\$0	DCGLT	
2004G	Environmental Audit – seek funding or partnerships	Maint.	\$5K		\$5K
2004I	BMPs – research, plan and design BMPs in pilot projects	Eng.	\$2.5K	\$2.5K	\$5K
2004J	Environmental Monitoring – determine objectives, identify indicators	Eng.	\$7.5K	\$7.5K	\$15K
2004K	Parks Master Plan – determine terms of reference, issue RFP & contract	Parks	\$60K		\$60K
2004M	Climate Change – apply for funding for feasibility study	Eng.	\$5K		\$5K
	Year 2005 Focus: Pilot Projects		\$170K	\$150K	\$320K
2005A	MOU – review, revise criteria and draft revised MOU	Eng., PW	\$0		
2005B	Master Drainage Planning Program - continue	Eng.	\$0		
2005C	Campbell Lakes Watershed Plan – construct bulk UV facility	Eng.	\$0		
2005E	DPAs – review and refine bylaws	Plan.	\$15K		\$15K
2005F	Recreational Greenway - complete a project with DCGLT	Eng.	\$50K	DCGLT \$50K	\$100K
2005G	Environmental Audit – perform audit on DCR facilities/operations	Maint.	\$10K	Fed \$10K	\$20K
2005I	BMPs – install and begin monitoring pilot projects	Eng.	\$75K	Fed/Prov \$75K	\$150K
2005J	Environmental Monitoring – start measuring indicators	Eng.,PW	\$5K	\$5K	\$10K
2005K	Parks Master Plan – completion	Parks	\$0		
2005L	Runoff/Erosion Control – research measures in other municipalities	Eng.	\$5K		\$5K
2005M	Climate Change – determine feasibility of information program/pilot project	Eng.	\$10K	Fed \$10K	\$20K

CODE	Projects	Lead Role	DCR New Budget*	Potential \$ other sources	Total
	Year 2006 Focus: Implementation and Training		\$95K	\$65K	\$160K
2006A	MOU – continue	Eng	\$0		
2006B	Master drainage planning program - continue	Eng.	\$0		
2006C	Campbell Lakes WP – construct Gordon Rd & Industrial Park facilities	Eng.	\$0		
2006E	DPAs – update Environmentally Sensitive Area mapping	Eng.,Plan.	\$10K	\$5K	\$15K
2006I	BMPs – Information and training, revisions to standards	Eng.	\$25K	\$10K	\$35K
2006J	Environmental Monitoring – indicator measurement, design report	Eng.,PW	\$10K	\$5K	\$15K
2006K	Parks Master Plan - complete, begin implementation	Parks	\$0		
2006L	Runoff/erosion control – draft guidelines, bylaw revisions	Eng.	\$15K	\$10K	\$25K
2006M	Climate Change - implement information program &/or construction project	Eng.	\$35K	\$35K	\$70K
	Year 2007 Focus: Review and Adjustment		\$17.5K	\$2.5K	\$20K
2007A	MOU – continue	Eng.,PW	\$0		
2007I	BMPs – complete revisions to standards, review	Eng.	\$0		
2007J	Environmental Monitoring – issue State of Environment report	Eng.	\$2.5K	\$2.5K	\$5K
2007L	Runoff/Erosion Control – continue information, bylaw revisions	Eng.	\$5K		\$5K
2007N	Environmental Action Plan – review status/success, update	Eng.	\$10K		\$10K

*Items noted as “\$0K” are already included within the District’s 5-year Financial Plan

TABLE 3: ENVIRONMENTAL ACTION PLAN PROJECTS BY YEAR

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
2003	MOU – maintain activities, meetings E,PW - P	Master Drainage Planning Program - continue E - P,PW,C	Campbell Lakes Watershed Plan – implement E - PW	OCP update – public consultation, drafting revisions P - E	DPAs - Adopt Aquatic Habitat DPAs P - E	Recreational Greenway - support ongoing development of loop by DCGLT E - P	Environmental Audit – complete preliminary energy audit with BC Hydro M	Waste Management - adopt hazardous routes in Transportation Plan FD - E							
2004	MOU – maintain activities, meetings E,PW - P	Master Drainage Planning Program - continue E - P,PW,C	Campbell Lakes Watershed plan – design preliminary UV disinfection facility E - PW	OCP Update – complete and adopt P - E,PW	DPAs- review, draft, adopt DPAs for terrestrial habitats P - E	Recreational Greenway - support ongoing development of loop by DCGLT E - P	Environmental Audit – seek funding or partnerships M - E &/or C		BMPs – research, plan and design BMPs in pilot projects E - P,PW,C,D	Environmental monitoring – determine objectives, identify indicators E - C	Parks Master Plan – determine terms of reference, issue RFP & contract PARKS - P,PW,E		Climate Change – apply for funding for feasibility study E - M,PW,P,(C)		
2005	MOU – review, revise criteria and draft revised MOU E,PW - P	Master Drainage Planning Program - continue E - P,PW,C	Campbell Lakes WP – construct bulk UV facility E - PW		DPAs – review and refine bylaws P - E,C	Recreational Greenway - complete a project with DCGLT E - P,DCGLT,C	Environmental Audit – perform audit on DCR facilities & operations M - E,C		BMPs – install and begin monitoring pilot projects E - P,PW,C,D	Environmental monitoring – start measuring indicators E,PW - C	Parks Master Plan – completion PARKS - P,PW,E,C	Runoff/erosion control – research measures in other municipalities E - P,C	Climate Change – determine feasibility of information program or pilot project E - M,PW,P,C		
2006	MOU – continue E,PW - P	Master Drainage Planning Program - continue E - P,PW,C	Campbell Lakes WP – construct Gordon Rd & Industrial Park facilities E - PW		DPAs – update Environmentally Sensitive Area mapping E,P - C				BMPs – Information and training, revisions to standards E - PW,C	Environmental monitoring – indicator measurement, design report E,PW - C	Parks Master Plan - complete, begin implementation PARKS - P,PW,E	Runoff/erosion control – draft guidelines, bylaw revisions E - P,C	Climate Change - implement information program &/or construction project E - M,PW,P,C		
2007	MOU – continue E,PW - P								BMPs – complete revisions to standards, review E - PW,P	Environmental monitoring – issue State of Environment report E - C		Runoff/erosion control – continue information, bylaw revisions E - P,C		Environmental Action Plan – review status/success, update E - PW,P,M,FD,C	
	(-) - supporting role E - Engineering PW - Public Works P - Planning M - Maintenance FD - Fire Dept. DCGLT - Greenways Land Trust C - Consultant D - Developer														

Financial Summary for the Action Plan

Non-Capital Funding

The Plan starts in Year 2003 with a series of staff-supported programs to continue on-going projects such as the Memorandum of Understanding with senior environmental agencies, the Campbell Lakes Watershed Plan, adoption of Aquatic Habitat (Streamside Area) Development Permit Areas, and updating the OCP. With the introduction of a storm drain parcel tax, the Master Drainage Planning Program has been initiated. No new budget is required for these projects in 2003.

In Year 2004, a District funding level of \$80,000 is proposed. The majority of this budget (\$60,000) is for a much needed Master Plan for the DCR Park system. Other projects include:

- Seeking funding for an environmental audit of DCR facilities.
- Planning and designing “best management practices” (BMPs) or alternative design standards for roads, parking or other infrastructure, with the objectives of increasing environmental performance while reducing barriers to their application.
- Beginning an environmental monitoring/ “state of the environment” reporting program.

In Year 2005, District non-capital funding of \$45,000 is proposed to implement the projects started in 2004, initiate research into erosion control measures used in other BC municipalities, and explore the potential for a climate change-related project. In Years 2006 and 2007, depending on the success of obtaining matching funds, budgets of \$95,000 and \$17,500 are proposed to complete these projects as well as review the status and update this Environmental Action Plan.

The “Potential Outside Funding” column in Table 2 recommends an achievable level of fundraising from partners such as senior government agencies or non-government organizations. Partnership funding grows from \$0K in Year 2003 to approximately \$100K in 2005.

Capital Funding

Table 2 also proposes capital funding for two, and possibly, three projects:

- An application to senior governments for \$50K in 2005 for trail/bikeway completion associated with the Recreational Greenway Loop. DCR and/or the Discovery Coast Greenway Land Trust would provide matching funds.
- An application to one of the Infrastructure or Green Municipal funding programs, also in 2005, for \$75,000 towards construction of alternative BMPs in a pilot project.
- Depending on the availability of funding, an application in 2006 to federal energy efficiency funding programs for \$35,000 towards construction of a new energy-efficient facility (e.g., under the Parks Master Plan) or retrofitting an existing DCR facility.

It is anticipated that several senior government funding programs for green infrastructure and climate change initiatives (noted in Section 3) will continue over the life of this Action Plan.

Staffing and the Environmental Action Plan

The Environmental Action Plan shares a common duality with other programs. The public strongly supports protection of the environment, but at the same time are resistant to the hiring of additional City staff. There are, however, administrative and public contact loads that will be incurred by the City to ensure that the Environmental Action Plan is successful. These loads will be concentrated on the Engineering function, particularly the Environmental Coordinator, as well as Public Works. Planning, Maintenance Services, Park and Recreation and Fire Departments also play key roles in realizing the Action Plan.

Other Objectives

While the majority of environmental objectives stated in the Draft Environment Strategy are covered in the Environmental Action Plan, there are some objectives, listed below, that either are general standing policies or that are unallocated at present, and subject to future consideration.

Existing Standing Objectives and Policies

First Priority

Minimize infiltration of ground water into the sewage collection system.

Continue to investigate and repair cross-connections.

Prohibit new development that requires the installation of further sewage pumping stations.

Recognize the contributions of volunteers/stewards through an annual environmental stewardship award.

At the time of rezoning or subdivision, encourage the protection of sensitive areas by dedication, return to Crown or by restrictive covenant.

Continue to disallow combined sewer connections.

Participate with the Comox-Strathcona Regional District in implementing the Solid Waste Management Plan in an effort to meet the Provincial solid waste reduction goals.

Second Priority

Cooperate with the Comox-Strathcona Regional District to develop improved regional transportation service.

Unallocated Objectives for Future Consideration

Second Priority

Investigate frequency of collection of household solid waste.

Ban recyclable materials from the landfill.

Third Priority

Implementation of parking fees in the Downtown Specified Parking Area and in other areas as specified parking areas develop.

Rehabilitate areas that have suffered environmental damage in the past and prevent future environmental damage.

Develop and implement an air quality control bylaw with provisions for enforcement and penalties.

Consider universal metering with rates that reflect actual costs.

Disallow the installation of wood burning appliances with all new building permits issued.

Participate with the Comox-Strathcona Regional District in a regional growth management strategy that sets limits to urban sprawl in the Greater Campbell River area.

Limit new development to the confines of the urban containment boundary.

Mitigate energy use and auto emissions.

Upgrade existing sewage pumping stations to eliminate overflow conditions.

Improve the effluent quality from the Middlepoint Industrial Park sewage lagoon to comply with environmentally acceptable levels. Provide sewage collection and treatment to all developed urban areas.

Improve accessibility for those with disabilities.

Enforce specific building height and site requirements to maintain significant view areas.

Explore landfill methane gas recovery options that will collect, control and discharge this product in an environmentally appropriate manner.

Ensure that air emission standards for industrial sources are enforced.

Discourage further development or expansion of industries that contribute to poor air quality.

Seek to improve landfill operations in as effort to maximize the life of the landfill.

Promote landfill operations that will minimize the impacts on local groundwater quality.

Partnership Funding Strategy

The budgets proposed in this Environmental Action Plan are the total anticipated level of effort for costs over 'normal practice' related to implementing the Plan. The District may be in a position to partner with other agencies and the private sector to effectively reduce the burden on City taxpayers. Examples of opportunities include (many are described further in section 3):

Government of Canada

- **Green Municipal Funds:** The Government of Canada endowed the Federation of Canadian Municipalities with \$250 million to establish these Funds to support municipal government action to cut pollution, reduce greenhouse gas emissions and improve quality of life.
- **Energy Innovators Initiative and Commercial Building Incentive Program:** Two funds operated by Natural Resources Canada to assist in new or retrofitted energy efficient construction.
- **Tax Relief for Donors of Ecologically Sensitive Land:** recent budgets reduce the capital gains payable on ecological gifts to ½ of the normal rate (effectively 25%).
- **Climate Change Action Fund:** Operated by Environment Canada to fund projects that promote awareness of climate change to and encourage the reduction of greenhouse gas emissions.

Government of Canada/Province of BC

- **Georgia Basin Action Plan (successor of the Georgia Basin Ecosystem Initiative):** this joint federal provincial program has objectives in common with the District.
- **Canada/British Columbia Infrastructure Program:** the program's purpose is to improve urban and rural local government infrastructure with priority placed on "Green" infrastructure projects.
- **Infrastructure Planning (Study) Grants:** offered by the Ministry of Community, Aboriginal and Women's Services to study the feasibility, costs, technology and location of proposed sewer, water, drainage or transportation facilities.

District of Campbell River & Other Local Governments

- **Co-funding:** There are opportunities for significant economies of scale in preparing alternative development standards and training materials in cooperation with other local governments (e.g. Regional District of Comox Strathcona).

Non-Government Organizations

There are many granting organizations, ranging from Wildlife Habitat Canada, the Habitat Conservation Trust Fund, BC Hydro, to corporate donors, the Vancouver Foundation, and the Real Estate Foundation, that all are interested in 'green' projects.

Private Sector

The public and private sector has shown strong support for local environmental improvements. An ecological gifting program should also be made administratively simple in the District, in cooperation with the Discovery Coast Greenway Land Trust and others. Rezoning and comprehensive development negotiations can also often lead to environmental improvements.

The Partnership Program

To trigger and coordinate the above partnership funding, there will be a need for staff to research funding opportunities, make applications, and deal with the administrative load of this type of co-funding. Given the administrative costs, it makes sense to be selective about which co-funding programs are worth pursuing.

There is also a role for partnerships with non-government organizations, for both fund raising and in-kind volunteerism. These partnerships with citizens can be the 'engine' for program implementation.

Section 2: Action Plan Details

A Five Year (2003-2007) Action Plan

This section provides the details of the Action Plan. For each year, there is an overview of budget and general project focus, followed by a series of project sheets that explain each project. The projects are coded by year and a letter (A,B,C, etc.) associated with that project; the letter is carried forward for projects that extend over more than one year.

Each project sheet provides the following information:

- Specific objectives from the Draft Environmental Strategy to be met in each project;
- Tasks involved for each project;
- Approximate budgets for each task, and totals for the project; and
- Lead and supporting departments for each project.

The sequence, timing and level of effort for each project and task may vary over time. An 'adaptive management' approach to implementation of environmental protection is encouraged.



CONTINUING PROGRAMS



Year 2003 Focus: Continuing Programs

In 2002, several programs that had been in planning phases through 2000-2001 were initiated:

- Components of the Greenways Plan;
- The Campbell Lakes Watershed Plan;
- An Interagency Memorandum of Understanding with senior government environmental agencies;
- A new Integrated Stormwater Management/Master Drainage Planning Program; and
- An update of the Official Community Plan.

These programs were continued in 2003, with completion of initial phases in many cases.

Project #	Description	Lead Role
2003A	MOU – maintain activities, meetings	Eng., PW
2003B	Master Drainage Planning Program - continue	Eng.
2003C	Campbell Lakes Watershed Plan – implement	Eng.
2003D	OCP Update – public consultation, drafting revisions	Planning
2003E	DPAs - adopt Aquatic Habitat DPAs	Planning
2003F	Recreational Greenway - support ongoing development of loop by DCGLT	Eng.
2003G	Env. Audit – complete preliminary energy audit with BC Hydro	Maint.
2003H	Waste Management - Adopt hazardous routes in Transportation Plan	Fire

Approximate Budget: \$0 - implemented by existing staffing)

Project 2003-A

Memorandum of Understanding – maintain activities and meetings

A Memorandum of Understanding (MOU) between DCR, the Ministry of Water, Land and Air Protection (MWLAP) and Fisheries and Oceans Canada (DFO) was signed in 2002. The intent of the MOU is lead to more coordinated environmental action and timely approval processes for development.

Continue to meet with MWLAP and DFO and coordinate development approval processes as required under the MOU	staff
Total New Budget	\$0

Lead Role: Engineering, Public Works

Supporting Role: Planning

Objectives

First Priority

Pursue memorandums of understanding with senior levels of government to create 'one-window' environmental approvals.

Maintain open and proactive dialogue with senior levels of government regarding implementation of environmental legislation, regulations and approvals.

Project 2003-B

Master Drainage Planning Program - continue

In 2003, the Master Drainage Planning program concentrates on completing the Holly Hills/Perkins Creek drainage plan; updating plans for Nunns Creek, Willow Creek and Simms Creek; and starting plans for East Nunns Creek and the Foreshore.

Significant in-kind support may come from Fisheries and Oceans Canada, the Ministry of Water, Land and Air Protection, the Discovery Coast Greenway Land Trust, and the Nunns Creek Stewards.

Objectives

First Priority

Implement the recommendation of the Master Drainage Plans for Willow, Simms, and Nunns Creek and consider further base flow strategies.

Finish Holly Hills/Perkins Creek plan	funded
Update Nunns Creek plan	funded
Update Willow Creek plan	funded
Update Simms Creek plan	funded
Initiate East Nunns Creek plan	funded
Initiate plan for Foreshore	funded
Total New Budget	\$0

Lead Role: Engineering

Supporting Role: Planning, Public Works, Consultants

Project 2003-C

Campbell Lakes Watershed Plan implementation

The Campbell Lakes Watershed Plan was completed in late 2002. 2003 is the first year of its implementation. A major focus is examining options for disinfection facilities.

Identify and prioritize options for disinfection facilities	staff
Total New Budget	\$0

Lead Role: Engineering

Supporting Roles: Public Works

Objectives

First Priority

Protect the District's drinking water supply from all possible sources of pollution.

Maintain or restore high quality in both the surface and ground water within the Campbell Lake watershed.

Seek to have the Campbell Lakes watershed designated as a 'Community Watershed' under the Environment Management Act.

Explore possible alternatives for disinfecting drinking water.

Develop a comprehensive development plan for the Campbell Lakes watershed to regulate the amount and impacts of development.

Oppose the sale or disposal of Crown lands around John Hart Lake.

Discourage further development within the watershed boundaries.

Second Priority

Develop a Campbell Lakes Watershed Best Management Practices Manual that identifies strategies to deal with erosion control, groundwater recharge technology, permeability issues, pesticide/herbicide applications and development criteria.

Develop a watershed awareness campaign for Campbell Lakes.

Project 2003-D

OCP Update – Public Consultation and Drafting Revisions

The OCP review began in 2002 and is scheduled to be completed in 2004. Some funding has been provided by the Ministry of Communities, Aboriginal and Women’s Services.

The Environmental Action Plan should be recognized in the upcoming revision of the OCP. Policies in support of aquatic habitat development permit areas (see Project #2003E) should also be incorporated. Finally, as well as a general land designation and policy review, the OCP revision should provide a more in-depth review of parks.

Adapt EP Action Plan to OCP format	staff
Identify & map environmental issues in parks, streets and public lands	staff
Environmental policy: community’s vision	staff
Review development cost charges for open space, and recommend adjustments to the DCC program	staff
Identify projects and priorities, and set capital budgets for each project proposed for the next five years	staff
Total New Budget	\$0

Lead Role: Planning

Supporting Role: Engineering

Objectives

First Priority

Limit new development to the confines of the urban containment boundary.

Increase density through residential infill to control growth and avoid urban sprawl.

Promote mixed-use development to promote walking between residential and commercial or institutional area.

Promote density averaging and bonusing as a way to increase the amount of open space.

Plan for Neighbourhood and Village Centres that will provide commercial sectors within walking distance of residential neighbourhoods.

Adopt an ‘Environmental Code of Ethics’ to guide environmental decision making, development projects and land use planning.

Complete a Greenways planning exercise that identifies the interface between proposed Greenways and land development.

Encourage the use of alternate zoning and subdivision techniques to protect Greenway corridors.

Encourage ecologically appropriate landscaping for new development and redevelopment.

Promote good pedestrian linkages to transit services.

Project 2003-E

Development Permit Areas - Adopt Aquatic Habitat (Streamside Area) Development Permit Areas

The draft Campbell River Greenway Plan, developed in 1999-2000, proposed two types of greenway – ecological and recreational. Ecological Greenways were identified for aquatic and upland habitats, and Development Permit Area designations were proposed.

Using this background information, Development Permit Areas and guidelines for Streamside Areas were developed and adopted by Council under DCR’s Official Community Plan (Appendix B “Consolidated Development Permit Area Guidelines”, section 4.4) in May 2003.

Draft, edit and adopt policies in revisions to the OCP (see Project 2003D) for establishing aquatic habitat DPAs	staff
Draft and edit DPA policy, exemptions and guidelines	staff
Staff Review	staff
Council Review	staff
Adopt the Aquatic Habitat/Streamside Area DPA and policies	staff
Total New Budget	\$0

Lead Role: Planning

Supporting Role: Engineering

Objectives

First Priority

Revise the OCP to incorporate policies for establishing Aquatic Habitat Development Permit Areas

Adopt stewardship bylaws that clarify the setback requirements for leave areas and incorporate regulations concerning erosion control, vegetation management and water quality management for watercourses.

Require development permits in areas where Greenways or ESA’s have been identified.

At the time of rezoning or subdivision, encourage the protection of sensitive areas by dedication, return to Crown or by restrictive covenant.

Encourage community-based stream stewardship efforts and implement stream protection initiatives.

Adopt overall Greenways Plan and a Management Strategy and Monitoring Program.

Project 2003-F

Recreational Greenway - Support Ongoing Development of Greenways Recreational Loop by DCGLT

The Discovery Coast Greenway Land Trust (DCGLT) has identified the concept of a recreational loop that joins the waterfront walkway and Simms Creek walkway systems with a new extension that parallels Nunns Creek and returns to the waterfront to form a loop.

The Land Trust is eager to proceed with the project, and the intent is that DCR will provide support for the group to fund-raise and proceed with the project, as they are able.

Objectives

First Priority

Expand pedestrian and bicycle transportation networks.

Integrate public transit within local area and neighbourhood plans.

Identify trail standards	staff
Review trail routing	staff
Fund raising	DCGLT
Coordinate volunteer efforts	DCGLT
Public process	DCGLT
Total New Budget	\$0

Lead Role: Engineering

Supporting Role: Planning

Project 2003-G

Environmental Audit – complete preliminary energy audit with BC Hydro

To show leadership in environmental responsibility, and to minimize waste and cost to taxpayers, DCR should provide leadership to the community in environmentally responsible management of buildings, plant and operations.

Part of this leadership is an Environmental Audit, where all buildings, vehicles, purchasing decisions and operations would be reviewed, and steps taken to increase environmental performance.

The Maintenance Services Department has been conducting a preliminary energy-use audit of its major City facilities in cooperation with BC Hydro. That project should be completed in 2003.

Complete energy audit with BC Hydro	staff
Total New Budget	\$0

Lead Role: Maintenance Services

Objectives

First Priority

Perform waste audits for all District of Campbell River operations and make appropriate adjustments based on the waste audit recommendations.

Consider long-term environmental costs such as life-cycle costs in purchasing decisions.

Introduce energy conservation, waste minimization, toxic reduction and environmental audit programs at all existing District facilities.

Incorporate energy efficient, water conservation and environmentally appropriate standards into all future District facilities.

Fully integrate environmental considerations into planning and decision making for all construction, maintenance, land transactions and subdivision activities undertaken through the District of Campbell River programs.

Second Priority

Ensure that environmental appropriateness is considered in the procurement of all goods and services and seek to replace existing products with more environmentally appropriate products.

Third Priority

Pursue the use of alternative fuels for transit and District vehicles.

Develop a DCR employee ride program to encourage car-pooling.

Develop incentives to encourage cooperation of major employers (private and public sector) to make better use of the public transit service.

Project 2003-H

Waste Management - Adopt Hazardous Routes in the Transportation Plan

Hazard materials in the DCR take many forms. A first priority is to manage hazards that arrive in trucks on DCR roads – fuels, solvents and other toxic chemicals that may pose a threat to public health, safety and the environment in the case of an accidental spill.

Other risks in DCR are currently under active management by the Fire Department, and many of the stated objectives for this work are already being met.

In the longer term, there is an opportunity for the DCR to increase homeowner awareness about common toxins at the home or business, and their safe handling and management.

Draft Hazardous Material routes and strategies (staff)	staff
Finalization and adoption in Transportation Plan (staff)	staff
Total New Budget	\$0

Lead Role: Fire Department

Supporting Role: Engineering

Objectives

First Priority

Identify and post hazardous transportation routes through the District of Campbell River.

Develop adequate contingency plans to deal with spills of hazardous materials (whether via roads, air or marine).

Construct and maintain an inventory of the location, type and amount of hazardous materials transported and stored in the District of Campbell River.

Maintain adequate emergency services to effectively respond to emergencies involving hazardous materials.

Prepare and maintain an emergency preparedness plan.

Identify areas involving known risks and develop programs to minimize the risks associated with each particular hazard.

Second Priority

Develop standards for environmentally appropriate household products and educate the public about alternative products.

Provide information on how to detoxify or neutralize spills of household hazardous wastes.

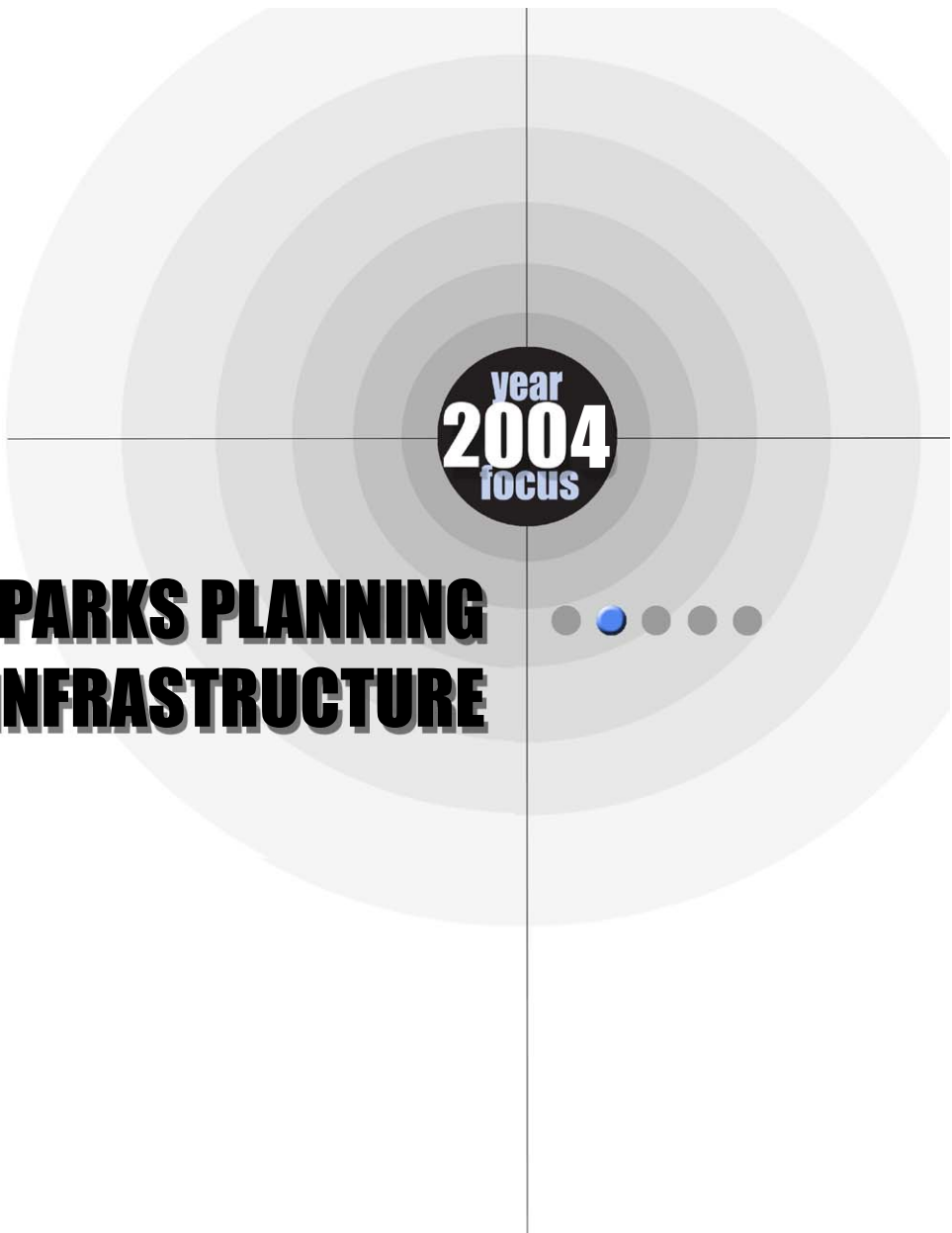
Construct and maintain an inventory of contaminated sites.

Promote the Sanitary Sewer Source Control Bylaw.

Third Priority

Ban the issue of open burning permits from the District's Fire Services Bylaw No. 2612, 1997.

Develop systems, in conjunction with other levels of government, for the collection, recycling and/or disposal of household hazardous wastes



year
2004
focus

**PARKS PLANNING
& GREEN INFRASTRUCTURE**



Year 2004 Focus: Parks Planning and Green Infrastructure

The major focus of the 2004 Environmental Action Plan includes the initiation of a parks master plan and a review of alternative development standards to promote 'green' infrastructure. This year would also see an environmental monitoring/ "state of the environment" program started.

Project #	Description	Lead Role
2004A	MOU – maintain activities, meetings	Eng., PW
2004B	Master Drainage Planning Program - continue	Eng.
2004C	Campbell Lakes WS Plan – design preliminary UV disinfection facility	Eng.
2004D	OCP Update – complete and adopt	Plan.
2004E	DPA's – review, draft, adopt DPA's for terrestrial habitats	Plan.
2004F	Recreational Greenway - continue to support development by DCGLT	Eng.
2004G	Environmental Audit – seek funding or partnerships	Maint.
2004I	BMPs – research, plan and design BMPs in pilot projects	Eng.
2004J	Environmental Monitoring – determine objectives, identify indicators	Eng.
2004K	Parks Master Plan – determine terms of reference, issue RFP & contract	Parks
2004M	Climate Change – apply for funding for feasibility study	Eng.

Approximate Budget: \$90,00 - including \$10,000 in potential funding from outside sources

Project 2004-A

Memorandum of Understanding – maintain activities and meetings

This project continues on from Project 2003-G in continuing to work under the MOU between DCR, the Ministry of Water, Land and Air Protection (MWLAP) and Fisheries and Oceans Canada (DFO) to coordinate environmental action and decision-making.

Continue to meet with MWLAP and DFO and coordinate development approval processes as required under the MOU	staff
Total New Budget	\$0

Lead Role: Engineering, Public Works

Supporting Role: Planning

Objectives

First Priority

Pursue memorandums of understanding with senior levels of government to create 'one-window' environmental approvals.

Maintain open and proactive dialogue with senior levels of government regarding implementation of environmental legislation, regulations and approvals.

Project 2004-B

Master Drainage Planning Program - continued

The Year 2004 Master Drainage Planning program will complete drainage plans started in 2003.

Complete update of Nunns Creek drainage plan	funded
Complete update of Willow Creek drainage plan	funded
Complete update of Simms Creek drainage plan	funded
Complete East Nunns Creek drainage plan	funded
Complete Foreshore drainage plan	funded
Total New Budget	\$0

Lead Role: Engineering

Supporting Role: Planning, Public Works, Consultants

Objectives

First Priority

Implement the recommendation of the Master Drainage Plans for Willow, Simms, and Nunns Creek and consider further base flow strategies.

Project 2004-C

Campbell Lakes Watershed Plan – Design Preliminary UV Disinfection Facility

In 2004, the design for a preliminary UV disinfection facility will be completed.

Initiate and complete UV facility design	funded
Total New Budget	\$ 0

Lead Role: Engineering

Supporting Role: Public Works

Objectives

First Priority

Protect the District's drinking water supply from all possible sources of pollution.

Maintain or restore high quality in both the surface and ground water within the Campbell Lake watershed.

Seek to have the Campbell Lakes watershed designated as a 'Community Watershed' under the Environment Management Act.

Explore possible alternatives for disinfecting drinking water.

Develop a comprehensive development plan for the Campbell Lakes watershed to regulate the amount and impacts of development.

Oppose the sale or disposal of Crown lands around John Hart Lake.

Discourage further development within the watershed boundaries.

Second Priority

Develop a Campbell Lakes Watershed Best Management Practices Manual that identifies strategies to deal with erosion control, groundwater recharge technology, permeability issues, pesticide/herbicide applications and development criteria.

Develop a watershed awareness campaign for Campbell Lakes.

Project 2004-D

OCP - Complete and Adopt Revised OCP

This project continues from Project 2003-D to complete the update of the OCP and present it to Council for adoption.

Complete final public input	staff
Complete revisions to OCP text and maps	staff
Present to Council for adoption	staff
Adopt by Council	Council
Total New Budget	\$0

Lead Role: Planning

Supporting Role: Engineering and Public Works

Objectives

First Priority

Complete a Greenways planning exercise that identifies the interface between proposed Greenways and land development.

Modify proposed road alignments to minimize stream crossings.

Manage the development of Greenways & ESA's through the establishment of a Preliminary Parks Plan.

Planning for Neighbourhood and Village Centres that will provide commercial sectors within walking distance of residential neighbourhoods.

Promote good pedestrian linkages to transit services.

Promote density averaging and bonusing as a way to increase the amount of open space.

Increase density through residential infill to control growth and avoid urban sprawl.

Promote mixed-use development to promote walking between residential and commercial or institutional area.

Second Priority

Consider an 'Open Space' Development Cost Charge for funding basic trail construction and improvements.

Review the Pedestrian Network Plan.

Project 2004-E

DPAs - Review, Draft and Adopt Development Permit Areas for Terrestrial Habitats

The Greenway Plan created development permit language for sensitive terrestrial habitat areas. These included steep slopes (particularly coastal bluffs), wildlife and naturalscape corridors.

This project will focus on terrestrial ecosystem features and habitat corridors. Particular attention will be paid to eagle and heron nest trees, as well as corridors that connect habitat areas within and on the outskirts of the District.

The DPA designations and language in the Greenway Plan will be carefully reviewed and applicable components revised for draft Terrestrial Habitat Development Permit Areas and associated Guidelines. These will be reviewed by Council and the public, revised according to input, and adopted as part of the overall OCP update.

For potential terrestrial hazard areas (which may overlap with terrestrial habitat areas), staff will begin to compile existing information on steep slopes and other areas of instability, and examine measures for designating and managing such hazardous areas. This may include an examination of criteria and protective measures (DPAs, geotechnical reporting regulations, etc.) used by other local governments.

Review Terrestrial Habitat Greenway components of Greenway Plan	staff
Redraft/revise DPA language	staff
Review with public	staff
Review with Council	staff
Adopt Terrestrial Habitat DPAs	Council
Total New Budget	\$0

Lead Role Planning

Supporting Role: Engineering

Objectives

First Priority

Require development permits in areas where sensitive terrestrial features or ESA's have been identified.

Identify means and policies regarding vegetation disturbance.

Examine measures for municipality-wide analysis and designation of steep slopes and geotechnically hazardous areas.

Require geotechnical assurances for any construction/ redevelopment proposed at or into any escarpment.

Consider the "Sensitive Ecosystems Inventory for Southeast Vancouver Island and the Gulf Islands" regarding protected areas.

Project 2004-F

Recreational Greenway - Continue to Support Development of Recreational Loop by DCGLT

The Discovery Coast Greenway Land Trust has identified the concept of a recreational loop that joins trail systems in several of the District's watersheds with the waterfront walkway, creating a continuous trail system around the greater Campbell River area.

The Land Trust is eager to proceed with the project. The intent is that DCR will provide support for the group to fund-raise and proceed with the project as they are able.

Identify trail standards	staff
Review trail routing	staff
Fund raising	DCGLT
Coordinate volunteer efforts	DCGLT
Public process	DCGLT
Total New Budget	\$0

Lead Role: Engineering

Supporting Role: Planning

Objectives

First Priority

Expand pedestrian and bicycle transportation networks.

Integrate public transit within local area and neighbourhood plans.

Project 2004-G

Environmental Audit – Seek Partnerships or Funding

This project continues from Project 2003-H, and the preliminary audit conducted in 2003, by seeking partners (such as BC Hydro) or funding sources to conduct a full environmental audit of DCR facilities, vehicles, purchasing decisions and operations.

Identify scope of Environmental Audit and associated budget	staff
Scope out possible funding sources	\$2500
Develop proposal and submit	\$2500
Total New Budget	\$5000

Lead Role: Maintenance

Supporting Role: Engineering and/or Consultants

Objectives

First Priority

Perform waste audits for all District of Campbell River operations and make appropriate adjustments based on the waste audit recommendations.

Consider long-term environmental costs such as life-cycle costs in purchasing decisions.

Introduce energy conservation, waste minimization, toxic reduction and environmental audit programs at all existing District facilities.

Incorporate energy efficient, water conservation and environmentally appropriate standards into all future District facilities.

Fully integrate environmental considerations into planning and decision making for all construction, maintenance, land transactions and subdivision activities undertaken through the District of Campbell River programs.

Second Priority

Ensure that environmental appropriateness is considered in the procurement of all goods and services and seek to replace existing products with more environmentally appropriate products.

Third Priority

Pursue the use of alternative fuels for transit and District vehicles.

Develop a DCR employee ride program to encourage car-pooling.

Develop incentives to encourage cooperation of major employers (private and public sector) to make better use of the public transit service.

Project 2004-I

BMPs – Research, Plan and Design Alternative Development BMPs in Pilot Projects

There are often more environmentally sustainable ways of developing land and providing community services than are employed today. Many methods – such as building narrower local roads or installing pervious surfaces or bioswales in parking lots - would allow for designs that support environmental objectives as well as being affordable and appropriate for Campbell River.

The ultimate goal is to review and revise the Engineering Standards and Specifications in the Subdivision Bylaw (Bylaw 1340) and the Frontage Improvement Bylaw (Bylaw 2709) to allow for alternative development approaches that are useful in Campbell River. As a first step, however, the DCR wants to try out some of these methods in upcoming developments, to test their application in the District’s soil, terrain and weather conditions.

Tyee Spit Park is scheduled for construction in 2004. It includes the installation of green infrastructure BMPs (primarily bio-swales); a funding proposal to the Canada/BC Infrastructure Program has been submitted. This site will provide a test and demonstration area for these measures.

In addition, new development is proposed in several parts of the District where such alternative development methods could be tried, in collaboration with developers.

Funding for green infrastructure projects planning may be available through the Federal/FCM Green Municipal Enabling Fund or the provincial Infrastructure Planning (Study) Grant (IPG) program.

Research potential BMP practices	staff
Review upcoming development sites for potential pilot projects	staff
Develop proposal for designing, building and monitoring a low-impact development BMP pilot project – for joint funding	\$5000
Total New Budget	\$5000
DCR funding	\$2500
Potential outside funding (e.g., GMEF, IPG)	\$2500

Lead Role: Engineering

Supporting Role: Planning, Public Works, Consultants, Developer

Objectives:

First Priority

- Remove barriers to development where possible.
- Adoption and implementation of alternate road designs that encourage bicycle and pedestrian use and minimize urban stormwater runoff.
- Require environmental impact assessments be performed on all proposed transportation projects.
- Develop design guideline details for Greenways trails and streets.
- Adopt stormwater management standards as part of Subdivision Bylaw 1340.
- Implement the transportation goals in relation to alternative forms of transportation.
- Encourage ecologically appropriate landscaping for new development and redevelopment.
- Encourage the use of alternative zoning and subdivision techniques to protect Greenway corridors.
- Support initiatives for neighbourhoods in an effort to promote unique neighbourhood identities.
- Encourage compact and contiguous community development.
- Encourage tree preservation and tree planting.
- Promote the practice of 'Naturescape' approaches throughout the District, with an emphasis on parks, streets, public works, single family residential areas and development projects.

Second Priority

- Implementation of the Bicycle Network Plan.
- Designation of bus lanes and pull-outs on major streets.

Project 2004-J

Environmental Monitoring – determine objectives, identify indicators

Environmental monitoring provides a snapshot of current conditions in DCR, and allows these conditions to be revisited periodically to measure progress towards environmental goals. This type of reporting is critical to provide focus and adaptive management for the Environmental Action Plan.

It also can act as a public information and education tool regarding the health of their community – a report on the “state of the environment” of the DCR. Such a reporting program can also take on broader objectives relating to social and economic well-being – a measure of community sustainability and resilience.

In 2004, the design of the monitoring program will focus on determining objectives – what is it that the DCR is concerned about and wants to measure? It will then focus on determining appropriate indicators that can measure those objectives readily, easily and consistently, and the appropriate ‘targets’ (desirable levels or outcomes) for those indicators. In some cases, objectives may need to be adapted to the data that can be readily collected and maintained. A map/data updating system will need to be created to maintain the data collected about the indicators.

It is desirable to tap into existing programs for identifying objectives and measurable indicators. For example, stormwater flows and quality can be provided under the Master Drainage Planning program, as a measure of impacts of development on sensitive waterways.

Objectives

First Priority

Monitor effluent and enforce the Sanitary Sewer Source Control Bylaw for compliance.

Maintain the water distribution system to ensure that water quality is not compromised.

Promote public participation in waste reduction, reuse and recycling.

Support household backyard composting programs and encourage large scale composting operations.

Promote the organization of Greenways volunteers.

Undertake remediation and post-event monitoring as necessary.

Identify objectives of monitoring program	\$2500
Identify indicators and targets	\$5000
Set up data collection and maintenance system	\$5000
Document proposed Monitoring Program	\$2500
Total New Budget	\$15000
New DCR Funding	\$7500
Potential Outside Funding (e.g., GMEF, GBAP)	\$7500

Lead Role: Engineering

Supporting Role: Consultants

Project 2004-K

Parks Master Plan – determine Terms of Reference, issue RFP and commission Contract

While DCR has an inventory of its park properties, there is not an overall plan in place that provides a long term vision and sets priorities for park acquisition, planning and management. This makes it difficult for staff to respond to requests regarding specific parks or potential properties with a clear sense of how the request fits into larger park goals for the District.

A comprehensive park system can be a major tool in acquiring and managing the District's natural and environmentally significant assets. Parklands can also provide opportunities to showcase environmentally sound land use and development practices.

Develop terms of reference and request for proposals	staff
Review proposals, select consulting team	staff
Initiate planning process: <ul style="list-style-type: none"> - Run public consultation and review process - Write and present draft Plan - Review draft Plan - Revise and finalize Plan 	\$60,000
Total New Budget	\$60,000

Lead Role: Parks

Supporting Role: Planning, Public Works, Engineering

Objectives

First Priority

Manage the development of Greenways & ESA's through the establishment of a Parks and Open Space Development Plan.

Second Priority

Consider an 'Open Space' Development Cost Charge for funding basic trail construction and improvements.

Create a manual of Environmental Practice that will identify park development standards, maintenance procedures and related training programs that will maintain ecologically productive natural areas and will provide guidance on environmentally sustainable practices on active sports fields and manicured areas.

Review the Pedestrian Network Plan.

Explore tax relief alternatives for the gifting of ESA's and Greenways.

Project 2004-M

Climate Change – Apply for Funding for a Feasibility Study

Federal policies regarding Climate Change, driven by commitments under the Kyoto Protocol, have made energy efficiency a priority in funding programs. From a provincial perspective, becoming more energy self-sufficient on Vancouver Island has recently received attention, increasing the focus on energy efficiency and conservation.

The following funding programs are of particular interest (see Section 3 for more details and sources of information):

- Canada/BC Infrastructure Program (improving energy efficiency of buildings/facilities identified as a priority).
- Green Municipal Enabling Fund (for planning and feasibility studies).
- Green Municipal Investment Fund (for capital funds).
- Energy Innovators Initiative and Commercial Building Incentive Program (for retrofitting existing and building new energy efficient buildings).
- Climate Change Action Fund (for public outreach).

In 2004, staff will submit an application, possibly with the assistance of a consultant, to review energy use in the DCR and to study the feasibility of a public awareness program and/or an energy efficiency pilot/demonstration project.

Develop application to appropriate funding program (e.g., C/BC IP, GMEF) for feasibility study	\$5000
Total New Budget	\$5,000

Lead Role: Engineering

Supporting Role: Maintenance Services, Public Works, Planning, Consultant

Objectives

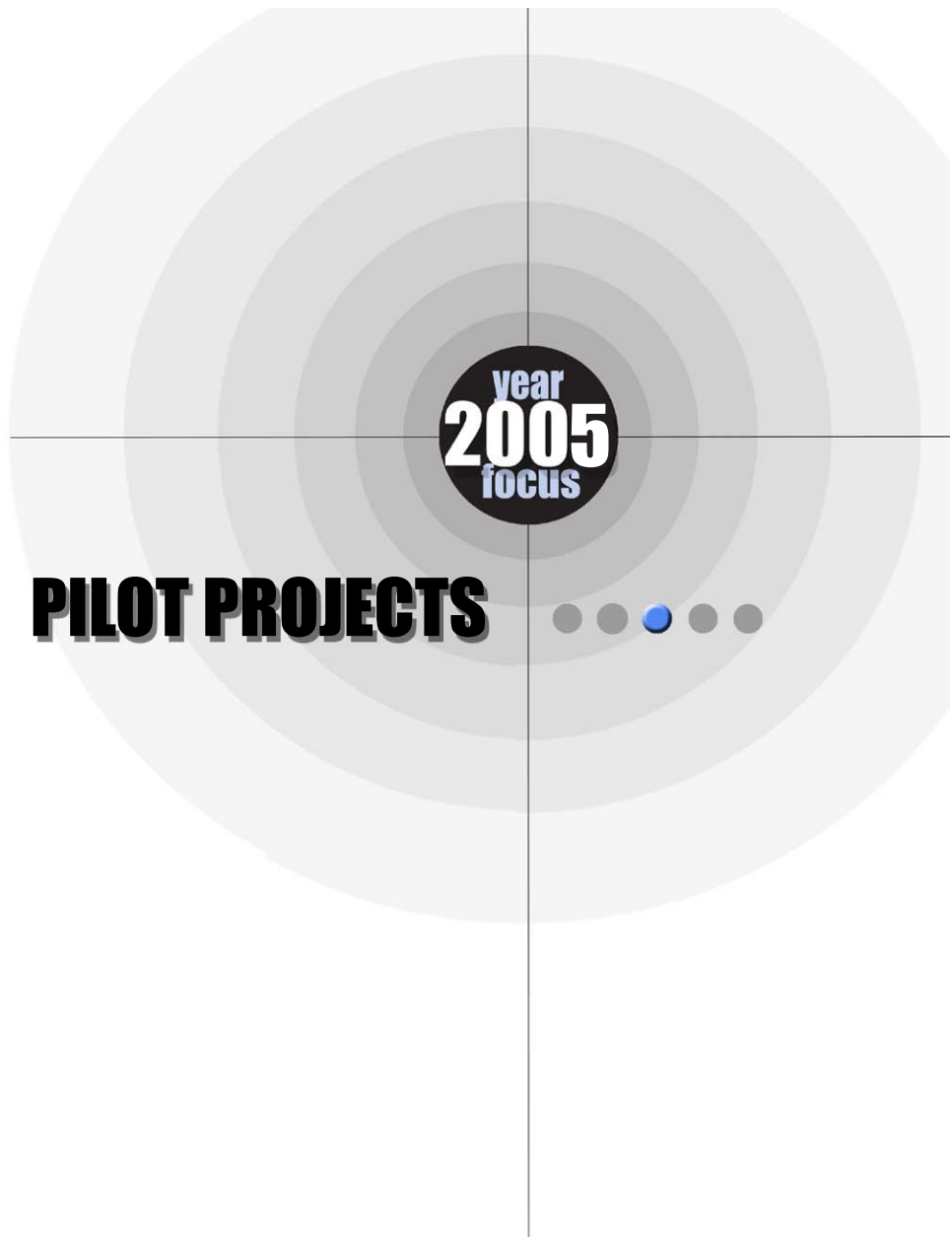
First Priority

Promote water conserving fixtures with all pertinent building permits issued.

Require water conserving fixture with all pertinent building permits issued.

Implement the recommendations of the Campbell River Burning Appliance Smoke Management Plan.

Encourage energy efficient construction practices to reduce overall energy consumption.



Year 2005 Focus: Pilot Projects

In 2005, the priority is to getting some of the projects that have been in planning stages so far into the ground. These include a recreational greenway project being built in tandem with the Willis Road extension in the Nunns Creek Area, construction under the Campbell Lakes Watershed Plan and installation of pilot project BMPs for green infrastructure. The Parks Master Plan will be completed, environmental monitoring underway, and drainage planning continued.

Project #	Description	Lead Role
2005A	MOU – review, revise criteria and draft revised MOU	Eng., PW
2005B	Master Drainage Planning Program - continue	Eng.
2005C	Campbell Lakes Watershed Plan – construct bulk UV facility	Eng.
2005E	DPAs – review and refine bylaws	Plan.
2005F	Recreational Greenway - complete a project with DCGLT	Eng.
2005G	Environmental Audit – perform audit on DCR facilities/operations	Maint.
2005I	BMPs – install and begin monitoring pilot projects	Eng.
2005J	Environmental Monitoring – start measuring indicators	Eng.,PW
2005K	Parks Master Plan – completion	Parks
2005L	Runoff/Erosion Control – research measures in other municipalities	Eng.
2005M	Climate Change – determine feasibility of information program/pilot project	Eng.

Approximate Budget: \$320,000 - including \$150,000 in potential funding from outside sources

Project 2005-A

Memorandum of Understanding – Review, Revise Criteria and Draft Revised MOU as Needed

After more than 2 years of implementation, it will be time to review the MOU with the Ministry of Water, Land and Air Protection (MWLAP) and Fisheries and Oceans Canada (DFO) to check that its policies and protocols are up to date with environmental decision-making needs.

Set up and conduct meetings with MOU partners to review criteria and processes set out in the MOU	staff
Draft revisions identified as needed	staff
Review draft revisions with MOU partners	Staff
Finalize revisions	staff
Present revised MOU to Council and partners for approval	staff
Total New Budget	\$0

Lead Role: Engineering, Public Works

Supporting Role: Planning

Objectives

First Priority

Pursue memorandums of understanding with senior levels of government to create 'one-window' environmental approvals.

Maintain open and proactive dialogue with senior levels of government regarding implementation of environmental legislation, regulations and approvals.

Project 2005-B

Master Drainage Planning Program

The Year 2005 Master Drainage Planning program will focus on new creek systems.

Develop drainage plan for Casey Creek	funded
Develop drainage plan for Painter-Barclay Creek system	funded
Develop drainage plan for Kingfisher Creek	funded
Total New Budget	\$0

Lead Role: Engineering

Supporting Role: Planning, Consultants

Objectives

First Priority

Implement the recommendation of the Master Drainage Plans for Willow, Simms, and Nunns Creek and consider further base flow strategies.

Project 2005-C

Campbell Lakes Watershed Plan – preliminary UV disinfection facility

This will build on the results of Project 2004-G by constructing a bulk UV facility.

Construct bulk UV Facility	funded
Total New Budget	\$0

Lead Role: Engineering

Objectives

First Priority

Protect the District's drinking water supply from all possible sources of pollution.

Maintain or restore high quality in both the surface and ground water within the Campbell Lake watershed.

Seek to have the Campbell Lakes watershed designated as a 'Community Watershed' under the Environment Management Act.

Explore possible alternatives for disinfecting drinking water.

Develop a comprehensive development plan for the Campbell Lakes watershed to regulate the amount and impacts of development.

Oppose the sale or disposal of Crown lands around John Hart Lake.

Discourage further development within the watershed boundaries.

Second Priority

Develop a Campbell Lakes Watershed Best Management Practices Manual that identifies strategies to deal with erosion control, groundwater recharge technology, permeability issues, pesticide/herbicide applications and development criteria.

Develop a watershed awareness campaign for Campbell Lakes.

Project 2005-E

DPAs – Review and Refine DPA Bylaws

The efficacy of the DPAs for Streamside Areas and Terrestrial Habitat Areas should be reviewed. Staff will also continue to examine the feasibility of designating DPAs for terrestrial hazard areas.

Identify potential procedure improvements	\$2500
Prepare draft changes	\$5000
Public/stakeholder review	\$5000
Finalize changes	\$2500
Proceed to Council consideration	\$0
Total New Budget	\$15000
New DCR Funding	\$15000

Lead Role: Planning

Supporting Role: Engineering, Consultant

Objectives

First Priority

Increase effectiveness and efficiency of environmental regulations and procedures.

Remove barriers to development where possible.

Project 2005-F

Recreational Greenway - Complete a Project with DCGLT

In association with a planned infrastructure improvement project – such as anticipated improvements to Willis Road and associated stormwater management works or improvements to Highway 19A - a significant addition to the Greenway Loop could be funded, in partnership with the Discovery Coast Greenway Land Trust.

For example, matching or partial funding from senior government sources could support the cycling component of the greenway.

The Discovery Coast Greenway Land Trust (DCGLT) will be a key partner in delivery of this project.

Objectives

First Priority

- Expansion of pedestrian and bicycle transportation networks.
- Integrate public transit within local area and neighbourhood plans.
- Demonstrate components of alternative development standards.

Planning, Design and Contract Administration	\$0
Capital Construction	\$100,000
Total New Budget	\$100,000
New DCR Funding	\$50,000
Potential Outside Funding (C/BC IP, MRIF)	\$50,000

Lead Role: Engineering

Supporting Roles: Planning, DC Greenway Land Trust, Consultant

Project 2005-G

Environmental Audit – Perform Audit on District Facilities and Operations

Based on the results of Project 2004-I, DCR staff (and potential partners) will conduct or oversee an environmental audit of selected DCR facilities, vehicles, purchasing decisions and/or operations.

Review building performance and recommend improvements	\$5000
Review operations performance and recommend improvements	\$5000
Review purchasing activities and recommend changes to purchasing policy	\$5000
Review vehicle systems and recommend changes	\$5000
Total New Budget	\$20,000
Source: potential outside funding (GMEF, EII)	\$10,000
Source: New DCR funding	\$10,000

Lead Role: Maintenance

Supporting Role: Engineering, Consultants

Objectives

First Priority

Perform waste audits for all District of Campbell River operations and make appropriate adjustments based on the waste audit recommendations.

Consider long-term environmental costs such as life-cycle costs in purchasing decisions.

Introduce energy conservation, waste minimization, toxic reduction and environmental audit programs at all existing District facilities.

Incorporate energy efficient, water conservation and environmentally appropriate standards into all future District facilities.

Fully integrate environmental considerations into planning and decision making for all construction, maintenance, land transactions and subdivision activities undertaken through the District of Campbell River programs.

Second Priority

Ensure that environmental appropriateness is considered in the procurement of all goods and services and seek to replace existing products with more environmentally appropriate products.

Third Priority

Pursue the use of alternative fuels for transit and District vehicles.

Develop a DCR employee ride program to encourage car-pooling.

Develop incentives to encourage cooperation of major employers (private and public sector) to make better use of the public transit service.

Project 2005-I

BMPs - Install and Begin Monitoring BMPs in Pilot Projects

In development projects identified in Project #2004-E, DCR staff would work with developers or on DCR-based development sites to design and install a stormwater structure to alternative “green” design standards, such as pervious pavement techniques and/or bioswales in parking lots, filtration strips or swales along roadways, or small scale green roof concepts.

Funding for green infrastructure projects construction is available through the Canada/BC Infrastructure Program and the federal/FCM Green Municipal Investment Funds.

Consider incentives for development of alternative standards on development site	staff
Design or collaborate in the design of BMP	staff
Build green design structure, incorporating monitoring equipment and/or protocol	\$150,000
Total New Budget	\$150,000
Source: DCR and developer	\$75,000
Source: outside funding source (C/BC IP, GMIF)	\$75,000

Lead Role: Engineering

Supporting Role: Planning, Developer (if on private development site)

Objectives:

First Priority

Remove barriers to development where possible.

Adoption and implementation of alternate road designs that encourage bicycle and pedestrian use and minimize urban stormwater runoff.

Require environmental impact assessments be performed on all proposed transportation projects.

Develop design guideline details for Greenways trails and streets.

Adopt stormwater management standards as part of Subdivision Bylaw 1340.

Implement the transportation goals in relation to alternative forms of transportation.

Encourage ecologically appropriate landscaping for new development and redevelopment.

Encourage the use of alternative zoning and subdivision techniques to protect Greenway corridors.

Support initiatives for neighbourhoods in an effort to promote unique neighbourhood identities.

Encourage compact and contiguous community development.

Encourage tree preservation and tree planting.

Promote the practice of 'Naturescape' approaches throughout the District, with an emphasis on parks, streets, public works, single family residential areas and development projects.

Second Priority

Implementation of the Bicycle Network Plan.

Designation of bus lanes and pull-outs on major streets.

Project 2005-J

Environmental Monitoring Program – Measure Indicators

This project would carry on from Project 2004-J by beginning to monitor indicators identified in that Project, and compile and analyze the indicator data. An Environmental Monitoring Program, designed in 2003, would be implemented in 2004.

Select monitoring locations, arrange for expertise.	staff
Start field monitoring as needed	\$5000
Compile and analyze data	\$5000
Determine if any items demand immediate action to rectify.	staff
Total New Budget	\$10000
Source: Potential Outside Funding	\$5000
Source: New DCR Funding	\$5000

Lead Role: Engineering, Public Works

Supporting Role: Consultants

Objectives

First Priority

Monitor effluent and enforce the SSSCB for compliance.

Maintain the water distribution system to ensure that water quality is not compromised.

Promote public participation in waste reduction, reuse and recycling.

Support household backyard composting programs and encourage large scale composting operations.

Promote the organization of Greenways volunteers.

Undertake remediation and post-event monitoring as necessary.

Project 2005K

Parks Master Plan - completion

This would be the continuation of Project #2004-D wherein the consulting team would develop the draft Master Plan for review, and complete the final plan by the end of the year.

Revise and finalize plan	Consultant
Adopt Parks Master Plan	Council
Budget	\$0
Total New Budget	\$0

Lead Role: Parks

Supporting Role: Planning, Engineering

Objectives

First Priority

Manage the development of Greenways & ESA's through the establishment of a Parks and Open Space Development Plan.

Second Priority

Consider an 'Open Space' Development Cost Charge for funding basic trail construction and improvements.

Create a manual of Environmental Practice that will identify park development standards, maintenance procedures and related training programs that will maintain ecologically productive natural areas and will provide guidance on environmentally sustainable practices on active sports fields and manicured areas.

Review the Pedestrian Network Plan.

Explore tax relief alternatives for the gifting of ESA's and Greenways.

Project 2005-L

Runoff & Erosion Control – Research Measures in Other Municipalities

Many environmental measures will have been incorporated into the Subdivision Bylaw and Development Permits. However, these requirements will not address several significant environmental issues related to erosion control in construction of subdivisions or single family dwellings.

In 2005, staff will find out how other municipalities are regulating runoff and erosion in the construction of single family subdivisions and lots.

Objectives

First Priority

Adopt a water quality bylaw to regulate watercourse protection and to identify acceptable limits for water quality.

Adopt stewardship bylaws that clarify the setback requirements for leave areas and incorporate regulations concerning erosion control, vegetation management and water quality management for watercourses.

Contact and compile information from other municipalities on sediment/erosion control bylaws, standards and/or regulations	\$2500
Summarize information and compare to bylaws/standards in DCR; review applicability of various measures	\$2500
Total New Budget	\$5000
Source: New DCR Funding	\$5000

Lead Role: Engineering

Supporting Role: Planning, Consultants

Project 2005-M

Climate Change – Determine Feasibility of an Information/ Awareness Campaign or Pilot Project

Assuming the continued focus on and support for projects associated with climate change, this project will gather background information and assess the feasibility of developing a public awareness program on energy efficiency or/and plan and design an energy efficiency pilot/demonstration project in a municipal facility. The pilot project could be a retrofit of an existing building or innovative energy-efficient design (e.g., following LEED standards) of a new facility – for example, one that is planned under the DCR’s Parks Master Plan.

Research possible energy efficiency retrofits or new facilities	staff
Compile and review energy consumption statistics in the community; identify priorities for public awareness	\$10,000
Develop proposal for retrofit or construction of energy efficient building OR Develop proposal public awareness program AND Submit proposal to appropriate funding program	\$15,000
Total New Budget	\$25,000
Source: Potential Outside Funding	\$10,000
Source: New DCR Funding	\$15,000

Lead Role: Engineering

Supporting Role: Maintenance Services, Public Works, Planning, Parks, Consultant

Objectives

First Priority

Promote water conserving fixtures with all pertinent building permits issued.

Require water conserving fixture with all pertinent building permits issued.

Implement the recommendations of the Campbell River Burning Appliance Smoke Management Plan.

Encourage energy efficient construction practices to reduce overall energy consumption.



IMPLEMENTATION & TRAINING

Year 2006 Focus: Implementation and Training

The green infrastructure pilot projects will provide opportunities for informing City staff and the private sector on the application and potential benefits of these measures. The development of runoff and erosion control guidelines will also involve a public/private sector consultation and education component, and the SOE report will start to take shape. And given the focus on energy efficiency and conservation, this may be a good time to apply more environmentally responsible ways to build in the community.

Project	Project Description	Lead
2006A	MOU – continue	Eng
2006B	Master drainage planning program - continue	Eng.
2006C	Campbell Lakes WP – construct Gordon Rd & Industrial Park facilities	Eng.
2006E	DPA's – update Environmentally Sensitive Area mapping	Eng.,Plan.
2006I	BMPs – Information and training, revisions to standards	Eng.
2006J	Environmental Monitoring – indicator measurement, design report	Eng.,PW
2006K	Parks Master Plan - complete, begin implementation	Parks
2006L	Runoff/erosion control – draft guidelines, bylaw revisions	Eng.
2006M	Climate Change - implement information program &/or construction project	Eng.

Approximate Budget: \$160,000 - including \$65,000 in potential funding from outside sources

Project 2006-A

Memorandum of Understanding – continue

This ongoing project will continue to implement a newly revised MOU with the Ministry of Water, Land and Air Protection (MWLAP) and Fisheries and Oceans Canada (DFO).

Continue communications with MOU partners	staff
Total New Budget	\$0

Lead Role: Engineering, Public Works

Supporting Role: Planning

Objectives

First Priority

Pursue memorandums of understanding with senior levels of government to create 'one-window' environmental approvals.

Maintain open and proactive dialogue with senior levels of government regarding implementation of environmental legislation, regulations and approvals.

Project 2006-B

Master Drainage Planning Program - continue

The Year 2006 Master Drainage Planning program will focus on the Quinsam River drainage.

Quinsam River drainage plan	funded
Total New Budget	\$0

Lead Role: Engineering

Supporting Role: Planning, Consultants

Objectives

First Priority

Implement the recommendation of the Master Drainage Plans for Willow, Simms, and Nunns Creek and consider further base flow strategies.

Project 2006-C

Campbell Lakes Watershed Plan – Gordon Road and Industrial Park facilities

In 2006, a new disinfection facility will be constructed at Gordon Road and in the Industrial Park.

Construct bulk UV Facility	funded
Total New Budget	\$0

Lead Role: Engineering

Objectives

First Priority

Protect the District's drinking water supply from all possible sources of pollution.

Maintain or restore high quality in both the surface and ground water within the Campbell Lake watershed.

Seek to have the Campbell Lakes watershed designated as a 'Community Watershed' under the Environment Management Act.

Explore possible alternatives for disinfecting drinking water.

Develop a comprehensive development plan for the Campbell Lakes watershed to regulate the amount and impacts of development.

Oppose the sale or disposal of Crown lands around John Hart Lake.

Discourage further development within the watershed boundaries.

Second Priority

Develop a Campbell Lakes Watershed Best Management Practices Manual that identifies strategies to deal with erosion control, groundwater recharge technology, permeability issues, pesticide/herbicide applications and development criteria.

Develop a watershed awareness campaign for Campbell Lakes.

Project 2006-E

DPAs - Update Environmentally Sensitive Areas Mapping

By Year 2006, existing environmental mapping will be stale dated, and new environmental risks or senior government programs may have appeared. It would therefore be timely to update and improve the ESA mapping, with senior government support in addition to the funding listed below.

Provide terms of reference	staff
Complete mapping update	\$15,000
Total New Budget	\$15,000
Source: Potential Outside Funding	\$5,000
Source: New DCR Funding	\$10,000

Lead Role: Engineering, Planning

Supporting Role: Consultants

Objectives

First Priority

Construct and maintain an accurate inventory of environmentally significant features including watercourses, wetlands, floodplains, riparian areas, forests, rare upland communities, wildlife trees, steep slopes and other hazardous areas.

Identify sensitive areas prior to development, and avoid damaging or premature zoning, or service extensions to these sensitive areas.

Project 2006-I

BMPs - information and training, revisions to standards

The pilot projects on selected low impact/green infrastructure BMPs will be used as a learning tool for City staff, the development community and the public

The experience to date with these measures will also instigate a review of current policies and standards, to reduce or remove barriers to using these BMPs in future development.

Produce materials and programs (e.g., site tours, brochures, internet documentation, video) to display use of BMPs.	\$25000
Develop and operate information/ training program	\$10000
Initiate review of standards	Staff
Total New Budget	\$35,000
New DCR Funding	\$25,000
Outside Funding (e.g., CCAF-PEO, EcoAction)	\$10,000

Lead Role: Engineering.

Supporting Role: Consultants

Objectives

First Priority

Develop clear communication lines with local developers, industry and builders to expedite environmental requirements and procedure.

Establish environmental communication links from staff to District Commissions and Committees.

Project 2006-J

Environmental Monitoring – Measure Indicators and Design Report

This will carry on from Project 2005-K by continuing to measure and analyze indicators. Work will also start on designing and drafting an SOE report for public distribution.

Continue to monitor indicators, compile and analyze data	\$5000
Design and draft SOE report	\$10,000
Total New Budget	\$15,000
Source: Potential Outside Funding	\$5,000
Source: New DCR Funding	\$10,000

Lead Role: Engineering, Public Works

Supporting Role: Consultants

Objectives

First Priority

Monitor effluent and enforce the SSSCB for compliance.

Maintain the water distribution system to ensure that water quality is not compromised.

Promote public participation in waste reduction, reuse and recycling.

Support household backyard composting programs and encourage large scale composting operations.

Promote the organization of Greenways volunteers.

Undertake remediation and post-event monitoring as necessary.

Project 2006-K

Parks Master Plan – Complete and Begin Implementation

With completion of the Parks Master Plan in 2005, this year will be one of reviewing the priority actions presented in the Plan and determining timeframes and budgets for their completion.

Set priorities for this and next 3-5 years	staff
Initiate first priority actions/ programs	staff
Budget	\$unknown
Total New Budget	\$unknown

Lead Role: Parks

Supporting Role: Planning, Engineering

Objectives

First Priority

Manage the development of Greenways & ESA's through the establishment of a Parks and Open Space Development Plan.

Second Priority

Consider an 'Open Space' Development Cost Charge for funding basic trail construction and improvements.

Create a manual of Environmental Practice that will identify park development standards, maintenance procedures and related training programs that will maintain ecologically productive natural areas and will provide guidance on environmentally sustainable practices on active sports fields and manicured areas.

Review the Pedestrian Network Plan.

Explore tax relief alternatives for the gifting of ESA's and Greenways.

Project 2006-L

Runoff and Erosion Control - draft guidelines and bylaw revisions to Single Family Development

Based on the information gained in Project 2005-E, guidelines for managing runoff and erosion in single-family development will be developed. These guidelines will form the basis for providing information to the development community and the public on appropriate measures to take in subdivision and single lot development.

Applicable bylaws will be reviewed and revisions drafted to incorporate requirements for these measures.

Develop guidelines in the form of a brochure or other information material	\$10000
Development community and public information program on guidelines	\$5000
Review and draft potential revisions to bylaws	\$5000
Stakeholder review	\$5000
Total New Budget	\$25,000
Source: New DCR Funding	\$15,000
Source: Potential outside funding (e.g., Real Estate Foundation)	\$10,000

Lead Role: Engineering.

Supporting Role: Planning, Consultants

Objectives

First Priority

Adopt a water quality bylaw to regulate watercourse protection and to identify acceptable limits for water quality.

Adopt stewardship bylaws that clarify the setback requirements for leave areas and incorporate regulations concerning erosion control, vegetation management and water quality management for watercourses.

Encourage compliance to BMPs through Building Permit process.

Project 2006-M

Climate Change – Implement an Information/Awareness Campaign and/or Pilot Project

Based on the results of Project 2005-G, an energy efficiency awareness program and/or a retrofit/new construction project will be developed and launched.

Energy efficiency information/ awareness program	\$10,000
Energy efficiency retrofit of existing building or construction of new facility (e.g., in association with implementation of the Parks Master Plan)	\$60,000
Total New Budget	\$70,000
Source: Potential Outside Funding	\$35,000
Source: New DCR Funding	\$35,000

Lead Role: Engineering

Supporting Role: Maintenance Services, Public Works, Planning, Consultants

Objectives

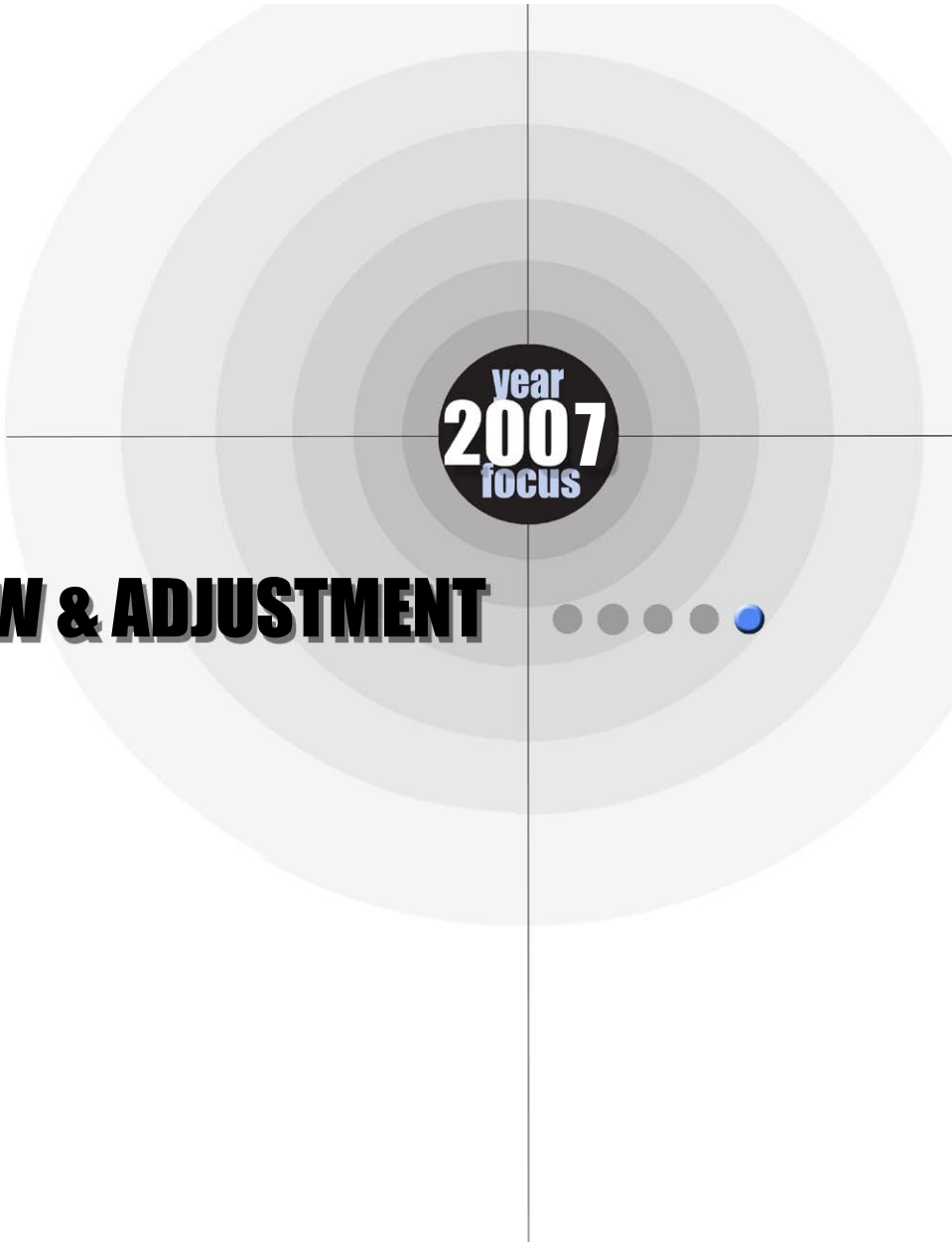
First Priority

Promote water conserving fixtures with all pertinent building permits issued.

Require water conserving fixture with all pertinent building permits issued.

Implement the recommendations of the Campbell River Burning Appliance Smoke Management Plan.

Encourage energy efficient construction practices to reduce overall energy consumption.



REVIEW & ADJUSTMENT



Year 2007 Focus: Review and Adjust

In Year 2007, any outstanding tasks in revising bylaws to support green infrastructure BMPs and address runoff and erosion control on single family developments will be completed. The SOE Report will also be completed and issued, and the environmental monitoring program reviewed and refined. A major focus will be to review the status and success of the Environmental Action Plan and update it for a second five-year period from 2007 to 2011.

Project	Project Description	Lead
2007A	MOU – continue	Eng.,PW
2007I	BMPs – complete revisions to standards, review	Eng.
2007J	Environmental Monitoring – issue State of Environment report	Eng.
2007L	Runoff/Erosion Control – continue information, bylaw revisions	Eng.
2007N	Environmental Action Plan – review status/success, update	Eng.

Approximate Budget: \$20,000 – of which \$2,500 is from potential outside sources

Project 2007-A

Memorandum of Understanding – Continue

This ongoing project will continue to implement the MOU with the Ministry of Water, Land and Air Protection (MWLAP) and Fisheries and Oceans Canada (DFO).

Continue communications with MOU partners	staff
Total New Budget	\$0

Lead Role: Engineering, Public Works

Supporting Role: Planning

Objectives

First Priority

Pursue memorandums of understanding with senior levels of government to create 'one-window' environmental approvals.

Maintain open and proactive dialogue with senior levels of government regarding implementation of environmental legislation, regulations and approvals.

Project 2007-I

BMPs - Complete Revisions to Standards and Review Efficacy of BMPs

Staff will complete the review of standards from Project 2006-C to ensure that they support appropriate green infrastructure BMPs. The pilot projects will be assessed as to the efficacy of the installed BMPs, and the application of these and other BMPs considered in future projects.

Complete revision of bylaws and standards – present to Council for adoption	staff
Review BMPs applied in pilot projects; consider application of these or other BMPs in future projects	staff
Total New Budget	\$0

Lead Role: Engineering.

Supporting Role: Planning

Objectives

First Priority

Develop clear communication lines with local developers, industry and builders to expedite environmental requirements and procedure.

Establish environmental communication links from staff to District Commissions and Committees.

Project 2007-J

Environmental Monitoring - Issue State of the Environment Report

This will complete the first round of environmental monitoring with the issuance of a SOE Report for DCR. The monitoring program will be reviewed in terms of goals, indicators, targets and frequency of monitoring and reporting.

Complete and print SOE Report	\$5000
Review and revise design of Environmental Monitoring Program	staff
Total New Budget	\$5000
Potential Outside Funding (e.g., Real Estate Foundation)	\$2500
New DCR Funding	\$2500

Lead Role: Engineering

Supporting Role: Consultants

Objectives

First Priority

Liaison with local environmental groups to ensure local concerns are identified and addressed appropriately.

Prepare a status report on the state of the environment.

Project 2007-L

Runoff and Erosion Control – Continue Information Program and Revisions

This project will continue on from and complete Project 2006-D.

Continue information program on guidelines	staff
Complete revision of bylaws based on input from stakeholders on draft version	\$5000
Present bylaw revisions to Council for adoption	staff
Total New Budget	\$5000
Source: New DCR Funding	\$5000

Lead Role: Engineering.

Supporting Role: Planning, Consultants

Objectives

First Priority

Adopt a water quality bylaw to regulate watercourse protection and to identify acceptable limits for water quality.

Adopt stewardship bylaws that clarify the setback requirements for leave areas and incorporate regulations concerning erosion control, vegetation management and water quality management for watercourses.

Encourage compliance to BMPs through Building Permit process.

Project 2007-N

Environmental Action Plan - Review Status and Success and Update

Staff will report to Council on the status and success or failure of the first 5 years of the Environmental Action Plan, with assistance by a public review and agency input.

A new Environmental Action Plan will be produced for the next 5 year period, based on the State of the Environment Report, new ESA mapping, and a review of new objectives, priorities and funding opportunities.

Review success/failure of Action Plan	staff
Identify current objectives	staff
Update Environmental Action Plan	\$10,000
Total New Budget	\$10,000
New DCR Funding	\$10,000

Lead Role: Engineering

Supporting Role: Planning, Public Works, Maintenance, Fire, Parks, Consultant

Objectives

First Priority

Coordinate efforts of various District departments to ensure that environmental objectives are clear and consistent.

Explore tax relief alternatives for the gifting of ESA's and Greenways.

Second Priority

Adopt an 'Environmental Code of Ethics' to guide environmental decision making, development projects and land use planning.

Establish goals for per capita water consumption.

Section 3: Funding and Partnership Sources

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
Federal and/or Provincial – infrastructure programs			
Canada/British Columbia Infrastructure Program	Western Economic Diversification Canada BC Ministry of Competition, Science and Enterprise BC Ministry of Community, Aboriginal and Women's Services Union of B.C. Municipalities	<p>The program's purpose is to improve urban and rural local government infrastructure. "Green" infrastructure projects are a priority, such as:</p> <ul style="list-style-type: none"> • water and waste-water systems; • water management; and • improving energy efficiency of buildings and facilities owned by local governments. <p>Other investment priorities include:</p> <ul style="list-style-type: none"> • cultural and recreational facilities; • infrastructure to support tourism; • rural and remote telecommunications; • high speed Internet access for local public institutions; • local transportation infrastructure; and • affordable housing projects and related infrastructure. <p>Projects can be approved until June 30, 2005 and must be completed no later than March 31, 2006.</p>	<p>http://www.cse.gov.bc.ca/ProgramsAndServices/Canada-BCInfrastructureProgram/default.htm</p> <p>or</p> <p>http://www.mcaws.gov.bc.ca/lgd/pol_research/grants.html#infrastructure</p> <p>For projects recently funded:</p> <p>http://www2.news.gov.bc.ca/nrm_news_releases/2003CSE0066-001000-Attachment1.htm</p>
Green Municipal Enabling Fund (GMEF)	Government of Canada Federation of Canadian Municipalities	<p>Operating from 2000 to 2007, the GMEF is a \$50 million Fund that provides grants to support feasibility studies to assess the technical, environmental and/or economic feasibility of innovative municipal projects. Grants cover up to 50 per cent of eligible costs to a maximum grant of \$350,000. GMEF is open to Canadian municipalities and their public- or private-sector partners. Applications are accepted year round. Applications can be made in the following categories:</p> <ul style="list-style-type: none"> • Energy • Water • Solid waste management • Sustainable transportation services and technologies • Sustainable community planning (GMEF) 	<p>http://kn.fcm.ca/ev.php?URL_ID=2891&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1065471090</p> <p>Recent projects funded on Vancouver Island -</p> <p>http://www.fcm.ca/english/communications/nov102003.htm</p> <p>http://www.fcm.ca/english/communications/nov102003bac.htm</p>
Green Municipal Investment Fund (GMIF)	Government of Canada Federation of Canadian Municipalities	<p>The GMIF is a \$200 million permanent revolving fund that supports the implementation of highly innovative environmental projects. A municipal government can borrow at the preferred interest rate of 1.5% below the Government of Canada bond rate. GMIF finances up to 15% (25% in exceptional circumstances) of the capital costs of a qualifying project. GMIF can also provide loan guarantees. Loan payback periods may range from four to ten years. GMIF is open to Canadian municipalities and their public sector or private-sector partners. Applications are</p>	<p>http://kn.fcm.ca/ev.php?URL_ID=2892&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1065471480</p>

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
		accepted year-round.	
Municipal Rural Infrastructure Program (MRIF)	Infrastructure Canada	The \$1 billion MRIF, established in August 2003, will improve and increase the stock of core public infrastructure in areas such as water, wastewater, cultural, recreation, etc. in small and rural communities. Application process is under development.	http://www.infrastructurecanada.gc.ca/mrif/index_e.shtml
Energy Innovators Initiative (EII); Commercial Building Incentive Program (CBIP)	Natural Resources Canada – Office of Energy Efficiency	EII offers assistance to commercial and institutional building energy retrofit activities. CBIP offers assistance for new commercial and institutional building design.	http://oee.nrcan.gc.ca/ici/english/home.cfm
Infrastructure Planning (Study) Grants	BC Ministry of Community, Aboriginal and Women's Services	The grants are provided for projects that study the feasibility, costs, technology and location of proposed sewer, water, drainage or transportation facilities. The maximum grant for approved studies is \$10,000. Applications for projects proposed under the Canada-British Columbia Infrastructure Program "green" local government infrastructure, announced in October 2000, may benefit from the successful completion of an infrastructure planning study.	http://www.mcaaws.gov.bc.ca/lgd/infra/cir/cir0306a.html
Federal and/or Provincial – planning, conservation, outreach or other programs			
Softwood Industry Community Economic Adjustment Initiative (SICEAI)	Western Economic Diversification Canada	SICEAI will provide funding for projects in B.C.'s forest-dependent communities that address local adjustment priorities and which have demonstrable community support. The national SICEAI program is funded with \$110 million for 2003/2004 and current estimates are that BC will receive at least half of the total national funding. To be considered for funding, projects should meet the following criteria: <ul style="list-style-type: none"> • Be consistent with the overall objectives of the program; • Have potential to further the economic development of a community or a group of communities and should not benefit one community or community group at the expense of another; • Have strong community support such as financial contributions, written support or endorsements by a municipal or band council; • Demonstrate economic benefits such as increased jobs or use of a new technology; and • Demonstrate adequate managerial, financial and technical capability to conduct the proposed activity. 	http://www.wd.gc.ca/siceai/default_e.asp#b
EcoAction Community Funding	Environment Canada	This program provides financial support to non-profit community groups for projects that will achieve positive results in the following areas:	http://www.ec.gc.ca/ecoaction/note2_e.html

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
Program		<p>Clean Air & Climate Change - help improve air quality by, e.g., reducing emissions that contribute to smog, climate change and ozone depletion.</p> <p>Clean Water - reduce and divert the use of toxic substances such as pesticides and hazardous household products, that affect water quality.</p> <p>Nature - protect wild animals and plants, and protect and improve the places where they live, with priority on migratory birds and habitat.</p> <p>With ratification of the Kyoto Protocol, emphasis in 2003 and onward is on climate change initiatives, such as:</p> <ul style="list-style-type: none"> • Sustainable transportation planning , implementation and promotion • anti-idling initiatives • waste reduction/diversion projects which result in reduced greenhouse gases from incineration or landfill gases • capacity-building projects linked to a subsequent action such as the development of sustainable transportation or smog management plans <p>Local governments are not eligible to apply directly to this program, but non-government partners can apply.</p>	
Georgia Basin Action Plan (GBAP)	Environment Canada (lead) Fisheries & Oceans Canada Parks Canada Ministry of Water, Land & Air Protect. Ministry of Sustainable Resource Management	<p>The GBAP is a 5-year program (2003-2008) aimed at building on the progress of the Georgia Basin Ecosystem Initiative (GBEI). A partnership of 3 federal and 2 provincial agencies, the GBAP continues the GBEI's focus on clean air, clean water, habitats and species, and sustainable communities. Emphasis is placed on cooperation and collaboration with local decision-makers.</p> <p>While no funding programs are explicitly associated with GBAP, DCR partnered with the GBEI in 1999 to apply an oxidation treatment process to its sewage treatment plant. Similar partnerships are likely available for projects that fit into one of GBAP's four project areas.</p>	http://www.pyr.ec.gc.ca/georgiabasin/index_e.htm
Climate Change Action Fund- Public Education and Outreach (CCAF - PEO)	Environment Canada	<p>The objectives of this program are:</p> <ul style="list-style-type: none"> • to promote awareness of climate change among Canadians, allowing them to understand the phenomenon, including the underlying scientific dimensions and recent scientific developments, the regional nature of expected changes and when they are supposed to take place, the need to adapt and to understand related environmental, economic and social issues; • to establish a support base for the adoption of policy measures in the future; • to encourage and motivate Canadians to act individually or collectively 	http://www.climatechange.gc.ca

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
		<p>(communities/groups) to reduce greenhouse gas emissions.</p> <p>The CCAF-PEO will invest funds, together with resources from partners, to support education and outreach efforts targeting communities, youth and educators, business and industry and the general public.</p>	
Habitat Stewardship Program (HSP) for Species at Risk	Environment Canada, Fisheries and Oceans Canada, Parks Canada	<p>The HSP became operational in 2000-2001 and allocates up to \$10 million per year (\$45 million over five years) to projects that conserve and protect species at risk and their habitats. The HSP provides funding to "stewards" for implementing activities that protect or conserve habitats for species designated as nationally "at risk" (endangered, threatened or of special concern). Stewards may be Aboriginal organizations, landowners, resource users, nature trusts, provinces, local governments, the natural resource sector, community-based wildlife societies, educational institutions, and conservation organizations.</p>	http://www.cws-scf.ec.gc.ca/hsp-pih/default_e.cfm
Habitat Conservation Trust Fund (HCTF)	Province of BC	<p>The HCTF funds the acquisition of land and water rights, and supports projects not eligible for support from existing research funds or not within routine government responsibilities. HCTF expenditures may be allocated to applied research and development proposals (proposals should help design or test a technique or application of a technique); continuing costs of operation and maintenance of habitats, works or facilities; and planning for habitat protection.</p>	http://www.hctf.ca/contact/contact.htm http://www.hctf.ca/app/application.htm
Public Conservation Assistance Fund	HCTF and Province of BC	<p>Grants are available to organizations and individuals to assist in conservation projects. Grants are modest, averaging about \$2,500 each and not exceeding \$10,000. A major part of contribution must be in volunteer labour.</p>	http://www.hctf.ca/pubcon/index.html
Private Funding Programs			
BC Heritage Legacy Fund	The Land Conservancy of BC (TLC)	<p>Newly created under a partnership of TLC and the Heritage Society of BC, the BCHL Fund was established in March 2003 with a \$5 million initial contribution from the Province of BC. While focused on heritage buildings or sites, there may be opportunity for heritage landscapes.</p>	http://tlc.bounceme.net/sectioncontent.php?sectionid=96&pageid=308
Recreational Stewardship Inventory Project	British Columbia Conservation Foundation (BCCF)	<p>\$800,000 is available to fund inventory projects related to maintaining, creating or expanding existing recreational opportunities associated with fish & wildlife. In general, any individual or group can propose a project for BCCF funding (ministry</p>	http://www.bccf.com/new_bccf_web/bccf_opportunities.htm

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
		staff, first nations, universities, private sector, crown corporations, local governments, etc.)	
BC Real Estate Foundation Environment and Land Use program	BC Real Estate Foundation	The BCREF provides both project funding and endowment grants to non-profit organizations. Endowment grants are available only to organizations with charitable status. "Environment and land use" is 1 of 4 priority funding themes. The Foundation may fund initiatives that address society's collective responsibility for natural and settlement assets in British Columbia through education, research, and/or law reform activities. The Foundation places a priority on projects that emphasize the governance aspects of sustainable land use practices. Applicants must define the conservation values that their projects address in the context of relevant land use planning, policy, and regulation. The decision-making context might include official community plans, regional district plans, watershed management plans, or planning activities of senior government agencies.	http://www.landcentre.ca/foundation/howtoapply/fundingcriteria/criteria.html
Land for Wildlife Fund	BCCF	The fund designed to preserve natural habitats by pooling resources towards the purchase of land for conservation. Through partnerships with organizations, companies and government entities, The BCCF is able to actively work towards the preservation of natural habitats for fish and wildlife.	http://www.bccf.com/lfwf/index.htm
	Vancouver Foundation	Vancouver Foundation, a non-governmental community foundation, was founded in 1943 as a collection of funds that form a permanent endowment for charitable purposes. Today, the Foundation administers over 600 funds, the capital of which comes from bequests, living donors, endowments of non-profit organizations and other gifts. Grants are made from income generated from the investment of the funds. While originating and located in Vancouver, the Foundation helps with projects throughout British Columbia. "Environment" is one of 6 topic areas supported by the Vancouver Foundation.	http://www.vancouverfoundation.bc.ca/GrantInformation/FundingGuidelines.shtml
Funding Directories and Guides			
(directory)	Canadian Environmental Grantmakers Network	CEGN is a national Canadian funders' organization of private, community, public and corporate foundations, and government and corporate funding programs that give grants in support of the Canadian environment. CEGN works to develop an effective network of environmental grantmakers in Canada by facilitating information-sharing, collaboration, training and professional development, research, and communications. CEGN's members together provide over \$50 million in environmental grants in Canada. The website provides access to a database where users can search by province,	http://www.cegn.org/main.html

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
		topic, etc. Also provides summary statistics of grants provided where and for what for 2001 and 2002.	
Green Source	Environment Canada	A database of funding sources searchable by region, keyword, organization, amount, type of funder.	http://www.ec.gc.ca/ecoaction/gmsrc/index_e.cfm
Environmental Funding Sources Directory	BC Environmental Network	An online directory available to BCEN members; requires a user name and password.	http://www.bcen.bc.ca/
Funders Guide	Stewardship Centre for BC	An online directory searchable by geographical focus, funding organization (or level of government), funding program, funding deadline. Information, however, may be out of date.	http://www.stewardshipcentre.bc.ca/sc/bc/sc_funders/funderSearch.asp
(guidance)	BC Ministry of Communities, Aboriginal and Women's Services	Public Private Partnership <i>A Guide for Local Government</i>	http://www.mcaaws.gov.bc.ca/lgd/pol_research/mar/PPP/
(guidance)	Partnership BC	Partnerships British Columbia is a company responsible for bringing together ministries, agencies and the private sector to develop projects through public-private partnerships (P3s). As a company registered under the Company Act, Partnerships BC is wholly owned by the Province of British Columbia and reports to its shareholder the Minister of Finance.	http://www.partnershipsbc.ca/about/au_index.htm

Section 4: Examples/Case Studies and Information Sources

DESCRIPTION	Low Impact Development (stormwater)	Energy Efficiency	Green building	WEBSITE
Examples and Case Studies				
<p>Natural Approaches to Stormwater Management: collection of examples of LID in Puget Sound, including: amended soils, bioretention, permeable pavement, rooftop rainwater harvesting, green roofs, housing projects, ordinances and regulations. Published March 2003.</p>	✓			http://www.psat.wa.gov/Publications/LID_studies/lid_natural_approaches.pdf
<p>“S.E.A. Streets”: The Street Edge Alternatives (S.E.A.) project was designed to demonstrate residential street design alternatives that benefit the environment and reduce the impact of surface runoff. Initiated by the City of Seattle’s Public Utilities department, the street selected for the pilot was narrowed and made curvilinear; and swales and rain gardens built between the road and properties. The aim was to reduce the runoff rate of surface drainage as well as create an attractive right of way that slowed traffic and encouraged pedestrians.</p> <p>The project prevented the discharge of all dry season flow and 98% of the wet season runoff, reducing discharge to Pipers Creek in the wet months by 4.7 relative to estimates for a conventional street design. The project cost US\$850,000, which included an extensive design and communication budget as the first project of its kind. Future application of this street form is expected to be competitive with traditional street improvements.</p>	✓			http://www.cityofseattle.net/util/SEAstreets/default.htm
<p>Viewlands “Cascade”: Seattle Public Utilities replaced a narrow, partially culverted ditch along four blocks of NW 110th Street with a series of wide, stair-stepped natural pools designed to slow damaging stormwater flows, reduce flooding, and trap pollutants before they reach Piper’s Creek. Stormwater flow from approximately 21 acres is to be managed through this infrastructure. Relative to estimates for the ditch, the new channel reduces runoff discharge to the Creek in the wet months by a factor of three.</p>	✓			http://www.cityofseattle.net/util/NaturalSystems/cascade.htm
<p>Permeable parking lot demonstration study: This study, carried out by the Centre for Water and Watershed Studies at the University of Washington, examined the long-term effectiveness of permeable pavement as an alternative to traditional impervious asphalt pavement in a parking area. Four commercially available permeable pavement systems were installed in 1996 in a parking lot at a King County Public Works facility, and evaluated after six years of daily parking usage for structural durability, ability to infiltrate precipitation, and impacts on infiltrate water quality.</p> <p>All 4 permeable pavement systems showed no major signs of wear. Virtually all rainwater infiltrated through the permeable pavements, with almost no surface runoff. The infiltrated water had significantly lower levels of copper and zinc than the direct surface runoff from the asphalt area. Motor oil was detected in 89% of samples from the asphalt runoff but not in any water sample infiltrated through the permeable pavement. Neither lead nor diesel fuel were detected in any sample.</p>	✓			http://depts.washington.edu/cwvs/Research/Reports/permeableparking.pdf

DESCRIPTION	Low Impact Development (stormwater)	Energy Efficiency	Green building	WEBSITE
Booth, Derek B, Jennifer Leavitt, and Kim Peterson - Permeable parking lot demonstration project - The six-year follow up 2002.	✓			http://depts.washington.edu/cwvs/Research/Waterresources/stormwater.html
Museum of Science and Industry, Portland, Oregon: The 10-acre, 768-vehicle parking lot at this facility incorporates over 2000 feet of bioswales with checkd7ams and underdrain.	✓			http://www.murase.com/ie5/portfolio/projects/omsi/omsi-b.htm
Water Pollution Control Lab, Portland, Oregon: Landscaping provides an outdoor lab for stormwater treatment techniques, incorporating bioswales, roof scuppers, and artistic detention pond.	✓			http://www.murase.com/ie5/portfolio/projects/watr/watr-b.htm
Church parking lot: pervious parking lot in Erie, Pennsylvania.	✓			http://www.erieindymedia.org/news/2003/07/124.php
Vancouver Island Technology Park: first project in Canada to achieve Gold certification under the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED™) Rating System. Incorporates energy-efficiency features, “grass pave” parking lots, surrounding native plantings and habitat, innovative stormwater management, Sustainable Transportation Plan, etc.	✓	✓	✓	http://www.vitp.ca/sitemap.asp http://www.vitp.ca/images/pdf/VITP_Green_Building_Site_Design.pdf http://www.viatec.ca/stss/index.html
Country Lanes Vancouver: Vancouver City's demonstration “country lanes” project aims to reduce stormwater discharges to the storm sewer; increased vegetation may also improve air quality.	✓			http://www.cityfarmer.org/lanes.html#lane http://www3.telus.net/public/a6a47567/CounrtyLaneFlyer.PDF http://city.vancouver.bc.ca/ctyclerk/cclerk/020709/a5.htm
Justice Services Centre, Sechelt, B.C.: The Building houses a Provincial Courthouse and a District RCMP Detachment. The project's design parameters were to allow the identity of each user group to stand out while existing in the same building.This building was also designed to incorporate the principles of “green” building technology and to provide the owners with a building that is environmentally “sustainable” and economically sound.		✓	✓	http://www.bcbc.bc.ca/Corporate/Awards/ http://www.sustainability.ca/index.cfm?body=SourceView.cfm&ID=116
Pervious pavement examples, Puget Sound: Short descriptions and website links to examples of pervious pavement projects in Vancouver, Bellingham, Olympia and other sites in the Northwest.	✓			http://www.psat.wa.gov/Publications/LID_studies/permeable_pavement.htm
The James Taylor Chair in Landscape and Liveable Environments at UBC published a series of case studies of alternative stormwater management methods: <ul style="list-style-type: none"> • Concorde Roads Trial, New South Wales, Australia. 	✓			http://www.sustainable-communities.agsci.ubc.ca/bulletbody.html

DESCRIPTION	Low Impact Development (stormwater)	Energy Efficiency	Green building	WEBSITE
<ul style="list-style-type: none"> • Reebok Corporate Headquarters, Massachusetts. • Amblegreen, Surrey, B.C. • Brookwood streets, Langley B.C. 				
<p>White Rock Public Works Building has achieved LEEDS Gold rating.</p>		✓	✓	http://www.city.whiterock.bc.ca/city_operations/pdfscityoperations/leadingbyexample.pdf
<p>U.S. Environmental Protection Agency – Low Impact Development (LID) Literature Review and Fact Sheets: The report contains a brief overview of LID principles and program topics such as use, ownership and cost. The heart of the document is a summary of the information available regarding the pollutant removal effectiveness of the most common LID practices. Also included are four fact sheets that contain descriptions of local projects where LID practices were used: Bioretention applications in Maryland and Florida. Field evaluation of permeable pavement in Olympia, Washington. Street stormwater storage in Illinois. Vegetated roof cover in Philadelphia.</p>	✓			http://www.epa.gov/owow/nps/lid/lidlit.html
<p>Figtree Place, Newcastle, Australia: This project, opened in 1998, was designed by the University of South Australia and commissioned by the Office of Community Housing with funding by the national "Building Better Cities" program. Roof runoff from 27 inner city residences is stored in sub-surface raintanks and used for hot water and toilet flushing. Raintank overflows and surface flows pass into a grassed infiltration zone for aquifer recharge. Some of the recharged water is extracted and used for on-site irrigation and for an adjacent bus-washing facility. Performance monitoring is conducted in partnership by the University of Newcastle and Newcastle City Council.</p>	✓			http://www.unisa.edu.au/uwrc/ham.htm
<p>Elizabeth Church Carpark, Marion, Australia: Winter storm runoff from 1300 sq.m. of carpark, 1600 sq.m. of tennis courts and some roof area is cleansed by various on-site means, and conveyed to a bore and then to an aquifer at 45 m depth. In summer, water is pumped from the bore to irrigation networks located around the carpark and a local park.</p>	✓			http://www.unisa.edu.au/uwrc/church.htm
Information Sources				
<p>Stewardship Canada: A web portal that acts as a compiler of stewardship-related programs, initiatives and resources across the country. The BC Stewardship Centre can be accessed from this site.</p>	✓	✓	✓	http://www.stewardshipcanada.ca/sc_national/main/index.asp?sProv=ca
<p>Water Balance Model for B.C.: an interactive tool that will be used to assess stormwater best management practices. The tool will be able to design volume-based stormwater controls, site</p>	✓			http://www.waterbalance.ca/sql/home/index.asp

DESCRIPTION	Low Impact Development (stormwater)	Energy Efficiency	Green building	WEBSITE
performance assessment, analysis of global climate change impacts, watershed management optimization as well as assist in public education and outreach. .				
International Stormwater Best Management Practices (BMP) Database: Developed by the American Society of Civil Engineers under cooperative agreement with the U.S. Environmental Protection Agency, this database provides access to BMP performance data in a standardized format for roughly 200 BMP studies conducted over the past 15 years.	✓			http://www.bmpdatabase.org/
National Green Pages: provide an environmental resources directory; the latest environmental news, events, and related activities from across Canada; opportunities for students, organisations, and community groups to share, disseminate, and promote their environmental information; and other environment resources such as links to reports, reviews, and interesting articles found on the World Wide Web.	✓	✓	✓	http://www.thegreenpages.ca/about/
The Land Centre - see Leading Edges publication	✓	✓	✓	http://www.landcentre.ca/
Urban Land Institute publications -	✓			http://www.uli.org/DK/uli_Bookstore_Cat_fst.html
Washington State Dept. of Ecology – Water Quality: website focuses on all Washington State-based stormwater research, policies, regulations, etc. Provides links to other state and federal websites.	✓			http://www.ecy.wa.gov/programs/wq/stormwater/index.html
Center for Water and Watershed Studies: a broad, collaborative community of environmental scholars based at the University of Washington, achieving its goals through research, education, and information transfer. The website is a source of comprehensive aquatic resources and water management information to maintain and enhance the earth's watersheds..	✓			http://depts.washington.edu/cwws/
FCM Sustainable Communities Knowledge Network: database of documents and websites regarding energy efficiency options.		✓		http://kn.fcm.ca/ev.php?URL_ID=2238&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1065471760
LID Web Resources: comprehensive database of websites focusing on LID compiled by Puget Sound Action Team, Washington.	✓			http://www.psat.wa.gov/Programs/LID/LID_web_resources.htm#top10
GreenClips: A summary of news on sustainable building design and related government and business issues published every two weeks by email.	✓	✓	✓	http://www.greenclips.com/
Portland Stormwater Management Manual Sept.2002 revision #2.	✓			http://www.cleanrivers-pdx.org/tech_resources/2002_swmm.htm
Auckland Regional Council Stormwater management devices: Design guidelines manual. 2002. 2nd edition. Covers swales, underground devices, green roofs, etc.	✓			http://www.arc.govt.nz/arc/environment/water

DESCRIPTION	Low Impact Development (stormwater)	Energy Efficiency	Green building	WEBSITE
Environment Agency - Sustainable urban drainage systems - an introduction. A website on sustainability, techniques, policy, planning, guidance, R&D.	✓			http://www.environment-agency.gov.uk/business/444304/502508/464710/?version=1&lang=e
Melbourne Water - Water-Sensitive Urban Design – guidelines, tools, etc. – website.	✓			http://wsud.melbournewater.com.au
Ministry of Water, Land and Air Protection - Stormwater Planning: A Guidebook for British Columbia 2002. Addresses land use planning, hydrology, watershed planning, BMPs, water balance.	✓			http://wlapwww.gov.bc.ca/epd/epdpa/mp/stormwater/stormwater.html
Canadian Mortgage and Housing Corp.- Alternative Stormwater Management Practices for Residential Projects 2003 – website.	✓			http://www.cmhc-schl.gc.ca/en/imquaf/himu/wacon/wacon_031_index.cfm
Construction Industry Research & Information Association (CIRIA) - Sustainable urban drainage systems: design manual for England and Wales. 2000. . CIRIA C522. London. 112 p. Design criteria principles, selection techniques, approval procedures; permeable paving, swales, underground devices.	✓			http://www.ciria.org/suds/
Maryland Dept. of Environmental Resources - Low Impact Development Design Strategies: An Integrated Design Approach. For Prince George's County, 2000.	✓			www.msde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp
King County Department of Natural Resources. Surface Water Design Manual. 1998. Covers swales, bioretention, infiltration devices.	✓			http://dnr.metrokc.gov/wlr/dss/manual.htm
Washington Dept. of Ecology. Stormwater Management for Washington State –Volume V – Runoff Treatment BMPs. 2001. Publication No.99-15. Covers permeable paving, swales, underground devices.	✓			http://www.ecy.wa.gov/biblio/9911.html
Portland Metro - Green Streets: Innovative Solutions for Stormwater and Stream Crossings. 2002. Other publications in the series include Trees for Green Streets and Creating Livable Streets. Covers absorptive landscapes, permeable paving, swales, underground devices.	✓			http://www.metro-region.org/
Casco Bay Estuary Project: Proceedings - Stormwater Management in Cold Climates: Planning, Design and Implementation - Nov.3-5, 2003 (website)	✓			http://www.cascobay.usm.maine.edu/proceed.html

Appendix 1

District of Campbell River

Environmental Strategy – Draft

Campbell River Environmental Strategy

The District has recognized the need to address environmental issues and has made considerable progress on certain issues such as the Greenways Plan and stormwater management. District Council has identified the need to manage these and other environmental issues in a more coordinated approach and has identified the need for a District Environmental Strategy. Based on examples from other communities and specific local issues and concerns, the following priorities have been identified as the basis of a District Environmental Strategy. Specific policies would be developed within each category that would guide District decisions pertaining to environmental issues.

1. Transportation Vision Statement:

To provide a balanced mix of safe and efficient transportation modes throughout the District in a manner that is cognizant of the impacts on the local and global environment.

2. Waste Management Vision Statement:

To minimize the amount of waste generated locally and to effectively and safely manage this waste in an environmentally responsible manner.

3. Greenways/Environmentally Sensitive Area's (ESA's) Vision Statement:

To accurately identify environmentally significant features within the District of Campbell River and to appropriately manage these areas to ensure that their intrinsic values are preserved.

4. Land Use/Development Vision Statement:

To ensure a well-balanced mix of land use/development within the District of Campbell River that clearly recognizes resulting ecological consequences and that appropriately mitigates the environmental impacts through the related planning and design processes.

5. Air Quality Vision Statement:

To secure a year-round safe, pleasurable and aesthetically pleasing airshed both locally and regionally by minimizing the amount of air pollution generated within the limits of the District of Campbell River.

6. Drinking Water Quality Vision Statement:

To provide and maintain a safe, reliable, high quality supply of drinking water to the District of Campbell River in a responsible manner that respects the value of the resource.

7. Risk Management Vision Statement:

To minimize the exposure of the District of Campbell River and the environment to potential risks associated with both natural hazards and man-made activities.

8. District Operations Vision Statement:

To lead the community, by example and through teaching, in the pursuit of cost-effective environmentally responsible day-to-day operations, focusing specifically on efficiency as well as minimized consumption and waste generation.

9. Communications Vision Statement:

To effectively communicate the District's environmental objectives, desires and intentions to affected parties and to the community as a whole.

1. Transportation

Transportation Vision Statement:

To provide a balanced mix of safe and efficient transportation modes throughout the District in a manner that is cognizant of the impacts on the local and global environment.

Transportation Goals:

- Development of Neighborhood and Village Centres that will provide commercial sectors within walking distance of residential neighborhoods
- Adoption and implementation of a Pedestrian Network Plan
- Implementation of the Bicycle Network Plan
- Expansion of pedestrian and bicycle transportation networks
- *** Adoption and implementation of alternate road designs that encourage bicycle and pedestrian use and minimize urban stormwater runoff ***
- Ensuring good pedestrian linkages to transit services
- Integrate public transit within local area and neighborhood plans
- Designation of bus lanes and pull-outs on major streets
- Development of incentives to encourage cooperation of major employers (private and public sector) to make better use of the public transit service
- Cooperate with the Comox-Strathcona Regional District to develop improved regional transportation service
- Full accessibility for those with disabilities
- Implementation of parking fees in the Downtown Specified Parking Area and in other areas as specified parking areas develop
- *** Modify proposed road alignments to minimize stream crossings ***
- *** Develop adequate contingency plans to deal with spills of hazardous materials (whether via roads, air or marine) ***
- *** Require environmental impact assessments be performed on all proposed transportation projects ***

2. Waste Management

Waste Management Vision Statement:

To minimize the amount of waste generated locally and to effectively and safely manage this waste in an environmentally responsible manner.

Liquid Waste Management Goals:

- Provide sewage collection and treatment to all developed urban areas
- Minimize infiltration of ground water into the sewage collection system
- Require water conserving fixtures with all pertinent building permits issued
- *** Disallow combined sewer connections ***
- *** Continue to investigate and repair cross-connections ***
- *** Promote and enforce the Sanitary Sewer Source Control Bylaw ***
- *** Monitor industrial effluent for compliance ***
- Prohibit new development that requires the installation of further sewage pumping stations
- Upgrade existing sewage pumping stations to eliminate overflow conditions
- *** Improve the effluent quality from the Middlepoint Industrial Park sewage lagoon to comply with environmentally acceptable levels ***

Solid Waste Management Goals:

- Participate with the Comox-Strathcona Regional District in implementing the Solid Waste Management Plan in an effort to meet the Provincial solid waste reduction goals
- Seek to improve landfill operations in an effort to maximize the life of the landfill
- *** Promote landfill operations that will minimize the impacts on local groundwater quality ***
- Explore landfill methane gas recovery options that will collect, control and discharge this product in an environmentally appropriate manner
- Provide weekly collection of household solid waste
- Promote public participation in waste reduction, reuse and recycling
- Ban reusable or recyclable materials from the landfill
- Support household backyard composting programs and encourage large scale composting operations

Hazardous Waste Management Goals:

- *** Identify and enforce hazardous transportation routes through the District of Campbell River ***
- *** Construct and maintain an inventory of the location, type and amount of hazardous materials transported and stored in the District of Campbell River ***
- *** Regulate the transport of hazardous materials through the limits of Campbell River ***
- *** Maintain adequate emergency services to effectively respond to emergencies involving hazardous materials ***
- *** Develop standards for environmentally appropriate household products and educate the public about alternative products ***
- *** Provide information on how to detoxify or neutralize spills of household hazardous wastes ***
- *** Develop systems, in conjunction with other levels of government, for the collection, recycling and/or disposal of household hazardous wastes ***

3. Greenways/Environmentally Sensitive Area's (ESA's)

Greenways/ESA's Vision Statement:

To accurately identify environmentally significant features within the District of Campbell River and to appropriately manage these areas to ensure that their intrinsic values are preserved.

Greenways/ESA Goals:

- *** Construct and maintain an accurate inventory of environmentally significant features including watercourses, wetlands, floodplains, riparian areas, forests, rare upland communities, wildlife trees, steep slopes and other hazardous areas ***
- *** Adopt overall Greenways Plan and Management Strategy ***
- *** Complete a Greenways planning exercise that identifies the interface between proposed Greenways and land development ***
- *** Adopt stewardship bylaws that clarify the setback requirements for leave areas and incorporate regulations concerning erosion control, vegetation management and water quality management for watercourses ***
- *** Create a manual of Environmental Practice that will identify park development standards, maintenance procedures and related training programs that will maintain ecologically productive natural areas and will provide guidance on environmentally sustainable practices on active sports fields and manicured areas ***
- *** Manage the development of Greenways/ESA's through the establishment of a Parks and Open Space Development Plan ***
- *** Develop design guideline details for Greenways trails and streets ***
- *** Consider an 'Open Space' Development Cost Charge for funding basic trail construction and improvements ***
- *** Require development permits in areas where Greenways or ESA's have been identified ***
- *** Promote density averaging and bonussing as a way to increase the amount of open space ***
- *** Adopt stormwater management standards as part of Subdivision Bylaw 1340 ***
- *** Implement the recommendation of the Master Drainage Plans for Willow, Simms and Nunns Creeks and consider further base flow strategies ***
- *** Encourage community-based stream stewardship efforts and implement stream protection initiatives ***
- *** Promote 'Naturescape' approaches throughout the District, with an emphasis on parks, streets, public works, single family residential areas and development projects ***
- *** Prepare an annual report on the state of the environment ***
- *** Promote the organization of Greenways volunteers ***
- *** Recognize the contributions of volunteers/stewards through an annual environmental stewardship award ***
- *** Explore tax relief alternatives for the gifting of ESA's and Greenways ***
- *** Pursue memorandums of understanding with senior levels of government to create 'one-window' environmental approvals ***
- *** Adopt a water quality bylaw to regulate watercourse protection and to identify acceptable limits for water quality ***
- *** Encourage the jurisdictions having authority over the Agricultural Land Reserve and the Forest Land Reserve to provide environmental protection of ESA's to a level similar to that being applied by the District of Campbell River ***
- *** Implement existing environmental strategies including the Estuary Management Plan ***

4. Land Use/Development

Land Use/Development Vision Statement:

To ensure a well-balanced mix of land use/development within the District of Campbell River that clearly recognizes resulting ecological consequences and that appropriately mitigates the environmental impacts through the related planning and design processes.

Land Use/Development Goals:

- *** Limit new development to the confines of the urban containment boundary ***
- *** Identify sensitive areas prior to development, and avoid damaging or premature zoning or service extensions to these sensitive areas ***
- *** Rehabilitate areas that have suffered environmental damage in the past and prevent future environmental damage ***
- *** Increase density through residential infill to control growth and avoid urban sprawl ***
- Promote mixed-use development to promote walking between residential and commercial or institutional areas
- *** Participate with the Comox-Strathcona Regional District in a regional growth management strategy that sets limits to urban sprawl in the Greater Campbell River area ***
- *** Adopt an 'Environmental Code of Ethics' to guide environmental decision making, development projects and land use planning ***
- *** Require environmental impact assessments for all new development or redevelopment ***
- Enforce specific building height and site requirements to maintain significant view areas
- Develop aesthetic guidelines to preserve and improve the visual quality of the District of Campbell River
- *** Encourage ecologically appropriate landscaping for new development and redevelopment ***
- *** At the time of rezoning or subdivision, encourage the protection of sensitive areas by dedication, return to Crown or by restrictive covenant ***
- *** Encourage the use of alternate zoning and subdivision techniques to protect Greenway corridors ***
- Support initiatives for neighborhoods in an effort to promote unique neighborhood identities

5. Air Quality

Air Quality Vision Statement:

To secure a year-round safe, pleasurable and aesthetically pleasing airshed both locally and regionally by minimizing the amount of air pollution generated within the limits of the District of Campbell River.

Air Quality Goals:

- Ban the issue of open burning permits from the District's Fire Services Bylaw No. 2612, 1997
- Disallow all open burning within District limits
- Implement the recommendations of the Campbell River Wood Burning Appliance Smoke Management Plan
- Disallow the installation of wood burning appliances with all new building permits issued
- Encourage energy efficient construction practices to reduce overall energy consumption
- Encourage compact and contiguous community development
- *** Encourage tree preservation and tree planting ***
- Implement the transportation goals in relation to alternate forms of transportation
- Pursue the use of alternative fuels for transit and District vehicles
- Develop and implement an air quality control bylaw with provisions for enforcement and penalties
- Ensure that air emission standards for industrial sources are enforced
- Discourage further development or expansion of industries that contribute to poor air quality

6. Drinking Water Quality

Drinking Water Quality Vision Statement:

To provide and maintain a safe, reliable, high quality supply of drinking water to the District of Campbell River in a responsible manner that respects the value of the resource.

Drinking Water Quality Goals:

- *** Protect the District's drinking water supply from all possible sources of pollution ***
- *** Maintain or restore high quality in both the surface and ground water within the Campbell Lake watershed ***
- *** Develop a comprehensive development plan for the Campbell Lakes watershed to regulate the amount and impacts of development ***
- *** Seek to have the Campbell Lakes watershed designated as a 'Sensitive Watershed' under the Environment Management Act ***
- *** Oppose the sale or disposal of Crown lands around John Hart Lake ***
- *** Develop a Campbell Lakes Watershed Best Management Practices Manual that identifies strategies to deal with erosion control, groundwater recharge technology, permeability issues, pesticide/herbicide applications and development criteria ***
- *** Develop a watershed awareness campaign ***
- *** Discourage further development within the watershed boundaries ***
- *** Pursue 'Community Forest' status ***
- Maintain the water distribution system to ensure that water quality or quantity is not compromised
- Explore possible alternatives for disinfecting drinking water
- Establish goals for per capita water consumption
- Require water conserving fixtures with all pertinent building permits issued
- Consider universal metering with rates that reflect actual costs

7. Risk Management

Risk Management Vision Statement:

To minimize the exposure of the District of Campbell River and the environment to potential risks associated with both natural hazards and man-made activities.

Risk Management Goals:

- Prepare and maintain an emergency preparedness plan
- Maintain adequate emergency services to effectively respond to emergencies
- Identify areas involving known risks and develop programs to minimize the risks associated with each particular hazard
- *** Require all buildings situated within the Campbell River flood plain to be flood proofed to Ministry of Environment standards ***
- *** Restrict the cutting/removal of vegetation along escarpment areas ***
- *** Require geotechnical assurances for any construction/redevelopment proposed at or into any escarpment ***
- *** Identify and enforce hazardous transportation routes through the District of Campbell River ***
- *** Construct and maintain an inventory of the location, type and amount of hazardous materials transported and stored in the District of Campbell River ***
- *** Regulate the transport of hazardous materials through the limits of Campbell River ***
- *** Construct and maintain an inventory of contaminated sites ***
- Undertake remediation and post-event monitoring as necessary

8. District Operations

District Operations Vision Statement:

To lead the community, by example, in the pursuit of cost-effective environmentally responsible day-to-day operations, focusing specifically on efficiency as well as minimized consumption and waste generation.

District Operations Goals:

- Ensure that environmental appropriateness is considered in the procurement of all goods and services and seek to replace existing products with more environmentally appropriate products
- Perform waste audits for all District of Campbell River operations and make appropriate adjustments based on the waste audit recommendations
- Consider long-term environmental costs such as life-cycle costs in purchasing decisions
- *** Introduce energy conservation, waste minimization, toxic reduction and environmental audit programs at all existing District facilities ***
- *** Incorporate energy efficiency, water conservation and environmentally appropriate standards into all future District facilities ***
- Pursue the use of alternative fuels for transit and District vehicles
- *** Fully integrate environmental considerations into planning and decision making for all construction, maintenance, land transactions and subdivision activities undertaken through the District of Campbell River programs ***
- Develop an employee ride program to encourage car-pooling

9. District Communications

Communications Vision Statement:

To effectively communicate the District's environmental objectives, desires and intentions to affected parties and to the community as a whole.

District Communications Goals:

- *** Maintain open and proactive dialogue with senior levels of government regarding implementation of environmental legislation, regulations and approvals ***
- *** Develop clear communication lines with local developers, industry and builders to expedite environmental requirements and procedures ***
- *** Liaison with local environmental groups to ensure local concerns are identified and addressed appropriately ***
- *** Coordinate efforts of various District departments to ensure that environmental objectives are clear and consistent ***
- *** Establish communication links with District Commissions and Committees ***