



ENGINEERING & ENVIRONMENTAL SERVICES COMMITTEE

WEDNESDAY, APRIL 22, 2009 - 3:30 P.M.
CVRD BOARDROOM, 175 INGRAM STREET

AGENDA

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| 6. <u>NEW BUSINESS:</u> | |
| 7. <u>PRESS/PUBLIC QUESTIONS PERIOD</u> | |
| 8. <u>CLOSED SESSION</u> | |
| Motion that the meeting be closed to the public in accordance with the Community Charter Part 4, Division 3, Section 90, subsection as noted in accordance with each agenda item. | |
| SM1 Minutes of the Closed Session portion of the Engineering and Environmental Services Committee meeting of January 28, 2009. | 51 - 52 |
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| 10. <u>ADJOURNMENT:</u> | |

Distribution:

Director Cossey, Chair
Director Haywood, Vice-Chair
Director Dorey
Director Duncan
Director Giles
Director Harrison
Director Kuhn

As Well As:

Director Marcotte, Electoral Area H
Director Morrison, Electoral Area F
Warren Jones, Administrator
Brian Dennison, General Manager, Engineering & Environmental Services
Bob McDonald, Manager, Recycling & Waste Management
Dave Leitch, AScT., Manager, Water Management
Kate Miller, Manager, Regional Environmental Policy
Mark Kueber, Treasurer

Agenda Cover Only:

Directors Hutchins, Iannidinardo, Kent, McGonigle, Seymour, Walker
Tom Anderson, Manager, Development Services
Joe Barry, Corporate Secretary

The Full Agenda Package is available on-line at: <http://cvrd.bc.ca/Archive.asp?AMID=50>

Minutes of the regular meeting of the Engineering and Environmental Services Committee held in the Boardroom, 175 Ingram Street, Duncan, on February 25, 2009 at 3:00 p.m.

PRESENT: Director Cossey, Chair
Directors Dorey, Duncan, Giles, Harrison, Iannidinardo,
Kuhn, Morrison, and Alternate Director Hartmann

ABSENT: Director Haywood, Vice-Chair

ALSO Warren Jones, Administrator

PRESENT: Brian Dennison, General Manager, E & E
Kate Miller, Manager, Regional Environmental Policy
B. McDonald, Manager, Recycling & Waste Management
Joanne Bath, Recording Secretary

**APPROVAL
OF AGENDA**

The Committee agreed by consensus that Director Giles would chair the meeting as Director Cossey would be arriving late.

Item R7 – A staff report regarding the "*Environmental Lens*" was deferred to the next meeting. Items R10, R11, R12 and R13 were added to the agenda.

It was moved and seconded that the agenda be approved as amended.

MOTION CARRIED

**ADOPTION
OF MINUTES**

It was moved and seconded that the minutes of the January 28, 2009 regular Engineering & Environmental Services Committee meeting be adopted.

MOTION CARRIED

**BUSINESS ARISING
OUT OF MINUTES**

No business arising

DELEGATIONS

No delegations

REPORTS

R1

Staff Report regarding provision of support to Vancouver Island Recycling Centre.

It was moved and seconded that the CVRD provide the following relief to Vancouver Island Recycling Centre:

1. Waive the \$400.00 monthly payment required under the current contract for a period not to exceed six months; and
2. Impose a \$10 per tonne tipping fee for material accepted under the multi-bin program for a period not to exceed six months.

MOTION CARRIED

Director Cossey joined the meeting at 3:10 p.m. and took the Chair.

R2

Staff report regarding establishment of an Air Pollution Control Service within CVRD Electoral Areas.

Discussion took place regarding expediting the process to move this bylaw forward quickly and excluding certified wood-burning stoves from the regulatory bylaw. It was suggested that information regarding air burners and chippers be attached to building permits and/or subdivision applications.

It was moved and seconded that it be recommended to the Board:

- 1. That "CVRD Bylaw No. 2942 - Air Pollution Control Service Establishment Bylaw, 2007", not be proceeded with.**
- 2. That staff prepare a new bylaw for air pollution control with the nine electoral areas as the participating areas.**
- 3. That "CVRD Bylaw No. 3258 - Air Pollution Control Service Establishment Bylaw, 2009", be forwarded to the Board for consideration of three readings, and following Provincial approval, adoption.**

MOTION CARRIED

R3

Staff report providing details and requesting support for a proposed Urban Development and the Environment Workshop being held on March 28, 2009.

Director Giles asked that Parks Commission members be included in this invitation.

Discussion took place regarding reimbursement of travel costs for commission members attending this workshop.

It was moved and seconded that the CVRD Board support the proposed workshop on environmental aspects to planning decisions, Saturday, March 28, 2009, and encourage appropriate CVRD and member municipal staff, advisory planning commission and park commission members and others to attend.

MOTION CARRIED

R4

Staff report, for information only, providing details of the Engineering and Environmental Services Department's utility takeover policy.

Mr. Dennison advised that he has sought a legal opinion regarding the "approval in principle" terminology, which will be provided to the Committee once received.

Discussion ensued regarding changing the wording, as developers perceive the term *Approval in Principle* to be a "fait de compli". The Committee also discussed staff time costs not being covered in development takeovers.

Staff were given direction to look at language and staff time costs for takeover of existing and new utilities.

R5

Staff report providing Sewer System Management Amendment Bylaws.

It was moved and seconded:

1. That "CVRD Bylaw No. 3253 – Cowichan Bay Sewer System Management Amendment Bylaw, 2009" be forwarded to the Board for three readings and adoption.
2. That "CVRD Bylaw No. 3254 –Eagle Heights Sewer System Management Amendment Bylaw, 2009" be forwarded to the Board for three readings and adoption.
3. That "CVRD Bylaw No. 3255 – Cobble Hill Sewer System Management Amendment Bylaw, 2009" be forwarded to the Board for three readings and adoption.

MOTION CARRIED

R6

Staff report providing amendments to Water Management Bylaws.

It was moved and seconded:

1. That CVRD Bylaw No. 3257 – Youbou Water System Management Amendment Bylaw, 2009, amending Schedule B – Metered Water Rates and Charges be forwarded to the Board for consideration of three readings and adoption.
2. That Bylaw No. 3240 – Arbutus Mountain Estates Water System Management Amendment Bylaw, 2009 be forwarded to the Board for consideration of three readings and adoption.

MOTION CARRIED

R7

R7 was deferred to March 25, 2009 Engineering & Environmental Services Committee meeting.

R8

PowerPoint presentation providing an update on the lower Cowichan/Koksilah Integrated Flood Management project.

The Manager, Regional Environmental Policies fielded questions from the Committee.

Staff were asked to look into whose jurisdiction dyke management should fall under.

R9 Staff report requesting a capital purchase prior to adoption of the 2009 Five-year Plan.

It was moved and seconded that the Board approve the purchase of a new Skidsteer Loader for the Recycling and Waste Management Division in the amount of \$45,808.00, prior to the adoption of the CVRD 2009 Five-year Financial Plan.

MOTION CARRIED

R10 Staff report regarding CVRD takeover the privately owned Douglas and Moth Water System in Cobble Hill.

Discussion took place regarding recovering staff time costs on takeover of new utilities versus existing utilities.

It was moved and seconded that it be recommended that the CVRD Board authorize staff time to investigate takeover of the existing Douglas & Moth Water System located in Electoral Areas C and D, as requested in the attached correspondence from Leighton Mellemstrand, Secretary, Douglas Hill Ratepayers Association, subject to the following conditions:

- 1. All lands on which infrastructure works are located will be placed within registered Statutory Rights-of-way, using the CVRD's standard charge terms;**
- 2. A utility transfer agreement be executed between the CVRD and the owners;**
- 3. A CVRD in-house review of the system be undertaken in order to address deficiencies in the water system;**
- 4. The owner of the Douglas and Moth Water Utility be willing to sell and/or transfer the system to the CVRD;**
- 5. A public consultation process regarding CVRD takeover be undertaken;**
- 6. A petition process be carried out and completed by at least 50% of the owners of parcels within the proposed service area with the total value of the parcels representing at least 50% of the net taxable value of all land and improvements in the service area.**

and further that, upon completion of a successful petition process, bylaws be prepared to create a service area for this utility.

MOTION CARRIED

R11 Staff report providing amendments to 2009 Budgets for Cherry Point Estates Water, Cowichan Bay Sewer and Youbou Sewer Systems.

It was moved and seconded that the following amendments be made to the 2009 budgets and forwarded to the Board for consideration:

- 1. Budget 670 – Cherry Point Estates Water Fund: Set Parcel Tax Requisition to \$18,750 and transfer \$3,327 to reserve.**
- 2. Budget 800 – Cowichan Bay Sewer Fund: Set Parcel Tax Requisition to \$147,620 and transfer \$56,295 to reserve.**
- 3. Budget 860 – Youbou Sewer Fund: Set Parcel Requisition to \$37,000 and transfer \$4,079 to reserve.**

MOTION CARRIED

R12 Staff report requesting approval to apply for infrastructure grants under the Canada-British Columbia Building Canada Fund – Communities Component.

It was moved and seconded that it be recommended to the Board that the following projects be submitted for funding under the Canada-British Columbia Building Canada Fund – Communities Component:

- 1. Shawnigan Lake North Water System Upgrades**
- 2. Bings Creek Organics Tipping Floor**

MOTION CARRIED

R13 Staff request that Item R4 of the January 28, 2009 Committee Agenda be amended to approve sole source purchase.

It was moved and seconded that the Board provide approval to incur a sole source expense of a Salsnes Filter against the Shawnigan Beach Estates Sewer System capital budget in the amount of \$105,000, prior to approval of the 2009 budget.

MOTION CARRIED

IN1 The Manager, Regional Environmental Policy, provided the Committee with an update on the Cowichan River weir operation, handing out a hydrograph, showing elevation of the Cowichan Lake level and weir height.

NEW BUSINESS There was no new business.

ADJOURNMENT

It was moved and seconded that the meeting be adjourned.

MOTION CARRIED

The meeting adjourned at 4:45 p.m.

Chair

Recording Secretary

Dated: _____



C.V.R.D.

STAFF REPORT

R1

ENGINEERING & ENVIRONMENTAL SERVICES COMMITTEE MEETING
OF APRIL 22, 2009

DATE: April 14, 2009

FILE NO: 1855-02-GT

FROM: Dave Leitch, AScT., Manager, Water Management Division

SUBJECT: GAS TAX REVIEW AND AMENDMENT - COMMUNITY WORKS FUND

Recommendation:

That it be recommended to the Board that the allocation of funding under the 2007-2009 Community Works Fund for the Engineering and Environmental Services Department be redistributed as follows:

#	Project Title	Project Cost	Gas Tax Funds
1	Honeymoon Bay Water System Upgrade	\$ 570,000	\$ 180,000
2	Mesachie Lake Sewer Collection and Disposal System Upgrade	\$ 528,000	\$ 352,000
3	Shawnigan Beach Estates Sewer Pump station Gen-sets	\$ 35,000	\$ 22,000
4	Maple Hills Sewer System - Odour Control	\$ 5,000	\$ 3,300
5	Satellite Park Water System - Reservoir and Water Treatment Building	\$ 445,000	\$ 375,000
6	Bio-Diesel Facility - Bings Creek	\$185,000	\$ 100,000
7	Lambourn Estates Sewer & Water Upgrades	\$ 750,000	\$ 500,000
8	Shawnigan Lake Weir Fish Ladder	\$ 15,000	\$ 15,000
9	Saltair Water System Knudson Road	\$ 85,000	\$ 57,000
10	Saltair Water System Reservoir Addition	\$215,000	\$135,000
11	Maple Hills Sewer Safety Upgrade	\$ 30,000	\$ 20,000
12	Shawnigan Beach Estates Sewer System UV replacement/electrical upgrade	\$ 90,000	\$ 120,000
13	Cobble Hill Sewer Upgrade – Phase 1 – Safety, monitoring and control equipment	\$ 75,000	\$ 50,000
14	Fern Ridge Water System monitoring and control upgrade	\$ 68,000	\$ 45,000
Program Extension:			
15	Dogwood Ridge water system upgrades	\$520,000	\$ 140,000
16	Sutton Creek Upgrade	\$ 200,000	\$ 133,000
17	Shawnigan Beach Estates Sewer System I/I – Phase 2 Sewer Bypass	\$ 250,000	\$ 164,000
18	Shawnigan Lake North Water System Metering/Backflow	\$ 650,000	\$ 430,000

Purpose: To review gas tax commitments and revise according to staff recommendations.

Financial Implications: Gas tax funded projects.

Interdepartmental/Agency Implications: n/a

Background:

In two steps, in 2006 and 2007, the Board approved recommendations of the Engineering Services Department for allocation of funds under the Community Works Fund program. Since the original application of funds, further decisions were made in 2008 to alter the original approval schedule because of alternative funding provisions for some projects and increased costs to other projects.

Due to new issues arising and changes in priority, the following further modifications are recommended:

1. Remove the Kerry Village Sewer rehabilitation project from the Gas Tax funding list as a result of grant monies received under the Towns for Tomorrow program
2. Increase the Gas Tax funding for the Honeymoon Bay reservoir project to \$180,000.00 due to an increase in costs to supply Hydro power to the water treatment building.
3. Increase the Gas Tax funding for the Satellite Park Reservoir and Treatment building upgrades to \$380,000.00, due to the requirement of a fire pump.
4. Substitute the Dogwood Ridge water reservoir and treatment building upgrade project into the 2009/2010 Gas Tax project list if alternative funding becomes available for the Saltair reservoir project.

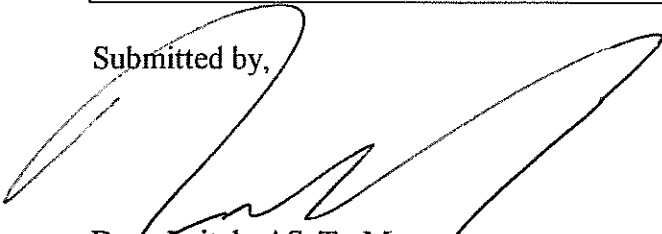
These changes result in the same total award as was previously allocated, as outlined in the following table.

PROPOSED REVISED FUNDING ALLOCATIONS

#	Project Title	Project Cost	Gas Tax Funds	Comments
1	Honeymoon Bay Water System Upgrade	\$ 570,000	\$ 180,000	Work to be complete spring/09
2	Mesachie Lake Sewer Collection and Disposal System Upgrade	\$ 528,000	\$ 352,000	Investigation work to commence spring/09
3	Shawnigan Beach Estates Sewer Pump station Gen-sets	\$ 35,000	\$ 22,000	Gen-sets complete.
4	Maple Hills Sewer System - Odour Control	\$ 5,000	\$ 3,300	Complete.
5	Satellite Park Water System - Reservoir and Water Treatment Building	\$ 445,000	\$ 375,000	Nearing Completion
6	Bio-Diesel Facility - Bings Creek	\$185,000	\$ 100,000	Agreement with Co-op being finalized
7	Lambourn Estates Sewer & Water Upgrades	\$ 750,000	\$ 500,000	In progress
8	Shawnigan Lake Weir Fish Ladder	\$ 15,000	\$ 15,000	Complete
9	Saltair Water System Knudson Road	\$ 85,000	\$ 57,000	Complete
10	Saltair Water System Reservoir Addition	\$215,000	\$135,000	Ready to begin design
11	Maple Hills Sewer Safety Upgrade	\$ 30,000	\$ 20,000	Complete
12	Shawnigan Beach Estates Sewer System UV replacement/electrical upgrade	\$ 90,000	\$ 120,000	Necessary for compliance
13	Cobble Hill Sewer Upgrade – Phase 1 – Safety, monitoring and control equipment	\$ 75,000	\$ 50,000	Upgrades underway
14	Fern Ridge Water System monitoring and control upgrade	\$ 68,000	\$ 45,000	Complete

Program Extension:			
15 Dogwood Ridge water system upgrades	\$520,000	\$ 140,000	
16 Sutton Creek Upgrade	\$ 200,000	\$ 133,000	Pre-design being done.
17 Shawnigan Beach Estates Sewer System I/I – Phase 2 Sewer Bypass	\$ 250,000	\$ 164,000	
18 Shawnigan Lake North Water System Metering/Backflow	\$ 650,000	\$ 430,000	

Submitted by,


Dave Leitch, ASCT., Manager,
Water Management Division

DL:jl

Ball: Z:\ESMemos2009\GasTaxAmendment-April 2009.doc

Approved By:


Brian Dennison, P. Eng., General Manager,
Engineering & Environment



STAFF REPORT

R2

ENGINEERING & ENVIRONMENTAL SERVICES COMMITTEE MEETING OF APRIL 22, 2009.

DATE: April 6, 2009 **FILE NO:** 5280-02-01

FROM: Harmony Huffman, Environmental Technologist

SUBJECT: Smoke Free – A Campaign to Raise Awareness about Open Burning in the Cowichan Valley

Recommendation: For information purposes only.

Purpose: To provide awareness regarding open burning in the Cowichan Valley.

Financial Implications: None at this time.

Interdepartmental/Agency Implications: Coordination of efforts amongst CVRD departments (e.g. Engineering and Environmental Services and Development Services), and member municipalities.

Background: Human and environmental impacts, caused by air pollution from open burning, have long been a concern in the Cowichan Valley. While staff are working towards the development and implementation of two bylaws to address this issue (Air Pollution Service Control Establishment Bylaw No. 3258 and Landclearing Management Bylaw No. 2020), it was thought prudent to develop and initiate a broader education campaign to alert members of the public to the impacts of open burning. This approach will contribute to higher awareness of open burning amongst the public, and also facilitate the introduction of the aforementioned regulatory bylaw. Such measures will also likely help to decrease initial enforcement and administration costs as the proposed bylaw is implemented. Please note that these measures are not intended to comprise a public consultation regarding the implementation of burning bylaws, as this process was completed in 2006.

Discussion: In light of current budget concerns, staff have developed an education campaign with the intent of reaching the broadest range of people with the least possible cost. An important part of this campaign is reaching those key segments of the local population that typically engage in open burning of landclearing debris, such as property developers.

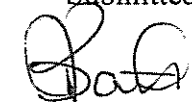
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Although this campaign will continue to be 'fleshed-out' over the coming months, some key elements include:

- Inclusion of 'Open Burning Awareness' brochures with key documents distributed by the Development Services Department (i.e. development permit and subdivision applications);
 - Display of these brochures in CVRD departments including Engineering and Environment and Protective Services;
 - Display of these brochures in regional recreation centres;
 - Sharing of brochures with other municipalities, including North Cowichan and Town of Lake Cowichan;
- Development and distribution of 'Make Soil Not Smoke' posters;
 - Distribution of posters to local community groups and other interested parties;
 - Display of posters in approximately 36 regional park kiosks;
- Inclusion of open burning information in seasonal recreation brochures;
- Promotion and distribution of educational literature at appropriate local venues such as Ladysmith's upcoming Environmental Fair;
- Focus on air pollution caused by open burning for 2009 CVRD Clean Air Day activities, and promotion of this topic to participating organizations;
- Exploration of possible educational synergies with the existing North Cowichan woodstove rebate program, and a potential CVRD woodstove rebate program;
- Development and play of radio jingles regarding open burning for the upcoming fall burn season.

It is anticipated that certain elements of this program (such as the distribution of informational brochures) will begin within the next few weeks. Additional aspects to the program will be added in subsequent weeks with momentum building over the summer and into the traditional fall burn season. The Engineering and Environmental Services summer student will likely play a key role in the promotion of this campaign.

Submitted by,



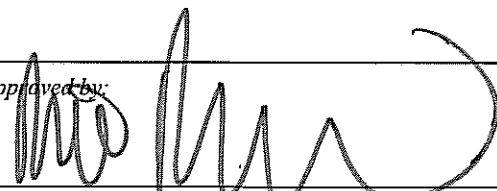
for:

Harmony Huffman,
Environmental Technologist

HH:jlh

Bath: Z:\ES\Memos2009\BurnEdu-Apr2209.docx

Approved by:



Brian Dennison, General Manager, E&E Services



STAFF REPORT

R3

ENGINEERING & ENVIRONMENTAL SERVICES COMMITTEE MEETING OF APRIL 22, 2009

DATE: April 15, 2009

FROM: Kate Miller, Manager Regional Environmental Policy Division

SUBJECT: Environmental Lens - discussion

Recommendation:

That it be recommended to the Board that the Manager of Regional Environmental Policy, working with the Environment Commission and CVRD staff, develop a variety of environmental lenses for Board consideration, usable by the CVRD and its member municipality staff to support the Board's resolution of December 10, 2008, that "*the CVRD embed an environmental lens into all decision-making immediately*".

Purpose:

To develop a set of environmental checklists or re-design of existing systems that supports the application of an environmental (sustainability) lens to local government decision-making, policy formulation and communications. This lens should be incorporated into existing procedures and policies in order to ensure they are synchronised and provide a consistent messaging by:

- moving commitment – from good intentions to action,
- prompting – remembering to act sustainably,
- building normative response – building community support,
- effective communication – creating effective messages,
- providing incentives – enhancing motivation to act and seeking to removing external barriers.

Financial Implications:

Financial implications are positive, particularly as the organization moves to a lifecycle review of its operations. This process builds better awareness of the interdisciplinary nature of the organization and recognition that decisions have multiple impacts. Lenses which provide direction to the public will expedite internal reviews and

Interdepartmental/Agency Implications:

This process provides an opportunity for organizational streamlining and review of multiple issues and impacts across departments

Legal implications

The use of these types of tools supports the development of bylaws and policies required by the federal and provincial governments by providing a clear directive requiring substantiating information. It provides clear direction to proponents of expectations and will result in clearer regulatory and fiduciary communications.

This process also provides a basis for ongoing quality assurance and transparency in operations.

.../2

Background:

There is no single correct way to develop a strategic commitment to the environment in local government operations. The overall approach to sustainability is one of continuous improvement and learning. A key aspect of implementing the commitment is establishing clear goals with complementary tools to help organizations, municipalities, citizens and developers to evaluate the effects of new initiatives, programs, operations and developments, and of existing planning and infrastructure practices. Checklists, scorecards and matrixes can set out comprehensive criteria through which decisions are screened and reported against. These resources can be used in a variety of ways. Staff, planning commissions, and elected officials can tailor the tools to local circumstances and use them as a consistent evaluation mechanism. Citizens can use the scorecards to determine how well a development fits and to compare it to other developments. Developers can use these tools to demonstrate the performance of their project when compared with municipal goals. Checklists and matrixes provide a clear message to internal and external entities of intent and expectations.

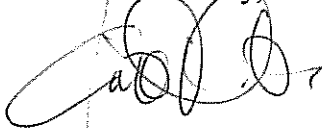
These tools and lenses can range in complexity from a fully implemented ISO 14001 monitoring system to a series of simple checklists, which are consistently communicated and addressed across the organization. An immediate area in which this process may be embedded includes:

- Purchasing policies
- Fleet policies
- Building policies
- Development application policies and procedures
- Internal communications and records keeping
- Employee communications and benefits

Emerging provincial regulations such as Bill 27 provide a mechanism for providing fast track permitting, reduction of DCC's and requirements for reduction of water use, GHG's, enhanced transportation opportunities etc. The existing legislation regarding development permit areas also includes opportunities for land use reviews. An environmental lens approach provides a dynamic and responsive approach to the development of the long term policy developments and regulatory frameworks. Finally, the checklists and scorecards that are designed to evaluate local government plans and bylaws can point out whether or not a local government has the right smart growth strategies in place to create more livable communities through a consistent and structured review of:

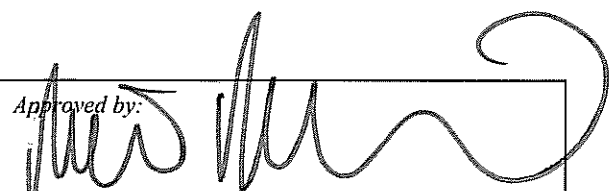
- Ongoing operations and processes
- Evaluation of development proposals
- Evaluation of local government regulations
- Transit and transportation scorecards
- Checklists for local government implementation of sustainable infrastructure
- Carbon reduction and climate proofing
- Local government sustainability performance monitoring programs

Submitted by,



Kate Miller, Manager
Regional Environmental Policy Division

Approved by:



Brian Dennison, General Manager,
Engineering and Environmental Services

Instructions

1. Enter number of vehicles being compared
 2. Check data in grey cells for applicability to comparison
 3. Enter data in green cells
 4. Red triangles in the corners of cells indicate further instructions. Move mouse over triangle.
- Grey cells are standard values, but can be changed manually
 Green cells require information to be entered
 Note: if optional information is entered, it should be entered for all vehicles in the comparison
 Blue cells are calculated automatically

Number of vehicles being compared **6**

Assumptions common to all vehicles being compared

Discount rate	0.06
Annual km	15000
GHG liability (\$/tonne)	15
Expected years of service	5

Fuel assumptions common to all vehicles being compared

	\$/L		CO2e/L	
	Type of renewable	Conventional	Renewable	Conventional
Diesel	B20		\$1.25	0.0026
Propane	Propane	\$0.50		0.0025
Gasoline	E85	\$1.20	\$1.30	0.0025

Specific vehicle comparison

	07 RAV4	07 RAV4 V6	Esape-Aspo	Esape - Capitt	Equinox	Torrent	F-150 (Rob)
Type of engine (diesel or gasoline)	gasoline	gasoline	gasoline	gasoline	gasoline	gasoline	gasoline
Renewable fuel being used?							
Fuel cost (\$/L)	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Fuel efficiency (L/100km)	10.1	10.1	11.4	11.4	13.1	13.1	16.7
Capital cost (\$)	\$32,465	\$35,197	\$28,055	\$27,986	\$30,757	\$30,425	\$39,078
Resale value (\$) (optional)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Operating cost (\$/yr) (optional)							
GHG emissions (tonnes CO2e/L)	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Fuel cost per year (\$/yr)	\$1,818	\$1,818	\$2,052	\$2,052	\$2,358	\$2,358	\$3,006
GHG emissions (tonnes CO2e/year)	3.79	3.79	4.28	4.28	4.91	4.91	6.26
GHG liability (\$/year)	\$57	\$57	\$64	\$64	\$74	\$74	\$94
Present value capital cost	\$32,465	\$35,197	\$28,055	\$27,986	\$30,757	\$30,425	\$39,078
Present resale value	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Present value operating costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Present value fuel costs	\$6,118	\$6,118	\$9,162	\$9,162	\$10,529	\$10,529	\$13,422
Present value GHG liability	\$254	\$254	\$286	\$286	\$329	\$329	\$419

TOTAL Life Cycle Cost **\$40,836** **\$43,568** **\$37,504** **\$37,435** **\$41,615** **\$41,283** **\$52,919**



LEED Canada-NC 1.0 Project Checklist

Project Name

City, Province

Yes ? No

Sustainable Sites 14 Points

Y	Prereq 1	Erosion & Sedimentation Control	Required
	Credit 1	Site Selection	1
	Credit 2	Development Density	1
	Credit 3	Redevelopment of Contaminated Site	1
	Credit 4.1	Alternative Transportation, Public Transportation Access	1
	Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1
	Credit 4.3	Alternative Transportation, Alternative Fuel Vehicles	1
	Credit 4.4	Alternative Transportation, Parking Capacity	1
	Credit 5.1	Reduced Site Disturbance, Protect or Restore Open Space	1
	Credit 5.2	Reduced Site Disturbance, Development Footprint	1
	Credit 6.1	Stormwater Management, Rate and Quantity	1
	Credit 6.2	Stormwater Management, Treatment	1
	Credit 7.1	Heat Island Effect, Non-Roof	1
	Credit 7.2	Heat Island Effect, Roof	1
	Credit 8	Light Pollution Reduction	1

Yes ? No

Water Efficiency 5 Points

	Credit 1.1	Water Efficient Landscaping, Reduce by 50%	1
	Credit 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation	1
	Credit 2	Innovative Wastewater Technologies	1
	Credit 3.1	Water Use Reduction, 20% Reduction	1
	Credit 3.2	Water Use Reduction, 30% Reduction	1

Yes ? No

Energy & Atmosphere 17 Points

Y	Prereq 1	Fundamental Building Systems Commissioning	Required
Y	Prereq 2	Minimum Energy Performance	Required
Y	Prereq 3	CFC Reduction in HVAC&R Equipment	Required
	Credit 1	Optimize Energy Performance	1 to 10
	Credit 2.1	Renewable Energy, 5%	1
	Credit 2.2	Renewable Energy, 10%	1
	Credit 2.3	Renewable Energy, 20%	1
	Credit 3	Best Practice Commissioning	1
	Credit 4	Ozone Protection	1
	Credit 5	Measurement & Verification	1
	Credit 6	Green Power	1

015

Yes ? No

			Materials & Resources	14 Points
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Y				Prereq 1	Storage & Collection of Recyclables	Required
				Credit 1.1	Building Reuse: Maintain 75% of Existing Walls, Floors, and Roof	1
				Credit 1.2	Building Reuse: Maintain 95% of Existing Walls, Floors, and Roof	1
				Credit 1.3	Building Reuse: Maintain 50% of Interior Non-Structural Elements	1
				Credit 2.1	Construction Waste Management: Divert 50% from Landfill	1
				Credit 2.2	Construction Waste Management: Divert 75% from Landfill	1
				Credit 3.1	Resource Reuse: 5%	1
				Credit 3.2	Resource Reuse: 10%	1
				Credit 4.1	Recycled Content: 7.5% (post-consumer + ½ post-industrial)	1
				Credit 4.2	Recycled Content: 15% (post-consumer + ½ post-industrial)	1
				Credit 5.1	Regional Materials: 10% Extracted and Manufactured Regionally	1
				Credit 5.2	Regional Materials: 20% Extracted and Manufactured Regionally	1
				Credit 6	Rapidly Renewable Materials	1
				Credit 7	Certified Wood	1
				Credit 8	Durable Building	1

Yes ? No

			Indoor Environmental Quality	15 Points
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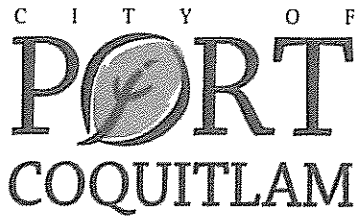
Y				Prereq 1	Minimum IAQ Performance	Required
Y				Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required
				Credit 1	Carbon Dioxide (CO₂) Monitoring	1
				Credit 2	Ventilation Effectiveness	1
				Credit 3.1	Construction IAQ Management Plan: During Construction	1
				Credit 3.2	Construction IAQ Management Plan: Testing Before Occupancy	1
				Credit 4.1	Low-Emitting Materials: Adhesives & Sealants	1
				Credit 4.2	Low-Emitting Materials: Paints and Coating	1
				Credit 4.3	Low-Emitting Materials: Carpet	1
				Credit 4.4	Low-Emitting Materials: Composite Wood and Laminate Adhesives	1
				Credit 5	Indoor Chemical & Pollutant Source Control	1
				Credit 6.1	Controllability of Systems: Perimeter Spaces	1
				Credit 6.2	Controllability of Systems: Non-Perimeter Spaces	1
				Credit 7.1	Thermal Comfort: Compliance	1
				Credit 7.2	Thermal Comfort: Monitoring	1
				Credit 8.1	Daylight & Views: Daylight 75% of Spaces	1
				Credit 8.2	Daylight & Views: Views 90% of Spaces	1

Yes ? No

			Innovation & Design Process	5 Points
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				Credit 1.1	Innovation in Design	1
				Credit 1.2	Innovation in Design	1
				Credit 1.3	Innovation in Design	1
				Credit 1.4	Innovation in Design	1
				Credit 2	LEED® Accredited Professional	1

Yes ? No



Press Release

FOR IMMEDIATE RELEASE

SUSTAINABILITY CHECKLIST RECOGNIZED BY SMART GROWTH BC

Port Coquitlam, BC, May 5, 2006 . . . The City of Port Coquitlam's Official Community Plan and Sustainability Checklist were recognized today by Smart Growth BC for achievement in facilitating and enabling the application of smart growth principles. The City received the Runner-Up Award in the Policy Award category. Port Coquitlam's Sustainability Checklist, the first to be introduced in a North American municipality, incorporates Triple Bottom Line accounting to measure environmental, economic and social criteria for development projects.

"We are very pleased to see our smart growth efforts supported and recognized," said Port Coquitlam Mayor, Scott Young. "Our City Council encourages actions in support of sustainability. As our community continues to grow, we want to be 'smart' about incorporating best management practices, such as urban growth containment areas, urban densification, protecting farmland and New Urbanism, which integrates live, work and play land uses."

Mayor Scott Young and Director of Development Services, Kim Fowler, were in Vancouver today to attend Smart Growth BC's first annual 'Smarty Awards', where the City of Port Coquitlam's 2005 Official Community Plan (OCP) and Sustainability Checklist received the Runner Up Award in the Policy Category. Smart Growth BC awards recognize the quality of good leadership, planning, policy development and the role of smart growth practices in shaping British Columbia communities.

Port Coquitlam's 2005 Official Community Plan supports the principles of smart growth both through its policies and the community-lead review process. As part of its OCP implementation, Port Coquitlam introduced a Sustainability Checklist, the first of its kind in North America. Port Coquitlam's Sustainability Checklist incorporates Triple Bottom Line accounting for all rezoning and development permit applications and City land sales. The checklist provides a comprehensive assessment of a proposal's contribution to sustainability by balanced scoring of environmental, economic and social criteria. Potential developers are provided the Sustainability Checklist at the earliest stage of development to assist them in making smarter, more sustainable decisions in site selection and design. The checklist also informs Council decisions in the development approval process by identifying how well a proposed development achieves community sustainability. The Sustainability Checklist will provide a sustainable transition to greener site and building design and increased social housing by rewarding developers with higher scores, faster approvals and better sales marketing. The City of Port Coquitlam will also encourage partnerships with community social service providers, LEED (Leadership through Energy and Environmental Design) professionals and the development community to further a sustainable future.

Mayor Young stated, "These Smart Growth policies will enable our community to maintain our small town charm while continuing to provide big city amenities."

Policies nominated for the Smart Growth BC Policy Award were judged based on the degree to which they make a community more complete, enhance the environment, and display leadership or innovation in contributing the principles of smart growth. Smart growth principles ensure that growth is fiscally, environmentally and socially responsible and recognize the connections between development and quality of life. Port Coquitlam's two policy documents have been identified as leading edge smart growth implementation tools and were one of four policy documents short listed in the Policy Award category.

Smart Growth BC is a provincial non-profit non-governmental organization devoted to fiscally, socially, and environmentally responsible land use and development with a mandate to create more livable communities in British Columbia.

For more information or to download a copy of Port Coquitlam's Official Community Plan and Sustainability Checklist, go to www.portcoquitlam.ca/City_Hall/City_Departments/Development_Services/Official_Community_Plan_-_OCP.htm.

MEDIA CONTACT:

Kim Fowler, Director
Development Services Department
City of Port Coquitlam
Tel 604.927.5432
fowlerk@portcoquitlam.ca
www.portcoquitlam.ca

OUR VISION

Port Coquitlam will aspire to be a complete community, unique because of its small town atmosphere, its strong sense of pride and where:

- Citizens have a collective sense of belonging, and contribute to the quality of life in the community.
- The community celebrates a vibrant culture and heritage.
- The environment is nurtured for present and future generations.
- A dynamic economy contributes to prosperity and the opportunity to work close to home.
- Planned development strengthens the character of the community, helping to create safe and affordable neighbourhoods.

– Port Coquitlam Official Community Plan (OCP), 2005

USING TRIPLE BOTTOM LINE ASSESSMENT TO ACHIEVE SUSTAINABILITY GOALS

The City of Port Coquitlam is committed to fiscally, socially and environmentally responsible land use development. Sustainable development integrates the three systems that support us – the economy, the environment and our society. Each of these systems must be functioning and healthy for us to survive and enjoy a high quality of life. To be sustainable, we must understand how these systems interact, and make sure our activities do not compromise the ability of any of the systems to function currently and in the future.

New development is essential to achieve a complete community in which to live, work and play. The location, composition, density, and design of new development projects can have an immense, cumulative impact on our community's ability to: sustain a healthy economy and reasonable cost of living; to provide effective and accessible public services; to secure adequate choice and opportunity for present and future generations of residents; to protect our environment; and to ensure we all continue to enjoy a high quality of life.

Sustainability: *To improve the social, environmental and economic well being of the community through good planning and land use management (OCP, 2005)*

Developers and their consultants are important partners in maintaining and improving our community's high quality of life. By providing sustainability criteria at the earliest development stage, the City enables developers and their consultants to create the most sustainable project possible. The Sustainability Checklist provides a comprehensive assessment of a development project's contribution to sustainability by balanced scoring of environmental, economic and social criteria. The balanced scoring of 1/3 environmental, 1/3 economic and 1/3 social is called triple bottom line assessment.

Please note, in total, the checklist describes an *ideal* – it is highly unlikely that any one project will earn maximum points in all sections, and no pass/fail standard has been set. Different types of development will result in a range of scores, and some sections may not be applicable to all development, which will be noted in the assessment. The checklist assessment will indicate how well a proposed application performs relative to the sustainability and complete community goals contained in our OCP and Corporate Strategic Plan, and help identify any areas where improvement is desirable and possible. It will inform decisions in the development approval process as to how well a proposed development achieves community sustainability.

INSTRUCTIONS

All Rezoning and Development Permit applicants are required to complete the Sustainability Checklist, as follows:

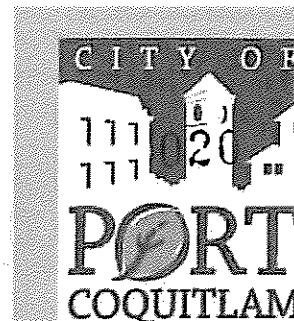
1. **Self-Scoring** – Applicants are to review and complete the checklist, as an initial assessment. The criteria are weighted differently so the maximum score for each criterion reflects its importance to sustainability goals. To calculate the score, multiply the points for a given answer by the criteria's weight and enter it into the designated TBL column. The first page divides the weighting score into 50% for the economic and social columns. The second page directs the scores to be placed in the unshaded column.
2. **Supplementary Information** – Statistical data indicated by an asterisk (*) is to be provided (e.g. the number of permanent employees, floor area ratio, property tax base increase) as well as a completed copy of the LEED Canada-NC 1.0 Project Checklist or best practice checklist for each application. Consultation with City staff may be of assistance in estimating this data. If needed, provide any additional description of how the proposed development incorporates the sustainability criteria.
3. **Submit Application** – Submit the completed checklist, data and supplementary information as part of the rezoning or development permit application.
4. **Final Assessment** – City staff will review the checklist and discuss with the applicant. Following the consultation with the applicant, a final checklist will be completed by staff for review by the Community and Economic Development Committee and Council, as part of the application process.

OTHER RESOURCE MATERIALS

- Official Community Plan – www.portcoquitlam.ca
- 2002 Strategic Plan – www.portcoquitlam.ca
- Zoning Bylaw – available at City Hall
- Downtown Plan – available at City Hall
- Canada Green Building Council website – www.cagbc.org
- SmartGrowthBC website – www.smartgrowth.bc.ca

FOR MORE INFORMATION, CONTACT:

Planning Division
2nd Floor, City Hall, 2580 Shaughnessy Street
Port Coquitlam, BC V3C 2A8
Tel 604.927.5410
Fax 604.927.5331
Email planning@portcoquitlam.ca
www.portcoquitlam.ca



SUSTAINABILITY CHECKLIST

REZONING AND DEVELOPMENT PERMIT APPLICATIONS

	<i>Points</i>	<i>Wt</i>	<i>Total</i>	<i>Soc</i>	<i>Env</i>	<i>Eco</i>
1. Land Use						
<ul style="list-style-type: none"> Mix of uses provided or uses consistent with OCP Adds to the diversity of uses within an existing neighbourhood, such as employment, housing, retail, civic, educational, cultural, recreational 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	1	/5	(50%)		(50%)
2. Housing						
<ul style="list-style-type: none"> Offers or adds a mix of housing types, sizes and tenure, including special needs¹ Provides units with a wide-range of pricing options that will be sold or leased 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	2	/10	(50%)		(50%)
<ul style="list-style-type: none"> Provides subsidized or rental housing² 	No – 0 Yes – 5	1	/5	(50%)		(50%)
3. Community character and design						
a) Design <ul style="list-style-type: none"> Building design follows required architectural style and demonstrates innovation Building orientation towards open space, views and/or daylight Treatment of façade breaks down massing and articulates depth, verticality & street edge Scale and massing of buildings relate to neighbourhood structures Provides crime prevention through environmental design Incorporates enhanced durability/longevity of construction materials. 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	2	/10	(50%)		(50%)
b) Public Space <ul style="list-style-type: none"> Creates or enhances community spaces, such as plazas, squares, parks & streets Strong connections to adjacent natural features, parks and open space Builds or improves pedestrian amenities, such as sidewalks, transit shelters, bike racks and connections to civic, cultural, school and retail/service uses 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	2	/10	(50%)		(50%)
c) Density & Infill <ul style="list-style-type: none"> Maximizes FAR or dwelling unit/acre density¹ Results in infill/redevelopment and enhanced community fabric² 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	1	/5	(50%)		(50%)
d) Transportation <ul style="list-style-type: none"> Accessible by multiple modes of transport, emphasizing public transit including future planned Parking does not visually dominate the street view & allows easy, safe pedestrian building access Interconnected road system with direct street connections, short block lengths, no cul-de-sacs Provides traffic speed & demand management 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	1	/5	(50%)		(50%)

	Points	Wt	Total	Soc	Env	Eco
4. Environmental Protection & Enhancement						
a) Lands <ul style="list-style-type: none"> Does not intrude on ALR or designated open lands Protects riparian areas and other designated environmentally sensitive areas Provides for native species habitat restoration/improvement Redevelops environmentally contaminated site 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	2	/10			
b) Servicing <ul style="list-style-type: none"> Does not require extension of existing municipal infrastructure (e.g. roads, water and sewer) Located in existing commercial and transportation nodes 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	1	/5			
c) Construction/Design <ul style="list-style-type: none"> Provides LEED certification (certified, silver, gold, platinum) or accepted green building best practices (e.g. Built Green BC, Green Globes)³ 	None – 0 Certified – 2 Silver – 3 Gold – 4 Platinum – 5	4	/20			
5. Social Equity						
<ul style="list-style-type: none"> Contains elements of community pride and local character, such as public art Provides affordable space for needed community services Conducts public consultation, including documenting concerns & providing project visuals 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	2	/10			
6. Economic Development						
a) Employment <ul style="list-style-type: none"> Provides permanent employment opportunities¹ Increases community opportunities for training, education, entertainment or recreation 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	1	/5			
b) Diversification and Enhancement <ul style="list-style-type: none"> Net increase to property tax base¹ Promotes diversification of the local economy via business type and size Improves opportunities for new and existing businesses, including eco-industrial and value-added Developer demonstrates experience with similar projects 	None – 0 Poor – 1 Good – 2 to 3 Excellent – 4 to 5	1	/5			
TRIPLE BOTTOM LINE SUMMARY				/35 (%)	/35 (%)	/35 (%)
				Application Total /105 (%)		

¹ Per the instructions, please provide statistical data for these indicators, such as floor area ratio, estimated number of employees, number of housing types, sizes and tenures.

² Subsidized Housing encompasses all types of housing for which some type of subsidy or rental assistance is provided, including public, non-profit and co-operative housing, as well as rent supplements for people living in private market housing. It also includes emergency housing and short-term shelters.

Enhanced community fabric includes multiculturalism, mobility accessibility, integration with neighbourhoods and crime prevention through environmental design.

³ Please provide a copy of the green building checklist chosen. For example: LEED Canada-NC 1.0 Project Checklist can be obtained at: <http://www.cagbc.org/uploads/LEED%20Canada-NC%20Project%20Checklist.xls>
Green Globes at: http://www.greenglobes.com/design/Green_Globes_Design_Summary.pdf



C·V·R·D

STAFF REPORT

R4

ENGINEERING AND ENVIRONMENTAL SERVICES COMMITTEE MEETING OF APRIL 22, 2009

DATE: April 15, 2009

FILE NO: 5600-30-HBW/01

FROM: Dave Leitch, AScT., Manager, Water Management Division

SUBJECT: Honeymoon Bay System Service Establishment Amendment Bylaw

Recommendation:

That, once a formal agreement between the CVRD and TimberWest has been executed and a petition for inclusion into the Honeymoon Bay Water System Service area is received from TimberWest, a bylaw be prepared to amend "CVRD Bylaw No. 1588 – Honeymoon Bay Local Service (Community Water Supply and Distribution) Establishment Bylaw, 1983", by extending the boundaries of the service area to include the property described as "*Lot 2, Section 38, Plan VIP59274 in Renfrew District (Situate in Cowichan Lake District)*", and further that the amendment bylaw be forwarded to the Board for consideration of three readings and adoption.

Purpose: To obtain approval to proceed with extension to the boundaries of the Honeymoon Bay Water System Service Area to include one additional property.

Financial Implications: New users brought into the service area generate user fees, which will reduces overall charges to the existing customers.

Interdepartmental/Agency Implications: This bylaw requires the approval of the service area voters before it can be adopted. In cases where a petition for services has been received, voter approval may be obtained by the Area Director consenting, in writing, to the adoption of the Bylaw.

Background: The property, described as "*Lot 2, Section 38, Plan VIP59274 in Renfrew District (Situate in Cowichan Lake District)*", is a property that lies between the Honeymoon Bay well and water reservoir area, and the community. TimberWest currently owns these lands. Staff are working towards entering into an agreement with TimberWest regarding access, hydro and water servicing in the Honeymoon Bay Area.

The CVRD is requesting:

- 1) Statutory Right-of-Way along Lot 21, Plan VIP4062 and Lot 2, Plan VIP59274, the "Gordon River Road", a private forestry road, for purposes of overhead hydro and access;
- 2) Overhead hydro to be installed along northwest portion of "Gordon River Road" along Lot 2, Plan VIP59274, with underground hydro road-crossing as shown on Figure 1;
- 3) Right-of-way and future ownership, at time of subdivision, of a 12.0 m wide portion of Lot 2, Plan VIP59274 as shown on Figure 1, for hydro and access.

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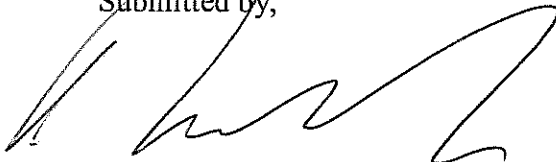
TimberWest is requesting:

- 1) Lot 2, Plan VIP59274, and Lot A, Plan VIP 54256, has the ability to extend power from the proposed hydro lines;
- 2) Inclusion of Lot 2, Plan VIP59274 into the Honeymoon Bay Water Service Area;
- 3) Water connection credit for the number of potential lots created under the existing zonings for Lot 2, Plan VIP59274; Lot A, Plan VIP 54256; and Lot 1, Plan 48657 (to a maximum of 32 lots connections), to be dealt with via a separate agreement.

Engineering staff have met with representatives from TimberWest on several occasions to discuss the above principles of what each party would desire in a form of agreement and have a letter from TimberWest stating that they are willing to accept these conditions (see attached).

The formal agreement will be brought forward to the Board once it has been drafted.

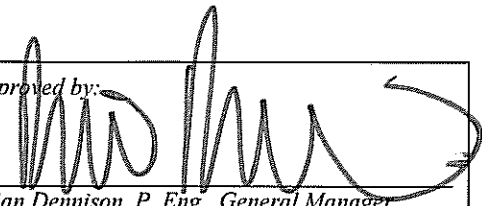
Submitted by,



Dave Leitch, ASCT., Manager,
Water Management Division

DL/LKJ:jlb

Approved by:



Brian Dennison, P. Eng., General Manager,
Engineering & Environment

Couverdon



MAR 19 2009

#3-4890 Rutherford Road
Nanaimo, BC
Canada, V9T 4Z4

March 17, 2009

Cowichan Valley Regional District
175 Ingram Street
Duncan, British Columbia
V9L 1N8

Attention: David Leitch, Manager, Water Management

Dear Mr. Leitch:

Re: Hydro and water Servicing Agreement (CVRD file: 2360-30-HBW)

This letter is to confirm that TimberWest accepts the conditions as outlined in your letter dated March 12, 2009 regarding access for hydro and water servicing in the Honeymoon Bay Area.

Please advise us as to when the Staff recommendation for the inclusion of Lot 2 into the Honeymoon Bay Service Area will proceed to the Engineering and Environmental Services Committee and CVRD Board of Directors.

Sincerely,

A handwritten signature in black ink that reads "Frank Limshue".

Frank Limshue, MCIP
Director of Planning and Zoning

Cc: Murray Brandon, Project Manager

Couverdon Real Estate
A business unit of TimberWest Forest Corp.
www.couverdon.com

Vancouver
2300 - 1055 West Georgia Street
PO Box 11101
Vancouver, British Columbia
Canada V6E 3P3
t 604 654 4600
f 604 654 4662

→ **Nanaimo**
3-4890 Rutherford Road
Nanaimo, British Columbia
Canada V9T 4Z4
t 250 729 3700
f 250 729 3763



STAFF REPORT

R5

ENGINEERING & ENVIRONMENTAL SERVICES COMMITTEE MEETING OF APRIL 22, 2009

DATE: April 15, 2009

FROM: Dave Leitch, ASCT., Manager, Water Management Division

**SUBJECT: FIRST STAGE APPROVAL PROCESS FOR CVRD TAKEOVER OF
UTILITIES**

Recommendation:

That the Board approve the following template as a first stage approval process/recommendation for both new and existing CVRD utility takeovers:

1. "That the Board provide first stage approval and authorize staff time to continue with the process of takeover of the Click here to enter text. system(s), located in Electoral Area Click here to enter text., as requested by Click here to enter text., subject to the following conditions and with the understanding that nothing is intended by this approval to fetter future CVRD Board decisions on required bylaws:
 2. All lands on which infrastructure works are located will be placed within registered Statutory Rights-of-way, using the CVRD's standard charge terms;
 3. A utility transfer agreement be executed between the CVRD and the owners;
 4. A CVRD in-house review of the system be undertaken in order to address deficiencies in the water system;
 5. The owner of utility be willing to sell and/or transfer the system to the CVRD;
 6. A public consultation process regarding CVRD takeover be undertaken;
 7. A petition process be carried out and completed by at least 50% of the owners of parcels within the proposed service area with the total value of the parcels representing at least 50% of the net taxable value of all land and improvements in the service area.
 8. This list is not exhaustive and items may be added, deleted or altered prior to a formal agreement being executedand further that, upon completion of a successful petition process, bylaws be prepared to create a service area for this utility."

Purpose: To replace the existing "Approval in Principal" language with a standardized template that will identify critical items and provide direction that will allow staff to commit time to new utilities.

Financial Implications: not applicable

Interdepartmental/Agency Implications: not applicable

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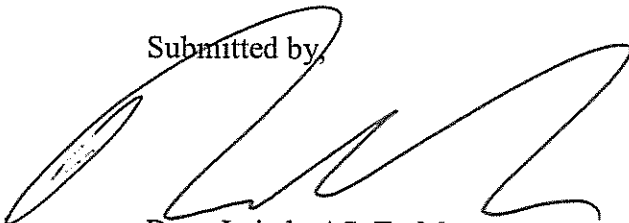
Background:

At the February 25, 2009 Engineering and Environmental Services Committee meeting, staff were requested to review the language of the "Approval in Principle" recommendations that were being brought to the Board on a number of issues, as well as obtain a legal opinion in order to ensure that the language could not put the CVRD in a legally committed position and fetter any future decisions the CVRD may choose to make at a later date.

Upon receiving legal advice, it was determined that there was no binding legal obligation for the CVRD to accept or follow through with any or all conditions within the recommendation for takeover of a new or existing development. It was suggested that, although it was not considered critical, staff could add two additional statements to the reports to further distance ourselves from any committed position at the early stages of this process. The first suggested statement should include a disclaimer that "Nothing is intended by this approval to fetter future CVRD Board approval decisions on required bylaws". The second disclaimer to be added advises that, "the list is not exhaustive and items may well be added, deleted or altered prior to a formal agreement being executed".

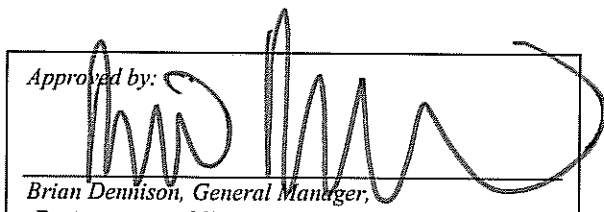
The final point for review was the Committee's desire to change the title of the reports from an "Approval in Principle" to something that sounded less committal. Once again, although the current title of the recommendation does not put the CVRD in any legally compromising position, it is felt that future recommendations regarding CVRD takeover of utilities can be brought forward using the above noted template, and outlining any number of specific and non-specific statements on an individual basis, without the need of referencing the recommendation as an "Approval in Principle", but instead as a "First Stage Approval".

Submitted by,



Dave Leitch, AScT., Manager,
Water Management Division

Approved by:



Brian Dennison, General Manager,
Engineering and Environmental Services

DL:jlb

Bath: Z:\ESMemos\2009\AIPProcess-Apr2209.docx



STAFF REPORT

R6

ENGINEERING & ENVIRONMENTAL SERVICES COMMITTEE MEETING OF APRIL 22, 2009

DATE: April 9, 2009 **FILE NO:** 1855-01
FROM: Harmony Huffman
SUBJECT: BC Brownfield Renewal Strategy and Funding

Recommendation: That staff apply for funding under the BC Brownfield Renewal Strategy, in order to pursue remediation of the Peerless Road and Meade Creek ash fills.

Purpose: To provide staff with direction regarding funding opportunities.

Financial Implications: Potential need to apply for low-interest financing from Municipal Finance Authority for balance of project costs.

Interdepartmental/Agency Implications: None at this time.

Background: Historically, the CVRD operated several regional incinerators for the disposal of municipal solid waste. A by-product of the incineration process was the creation of large quantities of bottom ash, which were landfilled in unlined portions of the incinerator sites. When the incinerators were decommissioned, and the sites converted for use as recycling depots, little was done to address the remaining ash. Today, these 'ash fills' are a legacy of past practices and represent a potential environmental liability to the CVRD and local communities.

Discussion: The remediation of brownfields (contaminated sites with a high potential for re-development) is today a high priority for the Province. Under the BC Brownfield Renewal Strategy, the Province has recently announced \$1.8 million dollars of funding for the remediation of existing brownfields. These funds are available to cover up to 85% of preliminary site investigation costs, up to 70% of detailed site investigation costs, and up to 50% of costs for all other types of work. Although participation in this program will require the CVRD to finance its portion of costs via low-interest loans, this funding represents an ideal opportunity for the CVRD to take action on the remediation of the historical legacies and, furthermore, will allow the CVRD to showcase a green approach to environmental remediation.

.../2

Proposed remediation activities include the mining and screening of the existing ashfills (located at Peerless Road and Meade Creek), for all recoverable metals by a local recycling company. Once screened, the remaining material has the potential to be used as fill in other CVRD construction projects. For example, in the case of the Peerless Road facility, remediation of the onsite ashfill will complement the planned upgrades to the existing recycling depot. Rather than import fill from off-site, existing on-site ash can be used to raise a portion of the yard to provide a larger public drop off area. Ash used in this manner would be fully lined and sealed, preventing any future environmental contamination. In this way, the CVRD can reuse a former environmental liability in a sustainable manner that also promotes greater participation in local recycling.

An existing application for remediating the Peerless Road site under the Building Canada Infrastructure Funding Program is under review. Because this is not a completely "shovel ready" project and competition is steep, pursuing alternate forms of funding may prove prudent.

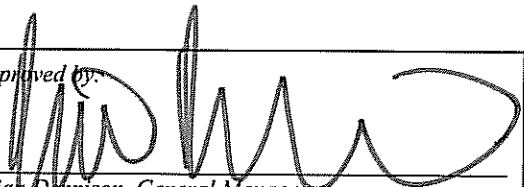
Submitted by,



for:

Harmony Huffman
Environmental Technologist

Approved by:



Brian Dennison, General Manager,
Engineering and Environmental Services

HH:jlb

Bath: Z:\ES\Memos2009\Brownfield Funding April 09.docx



C·V·R·D

STAFF REPORT

R7

ENGINEERING & ENVIRONMENTAL SERVICES COMMITTEE MEETING
OF APRIL 22, 2009

DATE: April 15, 2009

File No.

5280-02-01

FROM: Kate Miller, Manager Regional Environmental Policy Division

SUBJECT: Community Energy and Greenhouse Gas Emissions Inventory Data

Recommendation: For information only.

Purpose:

To update the committee on the newly released provincial community energy and greenhouse gas emissions inventory for the region and communities; and to provide an update on the commitments made to date relative to greenhouse gas (GHG) and energy emissions.

Financial Implications:

Long term financial implications are substantial as savings in both direct and indirect energy costs are realized; however, short term expenditures will be required to develop articulated plans and action strategies. In order to achieve carbon neutrality by 2012, either reductions in energy use or purchase of offsets will be necessary. Local government investments in building retrofits, community energy systems, water conservation, renewable energy technologies, waste reduction, landfill gas capture, fleet management and public transit; reduce operating costs, help maintain community services, protect public health and contribute to sustainable community development while cutting GHG emission contributing to climate change.

Infrastructure grant application and programs, such as LocalMotion, Towns for Tomorrow, and the Gas Tax Agreement funding programs reporting, now require greenhouse gas reduction estimations for project works.

Interdepartmental/Agency Implications:

The process of setting regional and internal targets will provide an opportunity for organizational streamlining and review of multiple issues and impacts across departments. A reporting of emissions and costs associated with them will provide a benchmark for future financial decisions and potential support to integrating LCA lenses. Implementing changes to accounting practices and record-keeping will facilitate future GHG reporting and overall strategies.

Legal implications

The development of targets, policies and actions in Official Community Plans and Regional Growth strategies is mandatory under the Provincial Green Communities Legislation.

Background:

There are a number of programs and initiatives that the CVRD has signed on or have has legislative commitments to regarding greenhouse gas emissions and energy targets. These include:

Provincial Climate Action Plan (2008) Bill 44

Provincial commitment to reduce carbon emissions in its own and other public sector organizations relative to 2007 levels - not legislated at local government level at this time, but serve as a provincial benchmark for expectations.

- Carbon neutral by 2010 (2008 for travel)
- 33% reduction by 2020
- 80% reduction by 2050

Provincial **Green Communities Legislation** (mandatory) Bill 27 came into force May 29 2008. This legislation amends the BC Regional Growth and Official Community Plans (OCP) Legislation by mandating regional and local GHG reduction targets and regional and local policies with respect to achieving these targets.

BC Climate Action Charter - commitments are currently voluntary, but becoming a signatory is now a criteria for provincial funding. The *CVRD is a signatory*

- Achieve Carbon neutral operations by 2012
- Measure and report community GHG emissions
- Build compact, complete communities

Province and CEEI currently working with local governments through the Green Communities Incentive Programs to support local government actions (ie policy relevant measures).

Province of BC reimburses signatory local governments with 100% of carbon tax paid to the province.

**Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP)
*CVRD is a signatory***

Five Milestone approach

1. Create a GHG inventory and forecast at both the community *and* government levels,
2. Set reduction targets (suggested target 20%) for local government emissions and (6%) from community below 1994 levels within 10 years.
3. Develop local action plan how emissions and energy use in local government operations and community will be reduced.
4. Implement plan.
5. Monitor progress, verify results and report.

The Community Energy and Emission Inventory (CEEI) is a provincially sponsored data gathering, analysis and reporting system which provides an estimate of energy consumption and greenhouse gas (GHG) emissions within a community over given year (base year 2007). The inventory includes all energy use and GHG emissions within specific jurisdictional boundary (see attached examples). A corporate or local government inventory includes only those emissions under the operational and or financial control of the local government itself (e.g buildings and fleet). The province assumes that local governments are undertaking this analysis themselves.

April 15, 2009

Staff report to the Engineering and Environmental Services Committee

Page 2

The CEEI's are intended to support local government in one of three ways:

- To fulfil the second of three commitments of the climate Action Charter, "measuring and reporting on their communities GHG emissions profile";
- Establish a base year to help inform targets, policies and action related to the new Green Communities Legislation; and
- Support local governments to achieve Milestone One (community inventory) of the FCM

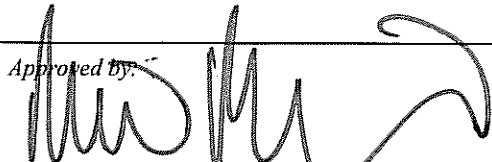
Submitted by,



Kate Miller, Manager
Regional Environmental Policy Division

KM/dkf/jlb

Approved by:



Brian Dennison, General Manager,
Engineering and Environmental Services

Bath: Z:\ESMemos2009\GHG inventoryreport Apr2209.docx

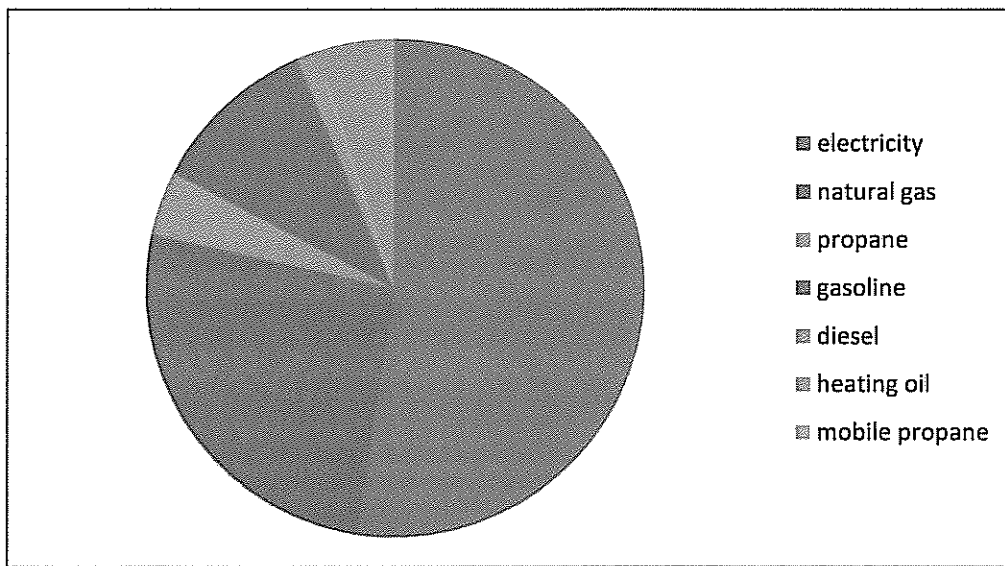
Cowichan Valley Regional District Energy and Greenhouse Gas Emissions Inventory:2007 Base year

Buildings		Consumption by Type			Energy and Emissions Total		
Type	Connection	Consumption	Energy/connect	Energy (GJ)	CO2 (t)	Sub-total of values for all bldg	Total Value for all bldg
Electricity		12614828		\$ 527,775.00			
Natural Gas		18920		\$ 261,513.00			
Propane		71813.88		\$ 42,311.00			
Diesel		11919		\$ 11,900.00			
Heating oil		54725		\$ 45,761.00			
On Road Transportation							
Type	Units	Consumption	Energy/connect	Energy (GJ)	CO2 (t)	Sub-total of values for all bldg	Total Value for all bldg
Gasoline		131877		\$ 109,898.00			
Diesel Fuel		12426		\$ 12,400.00			
Mobile Propane		71813		\$ 6,108.00			
Total cost of energy 2007							
							\$1,017,666

* Provincial and Federal Reporting requires breakdown by type eg type of connection, and transportation- small passenger cars, large passenger cars, light trucks vans , SUV's, industrial, big equipment.
 *** Substantial challenges in easily extracting data from historic information.

Cowichan Valley Regional District Energy Consumption by Type

electricity	\$	527,775.00
natural gas	\$	261,513.00
propane	\$	42,311.00
gasoline	\$	109,898.00
diesel	\$	12,400.00
heating oil	\$	45,761.00
mobile propane	\$	6,108.00
	\$	1,005,766.00



Notes:

Difficult to extract data from historic financial records - numbers are approximate

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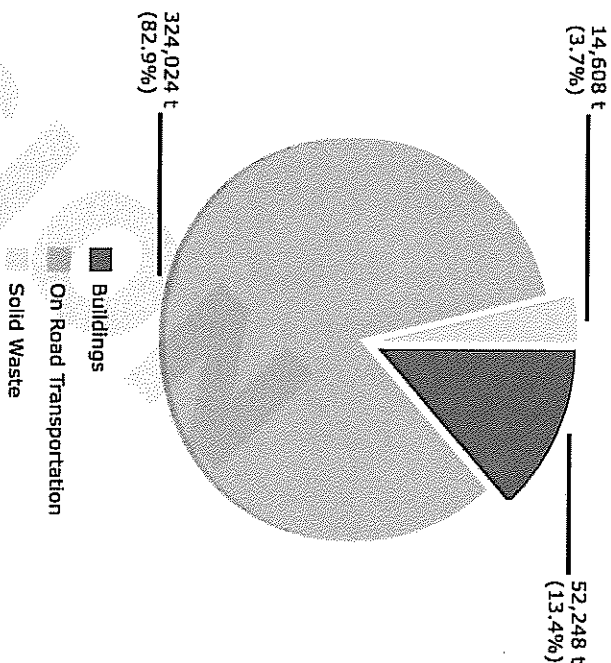
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CO₂e (tonnes) by Sector *



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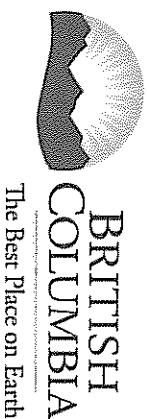
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Cowichan Valley Regional District

Community Energy & Greenhouse Gas Emissions Inventory: 2007

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BUILDINGS	Consumption By Type					Energy & Emissions Total		
	Type	Connections	Consumption	Energy/Connection	Energy (GJ)	CO ₂ e (t)	Energy (GJ)	CO ₂ e (t)
RESIDENTIAL BUILDINGS	Electricity	35,038	551,155,900 kWh	15,730 kWh/C	1,984,161	12,125	2,291,368	27,839
	Natural Gas	5,823	307,207 GJ	53 GJ/C	307,207	15,713		
COMMERCIAL BUILDINGS	Electricity	3,829	203,868,394 kWh	53,243 kWh/C	733,926	4,485	1,110,984	23,771
	Natural Gas	715	377,058 GJ	527 GJ/C	377,058	19,286		
INDUSTRIAL BUILDINGS	Electricity	918	28,970,035 kWh	31,558 kWh/C	104,292	637	104,292	637
SUBTOTAL	Electricity	39,785	783,994,329 kWh		2,822,380	17,248	3,506,644	52,248
	Natural Gas	6,538	684,264 GJ		684,264	35,000		

On Road Transportation	Consumption By Type					Energy & Emissions Total		
	Type	Units Consumed	Litres/Unit	Energy (GJ)	CO ₂ e (t)	Energy (GJ)	CO ₂ e (t)	
Small Passenger Cars	Gasoline	23,788	21,223,114 litres	892 L/U	735,593	53,002	754,182	54,338
	Diesel Fuel	735	480,578 litres	654 L/U	18,589	1,336		
	Gasoline	9,363	10,384,795 litres	1,109 L/U	359,937	25,935	367,023	26,438
Large Passenger Cars	Diesel Fuel	190	171,277 litres	901 L/U	6,625	476		
	Mobile Propane	18	18,196 litres	1,011 L/U	461	28		
	Gasoline	30,984	60,900,564 litres	1,966 L/U	2,110,814	152,091	2,154,185	155,091
Light Trucks, Vans, And SUVs	Diesel Fuel	584	865,891 litres	1,483 L/U	33,493	2,407		
	Mobile Propane	237	390,320 litres	1,647 L/U	9,879	593		
	Gasoline	5,464	10,261,657 litres	1,878 L/U	355,669	25,627	897,786	64,474
Commercial Vehicles	Diesel Fuel	3,700	13,778,902 litres	3,724 L/U	532,968	38,297		
	Mobile Propane	188	361,486 litres	1,923 L/U	9,149	550		



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Cowichan Valley Regional District

Community Energy & Greenhouse Gas Emissions Inventory: 2007

2007

ON ROAD TRANSPORTATION CONTINUED

TRACTOR TRAILER TRUCKS	Diesel Fuel	223	3,195,637 litres	14,330 L/U	123,607	8,882	123,607	8,882
MOTORHOMES	Gasoline	1,274	2,267,805 litres	1,780 L/U	78,602	5,664	86,746	6,240
	Diesel Fuel	96	190,887 litres	1,988 L/U	7,384	531		
	Mobile Propane	32	30,030 litres	938 L/U	760	46		
MOTORCYCLES AND MOPEDS	Gasoline	2,225	827,700 litres	372 L/U	28,688	2,067	28,688	2,067
BUS	Gasoline	69	576,840 litres	8,360 L/U	19,993	1,441	90,314	6,494
	Diesel Fuel	101	1,818,000 litres	18,000 L/U	70,320	5,053		
SUBTOTAL	Gasoline	73,167	106,442,474 litres		3,689,296	265,826	4,502,530	324,024
	Diesel Fuel	5,629	20,501,173 litres		792,985	56,962		
	Mbl Propane	475	800,031 litres		20,249	1,216		

SOLID WASTE	Type	Direct Emissions		Emissions Total	
		Estimation Method	Mass (t)	CO ₂ e (t)	CO ₂ e (t)

COMMUNITY SOLID WASTE	Solid Waste	Waste Commitment	27,562	14,608	14,608
SUBTOTAL			27,562	14,608	14,608

LAND-USE CHANGE	Type	Direct Emissions		Emissions Total	
		Settlement (Ha)	Agriculture (Ha)	CO ₂ e (t)	CO ₂ e (t)

AGRICULTURE AND SETTLEMENT	Deforestation	42	2	44	36,518
SUBTOTAL	Deforestation	42	2	44	36,518



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Activity	Consumption	Energy	CO ₂ e	Energy & Emissions Total	
				Energy (GJ)	CO ₂ e (t)
Electricity	783,994,329 kWh	2,822,380 GJ	17,248 t		
Natural Gas	684,264 GJ	684,264 GJ	35,000 t		
Gasoline	106,442,474 litres	3,689,296 GJ	265,826 t		
Diesel Fuel	20,501,173 litres	792,985 GJ	56,982 t		
Mbi Propane	800,031 litres	20,249 GJ	1,216 t		
Solid Waste			14,608 t		
				8,009,174	390,879



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North Cowichan

Community Energy & Greenhouse Gas Emissions Inventory: 2007

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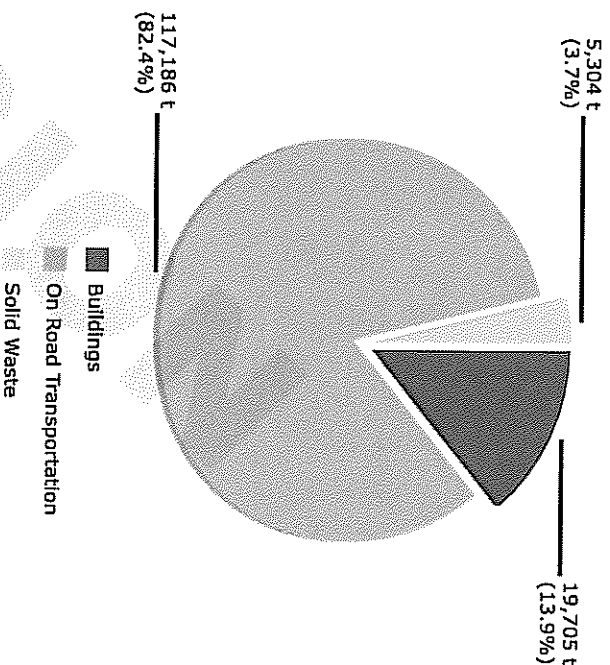
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Energy & Emissions Monitoring and Reporting System™ v3.01

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Community Energy & Greenhouse Gas Emissions Inventory: 2007

040

BUILDINGS	Type	Consumption By Type				Energy & Emissions Total	
		Connections	Consumption	Energy/Connection	Energy (GJ)	CO ₂ e (t)	Energy (GJ) CO ₂ e (t)
RESIDENTIAL BUILDINGS	Electricity	12,360	189,279,280 kWh	15,314 kWh/C	681,405	4,164	782,529 9,337
	Natural Gas	1,934	101,124 GJ	52 GJ/C	101,124	5,172	
COMMERCIAL BUILDINGS	Electricity	1,018	60,755,263 kWh	59,681 kWh/C	218,719	1,337	395,304 10,369
	Natural Gas	222	176,585 GJ	795 GJ/C	176,585	9,032	
INDUSTRIAL BUILDINGS	Electricity	244	—				
SUBTOTAL	Electricity	13,622	250,034,543 kWh		900,124	5,501	1,177,832 19,705
	Natural Gas	2,156	277,708 GJ		277,708	14,205	

On Road Transportation	Consumption By Type					Energy & Emissions Total	
	Type	Units Consumption	Litres/Unit	Energy (GJ)	CO ₂ e (t)	Energy (GJ)	CO ₂ e (t)
Small Passenger Cars	Gasoline	8,619	7,999,530 litres	928 L/U	277,264	19,978	282,65220,365
	Diesel Fuel	209	138,495 litres	663 L/U	5,357	385	
	Mobile Propane	1	1,231 litres	1,231 L/U	31	2	
Large Passenger Cars	Gasoline	3,323	3,798,697 litres	1,143 L/U	131,663	9,487	133,3549,608
	Diesel Fuel	55	43,509 litres	791 L/U	1,683	121	
	Mobile Propane	2	330 litres	165 L/U	8	1	
Light Trucks, Vans, And SUVs	Gasoline	10,639	21,927,961 litres	2,061 L/U	760,023	54,762	773,08555,662
	Diesel Fuel	176	252,448 litres	1,434 L/U	9,765	702	
	Mobile Propane	71	130,279 litres	1,835 L/U	3,297	198	
Commercial Vehicles	Gasoline	1,955	3,805,038 litres	1,946 L/U	131,883	9,503	278,36620,008
	Diesel Fuel	1,104	3,742,058 litres	3,390 L/U	144,743	10,401	

North Cowichan Community Energy & Greenhouse Gas Emissions Inventory: 2007

ON ROAD TRANSPORTATION CONTINUED

041

TRACTOR TRAILER TRUCKS	Mobile Propane	51	68,781 litres	1,349 L/U	1,741	105		
	Diesel Fuel	127	1,892,422 litres	14,901 L/U	73,199	5,260	73,199	5,260
MOTORHOMES	Gasoline	427	750,207 litres	1,757 L/U	26,002	1,874	28,490	2,049
	Diesel Fuel	24	56,619 litres	2,359 L/U	2,190	157		
	Mobile Propane	11	11,753 litres	1,068 L/U	297	18		
MOTORCYCLES AND MOPEDS	Gasoline	787	292,764 litres	372 L/U	10,147	731	10,147	731
BUS	Gasoline	14	120,820 litres	8,630 L/U	4,188	302	48,747	3,504
	Diesel Fuel	64	1,152,000 litres	18,000 L/U	44,559	3,202		
SUBTOTAL	Gasoline	25,764	38,695,016 litres		1,341,169	96,636	1,628,040	117,186
	Diesel Fuel	1,759	7,277,552 litres		281,496	20,227		
	Mbl Propane	136	212,374 litres		5,375	323		

Solid Waste	Type	Direct Emissions				Emissions Total	
		Estimation Method	Mass (t)	CO ₂ e (t)	CO ₂ e (t)		
COMMUNITY SOLID WASTE	Solid Waste	Waste Commitment	10,008	5,304			
SUBTOTAL			10,008	5,304			
Grand Total	Activity	Consumption	Energy	CO ₂ e	Energy & Emissions Total		
	Electricity	250,034,543 kWh	900,124 GJ	5,501 t	Energy (GJ)	CO ₂ e (t)	
	Natural Gas	277,708 GJ	277,708 GJ	14,205 t			
	Gasoline	38,695,016 litres	1,341,169 GJ	96,636 t	2,805,873	142,196	
	Diesel Fuel	7,277,552 litres	281,496 GJ	20,227 t			
	Mbl Propane	212,374 litres	5,375 GJ	323 t			
	Solid Waste			5,304 t			



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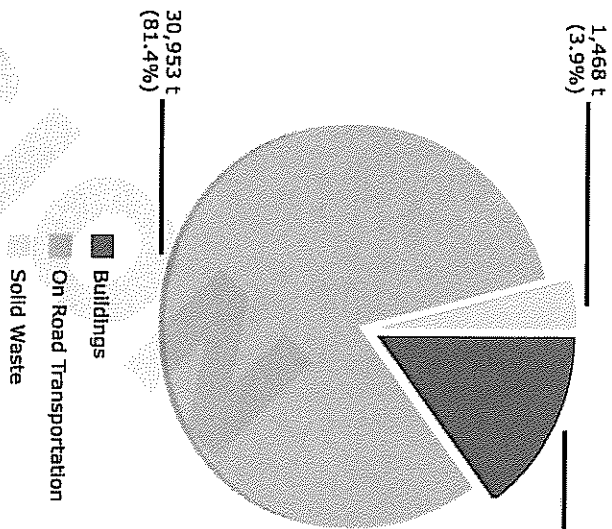
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CO₂e (tonnes) by Sector *



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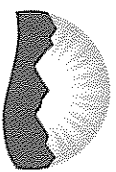
Energy & Emissions Monitoring and Reporting System™ v3.01

Ladysmith

Community Energy & Greenhouse Gas Emissions Inventory: 2007

043

BUILDINGS	Consumption By Type					Energy & Emissions Total	
	Type	Connections	Consumption	Energy/Connection	Energy (GJ)	CO ₂ e (t)	Energy (GJ) CO ₂ e (t)
RESIDENTIAL BUILDINGS	Electricity	3,476	43,370,821 kWh	12,477 kWh/C	156,135	964	239,591 5,223
	Natural Gas	1,452	83,456 GJ	57 GJ/C	83,456	4,269	
COMMERCIAL BUILDINGS	Electricity	367	17,859,226 kWh	48,663 kWh/C	64,293	393	64,293 393
INDUSTRIAL BUILDINGS	Electricity	40	—				
SUBTOTAL	Electricity	3,883	61,230,047 kWh		220,428	1,347	303,884 5,616
	Natural Gas	1,452	83,456 GJ		83,456	4,269	
ON ROAD TRANSPORTATION	Consumption By Type					Energy & Emissions Total	
	Type	Units	Consumption	Litres/Unit	Energy (GJ)	CO ₂ e (t)	Energy (GJ) CO ₂ e (t)
SMALL PASSENGER CARS	Gasoline	2,565	2,336,847 litres	911 L/U	80,995	5,836	82,478 5,943
	Diesel Fuel	57	38,341 litres	673 L/U	1,483	107	
LARGE PASSENGER CARS	Gasoline	1,039	1,159,061 litres	1,116 L/U	40,173	2,895	40,652 2,929
	Diesel Fuel	16	12,392 litres	774 L/U	479	34	
LIGHT TRUCKS, VANS, AND SUVs	Gasoline	3,100	6,143,748 litres	1,982 L/U	212,942	15,343	216,881 15,614
	Diesel Fuel	42	73,941 litres	1,760 L/U	2,860	206	
	Mobile Propane	20	42,613 litres	2,131 L/U	1,079	65	
	Gasoline	442	853,383 litres	1,931 L/U	29,578	2,131	69,507 4,993
COMMERCIAL VEHICLES	Diesel Fuel	300	1,016,376 litres	3,388 L/U	39,313	2,825	
	Mobile Propane	14	24,297 litres	1,735 L/U	615	37	
TRACTOR TRAILER TRUCKS	Diesel Fuel	16	217,601 litres	13,600 L/U	8,417	605	8,417 605



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Motorhomes	Gasoline	137	252,863 litres	1,846 L/U	8,764	631	9,564	689
	Diesel Fuel	12	20,665 litres	1,722 L/U	799	57		

Motorcycles And Mopeds	Gasoline	195	72,540 litres	372 L/U	2,514	181	2,514	181
	Gasoline	7,478	10,818,442 litres		374,967	27,018	430,013 <td>30,953</td>	30,953
	Diesel Fuel	443	1,379,316 litres		53,352	3,834		
	Mbl Propane	34	66,910 litres		1,693	102		

Subtotal								

Solid Waste	Type	Estimation Method	Mass (t)	CO ₂ e (t)	Emissions Total	CO ₂ e (t)

Community Solid Waste	Solid Waste	Waste Commitment	2,769	1,468	1,468	1,468

Subtotal			2,769	1,468	1,468	1,468

Grand Total	Activity	Consumption	Energy	CO ₂ e	Energy & Emissions Total	CO ₂ e (t)
	Electricity	61,230,047 kWh	220,428 GJ	1,347 t		
	Natural Gas	83,456 GJ	83,456 GJ	4,289 t		
	Gasoline	10,818,442 litres	374,967 GJ	27,018 t	733,897	38,036
	Diesel Fuel	1,379,316 litres	53,352 GJ	3,834 t		
	Mbl Propane	66,910 litres	1,693 GJ	102 t		
	Solid Waste			1,468 t		



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Lake Cowichan

Community Energy & Greenhouse Gas Emissions Inventory: 2007

This is your local government's draft 2007 Community Energy and Greenhouse Gas Emissions Inventory (CEEI). From March 10th to April 15th 2009, the Province and partners are asking for your review and feedback - <http://www.toolkit.bc.ca/ceei> - on the content, clarity and usefulness of your community's draft 2007 CEEI Report.

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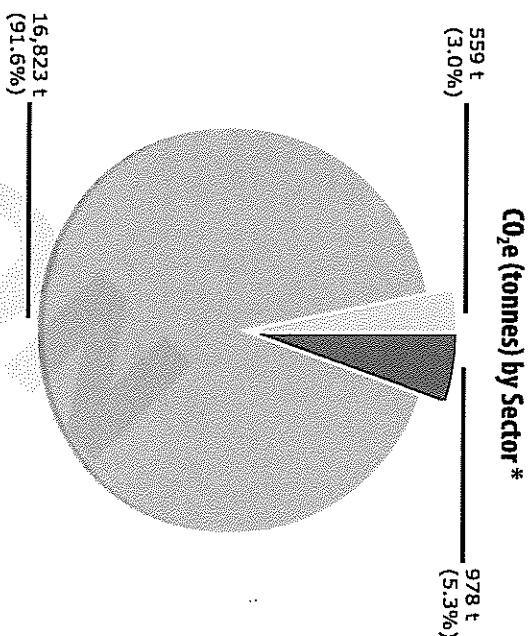


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Community Energy & Greenhouse Gas Emissions Inventory: 2007

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Buildings	Consumption By Type					Energy & Emissions Total		
	Type	Connections	Consumption	Energy/Connection	Energy (GJ)	CO ₂ e (t)	Energy (GJ)	CO ₂ e (t)
Residential Buildings	Electricity	2,082	30,464,158 kWh	14,632 kWh/C	109,671	670	109,671	670
Commercial Buildings	Electricity	263	12,710,445 kWh	48,329 kWh/C	45,758	280	45,758	280
Industrial Buildings	Electricity	39	1,261,080 kWh	32,335 kWh/C	4,540	28	4,540	28
Subtotal	Electricity	2,384	44,435,683 kWh		159,968	978	159,968	978
On Road Transportation								
	Consumption By Type					Energy & Emissions Total		
	Type	Units	Consumption	Litres/Gal	Energy (GJ)	CO ₂ e (t)	Energy (GJ)	CO ₂ e (t)
Small Passenger Cars	Gasoline	1,159	1,045,721 litres	902 L/U	36,245	2,612	36,867	2,656
	Diesel Fuel	27	16,085 litres	596 L/U	622	45		
Large Passenger Cars	Gasoline	428	462,270 litres	1,080 L/U	16,022	1,154	16,022	1,154
	Gasoline	1,574	3,148,670 litres	2,000 L/U	109,133	7,863	111,048	7,995
Light Trucks, Vans, And SUVs	Diesel Fuel	27	37,493 litres	1,389 L/U	1,450	104		
	Mobile Propane	12	18,348 litres	1,529 L/U	464	28		
	Gasoline	356	679,156 litres	1,908 L/U	23,540	1,696	63,842	4,592
Commercial Vehicles	Diesel Fuel	220	1,041,952 litres	4,736 L/U	40,303	2,896		
	Gasoline	71	130,286 litres	1,835 L/U	4,516	325	4,516	325
Motorhomes	Gasoline	107	39,804 litres	372 L/U	1,380	99	1,380	99
Motorcycles And Mopeds	Gasoline	3,695	5,505,907 litres		190,835	13,750	233,674	16,823
	Diesel Fuel	274	1,095,530 litres		42,375	3,045		
	Mbl Propane	12	18,348 litres		464	28		

Lake Cowichan

Community Energy & Greenhouse Gas Emissions Inventory: 2007

047

Solid Waste	Direct Emissions			Emissions Total	
	Type	Estimation Method	Mass (t)	CO ₂ e (t)	CO ₂ e (t)
COMMUNITY SOLID WASTE	Solid Waste	Waste Commitment	1,055	559	559
SUBTOTAL			1,055	559	559
Grand Total	Activity	Consumption	Energy	CO₂e	Energy & Emissions Total
	Electricity	44,435,683 kWh	159,968 GJ	978 t	Energy (GJ)
	Gasoline	5,505,907 litres	190,835 GJ	13,750 t	CO ₂ e (t)
	Diesel Fuel	1,095,530 litres	42,375 GJ	3,045 t	393,643
	Mbi Propane	18,348 litres	464 GJ	28 t	18,360
	Solid Waste			559 t	



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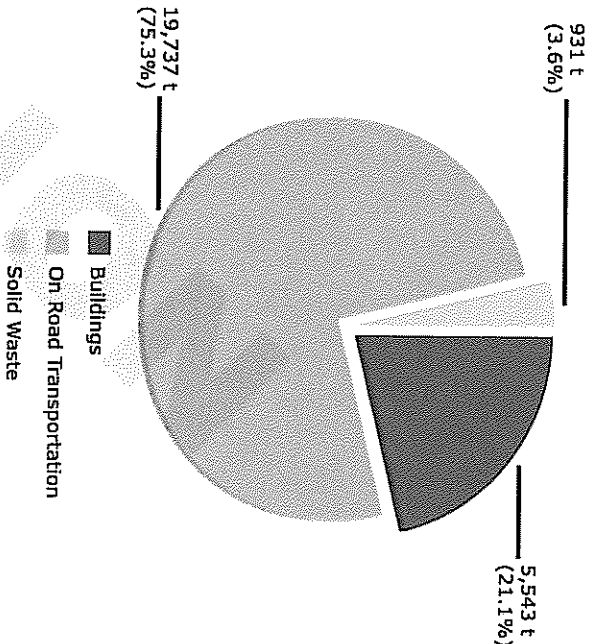
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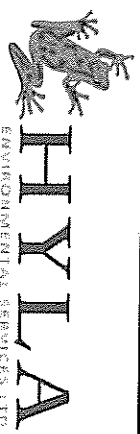
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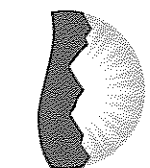


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Community Energy & Greenhouse Gas Emissions Inventory: 2007

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BUILDINGS	Consumption By Type					Energy & Emissions Total		
	Type	Connections	Consumption	Energy/Correction	Energy (GJ)	CO ₂ e (t)	Energy (GJ)	CO ₂ e (t)
RESIDENTIAL BUILDINGS	Electricity	2,583	27,543,488 kWh	10,663 kWh/C	99,157	606	118,483	1,594
	Natural Gas	367	19,327 GJ	53 GJ/C	19,327	989		
COMMERCIAL BUILDINGS	Electricity	710	33,886,182 kWh	47,727 kWh/C	121,990	745	182,401	3,835
	Natural Gas	154	60,411 GJ	392 GJ/C	60,411	3,090		
INDUSTRIAL BUILDINGS	Electricity	48	5,121,637 kWh	106,701 kWh/C	18,438	113	18,438	113
	Electricity	3,341	66,551,307 kwh		239,585	1,464	319,322	5,543
SUBTOTAL	Natural Gas	521	79,738 GJ		79,738	4,079		
ON ROAD TRANSPORTATION								
	Consumption By Type					Energy & Emissions Total		
	Type	Units Consumption		Litres/Unit	Energy (GJ)	CO ₂ e (t)	Energy (GJ)	CO ₂ e (t)
SMALL PASSENGER CARS	Gasoline	1,630	1,444,643 litres	886 L/U	50,071	3,608	50,972	3,673
	Diesel Fuel	40	23,283 litres	582 L/U	901	65		
LARGE PASSENGER CARS	Gasoline	591	623,991 litres	1,056 L/U	21,628	1,558	21,981	1,584
	Diesel Fuel	10	9,131 litres	913 L/U	353	25		
LIGHT TRUCKS, VANS, AND SUVs	Gasoline	1,817	3,278,175 litres	1,804 L/U	113,622	8,187	114,947	8,282
	Diesel Fuel	25	34,270 litres	1,371 L/U	1,326	95		
COMMERCIAL VEHICLES	Gasoline	304	587,641 litres	1,933 L/U	20,368	1,468	80,233	5,754
	Diesel Fuel	220	1,513,560 litres	6,880 L/U	58,545	4,207		
	Mobile Propane	16	52,202 litres	3,263 L/U	1,321	79		
MOTORHOMES	Gasoline	74	141,609 litres	1,914 L/U	4,908	354	4,908	354



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Community Energy & Greenhouse Gas Emissions Inventory: 2007
ON ROAD TRANSPORTATION CONTINUED

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MOTORCYCLES AND MOPEDS	Gasoline	98	36,456 litres	372 LU	1,264	91	1,264	91
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SUBTOTAL	Gasoline	4,514	6,112,515 litres		211,860	15,265	274,305	19,737
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Diesel Fuel	295	1,580,244 litres		61,124	4,392			
Mbl Propane	16	52,202 litres		1,321	79			

Type	Direct Emissions				Emissions Total	
	Estimation Method	Mass (t)	CO ₂ e (t)		CO ₂ e (t)	

COMMUNITY SOLID WASTE	Solid Waste	Waste Commitment	1,757	931				
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SUBTOTAL			1,757	931				931
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Activity	Consumption		Energy		CO ₂ e		Energy & Emissions Total	
							Energy (GJ)	CO ₂ e (t)
Electricity	66,551,307 kWh		239,585 GJ		1,464 t			
Natural Gas	79,738 GJ		79,738 GJ		4,079 t			
Gasoline	6,112,515 litres		211,860 GJ		15,265 t		593,627	26,211
Diesel Fuel	1,580,244 litres		61,124 GJ		4,392 t			
Mbl Propane	52,202 litres		1,321 GJ		79 t			
Solid Waste					931 t			



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