REGIONAL DISTRICT OF NANAIMO

RDN REPORT	
CAO APPROVAL	✓
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MAY 14 2010	
RHD	
BOARD	

Sustainability - May 19'10

MEMORANDUM

TO: Paul Thorkelsson
General Manager, Development Services

DATE: May 11, 2010

FROM: Chris Midgley
Manager, Energy and Sustainability

FILE: 6780-50

SUBJECT: **Energy Manager Quarterly Update**

PURPOSE

The purpose of this report is to update the Sustainability Select Committee with progress to date on the activities associated with participation in the BC Hydro Energy Manager Program.

BACKGROUND

In April, 2009 the RDN participated in an Energy Management Assessment (EMA). The resulting document identified a range of activities that the RDN could undertake to improve energy performance, and build a culture of energy conservation within the RDN organization. The five areas of focus identified in the EMA are:

- Demonstrated Leadership Commitment;
- Understanding Performance and Opportunities;
- Accountability;
- Awareness and Training and;
- Reporting and Feedback;

In addition to recommending action in these five areas, the EMA recommended that the RDN participate in BC Hydro's Energy Manager Program. In October of 2009, the RDN established the Energy and Sustainability Department, and in February of 2010 formalized an Energy Manager Agreement with BC Hydro. The agreement is appended for reference, but in sum, BC Hydro will provide $50,000 toward the salary and benefits of the Energy Manager (referred to in the RDN as Manager of Energy and Sustainability), paid out in 25% increments upon satisfactory completion of four quarterly progress updates. The first quarterly update took place on May 11 2010, and was well received by BC Hydro.

For the first quarter presentation, progress reports for each of the five focus areas listed above were provided to BC Hydro. Also presented was a Draft Energy Policy (Electricity), and an updated Action Timeline outlining BC Hydro's expectations of the Manager of Energy and Sustainability. All of this material is included as Appendix B to this report.

ALTERNATIVE

As an information report to the Committee, there are no significant implications to discuss except for the Financial Implications described below.

FINANCIAL IMPLICATIONS

Upon conclusion of the first quarterly report to BC Hydro, the RDN will be paid the first of four 25% instalments of the $50,000 amount that BC Hydro has committed to the Regional District of Nanaimo for participation in the Energy Manager Program. This amounts to $12,500, which is anticipated to arrive within the next two weeks.

SUMMARY

On May 11, 2010 the RDN Manager of Energy and Sustainability presented progress reports to BC Hydro in the first of four quarterly updates. The RDN showed that considerable work was underway in the focus areas intended to reduce energy consumption and build a culture of conservation within the organization. As a result of satisfactory completion of the Q1 progress report, the RDN should receive the first of four $12,500 cheques in the coming weeks.

RECOMMENDATION

That this report be received for information purposes.

Report Writer

General Manager Concurrence

CAO Concurrence

Energy Manager Agreement
for Power Smart Partners

BC hydro powersmart

Between:

British Columbia Hydro and Power Authority, a Crown Corporation of the Province of British Columbia having an office at 333 Dunsmuir Street, Vancouver, British Columbia, V6B 5R3,

("BC Hydro")

And:

Nanaimo Regional District, having an office at 6300 Hammond Bay Road, Nanaimo, British Columbia, V9T 6N2,

(The "Applicant").

Background:

A. The Applicant and BC Hydro entered into a Power Smart Partner Agreement on **March 27, 2003** ("Power Smart Partner Agreement") that enable the Applicant to be eligible to receive funding to pursue energy saving opportunities.

B. BC Hydro created the Energy Manager Program (the "Program"), to assist eligible customers to retain the services of a consultant(s) or dedicate an existing staff member(s) to establish or identify and enhance energy efficiency opportunities and a conservation culture at the customer's facilities (individually or collectively, the "Energy Manager").

C. The Applicant participated in BC Hydro's Energy Management Assessment session on **February 25, 2009** and identified opportunities, described in the Services and Quarterly Progress Assessment attached as Schedule 2 to this Agreement, to improve its management of energy.

D. The Applicant wishes to participate in the Program, and BC Hydro wishes to contribute funding toward the services of the Energy Manager.

BC HYDRO AND APPLICANT AGREE AS FOLLOWS:

Energy Manager

1. For purposes of this Program, Applicant will engage the services of one staff member(s) as Energy Manager to perform the services described in Schedule 2 (the "Services").

2. The Applicant will direct the Energy Manager to begin performance of the Services immediately upon the execution of this Agreement unless the parties agree in writing to a delay.

3. Any decisions relating to the services of the Energy Manager will be entirely within the discretion of the Applicant, who will be solely responsible for the terms of hiring or engagement, supervision and for any termination costs or charges.

4. The Applicant will ensure that any Energy Manager meets the qualifications set out in the Energy Manager Qualifications, attached to this Agreement as Schedule 1, and be acceptable to BC Hydro at BC Hydro's sole discretion.

5. At any time during the Program, the Applicant will submit evidence of the Energy Manager's employment status and qualifications at the request of BC Hydro.

6. BC Hydro may require the Energy Manager to attend an energy management training course determined by BC Hydro ("Training") within a time period specified by BC Hydro.

7. The Applicant will ensure that the Energy Manager attends any Training and the Applicant will be responsible for paying the Energy Manager's salary and expenses during the Training. BC Hydro will reimburse the Applicant for the Training fee upon proof of payment of the Training fee and the Energy Manager's successful completion of the course within the time period specified by BC Hydro.

8. The Applicant will provide the Energy Manager with the facilities, resources, support and access to records that the Energy Manager may reasonably require to perform the Services.

9. BC Hydro will conduct a general review of the Energy Manager's activities (which may include site visits) as determined from time to time at BC Hydro's sole discretion.

10. If at any time during the term of this Agreement the Energy Manager ceases to perform the Services as described in this Agreement, the Applicant will notify BC Hydro in writing within 10 days. The Applicant must obtain written consent from BC Hydro, prior to engaging a replacement for the Energy Manager.

Quarterly Progress Assessment

11. a) BC Hydro and Applicant will conduct quarterly progress assessments (individually "Assessment", collectively "Assessments") as described in Schedule 2 by the following dates:

First Assessment:	**May 8, 2010**
Second Assessment:	**August 8, 2010**
Third Assessment:	**November 8, 2010**
Fourth Assessment:	**February 8, 2011**

Quarterly Assessments cannot be combined unless written consent is obtained from BC Hydro.

b) Energy Management Assessment Session

The Energy Management Assessment Session must be completed prior to submission of the subsequent year Energy Manager application, preferably in the 11 month to ensure continuity of subsequent Agreements.

12. The Applicant will ensure the Energy Manager and Applicant's representative(s) are present at each Assessment.

13. BC Hydro's review and approval under this Agreement of any Assessments, potential energy savings estimates, Evidence or other documentation is limited to this Agreement and will not constitute acceptance for any other purposes.

Funding

14. BC Hydro will contribute funding up to **$50,000.00** ("Funding") to assist the Applicant to engage the services of the Energy Manager. The Funding will be advanced in order as follows:

a) 25% upon the completion of the first Assessment, provided Applicant has submitted and BC Hydro has reviewed and accepted evidence in support of the Applicant's progress and of the expenditure for the Energy Manager's services ("Evidence");

b) 25% upon the completion of the second Assessment, provided Applicant has submitted and BC Hydro has reviewed and accepted the Evidence;

c) 25% upon the completion of the third Assessment, provided Applicant has submitted and BC Hydro has reviewed and accepted the Evidence; and

d) 25% upon the completion of the fourth quarter Energy Management Assessment, and the fourth Assessment, provided Applicant has submitted and BC Hydro has reviewed and accepted the Evidence.

15. Evidence in support of the Applicant's progress will consist of a copy of the presentation, and Strategic Energy Management Plan ("SEMP") described in Schedule 2. Evidence of expenditure will include consultant paid invoices, accounting records or letter from human resources department as proof of salary paid to the Energy Manager, to be submitted by the end of the fourth quarter. BC Hydro may, acting reasonably, accept or reject all or part of the Evidence and may require submission of additional Evidence.

16. The Funding payment provided in this Agreement includes the GST. The Applicant's GST registration number is **10788 2953 RT0001**.

17. If the Applicant ceases to employ or retain the services of the Energy Manager, the Funding may be adjusted at BC Hydro's sole discretion.

Confidentiality & Privacy

18. BC Hydro will keep confidential any confidential business, technical or financial information or records made available to BC Hydro by the Applicant in connection with the Energy Manager, any Assessment or matters arising under this Agreement, and will not disclose such information except as may be required by law, under the *Freedom of Information and Protection of Privacy Act* or with the prior consent of the Applicant.

19. If the Applicant provides BC Hydro with copies of, or access to copies of, any records containing the personal information of the Energy Manager (including education, professional designations, work history, resume, or summary of qualifications) during the term of this Agreement, the Applicant will first obtain and provide to BC Hydro the written consent of the individual to the indirect collection of such personal information by BC Hydro. The consent will be in a form to be supplied by BC Hydro. The Applicant acknowledges that the foregoing is a requirement of the BC *Freedom of Information and Protection of Privacy Act*.

Repayment & Termination

20. Applicant will comply with this Agreement and the Power Smart Partner Agreement at all times. In the event that:

a) the Applicant fails to comply with any term or condition of this Agreement or the Power Smart Partner Agreement;

b) the Power Smart Partner Agreement is terminated for any reason;

c) the Applicant becomes insolvent or bankrupt; or

d) if BC Hydro (acting reasonably) is of the view that any other event or circumstance pertaining to the Applicant or Energy Manager warrants withdrawal of its financial assistance, BC Hydro may, in addition to any other right or remedy available to it, withhold any Funding payments owing to the Applicant under section 14 until the Applicant is in compliance with this Agreement or terminate this Agreement by giving notice to the Applicant.

21. Upon termination of this Agreement according to section 20, the Applicant will repay to BC Hydro any Funding paid to Applicant under this Agreement.

22. Unless otherwise terminated according to section 20, this Agreement will terminate upon completion of the disbursement of the Funding as described in section 14 of this Agreement.

23. Any rights and obligations of the parties which are expressly stated to survive termination or which by their nature are continuing rights and obligations, will survive termination of this Agreement.

Liability and Indemnity

24. Notwithstanding the fact that BC Hydro or its representatives may have reviewed the information contained in the Application and Assessments, it is understood and agreed that BC Hydro, not being a contractor, system designer or manufacturer of any of the features incorporated in the Assessments, makes no representations or warranties of merchantability and fitness for a particular purpose, or as to the fitness of the design or with respect to the expected or anticipated electrical energy load reduction nor does it warrant that any measures included in the Assessments will satisfy the requirements of any law, rule specification or contract.

25. Notwithstanding the fact that BC Hydro or its representatives have approved the Energy Manager and provided Funding to the Applicant, BC Hydro makes no representation or warranty concerning the services, actions, skills, qualifications, abilities, work or workmanship of any Energy Manager or for the implementation of any energy saving measures recommended in the Assessments.

26. The Applicant will indemnify and save harmless BC Hydro, its directors, officers, agents, and employees from all liability, damages, claims, demands, expenses and costs for claims, arising from or occurring by reason of the actual or alleged preparation or implementation of the Assessments, including any actions or omissions by the Energy Manager in the preparation or implementation of the Assessments. This obligation does not apply to any proportion of the liability, damages, claims, demands, expenses, and cost for claims adjudicated, or agreed by the parties, to be attributable to any negligent acts or omissions of BC Hydro, its directors, officers, agents and employees.

27. BC Hydro will not be responsible for any tax liability imposed on the Applicant as a result of any Funding given pursuant to this Agreement.

Notices

28. A notice that either party may be required or may desire to give the other party will be in writing and will be given to and received by the addressee on the day when it is delivered, by hand, by courier, by fax, or by prepaid mail, at the following addresses:

BC Hydro:

Power Smart
Suite 900 – 4555 Kingsway
Burnaby, BC V5H 4T8
Fax: 604 453-6280

Applicant:

Nanaimo Regional District
6300 Hammond Bay Road
Nanaimo, BC V9T 6N2
Fax: 250 390-4163

Either party may from time to time change its address for notice by giving notice to the other party.

General Terms

29. In any advertisements or promotional materials relating to the Program or implementation of any energy savings measures which result from it, BC Hydro and the Applicant will each give recognition to the participation of the other in fair and accurate terms; but any logos, copyright, trademarks or trade names of a party will not be used without the written consent of that party.

30. BC Hydro and the Applicant agree to provide all reasonable cooperation to the other in their mutual objective to successfully implement the Program.

31. This Agreement will be governed by and interpreted in accordance with the laws of the Province of British Columbia.

32. This Agreement embodies the entire Agreement between the parties with regard to the subject matters dealt with herein, and no understanding or agreements, oral or otherwise, exist between BC Hydro and the Applicant except as contained in this Agreement.

33. This Agreement will not take effect unless the Applicant executes and returns this Agreement to BC Hydro **within 30 days from the date this Agreement is executed by BC Hydro**.

34. This Agreement may not be modified except by a writing signed by both parties.

35. Time is of the essence in this Agreement.

In witness whereof

the duly authorized representatives of each party have executed this Agreement on the dates written below.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

Per: Sandra Madill

Authorized Signatory

Name: **(please print)** Sandra Madill

Title: Program Specialist, Commercial Operations

Date: February 8, 2010

NANAIMO REGIONAL DISTRICT

Per: _____

Authorized Signatory

Name: **(please print)** _____

Title: _____

Date: _____

SCHEDULE 1
ENERGY MANAGER QUALIFICATIONS

A. FOR APPLICANTS EMPLOYEE(S)/STAFF MEMBER(S)

Minimum Education

For Full-time Energy Manager on staff:

- Masters designation in business or appropriate business field
- Registered Professional Engineer
- Registered Engineering Technologist or Certified Energy Manager

For Full-time Energy Manager Co-coordinator on Staff (Note: maximum funding structure is 30% less than EM incentive):

- Certified Journeyman Electrician or Certified Technician (HVAC, instrumentation, or other relevant discipline)
- BCIT Sustainable Energy Management Associated Certificate
- Masters in Sustainability or Planning

Further Education Recommended

- Certified Energy Manager (CEM) designation through the Association of Energy Engineers
- BC Hydro Courses:
  - Energy efficiency training such as the CIET Energy Management Training (EMT)
  - Change Management
  - Strategic Energy Management Plan (SEMP)
- LEED Professional Accreditation
- Maintenance and management of electrical and lighting systems
- Maintenance and management of mechanical systems including HVAC systems and cooling plants

Required Skills Experience

- Five (5) years work experience in business that includes:
  - Supervision
  - Capital project management
  - Customer service/sales
- Demonstrated interest and enthusiasm related to energy efficiency (Work/Volunteer experience)
- Familiarity and knowledge of energy efficient technologies (Implementation of a project or attendance of a course)
- Experience in developing business cases and detailed report writing
- Experience with financial analyses, budget preparation and budget management

If applicant does not meet all required skills and experience as outlined above, BC Hydro funding structure will be modified accordingly.

B. FOR CONSULTANTS: (2 Types)

Category 1: Experienced consultant approved to be an Energy Manager for multiple organizations and if approved by Power Smart Alliance to do so, complete technical audits and studies.
Category 2: A consultant assigned to be an Energy Manager for one (1) organization and is not approved to complete technical audits and studies.

Consultant: Category 1
Minimum Education

- Registered Professional Engineer or Masters in Business Administration

Further Education Recommended

- Certified Energy Manager (CEM) designation through the Association of Energy Engineers
- BC Hydro Courses:
  - Energy efficiency training such as the CIET Energy Management Training (EMT)
  - Change Management
  - Strategic Energy Management Plan (SEMP)
- LEED Professional Accreditation
- Maintenance and management of electrical and lighting systems
- Maintenance and management of mechanical systems including HVAC systems and cooling plants

Required Technical Experience and Qualifications

- Minimum five (5) years energy management experience, including detailed energy auditing for both mechanical and lighting systems
- Knowledge of and experience with energy efficiency technology related to lighting systems, HVAC systems, cooling plant equipment, heating plant equipment, and controls systems

Required Skills and Experience

- Five (5) years work experience in business that includes:
  - Supervision
  - Capital project management
  - Customer service/sales
- Demonstrated interest and enthusiasm related to energy efficiency (Work/Volunteer experience)
- Familiarity and knowledge of energy efficient technologies (Implementation of a project or attendance of a course)
- Experience in developing business cases and detailed report writing
- Experience with financial analyses, budget preparation and budget management
- Experience using common computer software such as Microsoft Word, Excel and PowerPoint
- Excellent verbal communication skills, interpersonal skills, and presentation skills

Power Smart Alliance

- Membership in the Power Smart Alliance, OR
- Meets the following eligibility criteria for the Power Smart Alliance

Consultant/Engineer Eligibility Criteria for the Power Smart Alliance

- Demonstrate that the firm's president/owner has a minimum of five (5) years of experience consulting or designing the energy efficient equipment and systems, represented by the appropriate Power Smart Alliance service requested by the customer. Similarly, demonstrate that consultant is a certified Professional Engineer (P Eng) in British Columbia. BC Hydro will verify the consultant's history within the appropriate association
- Maintain a valid British Columbia Business License that has been in effect for at least the past three years, have active license(s) in all jurisdictions served by consultant and provide BC Hydro with evidence of such licenses upon
  BC Hydro's request on all sold jobs
- Provide BC Hydro a list of ten (10) commercial/industrial clients as references.
  At least five (5) of these references must be for energy efficient projects
- Submit a Power Smart Alliance application with BC Hydro
- Comply with all rules and tariffs of BC Hydro and BC Hydro Power Smart programs. Accurately represent customer electric uses and consumption estimates
- Demonstrate fair business practices documented by periodic reviews by
  BC Hydro and the Better Business Bureau
- Maintain a personal computer with internet and email access in order to receive referrals and provide project updates
- Develop a training program for employees involved in the PSA program and require each employee to receive a minimum of 20 training hours each year. The program should describe the ongoing training regimen for each job category
- Provide a comprehensive general liability insurance policy of not less than
  $2 million and name
  BC Hydro as an additional insured
- Provide written proof of good standing and remain in good standing with WorkSafe BC.

Approved consultants may subcontract up to 20% of the work. If more than 20% is subcontracted, the subcontracted firm must be approved by BC Hydro.

Consultant: Category 2
Minimum Education

- Masters designation in business or appropriate business field
- Registered Professional Engineer
- Certified Energy Manager
- Certified Journeyman Electrician or Certified Technician (HVAC, instrumentation, or other relevant discipline)

Further Education Recommended

- Certified Energy Manager (CEM) designation through the Association of Energy Engineers
- BC Hydro Courses:
  - Energy efficiency training such as the CIET Energy Management Training (EMT)
  - Change Management
  - Strategic Energy Management Plan (SEMP)
- LEED Professional Accreditation
- Maintenance and management of electrical and lighting systems
- Maintenance and management of mechanical systems including HVAC systems and cooling plants

Required Skills Experience

- Five (5) years work experience in business that includes:
  - Supervision
  - Capital project management
  - Customer service/sales
- Demonstrated interest and enthusiasm related to energy efficiency (Work/Volunteer experience)
- Familiarity and knowledge of energy efficient technologies (Implementation of a project or attendance of a course)
- Experience in developing business cases and detailed report writing
- Experience with financial analyses, budget preparation and budget management

Power Smart Alliance

- Membership in the Power Smart Alliance, OR
- Meets the following eligibility criteria for the Power Smart Alliance

Consultant/Engineer Eligibility Criteria for the Power Smart Alliance

- Maintain a valid British Columbia Business License
- Submit a Power Smart Alliance application with BC Hydro
- Comply with all rules and tariffs of BC Hydro and BC Hydro Power Smart programs. Accurately represent customer electric uses and consumption estimates
- Demonstrate fair business practices documented by periodic reviews by BC Hydro and the Better Business Bureau
- Maintain a personal computer with internet and email access in order to receive referrals and provide project updates
- Provide a comprehensive general liability insurance policy of not less than $2 million and name BC Hydro as an additional insured
- Provide written proof of good standing and remain in good standing with WorkSafe BC.

  Approved consultants as a contractor are limited to working as an Energy Manager for one customer at a time and can not subcontract any work.

SCHEDULE 2
SERVICES AND QUARTERLY PROGRESS ASSESSMENT REQUIREMENTS

Services

The Applicant must perform the services consisting of qualitative and quantitative components. The qualitative component is characterized by five critical items identified in the Energy Management Assessment ("EMA") session of **February 25, 2009** and presented in the Energy Management System Action Plan. The quantitative component is characterized in the establishment of the Strategic Energy Management Plan ("SEMP"). The five EMA critical items and SEMP are below. The ongoing status of each EMA's critical item and the development of the SEMP must be communicated to BC Hydro through the Assessments.

Energy Management Assessment

The Energy Management Assessment (EMA) is a diagnostic tool that helps customers get a better understanding of their energy management practices and procedures and produces five critical items for the organization to address. The five critical items listed below are derived from the most recent Energy Management Assessment session. If this is the first year of the Energy Manager (EM) with the EMA session, the EM is responsible for addressing the five critical items. If this is not the first year, then the EM must present on previous and new critical items to ensure that previous critical items are sustained and are addressed.

EMA's Five Critical Items*

	Management Practice	Key Area
1	Demonstrate Corporate Commitment	Leadership
2	Understanding of Performance and Opportunities	Understanding
3	Accountabilities	Planning
4	Awareness and Training	People
5	Reporting, Feedback and Control Systems	Monitoring and Reporting

SEMP

The Strategic Energy Management Plan is a document that captures quantifiable energy data. It looks at historical data consumption and patterns, determines where the organization is at in its current environment and shows what the organization is planning to do for the upcoming 2-3 years in terms of energy efficiency opportunities. Applicants in their first year will have six months to submit the SEMP. The SEMP must be approved by BC Hydro by the end of the first year. A GWh reduction target agreed upon by BC Hydro and the customer will be provided at the time the SEMP is submitted. Beyond the first year, the Applicant will update the SEMP and present an ongoing comparison to the baseline year. The SEMP will address the following key areas:

1. Our Organization
   a. Organizational Profile
   b. Facility Profile
   c. Key Performance Indicators
   d. List of Stakeholders
   e. List of Energy Volunteers

2. Our Commitment
   a. Energy Policy
   b. Sustainability Policy
   c. Why Energy Management is Important to us

3. Understanding our Situation
   a. Energy Consumption and Costs
   b. Energy Breakdown
   c. Baseline Energy Use
   d. Savings Opportunity Assessment – Energy Consumption & Cost Intensity
   e. Asset Registry

4. Our Actions
   a. Quarterly Goals and Objectives
   b. Annual Goals and Objective
   c. Annual Energy Intensity by Key Performance Indicators
      i. Are you becoming more Energy – efficient?
      ii. How much money you are saving by becoming more efficient?
   d. Planned Actions (Project List)

QUARTERLY PROGRESS ASSESSMENT REQUIREMENTS

Assessment Requirements

The Players
Applicant: Energy Manager and Energy Manager sponsor (or alternate).
BC Hydro: Energy Management Committee comprising of a Key Account Management Representative and a combination of a Power Smart Engineering Representative and/or Marketing Representative.

The Location
Primarily at the Applicant's site.

Duration
Two hours is recommended.

Content
First half: Applicant's presentation will cover the previous quarter's progress on each qualitative and quantitative components described above, including how previously failed items have been addressed (if applicable). The presentation will also provide a self-assessment on the progress made.
Second half: Q&A period and BC Hydro assessment.

Evidence
Applicant will submit the following documentation as described in section 15 of this agreement: a copy of the presentation; and SEMP; consultant paid invoices, accounting records, or letter from human resources department as proof of salary paid to the Energy Manager, to be submitted by the end of the fourth quarter.

Goals and Outcome
The goals and outcome are three-fold:
1) create and maintain a healthy dialogue;
2) properly assess the Applicant's progress; and
3) identify problem areas and shortcomings early on for effective and timely corrective actions.

Subsequent Energy Management Assessment Sessions
An Energy Management Assessment must be conducted and completed in order to develop the five critical items for the following year Energy Manager Agreement. This follow-up session must occur prior to the end of the 11th month of the current Agreement to ensure continuity of subsequent Agreements.

EMA Progress Report – Q1

Regional District of Nanaimo Energy Management System Action Plan 2009

AREA ID	**1.1 – Demonstrated Leadership Commitment**
AREA DESCRIPTION	Arrange for an executive-level officer to sign and sponsor an energy-specific policy or directive containing specific, quantitative goals and objectives for improving energy efficiency and/or reducing energy costs.
BACKGROUND	At the initial Energy Management Assessment (EMA) held in April 2009, the Regional District of Nanaimo's Level of Development for Demonstrated Leadership Commitment was **Yet to Qualify,** with a target of Bronze. An Energy Manager agreement was formalized Feb. 8, 2010, and numerous activities as outlined below are advancing the RDN's Demonstrated Leadership Commitment to energy conservation.
START DATE	Feb. 8, 2010
EST COMPLETION DATE	Adopted Energy Policy – July, 2010; monitoring and measuring performance quarterly with final reporting at Q4.
CURRENT STATUS	In progress. Recommended actions for Q1 on schedule.
ASSIGNED TO:	Chris Midgley
TASK PROGRESS	1.1.1 – Quantify the benefit of energy conservation activities conducted to date: • Energy Conservation Projects Undertaken to date o Energy Audit for Oceanside Place ▪ There is room for improvement, however audit indicated OP is outperforming comparable facilities by 38%; ▪ Targeted investment in energy conservation at OP is limited; focus is on occupant/ staff behaviour (staff education). o RDN Administration Building Upgrade ▪ LEED silver certification in process; ▪ High efficiency heat recovery system for heating and cooling with individual controls; ▪ Operable windows in each office for ventilation/ fresh air; ▪ Daylighting to minimize the need for internal lighting; ▪ Fluorescent lighing in each office – user controlled; ▪ Solar orientation to optimize passive solar heating; ▪ Financial benefits of investment in conservation will become evident after building is in use for an annual cycle; ▪ Real time energy monitoring to be initiated in summer of '10. o RDN Transit Administration Building Upgrade ▪ Similar conservation features as Administration Building ▪ Includes green roof for additional insulation/ optimizing passive heating and cooling; ▪ Domestic Hot water and some space heating provided by solar hot water system; ▪ Real-time energy monitoring to begin at transit Building, Summer '10 o Ravensong Pool Upgrade ▪ Lighting conservation measures to save between 40,000 – 50,000 kilowatt hours per year ▪ Heat recovery system to be integrated with dehumidification system, savings yet to be determined ▪ Upgrades to building envelope and insulation will improve

	efficiency of installed systems; ▪ Solar hot water system under consideration for pre-heating water, saving to be determined; ▪ Facility will have real-time energy monitoring prior to completion of upgrade allowing for comparison of pre- and post construction energy use. o Lighting Upgrade at Greater Nanaimo Pollution Control Centre and Deep Bay Pump Station ▪ 64 T-12 Fluorescent lights and 32 ballasts replaced with T-8 luminaires and electronic ballasts ▪ Salesperson arranged BC Hydro Incentives • PIP10-10642 • Incentive Amount: $120.00 • Estimated Electricity Savings: 6,768 kwh • PIP10-10566 • Incentive Amount: $371.43 • Estimated Electricity Savings: 5,239 kwh o Cogeneration of Heat and Electricity at GNPCC ▪ Previously flared methane at GNPCC used to generate heat for sewage treatment process and electricity for treatment plant. ▪ Actual energy production data not available ▪ Estimate that all heat and electricity needs will be provided by co-gen ▪ GNPCC upgrade to secondary treatment in development, adding considerable potential for additional energy production, but also adding considerable demand for energy – high efficiency mixer (up to 90% less electricity demand than status quo technology) under consideration. Technology not proven in BC. o Co-gen of Heat and Electricity at Regional Landfill ▪ Generation of electricity from methane produced from organic decomposition undertaken at landfill ▪ Tripartite collaboration agreement between RDN, BC Bioenergy Network and Cedar Road LFG (private company producing the gas) ▪ Current generation capacity is 1.5MW o Church Road Transfer Station Development – Pursuit of LEED gold ▪ High energy performance facility under development ▪ Actual features yet to be determined, ▪ Facility will be equipped with real time energy monitoring as a base case for energy use at LEED certified solid waste facilities. o Energy Conservation Software installed by IT (Powersave) ▪ On average, saves 1.13 kwh per PC per day (daily consumption drops from 2.20 to 1.07 kwh per day per computer. ▪ Annual organization wide savings of $6,500 per year. o Upgrade and redevelopment of Nanoose Firehall (design phase), includes mechanical system overhaul with investment in renewable energy systems for space heating. ▪ Just completing the preliminary design phase ▪ Considering innovative heat recovery system using local regional water distribution system as heat source; ▪ Technology not proven ▪ Estimated savings of $8,000 to $10,000 per year when compared against upgrade using conventional technology. o Real-time building energy monitoring software currently being deployed at nine RDN facilities.

	▪ RDN Administration Building ▪ RDN Transit Administration Building ▪ Greater Nanaimo Pollution Control Centre ▪ French Creek Pollution Control Centre ▪ Departure Bay Pump Station ▪ Chase River Pump Station ▪ Ravensong Pool ▪ Oceanside Place (Ice Rink) ▪ Church Road Transfer Station ▪ Focus will be on flattening peak loads, eliminating power factor surcharges as applicable, using monitoring to highlight benefits of green building and green building policy, and to bolster staff outreach and education to promote occupant behaviour that emphasizes energy conservation ▪ Financial benefits to be quantified at the end of one year of monitoring o Staff Education and Outreach Program ▪ Lunch and Learn series initiated – to be coordinated with BY Hydro ▪ About sustainability generally, with focus on energy conservation and greenhouse gas reduction. ▪ Sessions are designed to be informative and provide staff with an understanding of personal behaviour and energy use. • Financial Benefits o Aside from minor benefits associated with participation in incentive programs, full assessment of financial benefits will not be available for several months. o In 2009, Electricity costs for the RDN equaled approximately $830,000. A target of 10% savings would equal approximately 83,000 dollars • Public Image Benefits o Energy saving activities like those outlined above provide significant public image benefits to the RDN. It is clear that the Board and Senior Administration understand the environmental and financial benefits of energy savings. This translates to enhanced opportunities for public outreach as information can be provided to regional residents in Newsletters, strengthening the awareness that the RDN Board is acting consistent with the principles established in Strategic Planning documents. 1.1.2 – Organization wide Directive for Energy Conservation • Climate and Energy have been identified as Strategic Priorities for the Board's current term of office. The following is excerpted from the Board Strategic Plan: o As decision-makers responsible for administering regional management of solid waste and wastewater and drinking water, parkland, land use, and transportation services, the RDN Board has an enormous role to play in transitioning the region toward more sustainable energy systems. **Objectives** ▪ To take a strategic approach to energy, emissions and climate change integrated across the Regional District as a whole. ▪ To work with each local government and electoral area to reduce emissions and meet the provincial and global targets for emission reduction. ▪ To support energy efficiency measures within the RDN

	organization that will lead to carbon neutral operations, and to assist member municipalities in their efforts to do the same. ▪ To support energy efficiency measures that reduce consumption as well as emissions in the community at large. ▪ To explore, invest in and develop innovative, clean and renewable energy supplies throughout the region. • Preliminary discussions with Human Resources department to integrate energy conservation and emission reductions into all job descriptions have taken place. • Opportunity to provide information to all staff through delivery system for pay stubs has been agreed to in-principle. Action planned for the next 4-6 weeks.\ o Objective is to have a knowledgeable staff taking the same message home and into their communities. • An organization wide directive will be formalized in conjunction with the release of an RDN Energy Policy • The financial and public image benefits for an organization wide directive have not been assessed. Estimates indicate that a 10% reduction in energy consumption across the organization is possible. In locations where energy use is driven by occupant behaviour, significant additional savings, on the order of 30%, are possible once outreach and monitoring programs are in full swing. 1.1.3 – Review Sample Energy Policy Statements • Review of Sample Energy Policy statements limited to: o Review of local energy policies at local governments known to have an Energy Manager: ▪ District of North Vancouver ▪ Resort Municipality of Whistler ▪ City of Nanaimo o Review of required content for Energy Policies as per: ▪ Energy Management Assessment ▪ SEMP Template 1.1.4 – Create an Energy Management Statement (stand alone, or part of existing, broader policy • The basis for the RDN's energy management statement exists in the Board Strategic Plan • This will be reflected in the Region's Strategic Energy Management Plan, which will integrate BC Hydro Energy Manager Program Goals, as well as corporate goal for Carbon Neutrality • Aiming for a balance between absolute reductions in consumption and intensity based reductions based on floor area. • EMA indicates that a 7-12% reduction is possible. RDN will aim for a 10% reduction, normalized for growth. 1.1.5 – 1.1.6 – For Q-2 through Q-4 1.1.7 – 1.1.8 –

CHALLENGES	• High level of interest among staff, which is excellent, and suggests the overarching desire for staff to progress with energy conservation. The resulting challenge is one of coordinating disparate activity. • Wide range of facility types with uncertainty around quantifying conservation opportunities in the different types (eg. water treatment facilities and pump stations versus administrative offices); will become clearer with building energy monitoring program; • Maintaining the energy to conduct monthly Lunch and Learn sessions • A great deal of work, with limited staff. Efforts in Q1 were slowed by process to hire Sustainability Coordinator for the RDN. • Few sample energy policies available online.

EMA Progress Report – Q1

Regional District of Nanaimo Energy Management System Action Plan 2009

AREA ID	**2.1 – Understanding Performance and Opportunities**
AREA DESCRIPTION	Establish the energy consumption and determine the potential energy savings for each major operational area, facility, or system by applying a more comprehensive and holistic approach to energy analysis and establish a plan for implementation.
BACKGROUND	At the initial Energy Management Assessment (EMA) held in April 2009, the Regional District of Nanaimo's Level of Development for **Understanding Performance and Opportunitiest** was **Yet to Qualify,** with a target of Bronze. In the EMA, RDN staff specifically identified interval data with real-time energy usage profiles for RDN facilities as critical in providing the foundation for target setting and strategic planning initiatives for energy conservation at the RDN.
START DATE	Feb. 8, 2010
EST COMPLETION DATE	February 2011
CURRENT STATUS	In Progress, Q1 Recommended Actions on Schedule: • Deployment of real time building energy meters and monitoring software underway. • Completed energy audits consolidated and reviewed. • Energy consumption by system under development.
ASSIGNED TO:	Chris Midgley
TASK PROGRESS	2.1.1 – Identify areas, locations or systems where energy analysis or upgrade activities have previously been performed. • Oceanside Place o Audit completed March, 2009 o Results: Better than average performance o Additional investment is a lesser priority for immediate future • Ravensong Pool o Electrical audit completed June 2009 o Mechanical Systems audit completed July 2012 o Major upgrade to facility currently underway o Upgrade will include energy efficient lighting; heat recovery and dehumidification, new insulation. o Feasibility of geothermal assessed – not feasible until additional complementary uses are present on-site • Greater Nanaimo Pollution Control Centre o Audit completed January 2009 o Numerous recommendations to improve efficiency. o After review by BC Hydro, final audit deemed insufficient o Presently, future upgrades to GNPCC are in the planning stage. Opportunities to improve energy efficiency, as well as increase the generation of electricity on-site are under consideration. o BC Hydro has been invited to future discussions. • French Creek Pollution Control Centre o Audit completed November 2008 o Various upgrades recommended o Final audit deemed insufficient to merit 50% cost share for energy study, as per file PSI08-1666

- Future upgrades to FCPCC in preliminary planning stage. BC Hydro has been invited to participate in discussions to identify electricity conservation opportunities.

- Information Technology Systems
  - Average energy use per desktop station analyzed in 2008.
  - Powersave software deployed in 2009
  - Current savings on the order of 1.13 kwh per desktop station per day (from 2.2 kwh per day to 1.07 kwh per day)/
- Opportunities for energy savings in each major service area undertaken in 2007. Recommendations include:
  - Optimize wastewater treatment pumps and motors
    - Actual cost savings and energy conservation data not estimated
    - Variable drive pumps are the norm.
    - Additional opportunities for optimization may become evident with real time monitoring (eg. maintenance of wet well depth)
  - Install variable speed pumps/ motors throughout potable water distribution system
    - Variable speed motors are installed throughout system. A few remained to be changed out and will be at end of service life.
  - Develop Energy efficiency guidelines for new buildings
    - *Green Building Policy for RDN Facilities* requires integrated design process with discussion on how new construction will achieve carbon neutrality, including minimizing electrical demand.
  - Monitor corporate energy use on a monthly basis
    - Energy monitoring at RDN facilities to increase with deployment of real-time energy monitoring software – Q2 '10.
  - Raise awareness about energy use
    - March 2010 – Monthly Lunch and Learn sessions initiated.
    - Must ensure that program meets BC Hydro requirements in order to use sessions to count for 2% savings, as per Energy Manager's Consortium meeting, Vancouver, April 13, 2010
  - Replace older equipment with energy efficient technology as it becomes available
    - Efficient technology generally purchased. To be formalized as part of energy policy.

2.1.2 –Identify areas, locations or systems where no previous energy analysis or upgrade activities have been performed.

- The Regional District of Nanaimo has almost 80 discrete facilities with separate BC Hydro Account numbers
  - Energy monitoring will target top 9 electricity users. Opportunities for savings will be assessed and implemented accordingly. Monitoring to begin in Q2 '10.
- Account information, including total consumption, power factor surcharge, and total charge for each facility is gathered several times per year. This is the extent of energy analysis to date.
- In summer of 2010, 15-minute interval consumption data will be available to RDN staff for nine facilities across all major service areas:

2.1.3 –Identify and select qualified resources to execute work scopes

- Within the RDN, several recreational as well as industrial sites have full time site superintendents. In collaboration with the RDN energy manager, these skilled professionals are ideally suited to recommend, manage, and analyze information issuing from energy studies and/ or

	audits. • Identified Private Sector Energy Audit Firms: o Prism Engineering o Energy Advantage o AD Williams • Critical Next Step – Identify essential elements for audits to meet BC Hydro expectations For Q2-Q4: 2.1.4 –Schedule and conduct energy baseline studies • To be assessed once energy monitoring software deployed, and for inclusion in 2011 budget cycle. 2.1.5 –Analyze energy baseline study results 2.1.6 –Use Baseline Study Results to establish energy use/ major system metrics 2.1.7 – Use Baseline Study Results to establish potential savings/ energy system quantification 2.1.8 –Compile multi-year capital plan for approved energy projects across the portfolio 2.1.9 –Obtain management approval, as needed, to implement the projects in the multi-year plan.
CHALLENGES	• Lack of institutional familiarity with audit process • Loss of momentum in auditing process due to previous audits failing to meet BC Hydro needs, and subsequent unanticipated costs incurred to the RDN. • Distribution of facilities across region makes engaging staff effectively a challenge • Staff skilled at organizational change have limited technical know-how, and staff with technical know-how have limited organizational/ communication skills. Staff with technical know-how are responsible for the maintenance and operation of an individual facility. This presents a moderate challenge in meeting, communicating, and managing change.

EMA Progress Report – Q1

Regional District of Nanaimo Arm Energy Management System Action Plan 2009

AREA ID	**4.1 - Accountability**
AREA DESCRIPTION	Establish clear roles, accountabilities, and expectations for energy control accordingly to the Energy Manager and site coordinators in the departmental areas.
BACKGROUND	At the initial Energy Management Assessment (EMA) held in April 2009, the Regional District of Nanaimo's Level of Development for **Accountabilities** was **Yet to Qualify,** with a target of Bronze. While the efforts of the Energy Manager and the support of the Board and Senior Administration will be instrumental, active participation of relevant department personnel, with the technological expertise, interest, responsibility and authority is essential for the success of a comprehensive energy management program at the RDN.
START DATE	Feb. 8, 2010
EST COMPLETION DATE	February 2011
CURRENT STATUS	In Progress. Role of energy manager established: Q1 requirements fulfilled
ASSIGNED TO:	Chris Midgley
TASK PROGRESS	4.1.1 –Establish Role and Expectations for Energy Manager • Develop policies relating to energy management o Formal energy policy under development; to be adopted by July 2010 • Develop Strategic Energy Management Plan o Preliminary SEMP draft under development • Facilitate integration of energy efficiency measures in new capital projects, seek incentive wherever possible o Ongoing for Ravensong Pool, GNPCC and FCPCC Upgrades, and Nanoose Firehall development • Raise awareness of energy issues and energy efficiency opportunities among staff o Lunch and Learn sessions initiated in March 2010 • Identify and execute technical projects o Present focus is on current capital projects. Audits of RDN facilities will be planned for 2011 through the fall budget cycle. • Initiate effective energy monitoring and reporting processes o Real-time energy monitoring meters and software to be deployed in summer of 2010. • Provide technical support to departmental site energy coordinators when appropriate For Q2 to Q4: 4.1.2 –Identify Key Sites that could be made more responsible for energy use issues 4.1.3 – Identify specific personnel responsible for coordinating energy issues (site energy coordinators) 4.1.4 –Communicate to organization the new role of personnel responsible for coordinating site energy issues

	4.1.5 – Establish regular reporting of normal versus actual use to provide to responsible site personnel 4.1.6 – Consider motivational benefit of recognizing achievements of responsible personnel in meeting targets
CHALLENGES	• No challenge establishing role of Energy Manager, Senior Administration and Board are supportive of position • Staff and site superintendents are keen to act on energy conservation measures. • Yet to be successful with incentive programs for capital projects • Challenges with audits performed to date and no accountabilities in place to rectify inadequate audits • Making the case to undertake comprehensive, organization wide energy audits within a period of budgetary constraints may be difficult • Maintaining staff interest in Lunch and Learn sessions

EMA Progress Report – Q1

Regional District of Nanaimo Energy Management System Action Plan 2009

AREA ID	**4.2 – Awareness and Training**
AREA DESCRIPTION	Conduct basic energy-awareness activities within your organization, focusing on cost savings and environmental issues associated with energy use.
BACKGROUND	At the initial Energy Management Assessment (EMA) held in April 2009, the Regional District of Nanaimo's Level of Development for **Awareness and Training** was **Yet to Qualify,** with a target of Bronze. The RDN management team members who participated in the EMA recognized that a more consistent and comprehensive approach to energy conservation activities would result in more effective energy conservation across the organization.
START DATE	Feb 8, 2010
EST COMPLETION DATE	Completion of Recommended Actions on schedule for February 2011
CURRENT STATUS	In progress. Q1 activities on schedule. More effort to identify available assistance and materials is needed to accelerate awareness and training programs.
ASSIGNED TO:	Chris Midgley
TASK PROGRESS	4.2.1 –Evaluate past energy awareness activities and effectiveness. • Past activities to raise awareness on energy issues are very limited • Senior management participation in Corporate Energy and Emissions Planning • Focus to date has emphasized facility audits and technical audits over behavioural and organizational change. 4.2.2 –Determine activities to implement as part of an energy awareness campaign. • Lunch and Learn sessions initiated o Must work with BC Hydro to ensure staff education program is consistent with BC Hydro requirements • Workstation monitoring devices (eg. Kill-a-watt) to be purchased and circulated among staff. • 'Green handouts' to accompany pay stubs under consideration, to be approved. • Preliminary discussions with HR Department to include energy conservation into every RDN job Description. For Q2 to Q4: 4.2.3 –Identify available sources of required awareness assistance and materials. • BC Hydro Power Smart Tips 4.2.4 –Schedule and deliver awareness activities. • Lunch and Learn sessions underway. 4.2.5 –Consider appropriate meeting forum for soliciting energy conservation ideas from non-facilities staff, employees and the community. 4.2.6 –Implement regular opportunities for soliciting ideas from staff, employees and the community.

	4.2.7 – Report back to contributors on ideas implemented and corresponding results. 4.2.8 –Consider recognition awards for contributed ideas that result in measurable improvement in energy conservation 4.2.9 – Evaluate effectiveness of awareness campaign and adjust as necessary
CHALLENGES	• Maintaining staff interest in Lunch and Learn sessions • Ensuing a sufficiently interesting range of topics on energy conservation for staff education program • Time required to conceive, develop and present engaging and informative educational materials

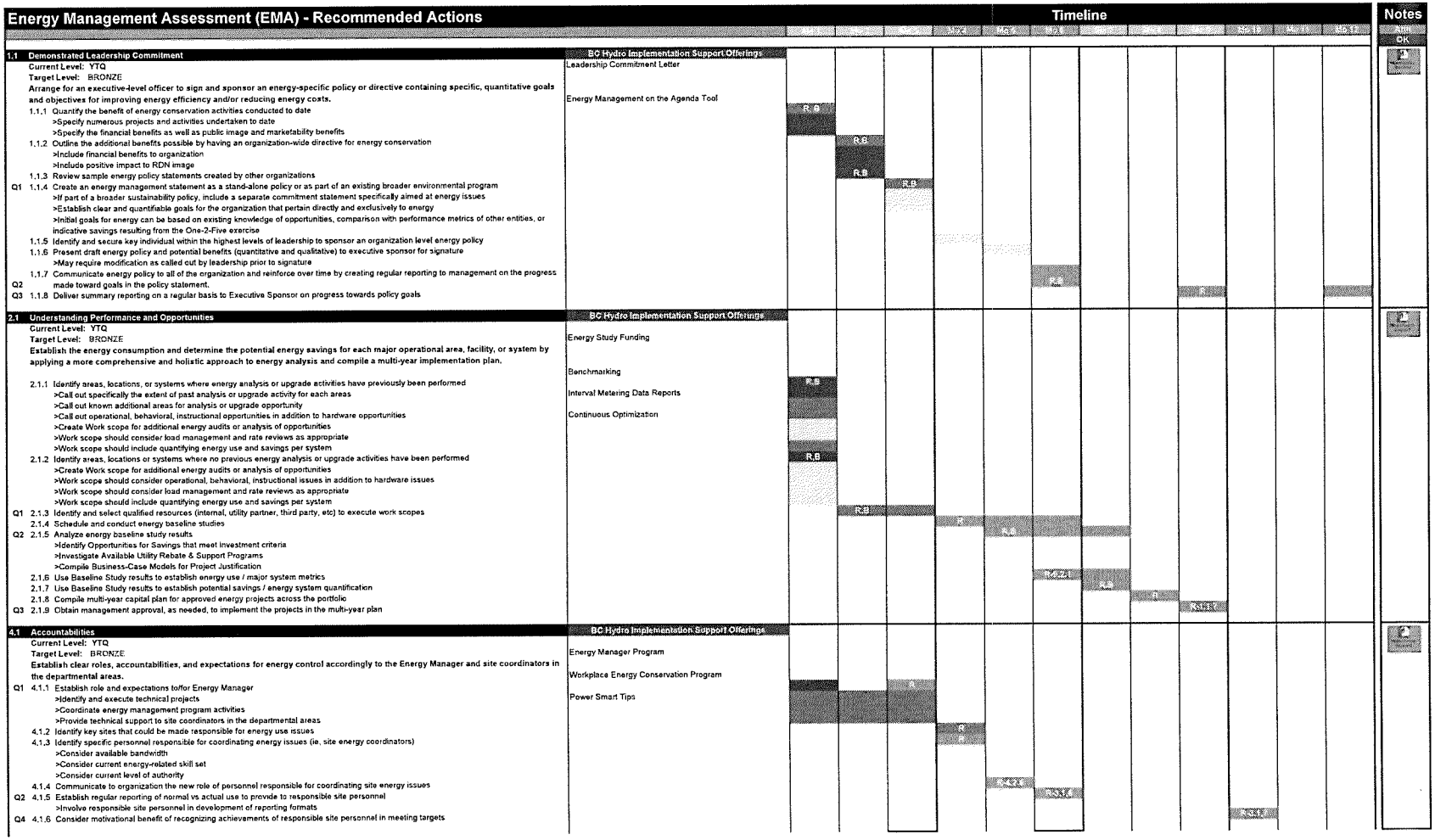
EMA Progress Report – Q1

Regional District of Nanaimo Arm Energy Management System Action Plan 2009

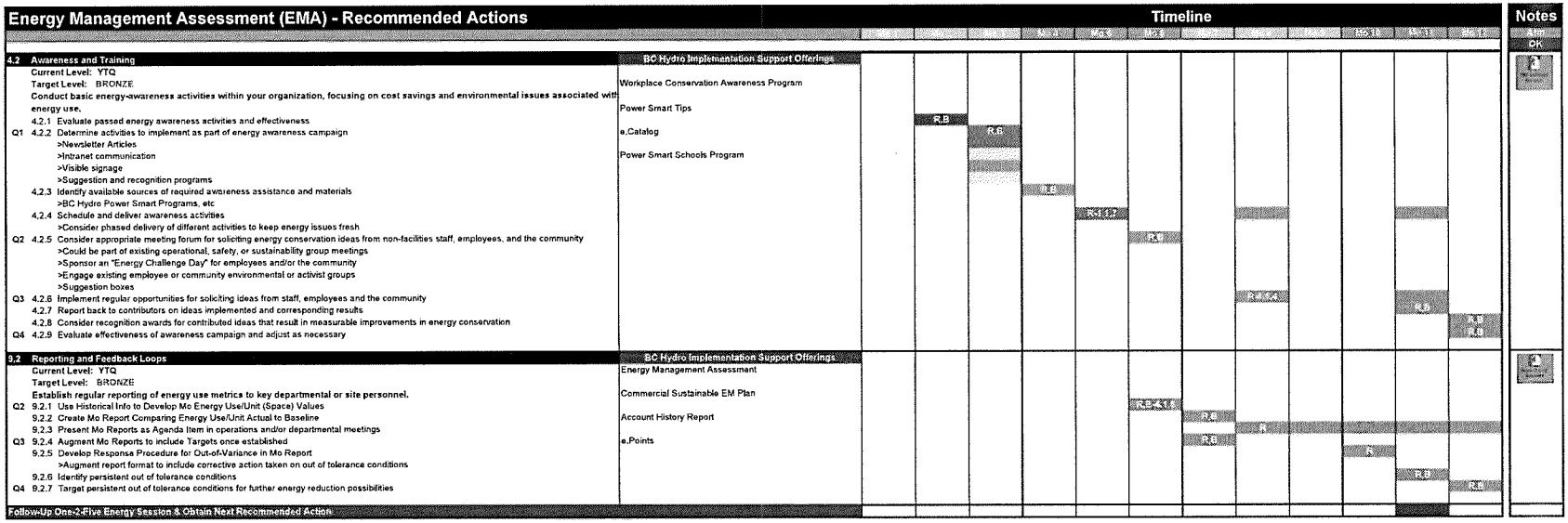
AREA ID	**9.2 Reporting and Feedback**
AREA DESCRIPTION	Establish regular reporting of energy use metrics to key departmental or site personnel.
BACKGROUND	At the initial Energy Management Assessment (EMA) held in April 2009, the Regional District of Nanaimo's Level of Development for **Reporting and Feedback** was **Yet to Qualify,** with a target of Bronze. Currently, billing information is collected several times a year, but no specific process has been formalized to ensure regular information gathering by account from BC Hydro. No reporting processes have been established. An energy use reporting system is integral to the monitoring software to be deployed in Q2. this will greatly facilitate monthly reporting, as well as identifying out-of-tolerance conditions.
START DATE	End of Q2 (August , 2010)
EST COMPLETION DATE	February 2011
CURRENT STATUS	Pending – No Recommended Actions for Q1
ASSIGNED TO:	Chris Midgley
TASK PROGRESS	9.2.1 – Use historical information to develop monthly energy use/ unit (space) values 9.2.2 – Create monthly reports comparing energy use/ unit actual to baseline 9.2.3 –Present monthly reports as agenda item in operations and/ or departmental meetings 9.2.4 – Augment monthly reports to include Targets once established 9.2.5 – Develop response procedure for out–of-variance in monthly reports 9.2.6 – Identify persistent out of tolerance conditions 9.2.7 – Target persistent out of tolerance conditions for further energy reduction possibilities

CHALLENGES	The following challenges are speculative and unsubstantiated: • Foresee challenge of establishing baseline conditions against which actual use is compared • Moderate challenge to participate in departmental meetings at some locations in RDN. • Foresee some challenge in reacting to out of tolerance conditions in a timely manner, primarily due to an absence of budgetary planning to address offending conditions.

Energy Management Assessment Action Plan Draft Timeline
Regional District of Nanaimo - April 2009



Energy Management Assessment Action Plan Draft Timeline
Regional District of Nanaimo - April 2009



REGIONAL DISTRICT OF NANAIMO

POLICY

SUBJECT:	*Energy Policy (Electricity)*	POLICY NO: CROSS REF.:
EFFECTIVE DATE:	June 1, 2010	APPROVED BY: Board
REVISION DATE:		PAGE: 1 of 2

PURPOSE

The purpose of this policy is to establish organization-wide direction to conserve energy at all RDN facilities and in all RDN departments; to ensure that opportunities to reduce energy use in new and existing RDN facilities are recognized and acted upon; to formalize opportunities to raise awareness about energy and energy issues among staff; and to strengthen financial stability by building resilience against energy price volatility through the reduction of energy use in Regional District of Nanaimo facilities.

This policy forms the basis of the Regional District of Nanaimo's strategic approach to energy management. It is intended to contribute to the RDN's goal of carbon neutral operations, and fulfills requirements of participation in the BC Hydro Energy Manager Program.

POLICY

1. **Targetted Reduction**

   - Taking 2009 consumption rates for all facilities as the baseline, the RDN will target a 10% reduction in electricity consumption at existing facilities to be achieved incrementally over a five year period beginning in 2010.

   - For new facilities, an energy performance target, measured in kilowatt hours per square metre, will be established at the outset of the design process, in keeping with the Green Building Policy for RDN Facilities. This target should be consistent with the targets to achieve carbon neutral buildings outlined in the Green Building Policy for RDN Facilities, and at a minimum should demonstrate electricity consumption at a level of 10% better than existing comparable facilities.

2. **Understanding Perfomance and Recognizing Opportunities**

   - The RDN will establish a program of assessing the performance of buildings, facilities and systems through ongoing energy monitoring and yearly facility audits.

   - Each year, beginning in 2011, audits will be conducted on facilities that demonstrate poorer than average energy performance. Upgrades that demonstrate sufficient energy savings, and having simple payback periods of 10 years or less under current energy prices will considered necessary. Additional financial metrics, including life cycle analysis and internal rate of return

shall be used for more comprehensive upgrades and when considering systems for new facilities.

3. Awareness and Training

- All staff will have access to outreach programs designed to raise awareness and understanding of issues relating to energy use and consumption. Practical opportunities for staff to reduce electricity consumption at the office and at home will be provided.

- Energy conservation and management shall be included in RDN job descriptions.

- Training and staff capacity building will be provided to select members who have the ability, knowledge and opportunity to effectively manage energy at high consumption facilities. Site supervisors and superintendents at industrial (wastewater and solid waste) and recreational facilities will be given priority training in energy management.

4. Accountability

- The Energy Manager will be responsible for coordinating all programs relating to energy management, and assist with Senior Management with responsibilities relating to energy management.

- As a whole, the RDN will publicly report on energy use and optimization annually. The Board of Directors will be made aware of energy issues and related activities through the Select Sustainability Committee.

- General Managers will be responsible for understanding energy consumption relating to the functions they administer.

- All managers will report on new activities, capital projects and services, that increase energy consumption within the organization, as well as measures implemented to reduce energy use.

- At the discretion of General Managers, appropriately trained site supervisors and superintendents will be afforded the authority to undertake activities to reduce energy consumption at their respective facilities, recommend energy audits and oversee implementation of measures identified in audits.

5. Monitoring and Feedback

- Energy use at select, high consumption RDN facilities will be monitored using real-time, interval data.

- Energy use at all other RDN facilities will be monitored on a monthly basis.

- An RDN Energy Use Update will be provided to the Select Sustainability Committee on a quarterly basis.

- Electricity consumption rates that deviate from expected norms will be forwarded to the Energy Manager, the General Manager responsible, the Departmental Manager, and site supervisor as available. All reasonable efforts will be made to identify the cause and rectify the situation. If necessary, an energy audit will be arranged.

- Staff and public feedback on energy conservation opportunities will be solicted on an annual basis. Activities undertaken will be reported back.

- Energy performance and conservation measures, Regional District success stories in conservation, and other items such as incentive programs will be reported to the public annually through the RDN website, newsletters, and other avenues for outreach deemed appropriate.

REGIONAL DISTRICT OF NANAIMO

MEMORANDUM

TO: Paul Thorkelsson
General Manager, Development Services

DATE: May 12, 2010

FROM: Chris Midgley
Manager, Energy and Sustainability

FILE: 6780-50

SUBJECT: **LEED Policy Package**

PURPOSE

The purpose of this report is to propose two policies applicable to LEED certified RDN facilities, and to recommend that the RDN Board of Directors adopt the appended policies in pursuit of LEED certification for the RDN Administration and Transit Administration Buildings.

BACKGROUND

The Regional District of Nanaimo is currently in the process of pursuing LEED certification for the newly expanded Administration and Transit Administration buildings. For all LEED credits, some form of validation or verification is required to ensure that the final structure has been built as it was designed, and is being used as it was intended. This report focuses on two LEED credits in particular: Sustainable Sites Credit 4.3 – Alternative Transportation: Hybrid and Alternative Fuel Vehicles; and Environmental Quality Credit 5 – Indoor Chemical and Pollutant Source Control.

To achieve Credit 4.3 – Alternative Transportation: Hybrid and Alternative Fuel Vehicles, the RDN installed five Plug-in Hybrid Electric Vehicle (PHEV) charging stations in the secure fleet vehicle parking area. To fully realize the credit, assurance must be made that these stations and corresponding stalls are reserved for exclusive use for PHEVs, with signage indicating such. Assurance in the form of a Parking Policy is sufficient. Appendix A is a proposed Parking Policy for the RDN fleet parking area. Of note, the RDN currently does not have any vehicles that can use or be adapted to use the charging stations. Over time, it is anticipated that as older vehicles are replaced, PHEVs will be purchased when appropriate. In the meantime, the policy includes the provision that if a member of the RDN staff purchases a PHEV, that staff person will be permitted to park in the reserved stalls, and charge their vehicle using one of the charging stations. The intent behind this provision is to encourage best practices among staff.

To achieve Credit 5 – Indoor Chemical and Pollutant Source Control, the RDN must ensure that printers and copiers are located in enclosed areas, that paper use does not exceed a specified monthly threshold per printer, that grilles and mats are located at entry points to prevent dirt and dust from entering the building, and that ongoing housekeeping uses certified environmentally cleaning products. The second policy proposed focuses on this last item, namely a Green Housekeeping Policy for LEED Certified RDN facilities (Appendix B). Currently, maintenance at both the Administration Building and the Transit Administration Building is provided under contract by DTZ Barnicke. This firm maintains other LEED certified facilities in the Nanaimo area, and already follows the procedures and guidelines outlined in the proposed policy. Establishing this policy is therefore, both literally and figuratively, a housekeeping item. Appendix C is a letter provided by DTZ Barnicke indicating common practices currently implemented

The reason formalized policies are necessary to obtain both of these credits is because they are dependent on activities that occur post-construction, over the life of the building. Having policies in place demonstrates to the Canada Green Building Council a commitment on the part of the RDN to operate the certified facilities in a way that maintains healthy indoor environments for staff, and capitalizes on the innovative design elements that have been integrated into the site.

ALTERNATIVE

1. Receive this report and recommend that the Board adopt the two proposed policies for LEED certified RDN facilities.
2. Receive this report and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

Financial implications are minor. Signage will be required at each PHEV charging station. No estimate has been sought, though typically such signage is relatively inexpensive. For housekeeping supplies, certified environmentally friendly products are typically more expensive than harsher chemicals. However, since it is already common practice to use these products at both the Administration and Transit Administration buildings, additional costs are not anticipated.

For the Green Housekeeping Policy for LEED Certified RDN Facilities, the policy will form part of contractual agreements with firms hired to manage and maintain LEED certified facilities owned by the RDN.

SUSTAINABILITY IMPLICATIONS

Adopting the two appended policies demonstrates a commitment to ensuring that RDN LEED certified facilities are maintained over the long term as healthy, high performance buildings. More specifically, the Parking Policy strengthens the RDN's well established trend to move toward ever more efficient vehicles. While fleet vehicle emissions are not the RDN's major source of emissions as an organization, transportation emissions in the community represent the vast majority of emissions across the region. Establishing this policy demonstrates the RDN's understanding of this challenge, and its commitment to address this challenge through its own operations.

Regarding the Green Housekeeping Policy for LEED Certified RDN Facilities, the policy ensures the maintenance of a healthy working environment for staff. It is widely believed that maintaining a healthy working environment fosters higher levels of productivity among staff and results in reduced absenteeism. Though it is difficult to prove these beliefs out, they suggest positive social and economic implications for the RDN as an organization.

SUMMARY/CONCLUSIONS

To obtain two credits toward LEED certification of the RDN Administration and Transit Administration Buildings, the two attached policies are necessary. The Parking Policy ensures that PHEV charging stations are reserved for PHEV vehicles once they are acquired, while the Green Housekeeping policy establishes the range of products that must be used in order to maintain a healthy indoor environment for RDN Staff, and ensures that maintenance firms hired for the upkeep of LEED certified RDN facilities include the policy in their contractual agreements with the Regional District of Nanaimo.

RECOMMENDATION/S

That Board adopt the *Plug-in Hybrid Electric Vehicle Policy* and the *Green Housekeeping Policy* proposed for LEED certified RDN facilities.

Report Writer

General Manager Concurrence

CAO Concurrence

REGIONAL DISTRICT OF NANAIMO

POLICY

SUBJECT:	***Plug-in Hybrid Electric Vehicle Preferred Parking Policy***	POLICY NO: CROSS REF.:	
EFFECTIVE DATE:	June 1, 2010	APPROVED BY:	Board
REVISION DATE:		PAGE:	1 of 2

PURPOSE

To establish reserved, priority parking locations for RDN fleet Plug-in Hybrid Electric Vehicles (PHEVs).

POLICY

Five PHEV charging outlets consisting of 120V / 20 amp dedicated circuit receptacles, as defined by the Canadian Electrical Code, Section 86 – Electric Vehicle Charging Stations, have been provided in the secure RDN fleet vehicle parking area.

As required by Section 86, the receptacles have a readily identifiable, unique three prong receptacle with one T-shaped terminal.

Control and use of these stalls and charging outlets will be ensured and enforced by the Regional District of Nanaimo, as follows:

1. PHEV stalls and charging outlets will be reserved for RDN fleet vehicles, and staff owned PHEVs. The RDN fleet vehicle parking area is located behind fence and gate, which is locked nightly at 9pm, ensuring controlled access.

2. Signage reading "This Parking and Electrical Receptacle is for PHEV (Plug-in Hybrid Electric Vehicles) Parking and Charging Only" (or equivalent) will be provided at each PHEV stall.

3. Workshops for staff will provide awareness of the intended purpose of the reserved PHEV stalls, namely to encourage the use of these vehicles over higher GHG emitting vehicles, and to ensure that designated stalls are exclusively used for PHEVs and fully electric vehicles, once available.

4. Charging stations and their respective parking stalls will be reserved for PHEV use only. RDN Maintenance staff will switch off the electrical charging outlets at the breaker panel, and arrange towing of vehicles, when inappropriate use is observed.

5. As signatory to the Provincial Climate Action Charter, the RDN is committed to achieving carbon neutral operations beginning for the year 2012. As such, the RDN has begun the transition to hybrid and alternative fuel vehicles. Provision of five PHEV charging stations in the RDN fleet parking area is in keeping with this direction, and PHEV vehicles will be purchased by the RDN as less fuel-efficient vehicles are replaced.

6. In the event that RDN staff members purchase PHEVs in advance of the RDN, those stalls and charging stations will be made available to staff who own PHEVs in an effort to encourage wide market transformation and best practices among staff. Staff will be informed and encouraged to meet the requirements of access to the PHEV exclusive parking/charging stalls through outreach, workshops and handouts.

REGIONAL DISTRICT OF NANAIMO

POLICY

SUBJECT:	***Green Housekeeping Program***	POLICY NO: CROSS REF.:	
EFFECTIVE DATE:	June 1, 2010	APPROVED BY:	Board
REVISION DATE:		PAGE:	1 of 4

PURPOSE

To reduce exposure of building occupants and maintenance personnel to potentially hazardous chemical contaminants that adversely impact air quality, occupant well-being and the environment in RDN facilities designed and built in accordance with the *Green Building Policy for RDN Facilities.*

POLICY

This Green Housekeeping Policy outlines the standards of practice required of service providers hired by the Regional District of Nanaimo to clean those facilities owned by the organization that achieve LEED certification, or that have goals for green housekeeping established through the Green Building Policy for RDN facilities. To ensure compliance, this Green Housekeeping Policy will form part of the operational and janitorial services contract agreements with the RDN, and at a minimum, must be implemented at LEED certified facilities owned by the RDN.

1. Requirements

I. Cleaning Products:

High quality, non-toxic Ecologo certified cleaning products (or products certified by **7. Approved Alternate Product Certifications**) shall be used in all spaces to ensure a healthy indoor environment for staff and visitors, and safe working environment for janitors.

II. Cleaning Equipment:

a. Vacuum cleaners shall be certified by the Carpet and Rug Institute Green Label Testing Program and operate at a maximum sound level of 70dBA.

b. Carpet extraction equipment used for restorative deep cleaning shall be certified by the Carpet and Rug Institute's Seal of Approval Testing Program for deep-cleaning extractors.

c. Powered floor maintenance equipment, including electric and battery-powered floor buffers and burnishers, are equipped with vacuums, guards and/or other devices for capturing fine particulates and operates with a sound level of less than 70dBA.

III. Paper Products: Only facial tissue, toilet paper, paper towel, and napkins approved by the Natural Resources Defense Council Shopper's Guide http://www.nrdc.org/land/forests/gtissue.asp (or products listed in 7. Approved Alternate Certifications) shall be used.

IV. Training: All janitorial staff shall be given training to review this policy for purchase and appropriate use of approved products (see 4. Approved Products). The janitorial staff will have access to all necessary information including Material Safety Data Sheet (MSDS) and EcoLogo certification for all products.

V. Administration: The personnel responsible for maintenance and operations of the building will be trained to follow the Green Housekeeping program. The most current version of certification standards shall be used.

2. Facility Management and Operations Responsibility

The Green Housekeeping program applies to the facility management and operations staff.

The contracted provider of facility management services is responsible for safe storage of products and proper use and disposal of all cleaning products.

The contracted provider of facility management services is responsible for collection of product information including MSDS, EcoLogo and Approve Alternate certification.

3. Building components, systems and materials

Areas to be serviced shall be identified and listed by the service provider.

Excluded areas shall be identified and listed by the service provider

4. Approved Products

An extensive list of available approved cleaning and janitorial products including bathroom, carpet, general purpose, window, disinfectant cleaners etc. can be found on the EcoLogo website: http://www.ecologo.org

Choose facial tissue, toilet paper, paper towel, and napkins with recycled content and approved by the Natural Resources Defense Council Shopper's Guide http://www.nrdc.org/land/forests/gtissue.asp

See also **7. Approved Alternate Product Certifications** below

5. Responsible Parties

Training for staff on green housekeeping and documentation requirements to be provided by the service provider.

Discussion and promotion of the Green Housekeeping program (maintain up-to-date posted informational material for residences and janitorial staff) is the responsibility of the contracted service provider.

6. More Resources

http://householdproducts.nlm.nih.gov/

http://www.thegreenguide.com/home-garden/cleaning

http://www.informinc.org/cleanforhealth.php

7. Approved Alternate Product Certifications

I. General-purpose, bathroom, glass and carpet cleaners used for industrial and institutional purposes:

- Green Seal GS-37 standard

II. Disinfectants, metal polish, floor finishes, strippers or other products:

- Green Seal GS-40, for industrial and institutional floor care products.
- California Code of Regulations maximum allowable VOC levels for the specific product category.

III. Floor cleaners:

- California Code of Regulations maximum VOC content

IV. Disposable janitorial paper products and trash bags:

- US EPA's Comprehensive Procurement Guidelines
- U.S. EPA Comprehensive Procurement Guidelines for Janitorial Paper and Plastic Trash Can Liners.
- Green Seal GS-09, for paper towels and napkins.
- Green Seal GS-01, for tissue paper.
- Janitorial paper products derived from rapidly renewable resources or made from tree-free fibers.

V. Operations Plans:

- LEED for Existing Buildings: Operations & Maintenance Reference Guide
- APPA Leadership in Educational Facilities' (APPA) "Custodial Staffing Guidelines", conduct audit to determine the appearance level of the facility

VI. Hand soaps standards:

- No antimicrobial agents (other than as a preservative) except where required by health codes and other regulations (i.e., food service and health care requirements).
- Green Seal GS-41, for industrial and institutional hand cleaners.

VII. Indoor Integrated Pest Management (IPM) Plan:

Manage indoor pests in a way that protects human health and the surrounding environment and that improves economic returns through the most effective, least-risk option. IPM calls for using least-toxic chemical pesticides, minimum use of chemicals, use only in targeted locations and use only for targeted species. IPM requires routine inspection and monitoring. The plan must include the following elements, integrated with any outdoor IPM plan used for the site as appropriate:

- Integrated methods, site or pest inspections, pest population monitoring, evaluation of the need for pest control and one or more pest control methods, including sanitation, structural repairs, mechanical and living biological controls, other nonchemical methods, and if nontoxic options are unreasonable and have been exhausted, a least-toxic pesticide.
- Specification of the circumstances under which an emergency application of pesticides in a building or on surrounding grounds being maintained by building management can be conducted without complying with the earlier provisions.
- A communications strategy directed to building occupants that addresses universal notification, which requires advance notice of not less than 72 hours before a pesticide under normal conditions and 24 hours after application of a pesticide in emergencies, other than a least-toxic pesticide, is applied in a building or on surrounding grounds that the building management maintains.

REGIONAL DISTRICT OF NANAIMO

MEMORANDUM

Sustainability-May 19 '10

TO:	Paul Thorkelsson General Manager, Development Services	**DATE:**	May 3, 2010
FROM:	Chris Midgley Manager, Energy and Sustainability	**FILE:**	6780-50
SUBJECT:	**Overcoming Barriers to Green Building in the RDN - Research Results**		

PURPOSE

The purpose of this report is to present the Sustainability Select Committee with the results of the latest research project completed as part of the RDN Green Building Action Plan: ***Overcoming Barriers to Green Building in the RDN***; and to recommend that staff be directed to update the Green Building Action Plan to incorporate suggested actions contained in the final report (Appendix 'A').

BACKGROUND

The Green Building Action Plan identifies a number of research projects intended to improve our collective understanding of the benefits of green building in the RDN; the barriers that prevent the development of green buildings in the RDN; and the tools available to Local Governments (such as incentives) to increase the number of green buildings in the RDN.

To streamline the implementation of the Green Building Action Plan, these latter two research priorities were consolidated into a single project examining how to overcome a broad range of regulatory as well as market barriers that inhibit the development of green buildings in the Region.

Research parameters established by RDN staff at the outset of this project oriented around defining green building, the scales of development to consider, the types of barriers to overcome, and key deliverables for the project.

In the interest of moving toward a genuinely sustainable built form that achieves absolute reductions in energy use, emissions and water consumption; and that is currently impeded by both regulatory and market barriers, the stringent performance standard of **'net-zero'** provided the definition of 'green building' for this project. Net-zero construction is construction that requires no net input of a given resource, such as water or energy, from an external source over a given period of time. For example, a building that produces as much electricity as its occupants consume over a year is considered net-zero for electricity for that year. As noted in the report:

> Buildings and communities that approach net zero energy, water and liquid waste are widely recognized as achieving the highest environmental performance. For example, net-zero performance is the central metric to the Cascadia Green Building Council's Living Building Challenge, one of the most prestigious and stringent green building rating systems.
>
> (Overcoming Barriers to Green Buildings, p. 6)

Regarding scale, the consultant team was asked to consider two development scenarios: a net-zero single-family detached home located on a quarter acre parcel, and a moderately scaled mixed-use community core that might be suitable for the Region's Village Centres (300 square metres of retail space and 20 dwelling units). These choices reflect the most prevalent form of development in the RDN, as well as a more dense form of development that could effectively support goals to concentrate growth in designated areas as well as transit and local community amenities, while retaining a comfortable human scale.

For both scales, approaching net-zero construction is dependent on a hierarchical approach to implementing building strategies. This hierarchy forms three 'tiers'. The first tier is 'Passive Design', which includes strategies that reduce the need for energy and water supplied to a building. Examples of passive design strategies include solar orientation, natural ventilation and more compact buildings.

The second tier is 'Efficient Systems', which involves delivering the energy and water that is needed most efficiently. Efficient systems include low flow water fixtures and high efficiency appliances and lights.

The third and final tier is 'Alternative Sources', which refers to supplying the energy and water that is needed from on-site renewable sources on a net-annual basis. Examples of alternative sources include the use of photovoltaic panels to generate electricity from sunlight, rainwater collection for non-potable household use, and grey water re-use. Given the potential cost of integrating alternate sources into a building, particularly a single family home, it is essential to have maximized the opportunities for passive design and efficient systems prior to considering alternate sources. Figure 1 below illustrates passive design and efficient systems strategies suitable for a home, while Figure 2 highlights options for alternate sources in a mixed-use community core setting (see pages 18 and 21 in the appended report).

Figure 1: Passive Design and Efficiency Strategies for the Home

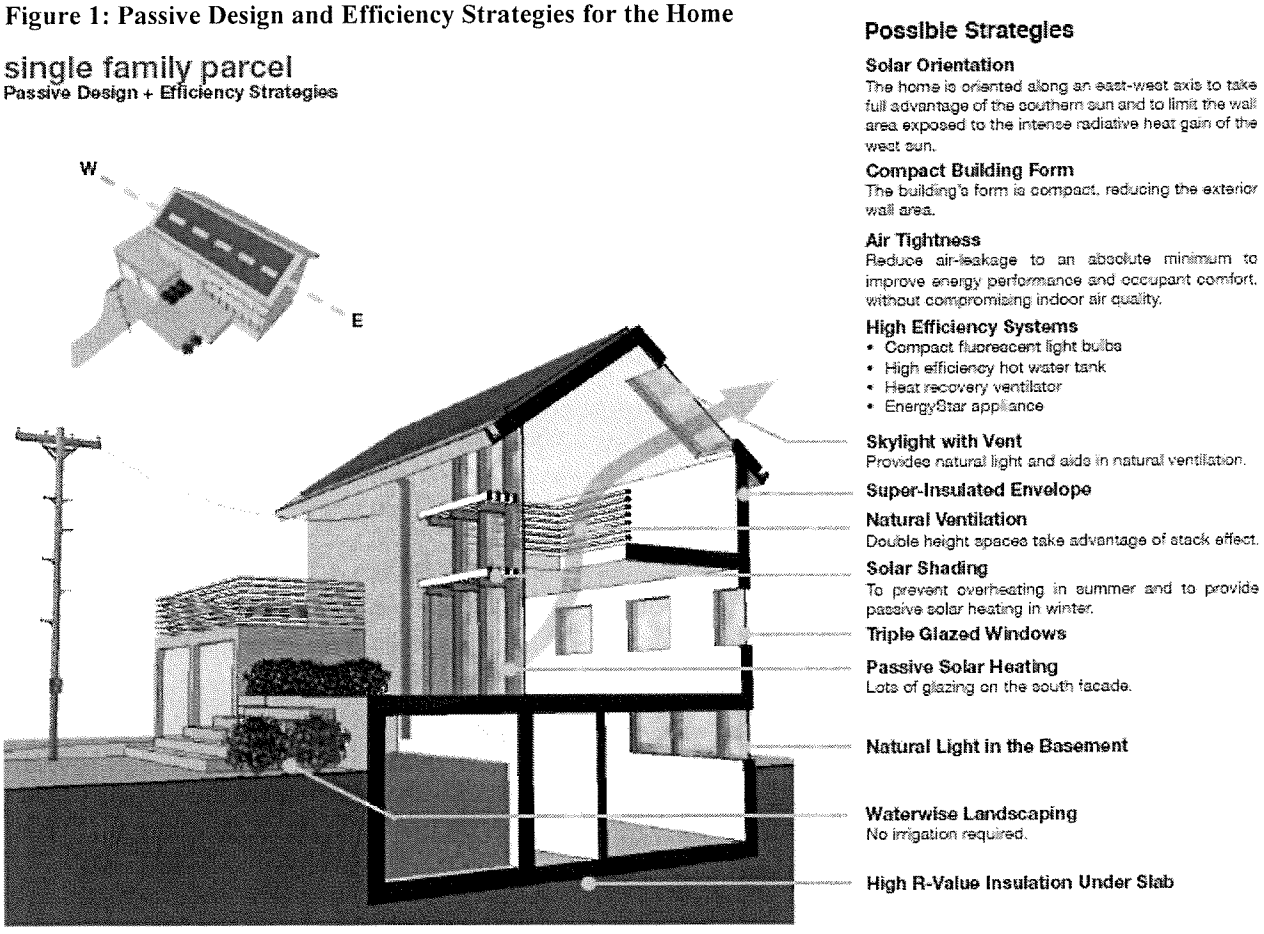
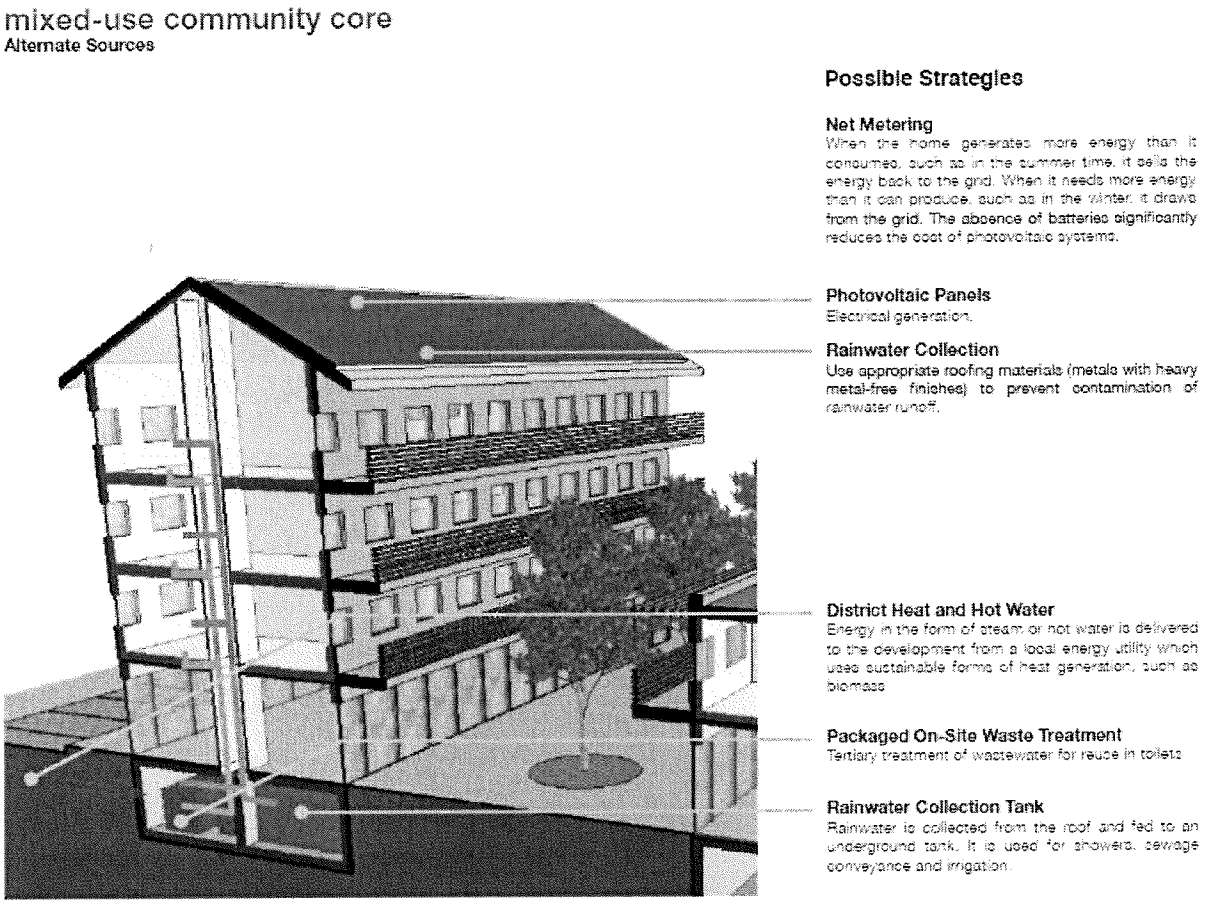


Figure 2: Alternate Sources for the Mixed Use Community Core

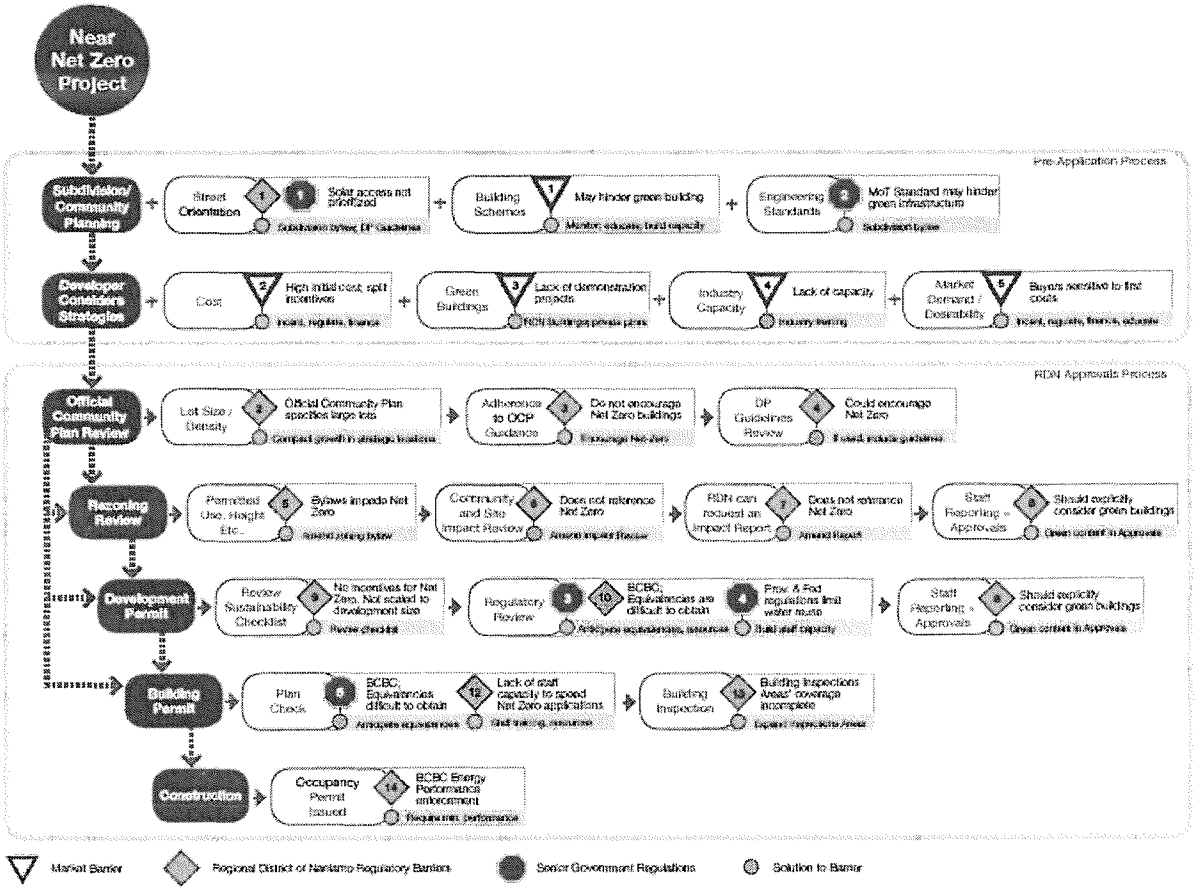


In terms of barriers, the project examined both regulatory and market barriers. Regulatory barriers refer to laws, regulations, guidelines, policies, processes or other institutional impediments to the development of net-zero building systems. In addition to strict prohibition, regulatory barriers include such obstacles as extended permitting processes, applications to multiple agencies or levels of government, costly requirements for the involvement of numerous professionals, or requirements to build multiple redundancies to serve as back-ups to innovative alternatives.

Market barriers refer to the range of factors that limit market delivery of net-zero buildings, including high capital cost and extended payback periods, lack of available expertise or materials, a lack of interest or knowledge in the customer's mind, etc.

The key deliverable for the project was a '*Compliance Pathway'*, a graphic tool that illustrates the basic development approval process that applicants go through when engaging the RDN, and situating barriers and potential solutions as they emerge along that pathway. In addition to market barriers, the Compliance Pathway reveals RDN regulatory barriers as well as senior government regulations, and potential solutions for each. Figure 3 below shows a reduced version of the Compliance Pathway found on page 3 and again on page 25 of the appended report. Section 5 of the report systematically goes through the 24 barriers identified and their various proposed solutions.

Figure 3: Compliance Pathway



The various solutions outlined in the Compliance Pathway were derived by reviewing the range of tools available to Local Governments and assessing the merits of those tools with staff and stakeholders at two workshop sessions. In total, 21 policy tools were identified. An explanation of each policy tool, including how it works, the ease of implementation, the potential impact and examples of its use in other Local Government jurisdictions is provided in Appendix 4 of the report (beginning on page 85). At two separate workshop sessions, staff and stakeholders from the development community voted on which tools were considered most useful. This information is included in Appendix 5 of the report (page 87). Based on the research conducted and the feedback provided, six key recommendations to overcome barriers to green building in the Regional District of Nanaimo are provided:

1. Capacity Development and Public Outreach Programs
   - Implement a Staff Green Building Capacity Development Program; combine with opportunities for industry capacity development whenever possible; and
   - Implement an Outreach Program, targeting participation in the LiveSmart home retrofit incentive program for existing buildings.
2. Reduce RDN Regulatory Barriers
   - Amend zoning and building related bylaws to remove barriers to green building and innovative systems that contribute to net-zero building performance; and
   - Implement land use policies that encourage compact community development within designated growth containment boundaries.

3. Expand and Enforce the BC Building Code
   - Expand building inspection areas to cover all Electoral Areas, thereby allowing the RDN to ensure minimum building standards are being met, and to more effectively administer a Green Building Incentive Program.
4. Reduce Senior Government Barriers
   - Coordinate with the Ministry of Transportation and Infrastructure, and other senior agencies to revise or develop a new Subdivision Standards Bylaw that encourages passive solar orientation, green infrastructure, and better integration of land-use and transportation planning. Alternatively, assume responsibility for subdivision.
5. Establish a Green Building Incentive Program using a revised Sustainability Checklist
   - Initiate a Green Building Incentive Program to incent [near] net-zero systems and buildings with reduced fees or rebates, and/ or another pool of funds; and
   - Revise the Sustainable Builders Checklist to include reference to performance based green building strategies, and to tie directly to any incentive programs.
6. Create Development Permit Guidelines based on new authorities enabled through Bill 27 (Green Communities) Statutes Amendment Act.
   - Develop energy and water conservation Development Permit Area Guidelines to encourage passive solar design and other green building strategies.

Several of the above noted Recommendations are currently underway or under consideration. In particular, staff is currently developing Capacity Development and Public Outreach Programs; a revised sustainability checklist is in the works, and expansion of Building Inspections Areas has emerged as a significant priority for the Board. The fact that this report references work underway justifies proceeding on the grounds that the RDN is on the right track, and continuing will advance the potential for the RDN to become a centre of excellence for green building in the Province.

ALTERNATIVES

1. Receive this report and direct staff to update the Green Building Action Plan to incorporate suggested actions contained in the final report: ***Overcoming Barriers to Green Building in the RDN.***

2. Receive this report and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

As an information report to the Committee, the implications arising out this report are minimal. Following through with the six main recommendations in the final document, however is a serious undertaking with potentially significant ramifications for development, sustainability, as well as costs and time for staff. By focussing on how to integrate these recommendations into a staff work program as outlined in a new Green Building Action Plan, the full consideration of implications can be presented to the Committee as appropriate.

SUSTAINABILITY IMPLICATIONS

Completion of this research project considerably advances the state of understanding of green building in the RDN, including why green buildings have been slow to penetrate the market, and how the RDN and other levels of government may be inadvertently slowing the development of green buildings in the region. With this knowledge, it is possible to move forward with practical solutions that can influence the market in favour of green buildings, reduce regulatory barriers at the Regional level, and that enhance meaningful collaboration with other levels of government with the overall aim of making it easier to develop more high performance, [near] net-zero buildings in the RDN.

PUBLIC CONSULTATION IMPLICATIONS

The information and graphic materials provided in the report ***Overcoming Barriers to Green Building in the RDN*** will assist with a wide range of public consultation and educational processes in the RDN. Of immediate benefit will be those consultation processes oriented around community climate action and green building outreach, as well as Official Community Planning processes that include principles relating to compact communities, energy conservation, climate action, and watershed and environmental protection. It is also possible for this material to assist with public consultation pertaining to the expansion of building inspection areas, should that be deemed appropriate by the Committee and Senior Administration.

SUMMARY

The report ***Overcoming Barriers to Green Building in the RDN*** represents a significant step forward in the implementation of the Green Building Action Plan. By clearly identifying regulatory and market barriers that inhibit net-zero and [near] net-zero buildings and building systems, the RDN has established a new level of understanding of what it takes to move toward a truly sustainable built form – one that ultimately has no net impact on the surrounding environment. While it will take a great deal of time before construction of such a high performance is the norm, knowing what is necessary for net-zero construction to be financially and legally feasible represents an ideal starting point for an innovative and aggressive action plan to increase the amount of green building in the RDN.

RECOMMENDATION/S

That the Board direct staff to update the Green Building Action Plan to incorporate suggested actions contained in the final report: ***Overcoming Barriers to Green Building in the RDN.***

Report Writer

General Manager Concurrence

CAO Concurrence

REGIONAL DISTRICT OF NANAIMO

MEMORANDUM

TO: Chris Midgley
Manager, Energy and Sustainability

DATE: May 9, 2010

FROM: Lisa Bhopalsingh
Senior Planner

FILE: 6630 00 SUST

SUBJECT: **Sustainability Checklist and Green Building Incentive Program**

PURPOSE

To provide the Sustainability Select Committee (SCC) with a rationale for revising the Sustainable Community Builder Checklist and tying it to incentives; to outline options regarding approaches to implementing a sustainability checklist and green building incentive program; and to propose a phased approach for implementing a revised sustainability checklist and green building incentive program.

BACKGROUND

On October 31st 2006, the RDN Board adopted Policy B1.14 "to establish the process, guidelines and criteria" for the use of the "Sustainable Community Builder Checklist" (the Checklist). At that time the Board also supported the Regional Growth Monitoring Advisory Committee (RGMAC) recommendation to "evaluate the Checklist after it has been used for a period of time to determine its effectiveness and identify areas that should be revisited".

Since its adoption, the Checklist (Attachment 1) has been applied to approximately 130 development applications over four years. This has provided RDN staff with sufficient opportunity to evaluate the use of the Checklist in a variety of contexts. Based on staff experience, as well as the amount of time that has passed, significant advances in green building research, and the priority of establishing region-wide building inspections, the timing is very appropriate to follow through with the RGMAC's recommendation to evaluate the checklist. Additional factors that support a review of the checklist include:

- Feedback from applicants and staff concerning the use, content and format of the Checklist (please refer to **Attachment 2** for a more detailed analysis).
- An opportunity to ensure consistency between the Checklist and updated RDN strategic planning documents (including the RDN *Board Strategic Plan* and *Regional Growth Strategy*).
- Specific recommendations from RDN research on *Overcoming Barriers to Green Buildings* to revise the Checklist and tie it directly to a Green Building Incentive Program.
- Interest expressed by the Electoral Area 'A' Official Community Plan (OCP) Review Committee to use a checklist and incentives to implement OCP goals. (please see **Attachment 3**).
- New information on similar programs in other jurisdictions.
- Expanded authorities provided through Bill 27 - The Local Government (***Green*** *Communities) Statutes Amendment Act* (2008) allowing for the creation of Development Permit Areas (DPAs) to address emission reductions and energy and water conservation.
- Recent updates to the BC Building Code and Clean Energy Act emphasizing energy conservation in new and existing buildings.

REVISED CHECKLIST AND INCENTIVE FOCUS

It is recommended that the content of a revised checklist and the focus for incentives be directly linked to the priorities of the Board Strategic Plan, Regional Growth Strategy (RGS) goals and recent research on higher performance (green) buildings and development as highlighted below.

The 2010 RDN Board Strategic Plan is grounded in sustainability principles and contains the following strategic priorities:

- Climate and Energy
- Watershed Health
- Economic Resilience
- Monitoring and Adaptation

The following RGS goals provide more detailed guidance for achieving strategic priorities and give direction for implementing a range of operational plans:

1. Prepare for Climate Change and Reduce Energy Consumption
2. Protect the Environment
3. Coordinate land use and mobility
4. Concentrate housing and jobs in rural village and urban growth centres
5. Enhance Rural Integrity
6. Facilitate the Provision of Affordable Housing
7. Enhance Economic Resiliency
8. Enhance Food Security
9. Celebrate Pride of Place
10. Provide Services Efficiently
11. Enhance Cooperation Among Jurisdictions

In order to advance these strategic priorities and goals, the RDN has been researching the impact of compact development patterns and higher performance (green) buildings and development. Findings show that compact development patterns (building location and type) play a crucial role in conserving energy and reducing emissions generated from transportation and building operation. Other benefits of compact development include protecting the integrity of sensitive ecosystems and preserving land for agriculture and other resource uses. Using a checklist with incentives to promote concentration of future development within designated village centres is central to achieving the goals of the RGS

The energy conservation and emissions reductions benefits of compact development are further increased when combined with improving the performance of new and existing buildings. Recommendations stemming from the report Overcoming Barriers to Green Building in the RDN indicates that targeting the following hierarchy of building strategies is an effective way of achieving higher levels of building performance:

- Passive Design – Energy Conservation
- Efficient Systems – Energy, Water Efficiency
- Alternative Sources – Renewable Technology

For the purposes of this report, references to achieving higher levels of 'sustainability' include more compact development patterns as well as higher performance buildings.

CHECKLIST ROLE

The content and applicability of a revised checklist will be determined by its overall purpose. The primary purpose of the current checklist is educational. It is recommended that the revised checklist move beyond solely educating to:

- Ensure minimum requirements are met;
- Incent going 'well beyond' minimum requirements;
- Encourage innovation;
- Streamline application processes;
- Evaluate how well proposed developments meet Community goals; and
- Collect information for monitoring progress towards achieving RDN sustainability goals

POTENTIAL CHECKLIST APPROACHES

In general, there are three approaches to consider in developing a checklist to promote high performance buildings and more compact communities: Educational, Incentive Based and/or Regulatory.

Educational Approach

An educational approach uses a sustainability checklist as part of a program designed to inform applicants on options to enhance their project. A checklist that takes a purely educational approach allows for great flexibility in the application of innovative techniques to improve sustainability, and is conducive to building a collaborative approach between staff and applicants. However, an exclusively educational approach means that there is no way of ensuring or verifying that applicants undertake voluntary actions to improve sustainability. Educational tools need to be combined with other incentive or regulatory tools to be effective.

The current RDN checklist is based on this educational approach, and evidence to date suggests that this approach has had limited impact on raising the sustainability of developments beyond minimum requirements. Applicants that do construct higher performance buildings are typically well informed about how to improve their project prior to approaching the RDN, suggesting that the existing checklist plays little role in encouraging actions beyond what is already intended.

Incentive Based Approach

The additional time and cost often associated with constructing high performance buildings are significant obstacles for most applicants. Incentives that reward applicants with reduced application times and/ or fees could motivate applicants to achieve higher levels of performance.

For a financial incentive approach to be effective, it is necessary to include verifiable criteria, and a process to ensure that actions to enhance building performance have been completed prior to awarding the incentive. Financial incentives could include reduced fees or actual rebates provided upon completion, inspection and verification of performance.

This approach is recognized as a way of overcoming the barrier of additional costs of reaching higher performance levels including third party certification, however, it is a challenge for Regional Districts to find suitable means of raising the funds to provide substantial financial incentives.

Options to refund all or part of application fees can be funded by creating a local service area tax so that everyone in an area pays to support a rebate fund for those who develop to higher sustainability standards.

Alternately, applicants who develop to minimum standards can be required to pay higher fees that are then used to provide rebates for those who develop to higher standards. The former option is not likely to be popular given that everyone in an area would be required to 'pay' to provide rebates to new developers compared to the latter option that uses application fees from developers meeting minimum standards. Ideally such a program would be self-sustaining, generating sufficient funds from applicants who develop to minimum standards to subsidize rebates for those who go beyond minimum standards. Without initial seed financing, both these options could require a significant amount of time to collect sufficient funds to implement a rebate program.

Reducing the amount of time associated with the application process is a second type of incentive that the RDN could implement. This approach has a low capital cost to the Regional District, but requires the delegation of permit approval to staff for applications that exceed a specified threshold on a checklist. This has the opportunity to reduce processing time at the RDN by up to six weeks. One limitation to incentives based on expedited processes is that incentives cannot be based on verification. Instead, they rely on a commitment or intent to achieve higher levels of sustainability, and trust on the part of the RDN that the applicant fulfills their commitment.

Other incentive models could involve pursuing third party grants to fund incentives or partnering with other agencies to provide funding. Still more options include density bonuses, alternative project financing, technical support, or public recognition for those who reach higher levels of performance. While these options may avoid having to either raise fees or taxes, their effectiveness in the Regional District of Nanaimo context is difficult to assess, they are likely to be short term and they may not necessarily be consistent with RDN priorities.

Regulatory

A regulatory approach involves the use of legislated authorities that enables the RDN to enforce Provincial/Federal legislation or create its own bylaws. Increased regulation places staff firmly in the role of enforcers making a collaborative relationship with applicants more difficult. Regulations that are too specific may also restrict creative approaches to the unique context of each application.

Importantly, for a sustainability checklist to require or enforce certain actions, it must reflect criteria established by other regulations. By itself, a sustainability checklist cannot 'require' achieving a certain building standard unless those 'requirements' are already embedded in other regulations that Regional Districts have the authority to create and enforce. This is where the role of OCP's, Development Permit Areas (DPA's), Zoning and Subdivision Bylaws are especially important regardless of whether a sustainability checklist is in place or not.

It should be noted that local governments do not currently have the authority to require that developers exceed standards established under Federal or Provincial legislation (for example, going beyond BC Building Code minimum energy performance requirements) whether through a checklist or otherwise. The RDN can however, use a variety of creative approaches including the use of regulations in a way that allows a flexibility of approaches and that involve incentives to 'encourage' going beyond minimum requirements.

PROPOSED APPROACH

The use of a phased approach that involves a blend of educational, incentive-based and regulatory approaches is proposed. Two options are presented for consideration with the first (Option A) recommended by staff.

Option A: Revised Checklist with Incentives – Three Phases

Option A involves addressing the limitations of the existing checklist (as outlined in Attachment 2) and tying the checklist to an incentive program. Proposed incentives for this option include expediting the development process (fast tracking) through the use of 'delegated permitting' and reduced application/permitting fees. Delegated permitting would mean providing the General Manager of Development Services with the authority to approve applications that meet specified criteria. This could potentially save as much as six weeks in processing time. Financial incentives for this option could be funded through a 'feebate' system with increased fees for those meeting minimum standards used to subsidize reduced fees for those who exceed standards.

The Checklist would continue to be required for:

- Subdivision Applications
- Zoning Amendments
- Development Permit Applications
- Land Use Contract Amendments

Participation in the incentive program would be voluntary, however receipt of financial incentives would be dependent upon verification that specified criteria for receiving incentives have been met. Verification would be tied to the Building Permitting Process and as such participation in the incentive program would apply only to RDN Building Inspection Areas. Option A would be implemented in three phases:

Phase 1: Application of a revised checklist and incentives to Subdivision and Development Permit applications and, Rezoning and Land Use Contracts amendments.

Phase 2: Designation of new DPA's and associated guidelines for the purposes of addressing Climate Change by reducing GHG emissions, and addressing energy and water conservation. This could be done for each RDN OCP or as a blanket DPA for the whole RDN (through the Zoning Bylaw). DPA guidelines would be developed to reflect the revised checklist.

Phase 3: Developments that receive incentives through meeting checklist criteria through Phase 1 and 2 could automatically qualify for incentives when they proceed to the Building Permitting stage. This could give a 'double acceleration' by fast-tracking projects as well as further financial incentives.

A flow chart outlining a proposed procedure for applying the checklist and receiving incentives is show in **Attachment 4.**

Advantages to Option A:

- Implementation through the three phases allows for a more immediate implementation of improvements, with a gradual approach to strengthening the use of the checklist and incentives. This phased approach is consistent with the incremental approach that the Province is currently taking to improve building performance.

- As Phase 1 applies to existing development permit areas and applies to the same development applications as the existing checklist, it would require relatively minor changes to two bylaws (*Building Regulations and Fees Bylaw No. 1250, 2001 and Delegation of Authority Bylaw No. 1166, 1999*) and Policy B1.14. Further changes to other bylaws including zoning, subdivision and Official Community Plan bylaws would be involved in Phase 2 which requires a lengthier and more complex process to amend or develop new DPA's and guidelines. Phase 3 would further reinforce achieving higher levels of sustainability through use of incentives at the building permitting stage.

- Use of 'Delegated Authority' to fast track applications is low cost incentive for the RDN to implement. The proposed use of a 'feebate' system to fund financial incentives is intended to be self-sustaining and require no increase in taxes although initial start-up funding may be required in order to speed up implementation.

- Voluntary participation in reaching higher levels of performance in order to receive incentives should encourage the development of more collaborative relationships between applicants and RDN staff, ideally leading to better project outcomes.

- Voluntary use of the checklist and eligibility for incentives could be encouraged for renovators and others who are not required to complete the checklist through the application processes outlined in Phase 1.

- The Building Permitting process enables a fair and effective method of verifying that criteria for incentives have been met.

Disadvantages to Option A:

- The checklist would only apply to development in development permit areas covered by building inspection. In the absence of expanded building permit areas, this could result in limited impact.

- By prioritizing fee reduction as the incentive, the actual financial sum will be relatively small (less than $200.00 for most residential development). Expanding incentives to include building permit fees could significantly increase this amount based on the scale of development.

Option B: Revised Checklist with Incentives – 2 Phases

Option B is the same as Option A with the key exception that it would omit Phase 1 and proceed directly to Phase 2. This would result in a longer period of time to implement a revised checklist due to the time required to develop new DPA's and associated guidelines. Starting at Phase 2 also provides less time for testing the revised checklist and incentives through existing development processes that require completion of a sustainability checklist.

PUBLIC CONSULTATION IMPLICATIONS

The review process for the Checklist and suitable incentives will involve the Sustainability Select Committee (SSC), RDN staff, representatives of the development community and other stakeholders. Public consultation will follow RDN Board Policy A1.23 (Public Consultation/Communication Framework 2008). It is hoped that consultation at key stages in the process will facilitate higher levels of innovation, ideally resulting in a more effective approach to achieving RDN objectives. The table below outlines a proposed review process.

PROPOSED PROCESS

1. Meet with Sustainability Select Committee (SSC) to get feedback on the recommended approach and proposed process	SCC Staff
2. Gather feedback from internal and external stakeholders	Stakeholders Staff
3. Use feedback and staff research to develop a draft checklist and incentives for Phase 1	Staff

4. Meet with SSC to review draft checklist and incentives	SCC Staff
5. Test/ pilot draft checklist and incentive program for six months	Staff
6. Assess effectiveness and report to SSC with recommendations for changes	SCC Staff
7. Make changes as needed, and proceed with formal RDN adoption	Staff
8. Monitor outcomes and as necessary propose amendments	Staff
9. Proceed with Phases 2 and 3	Staff

A suggested timeline for the process is shown in **Attachment 5**.

ALTERNATIVE

1. Receive this report and recommend the RDN Board to direct staff to revise the *Sustainable Community Builder Checklist* and proceed with the proposed phased approach for implementing the revised checklist and green building incentive program.

2. Receive this report and provide staff with alternate direction.

FINANCIAL IMPLICATIONS

The financial implications for proceeding with revising the Checklist, establishing viable incentives and implementing Phase 1 of Option A is limited to staff time to draft documents and facilitate meetings. At this time it is anticipated that Phases 2 and 3 will involve greater staff resources and a lengthier process to implement. Following Phase 1, further research will be undertaken and presented to the SSC evaluating the potential costs of implementing Phases 2 and 3.

SUSTAINABILITY IMPLICATIONS

The overall aim of revising the Sustainable Community Builder Checklist and tying it to incentives is to promote development that meets RDN sustainability goals for new and existing development. Consultation with stakeholders together with piloting and monitoring the use of a revised checklist and incentive program is intended to ensure that the most effective approach is used to achieve sustainability goals.

POLICY IMPLICATIONS

The recommended approach (Option A) is considered to be the most efficient way of quickly increasing the effectiveness of the Checklist. Initial changes would be required to RDN Policy B1.14 Sustainable Community Builder Checklist and, Building Regulations and Fees Bylaw No. 1250, 2001 and Delegation of Authority Bylaw No. 1166, 1999. Further changes to other bylaws including zoning, subdivision and Official Community Plan bylaws will be necessary at later phases.

SUMMARY

RDN staff, developers and citizens have expressed a desire to see the current sustainability checklist improved and the use of incentives considered. The Checklist is currently considered to be confusing and has had limited demonstrated impact upon improving RDN sustainability goals including the quality and performance of new development. Recent recommendations from RDN research together with changes in senior government legislation, and strategies employed by other local governments show the potential for alternative approaches to meet RDN sustainability goals.

This report recommends a phased approach (Option A), that would enable faster implementation of an improved checklist tied to the use of cost-effective incentives and a gradual strengthening of tools used to achieve higher levels of sustainability through development processes. The proposed process for developing Option A involves engaging internal and external stakeholders to provide guidance and feedback.

RECOMMENDATION:

That the Board direct staff to revise the Sustainable Community Builder Checklist and proceed with the proposed phased approach for implementing the revised checklist and green building incentive program.

FOR LISA BHOPALSINGH
Report Writer

General Manager Concurrence

Manager Concurrence

CAO Concurrence

Attachment 1
The Sustainable Community Builder Checklist

REGIONAL DISTRICT OF NANAIMO

POLICY

SUBJECT:	***Sustainable Community Builder Checklist***	POLICY NO:	B1.14
		CROSS REF.:	
EFFECTIVE DATE:	October 31, 2006	APPROVED BY:	Board
REVISION DATE:		PAGE:	1 of 6

PURPOSE:

To establish the process, guidelines, and criteria for the Sustainable Community Builder Checklist.

POLICY:

1. Purpose of the Sustainable Community Builder Checklist

The purpose of the Sustainable Community Builder Checklist (Checklist) is to get people thinking about how to develop in a more sustainable manner. The Checklist includes a series of questions designed to encourage applicants to think about new design options and concepts that may not be commonly known to the development community. It is hoped that requiring applicants to consider these design issues and options during the initial design stage of their development(s), and while seeking RDN approvals, will result in a greater incorporation of sustainable design elements into the project. This will also facilitate staff working with the applicants to encourage new ideas and to incorporate sustainable design features into their development proposal.

It is important to note that the questions in the Sustainable Community Builder Checklist are designed primarily to educate the community about sustainable development practices, and to initiate the incorporation of those practices into the development proposal. The Checklist is not designed to be used to evaluate the appropriateness of the land use for the property; the compliance of the land use to the applicable Official Community Plan and the Regional Growth Strategy; or, whether the proposed development complies with the applicable development permit area guidelines. Evaluation of this nature forms part of the standard planning review process.

Process

Development applications including: subdivision, land use bylaw amendment, land use contract, and development permit applications shall be required to complete the Sustainable Community Builder Checklist, as follows:

a) **Self-Scoring** – Please read and answer each question in the Checklist with a "Yes" or "No" answer, to achieve the score at the end of the Checklist:

Total the number of "Yes" responses;
Divide by 45 (the total number of questions); and
Multiply by 100 to achieve a percentage.
Example:

Total Number of "Yes" Responses
45 X 100 = Score __%

b) **Supplementary Information** - Provide any additional description, or information regarding how the proposed development incorporates sustainable development practices.

   Please read the information provided that explain the Triple Bottom Line approach and Leadership in Energy and Environment Design (LEED) certification.

c) **Submit Application** – Submit the completed Sustainable Community Builder Checklist, and any supplementary information along with the development application.

d) **Cooperative Consultation** – Staff will review the submission, and may consult with the applicant to discuss ways to include sustainable practices into the development.

There is no pass or fail score associated with the checklist.

2. Fees

There shall be no fees associated with this service.

3. The Sustainable Community Builder Checklist

Please see the following pages to review the Sustainable Community Builder Checklist guidelines and criteria.

REGIONAL DISTRICT OF NANAIMO

The Sustainable Community Builder Checklist

	Yes	No	Explanation
Environmental Protection and Enhancement			
Please explain how the development protects and/or enhances the natural environment. For example does your development: • conserve, restore, or improve native habitat? • remove invasive species? • involve innovative ways to reduce waste, and protect the air quality? • use innovative ways to reduce construction waste directed to the landfill • include an ecological inventory?			
Please explain how the development contributes to the more efficient use of energy. For example does your development: • use climate sensitive design features (passive solar, minimize the impact of wind, and rain, etc)? • provide onsite renewable energy generation such as solar energy or geo-thermal heating? • propose buildings constructed in accordance with LEED, and the accepted green building standards?			
Please explain how the development facilitates good environmentally friendly practices. For example does your development: • provide onsite composting facilities? • provide an area for a community garden? • include a car free zone? • include a car share program?			

	Yes	No	Explanation
Please explain how the development contributes to the more efficient use of water. For example does your development: • use drought tolerant plants? • use rocks and other materials in the landscaping design that are not water dependant? • recycle water and wastewater? • provide for zero stormwater run-off? • utilize natural systems for sewage disposal and storm water? • use low flush toilets?			
Please explain how the development protects, enhances, or minimizes its impact on the local natural environment. For example does your development: • provide conservation measures for sensitive lands beyond those mandated by legislation? • cluster the housing to save remaining land from development and disturbance? • protect groundwater from contamination?			
Community Character and Design			
Does the development proposal provide for a more "complete community" within a designated Village Centre? For example does your development: • improve the mix of compatible uses within an area? • provide services, or an amenity in close proximity to a residential area? • provide a variety of housing in close proximity to a public amenity, transit, or commercial area?			
Please explain how the development increases the mix of housing types and options in the community. For example does your development: • provide a housing type other than single family dwellings? • include rental housing? • include seniors housing? • include cooperative housing?			

	Yes	No	Explanation
Please explain how the development makes for a safe place to live. For example does your development: • have fire protection, or include fire prevention measures such as removal of dead fall, onsite pumps, etc? • help prevent crime through the site design? • slow traffic through the design of the road?			
Please explain how the development facilitates and promotes pedestrian movement. For example does your development: • create greenspaces, or strong connections to adjacent natural features, parks, and open spaces? • promote, or improve trails and pedestrian amenities? • link to amenities such as school, beach & trails, grocery store, public transit, etc? (provide distance & type)			
Please explain how the development facilitates community social interaction and promotes community values. For example does your development: • incorporate community social gathering places? (village square, halls, youth and senior facilities, bulletin board, wharf, or pier) • use colour and public art to add vibrancy and promote community values? • preserve heritage features?			
Economic Development			
Does the development proposal infill an existing developed area, as opposed to opening up a new area to development? For example does your development: • fill in pre-existing vacant parcels of land? • utilize pre-existing roads and services? • revitalize a previously contaminated area?			

	Yes	No	Explanation
Please explain how the development strengthens the local economy. For example does your development: • create permanent employment opportunities? • promote diversification of the local economy via business type and size appropriate for the area? • increase community opportunities for training, education, entertainment, or recreation? • use local materials and labour? • improve opportunities for new and existing businesses?			
Please explain if there is something unique or innovative about your project that has not been addressed?			
Total Number of "Yes"	**/45**		
TRIPLE BOTTOM LINE SCORE	**%**		

Disclaimer: *Please note that staff rely on the information provided by the applicant to complete the sustainability checklist analysis. The Regional District of Nanaimo does not guarantee that development will occur in this manner.*

NEED MORE INFORMATION?
Come visit the Development Services Department!
We are located at the RDN Main Office at 6300 Hammond Bay Road, Nanaimo, BC.
Call us at: (250) 390-6510 or 954-3798 (District 69)
or toll free in BC: 1-877-607-4111
Fax: (250) 390 7511
Visit our website at: www.rdn.bc.ca

Attachment 2

Evaluation of the Sustainable Community Builder Checklist

The following evaluation of the *Sustainable Community Builder Checklist* (The Checklist) has been conducted in relation to how well it is meeting its original objectives as outlined below:

Objectives

1. To increase knowledge of sustainable development practices resulting in greater incorporation of these into developments.

2. To facilitate cooperative relationships between developers and RDN staff that allow for the development of 'new ideas' and lead to increasing the level of sustainable development practices incorporated into developments.

Format & Content

The Checklist follows a 'Triple Bottom Line" approach with questions divided into three sections reflecting the *'three pillars'* approach to sustainability (environmental, social and economic). The Applicants self-score by answering 45 equally weighted questions (1 point each). While the scoring process is simple, weighting each question equally does not give applicants any indication of the level of impact or priority that one action has over another.

The Checklist addresses a broad range of issues that relate to RDN Goals as expressed in the RGS and reflects indicators that the RDN would like to see improved. At just under four pages with a dozen open ended questions, the checklist is not lengthy. Examples are provided to show how each question can be addressed. While these examples are solid, using them as 45 closed questions with a yes/no response worth one point each causes confusion.

The Checklist allows for great flexibility in the approaches used to improve sustainability because there is no requirement to complete any specific action. The Checklist can provide staff with information that can be used in Staff reports on development applications.

Application

Completions of the Checklist is required as part of four development processes in RDN Electoral Areas:

- Subdivision Applications
- Zoning Amendments
- Development Permit Applications
- Land Use Contract Amendments

The Checklist is applied to all scales of development within this context, resulting in confusion and frustration for smaller projects to which many of the questions do not apply. Additionally, there are questions that duplicate information required on the *Community & Site Impact Review* form. This form may be required for certain development applications where an OCP designates a Development Approval Information Area or specifies the circumstances in which development approval information is required.

The Checklist is not required for Official Community Plan amendments, Development Variance Permit or Building Permit Applications thereby missing opportunities to influence development at these stages.

Impact / Effectiveness

There is no mechanism to record and measure the impact of the Checklist, making it difficult to assess its effect on raising awareness about sustainable development practices. Additionally, it is impossible to establish the impact of the checklist on development as there is no verification that applicants follow through on actions. It is anticipated that only relatively easy, low cost actions such as installing low flow toilets are undertaken. It should be noted that applicants might likely undertake these 'easier' actions irrespective of using the Checklist.

While it could be argued that the process of completing the Checklist is inherently educational (by requiring applicants to read through and respond to a series of questions), staff indicate that the Checklist is typically given 'cursory' attention and is of limited value in helping facilitate discussion to increase the application of sustainable practices in developments. Reasons for this include:

- Checklist scores and responses have no bearing on the approval of applications, nor are they tied to any other meaningful penalties or incentives. Undertaking any actions indicated on the Checklist or taking measures to improve scores is voluntary and there is no verification that actions are taken. These factors give staff limited ability to persuade applicants to 'voluntarily' go well beyond meeting minimum requirements.

- Limited staff resources to educate developers on the potential benefits and methods for achieving higher levels of sustainability.

- Staff focus efforts on ensuring applicants meet 'required' criteria as outlined in RDN policy documents including OCPs and DPAs.

Attachment 3
Example of a Sustainability Checklist from Members of the Electoral Area 'A' OCP Review Committee

- recommendations to the RDN, April 2010

Just as we talk about having green developers get the "green light" (and incentives) for flexible and innovative projects that use sustainability principles in order to build, let's have farmers and small holders get incentives and support for innovative "green" development of their farms; they are business people."
- RDN Regional Growth Strategy Review 2007-2008,
(Nanaimo Workshop Report, *June 7/08*)

The Nanaimo Regional District can draw upon the work and experience gained from nearby Island and BC communities who have already integrated sustainability checklists within their planning and development requirements.

In British Columbia there have been many innovative, and thorough, approaches to institute sustainable development and triple bottom line standards for community and regional growth. Port Moody, Kamloops and Port Coquitlam on the mainland to name a few; Saanich, Ucluelet, Saltspring Island, and Parksville-Qualicum on Vancouver Island.

Below, the Sustainability Checklist of the Comox Valley Regional Growth Strategy - a region with very similar socio/geo/demographics, offers 'Eight Pillars of a Sustainable Community'. Comox Valley residents and – pillars that it maintains are "fundamental to future prosperity, quality of life and reducing our ecological footprint":

1. Complete, Compact, Liveable Neighbourhood Centres
2. Efficient, Innovative Transportation
3. Advancing Green Buildings & Site Design
4. Open Space and Local Food Systems
5. Efficient, Integrated Infrastructure
6. Building a Strong, Healthy Community
7. Sustainable Economic Development
8. Progressive and Integrated Management

In this draft of the 'Green Lands & Green Lights' Sustainability Checklist the Mid Island Sustainability & Stewardship Initiative hopes to offer a number of potential considerations, with thoughts of later separating points into building and other categories as more information becomes available. The end result should benefit the RDN and residents in furthering sustainable community development throughout the region.

- Laurie Gourlay & Jack Anderson, MISSI

Mid Island Sustainability & Stewardship Initiative
P.O. Box 333, Cedar, B.C., V9X 1W1 <www.missimidisland.com>

	Points	Wght	Total	Social	Env't	Econ
Green Lands - Rural/Regional Sustainability & Stewardship						
Criteria & Scoring Checklist ...for Rezoning & Development Permit Applications	None: 0 Poor: 1 Good: 2-3 Excellent: 4-5	1	/5	(50%)		(50%)
1. Land Use:						
Complements neighbouring land use, contiguous features & adjacent jurisdictions.						
Adhere to best management practices vis-à-vis drought-resistant landscaping, avoidance of pesticides, etc. that pose a risk to the aquifer and health						
Identified environmental and archaeological values, including habitat for threatened or endangered species and First Nations sites, before planning access, site clearing and design						
Entire subject parcel remains within the Agricultural Land Reserve.						
Preserves and supports land within the Agricultural Land Reserve for agricultural purposes.						
Low-impact development (eg. minimizing storm water, sewage & water infrastructure needs, and road use.)						
Residential strata lots developed on land with least agricultural potential.						
Majority of the land with the most agricultural potential held in common by the strata corporation.						
The agricultural plan has been developed in cooperation with the District Agriculturalist and will be reviewed annually.						
Contributes to urban agriculture options. (eg. supports a viable agricultural economy and the protection of agricultural lands.)						
The farm plan emphasizes intensive farming by local standards.						
The farm plan emphasizes organic farming.						
Identification of what's good to grow on / what can be considered for other uses (density transfer).						
A restrictive covenant has been placed on the land preventing the common land from being used for anything other than farm purposes, and restricting any further development.						

Green Lands - Rural/Regional Sustainability & Stewardship						
Criteria & Scoring Checklist **...for Rezoning & Development Permit Applications**	*None: 0* *Poor: 1* *Good: 2-3* *Excellent: 4-5*	*1*	*/5*	*(50%)*		*(50%)*
2. Housing:						
Residential strata lots are developed in clusters.						
Housing projects introduce innovative and creative design and streetscapes.						
Use of least fertile areas for housing/building/development						
Locate for optimal solar gain.						
3. Community Character & Design:						
a) Design:						
Subdivision is a strata subdivision.						
High level of aesthetic design.						
Subdivision matches region's socio-economic spectrum.						
Human-scale proportion and attributes.						
Encourages social interaction within the street-scape.						
b) Public Space:						
Viewscapes are maintained, enhanced.						
Development includes the provision of amenities including buffer areas along major roads, neighbourhood parks, sidewalks and trails, and public facilities.						
Supports expanded parks, natural areas and greenways systems.						
Creates a greater sense of place (e.g. bicycle and pedestrian ways, wider sidewalks and landscaping).						
Stimulates community gatherings of all ages.						
c) Density & Infill:						
Contributes to nodal development of cultural & medical						

Green Lands - Rural/Regional Sustainability & Stewardship						
Criteria & Scoring Checklist **...for Rezoning & Development Permit Applications**	*None: 0* *Poor: 1* *Good: 2-3* *Excellent: 4-5*	*1*	*/5*	*(50%)*		*(50%)*
facilities, basic needs & services, or public transportation.						
Contributes to intensification and revitalization of existing neighbourhoods and the District Core.						
d) Transportation:						
Block pattern reflects the local topography; w large tracks of land serviced by a hierarchy of transportation modes. eg; a built form pattern, w one road access to a small number of buildings, consistent with the agricultural or land use.						
One road servicing the area is used by large commercial/logging trucks, vehicles and cyclists.						
Walk-able neighbourhoods.						
Reduction of parking, and encouragement of car-sharing, cycling and transit use.						
Green streets integration, w permeable surfacing.						
4. Environmental Protection & Enhancement:						
a) Lands:						
Environmental Farm Plan accredited, or equivalent designation.						
Climate change accommodations incorporated.						
Interpretation & implementation, at the site level, of policy objectives and targets for climate change action that relate to land use and urban design, which are articulated in the OCP and/or Neighbourhood Plans.						
Reduction of GHG emissions, energy efficiency and water conservation.						
Natural features are protected, or rehabilitated.						
Development, the driveway, septic system, house and outbuildings — located away from areas with high environmental values like shorelines, streams, rare plants, and wildlife trees.						
Natural buffers placed between the development and						

Green Lands - Rural/Regional Sustainability & Stewardship						
Criteria & Scoring Checklist **...for Rezoning & Development Permit Applications**	*None: 0* *Poor: 1* *Good: 2-3* *Excellent: 4-5*	*1*	*/5*	*(50%)*		*(50%)*
sensitive features.						
b) Ecosystem, biodiversity & water:						
Water protection & reduced-use measures integrated. Eg: minimize the risk of groundwater & aquifer depletion or reduction through over-use.						
Indigenous flora, fauna, habitat & biodiversity protection. Eg: buffer around trees containing eagle, osprey, heron nests, & sensitive ecological systems.						
Project designed to minimize risks to water supplies. Eg: If property within community water system's well capture zone, or the watershed of drinking water lakes and streams - need to ensure drinking water supply is not contaminated by malfunctioning septic systems, phosphorus release from soil disturbance, runoff and erosion, and fuel and chemical spills.						
Avoids use of synthetic pesticides & fertilizers.						
Control of invasives growing on the property.						
c) Servicing:						
Clustered development in one area of the property to minimize site disturbance.						
d) Construction/Design:						
Best practices for sediment and erosion control, in construction or other uses impacting the land. Eg: minimized tree cutting and soil disturbance?						
Buildings and structures setback minimum of 15m from all water bodies.						
Rainwater storage via on-site construction of cistern, pond or wetland.						
Water flows over property mapped, with landscaping and development design accommodation.						
Permits obtained to construct oceanfront docks, boat						

Green Lands - Rural/Regional Sustainability & Stewardship						
Criteria & Scoring Checklist ...for Rezoning & Development Permit Applications	*None: 0 Poor 1 Good: 2-3 Excellent: 4-5*	*1*	*/5*	*(50%)*		*(50%)*
ramps and breakwaters; or to place fill, or remove larger trees within 30m of shoreline.						
Buildings sited well back from the high water mark, retaining trees & vegetation within 10 m of the ocean.						
Landscaping with native, drought-hardy vegetation.						
Minimizing impervious surfaces, using permeable paving.						
Avoidance of outdoor burning of slash and wood debris through berming and/or chipping or trucking.						
Compact and resource-efficient design to reduce the building's ecological footprint.						
Incorporated passive solar design principles for space heating and cooling; and natural daylighting and natural ventilation. Eg; optimized design for energy performance, such as net zero energy house.						
Set performance objectives for house/building? e.g. annual consumption targets for water, electricity, firewood and/or propane, or a third party industry standard such as BuiltGreen Platinum or EGH 85 rating						
Foundation options that provide good thermal performance and water resistance, and efficient resource use.						
Resource efficient framing and wall options that optimise structural and thermal performance and reduce environmental impact.						
Using more insulation, insulation with recycled content, and windows with a higher energy rating than required in this area by the BC Building Code.						
Heat pump technologies for space heating such as round, water, or air source heat pumps, including air source ductless systems.						
Installation of a central heat recovery ventilator system.						
Installation of a high efficiency wood burning appliance, pellet stove, or efficient propane gas fireplace.						
Use of dual flush toilets, low-flow shower heads and faucet aerators.						
Use of greywater separation using greywater separation and treatment for irrigation or reuse and treatment for irrigation or reuse.						
Use of low maintenance exterior cladding and trim to reduce the need for paint and stain.						
Use of environmentally-friendly, water soluble low-VOC						

Green Lands - Rural/Regional Sustainability & Stewardship						
Criteria & Scoring Checklist ...for Rezoning & Development Permit Applications	*None: 0 Poor: 1 Good: 2-3 Excellent: 4-5*	*1*	*/5*	*(50%)*		*(50%)*
paints and finishes.						
Use of materials with recycled content.						
Installation of a solar water heating system; and/or roof-mounted photovoltaic panels.						
Green building elements and life cycle costing.						
5. Social Equity:						
Reflects community interests.						
Allows a number of family members to live on and work a family farm while living in separate residences						
Contributes to food production & food security.						
6. Economic Development:						
a) Employment:						
Makes it possible for young farmers to buy land with agricultural potential and become farmers themselves.						
Increases the intensity of farming within our community by increasing the number of farmers on agricultural land.						
b) Diversification & Enhancement:						
The farm plan emphasizes the production of agricultural products which will be sold locally in the community.						
The farm plan includes secondary processing in the community.						
c) Regulatory:						
Farm gate sales, from the agricultural land farmed in common, will meet the requirements of District Taxation Office for farm status.						

Triple Bottom-Line Summary	*Social/Environmental/Economic:*	/35 (%)	/35 (%)	/35 (%)
	Total Score for Application:	/105 (%)		

** general table & 'triple bottom line' design adapted from Port Coquitlam Sustainability Checklist. And many points adopted from Saltspring Is. Sustainability Checklist.*

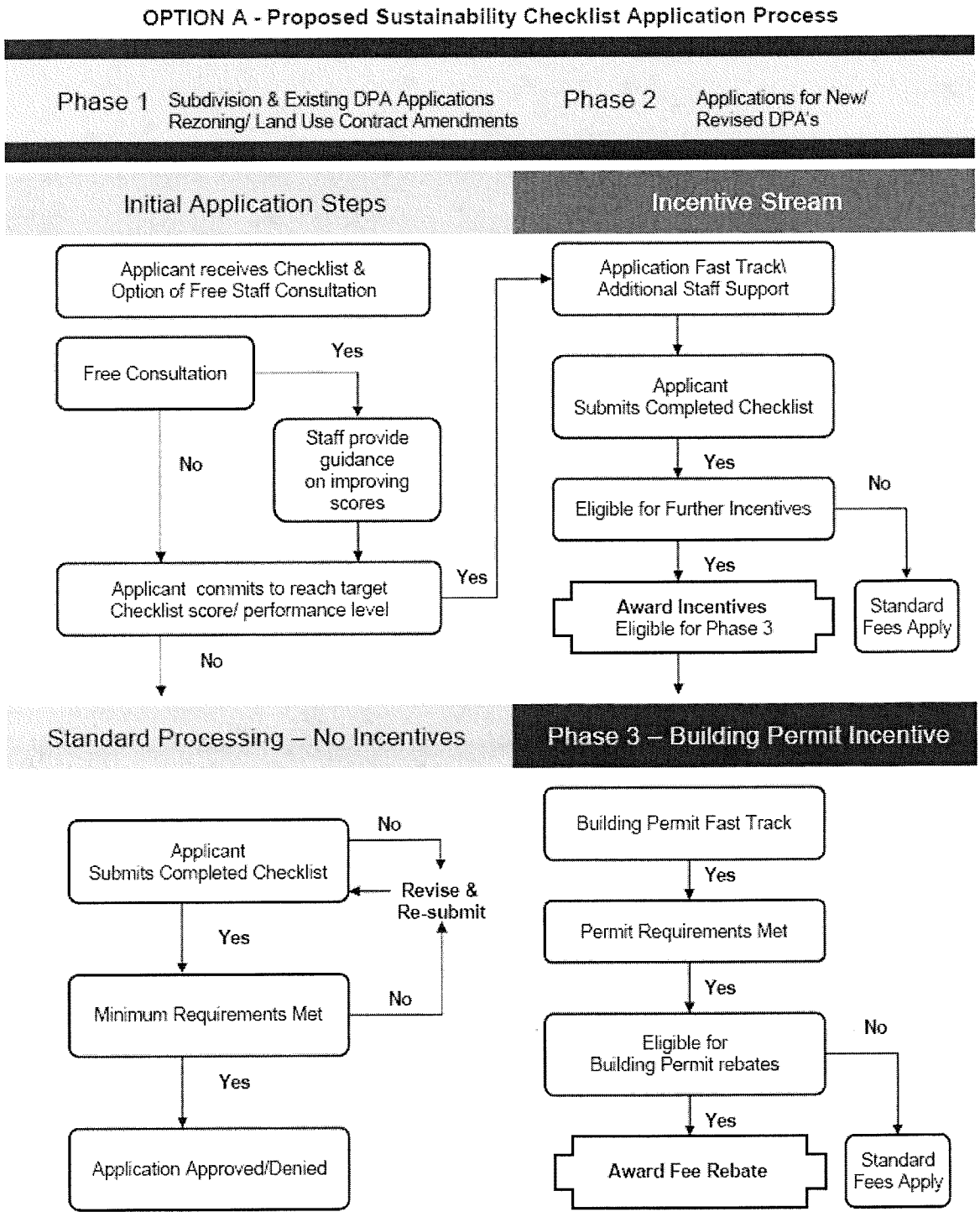
Additional Sustainability Checklists and files reviewed for this shortlist are available on request.

For further information please contact:

Mid Island Sustainability & Stewardship Initiative
P.O. Box 333, Cedar, B.C., V9X 1W1 <www.missimidisland.com>

Attachment 4

Proposed Flow Chart



Attachment 5