



Making a difference...together

**CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE**  
Notice of a Meeting on **Wednesday, October 8, 2014, at 9:00 am**  
Board Room, 6th Floor, 625 Fisgard Street, Victoria, BC

G. Young (Chair)	D. Blackwell	M. Alto	S. Brice
J. Brownoff	V. Derman	B. Desjardins	D. Fortin
C. Hamilton	G. Hill	B. Isitt	N. Jensen (J. Herbert)
F. Leonard (V. Sanders)	L. Seaton	L. Wergeland	

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**AGENDA**

1. Approval of Agenda
2. Adoption of Minutes of September 10, 2014
3. Chair's Remarks
4. Presentations/Delegations
5. Core Area Liquid Waste Management Plan 2013 Annual Programs Report (EEP 14-44)
6. Service Plans Review Process
7. 2015–2019 Draft Financial Plan for the Core Area Liquid Waste Management Program
8. Liquid Waste Management Planning for Core Area – Next Steps (EHQ 14-45)
9. Seaterra Program and Budget Update No. 16 (including program reports 15 and 16)
10. Seaterra Commission Recruitment Process Update
11. Motions with Notice
  - a) Options for Wastewater Treatment: Director Hamilton
  - b) Implementing a Process for Investigating Best Practices: Director Derman
12. New Business
13. Adjournment

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*To ensure quorum, please advise Nancy More at 250-360-3024 if you or your alternate cannot attend.*



**Minutes of a Meeting of the Core Area Liquid Waste Management Committee  
Held Wednesday, September 10, 2014, in the Board Room, 625 Fisgard St., Victoria, BC**

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**Present: Directors:** G. Young (Chair), D. Blackwell (Vice-Chair), M. Alto, S. Brice, J. Brownoff (9:02), V. Derman, B. Desjardins, D. Fortin (9:05), C. Hamilton, G. Hill, B. Isitt (9:29), J. Herbert (for N. Jensen), V. Sanders (for F. Leonard), L. Seaton, L. Wergeland, A. Bryson, Board Chair, ex officio  
**Staff:** R. Lapham, Chief Administrative Officer; L. Hutcheson, General Manager, Parks & Environmental Services; D. Lokken, General Manager, Finance and Technology; A. Sweetnam, Program Director, Seaterra Program; T. Robbins, General Manager, Integrated Water Services; G. Harris, Senior Manager, Environmental Protection; S. Henderson, Manager, Real Estate; A. Orr, Senior Manager, Corporate Communications; S. Santarossa, Corporate Officer; H. Raines (recorder)  
**Also Present:** M. Bergamini, Principal, InterChange Public Affairs; C. Stewart, Stewart McDannold Stuart

The meeting was called to order at 9:00 a.m.

**1. Approval of Agenda**

**MOVED** by Director Brice, **SECONDED** by Director Hill,  
That the agenda be approved as amended to include supplementary agenda.

**CARRIED**

**2. Adoption of Minutes**

**MOVED** by Director Brice, **SECONDED** by Director Wergeland,  
That the minutes of the August 13, 2014, meeting be adopted as previously circulated.

**CARRIED**

**3. Chair's Remarks: There were no Chair's remarks.**

Director Brownoff entered the meeting at 9:02 a.m.

**4. Presentations/Delegations**

**A. Presentations**

- 1) Massimo Bergamini, Principal, InterChange Public Affairs re Federal Funding Agreement for Sewage Treatment: Mr. Bergamini provided general remarks on the federal funding commitment as follows:
  - Issues around siting were raised in 2009 with federal officials, and it was confirmed then that if there was no site selected there would be no program;
  - the funding is not locked in until the agreement has been signed by the Minister;
  - One of the stipulations of the contribution agreements is that a significant material change would result in a review of new project business case (including a technical

review by officials, approval by the Minister of Infrastructure and Treasury Board approval).

- There would likely be a review to determine if the project was still eligible for funding under the current Build Canada Fund, and not the one established in 2007.
- Projects have been amended as they develop and confirmed that federal dollars will flow until contribution agreement is signed.

Director Fortin entered the meeting at 9:05 a.m.

- 2) Colin Stewart, Stewart McDannold Stuart, re Statutory Obligations for Sewage Treatment: Mr. Stewart, legal counsel for the Capital Regional District (CRD), addressed both the statutory and legal obligation to provide secondary treatment, including the Federal legislation in the *Fisheries Act* section 37 and the *Wastewater Systems Effluent Regulations*, and highlighted the following:
  - With the application for transitional authorization, based on the current Liquid Waste Management Plan (LWMP), which had to be filed by the end of June 2014, the CRD is able extend compliance to the regulations to 2020;
  - The CRD had to disclose that plans for treatment were under review and indicated that they would keep the federal government informed of their plans;
  - Transitional authority can be revoked;
  - The LWMP remains the approved plan and under the plan, sewage treatment must be in place by the end of 2018.

Mr. Stewart spoke about the provincial regulations and funding agreement, which include the establishment of the Commission, and outlined the process for any changes to the current LWMP. He addressed the history of the letters patent from the 1960s which set the current parameters for CRD's authority to treat sewage.

Discussion from the Committee included zoning, deleterious materials, siting for the Resource Recovery Centre, the contribution agreements and the timing of confirmation of the contribution agreements. Further legal opinion will be considered in the closed portion of the meeting.

Director Isitt entered the meeting at 9:29 a.m.

## **B. Delegations**

- 1) Richard Atwell, re item 6: spoke about the contribution agreements. He expressed the need to show the public the funding agreements and called for greater transparency by the CRD.
- 2) Norma Brown, re item 6: spoke against the current Terms of Reference (TOR), indicating that they need to consider the community's needs and the study should be comprised of a small, balanced collective, including communities and first nations in charge.
- 3) John Farquharson, director of STAG, re item 6: spoke against the current TOR. He discussed a signed petition and a STAG drafted TOR for the project. He feels that the

CRD option study is not designed for success. A revised TOR should have broad consensus, quality information and credibility of the inquirer.

- 4) Ray Parks, re item 6: spoke against the current TOR. He expressed the need to maintain and strive towards consensus and the need to have someone look at this with a critical review and fresh perspective.
- 5) Irwin Henderson, re item 6: gave suggestions on how the CRD could move towards consensus on the TOR, including greater transparency, inclusivity with First Nations and municipalities and independence from the CRD.

## **5. Motion to Close the Meeting**

**MOVED** by Director Hill, **SECONDED** by Director Brice,

That the Committee close the meeting in accordance with the *Community Charter* Part 4, Division 3, Section 90(1) (a) personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the regional district or another position appointed by the regional district; (e) the acquisition, disposition or expropriation of land or improvements, if the board considers that disclosure could reasonably be expected to harm the interests of the regional district; and (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose and section 90(2)(b) the consideration of information received and held in confidence relating to negotiations between the regional district and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party.

**CARRIED**

The Committee moved to the closed session at 10:02 a.m.

The Committee rose from the closed session at 11:18 a.m. without report. All members of the Committee were present save Board Chair Bryson.

## **6. Terms of Reference – Options Study for Core Area Sewage Treatment**

L. Hutcheson provided an overview of the report. She highlighted the work with municipal staff and First Nations staff to arrive at the current Terms of Reference (TOR) for an options study. She indicated that the Independent Manager and Fairness Advisor would report to the Committee and the Board and that staff would be present in a supporting role.

**MOVED** by Director Isitt, **SECONDED** by Director Blackwell,

That it be recommended to the Capital Regional District Board:

- 1) That staff, working in collaboration with the municipalities, be directed to undertake an Options Study according to the Terms of Reference attached in Appendix A; and
- 2) That a budget in the amount of \$400,000 be allocated to the study, funded from the Liquid Waste Management Plan operating reserve, which had a balance of \$954,545 as of December 2013.

**MOVED** by Director Isitt, **SECONDED** by Director Blackwell,

That the report be referred back to staff until the next Core Area Liquid Waste Management Committee meeting in order to update the Terms of Reference to include suggestions from the September 3, 2014, correspondence from the Westshore mayors.

Director Fortin left the meeting at 11:28 a.m.

Discussion on TOR and amendments to TOR followed. Topics included municipal inclusion and contribution, grant and fund management, regulatory standards and public process on site selection. Staff informed the Committee that grants are given for specific infrastructure projects, and it was not up to the discretion of staff to control where funds are allocated.

**MOVED** by Director Isitt, **SECONDED** by Director Alto,

That the motion to refer be amended to direct staff to also include the following guiding principles to the Terms of Reference for the Options Study:

1. Each municipality will have authority over zoning for treatment plants within that municipality. Each municipality, not the CRD, will be responsible for either designating a suitable site or sites within the municipality or for collaborating with another municipality that has agreed to host a site.
2. Each municipality hosting a site assumes primary responsibility for determining the public process required to obtain approval for that site. These public processes are not led by the CRD.
3. Costs will be allocated on the basis of actual costs to serve each participant. The cost of a plant serving only one municipality would be allocated entirely to that municipality, and similarly the cost of a plant and conveyance systems serving a sub-set of municipalities will be allocated entirely among those participants. No municipality will be obliged to share the cost of plant or conveyance system in another municipality except by agreement between them.
4. Individual municipalities or sub-systems will determine levels of treatment and resource recovery, provided they meet the standards required by regulators and funders. Benefits of resource recovery will be allocated in the same way as costs.
5. Grant funding should be allocated to reduce costs of systems on the basis of the current cost sharing formula.

Discussion on the above amendment ensued as follows:

- Greater consistency between item 3 and 5
- Legal implications regarding items 4 and 5 that will be addressed in the staff report

Question on amendment to the referral motion was called.

**CARRIED**

Discussion on the amendment to the referral motion included municipal facilitation, the need to regain trust, program priorities and climate change.

Question was then called on the motion to refer as amended:

That the report be referred back to staff until the next Core Area Liquid Waste Management Committee meeting in order to update the Terms of Reference to include suggestions from the September 3, 2014, correspondence from the Westshore mayors and also include the following guiding principles to the Terms of Reference for the Options Study:

1. Each municipality will have authority over zoning for treatment plants within that municipality. Each municipality, not the CRD, will be responsible for either designating a suitable site or sites within the municipality or for collaborating with another municipality that has agreed to host a site.
2. Each municipality hosting a site assumes primary responsibility for determining the public process required to obtain approval for that site. These public processes are not led by the CRD.
3. Costs will be allocated on the basis of actual costs to serve each participant. The cost of a plant serving only one municipality would be allocated entirely to that municipality, and similarly the cost of a plant and conveyance systems serving a sub-set of municipalities will be allocated entirely among those participants. No municipality will be obliged to share the cost of plant or conveyance system in another municipality except by agreement between them.
4. Individual municipalities or sub-systems will determine levels of treatment and resource recovery, provided they meet the standards required by regulators and funders. Benefits of resource recovery will be allocated in the same way as costs.
5. Grant funding should be allocated to reduce costs of systems on the basis of the current cost sharing formula.”

**CARRIED**

**7. Seaterra Budget Update No. 15**

D. Lokken spoke to the report and indicated the budget reflects the pausing of the project and the reduced expenditure.

**MOVED** by Director Derman, **SECONDED** by Director Hill,  
That the Seaterra Budget Update No. 15 be received for information.

**CARRIED**

**8. Correspondence**

- a) Mayors of the Westside Communities and the Chief of the Songhees Nation, 3 September 2014, re: Independent study on options for waste water treatment for the Core Area of the Capital Regional District (CRD) *[related to item 6]*

**MOVED** by Director Blackwell, **SECONDED** by Director Brice,  
That correspondence be received for information.

**CARRIED**

**9. Motions for Which Notice Has Been Given**

- a) **Options for Wastewater Treatment: Director Hamilton**

**MOVED** by Director Hamilton, **SECONDED** by Director Hill,  
That consideration of the motion be postponed until the next Core Area Liquid Waste Management Committee meeting when the Terms of Reference for the Options Study will also be considered.

**CARRIED**

**b) Implementing a Process for Investigating Best Practices: Director Derman**

**MOVED** by Director Derman, **SECONDED** by Director Hill,  
That consideration of the motion be postponed until the next Core Area Liquid Waste Management Committee when the Terms of Reference for the Options Study will also be considered.

**CARRIED**

**10. New Business:** There was no new business.

**11. Motion to Close the Meeting**

**MOVED** by Director Derman, **SECONDED** by Director Brice,  
That the Committee close the meeting in accordance with the *Community Charter* Part 4, Division 3, Section 90(1) (a) personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the regional district or another position appointed by the regional district; (e) the acquisition, disposition or expropriation of land or improvements, if the board considers that disclosure could reasonably be expected to harm the interests of the regional district; and (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose and section 90(2)(b) the consideration of information received and held in confidence relating to negotiations between the regional district and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party.

**CARRIED**

The Committee moved to closed session at 12:03 p.m.

**12. Adjournment**

**MOVED** by Director Blackwell, **SECONDED** by Director Seaton,  
That the meeting be adjourned 1:01 p.m.

**CARRIED**

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CHAIR

\_\_\_\_\_  
RECORDER

**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF WEDNESDAY, OCTOBER 8, 2014**

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**SUBJECT CORE AREA LIQUID WASTE MANAGEMENT PLAN 2013 ANNUAL PROGRAMS REPORT**

**ISSUE**

To present an integrated summary of the 2013 activities, results and accomplishments of the Core Area Liquid Waste Management Plan (LWMP) programs associated with the protection of human health and the environment.

**BACKGROUND**

The Capital Regional District (CRD) has the mandate to provide liquid waste management in the core area through the regional trunk sewer and treatment system. Under the *BC Environmental Management Act* and Municipal Sewage Regulation, the LWMP provides the framework for this service, which is implemented through a series of establishing bylaws and services. The functions include managing inputs of flow and contaminants, environmental monitoring and assessment, stewardship of the receiving environment and reporting. Reporting is required by the regulator to ensure public accountability as well as transparent data availability and review. The LWMP includes the following seven programs specifically focused on protection of human health and the environment:

- Wastewater and Marine Environment Program
- Regional Source Control Program
- Stormwater Quality Program
- Harbours Environmental Action Program
- Inflow and Infiltration Program
- Onsite Sewage Management Program
- Trucked Liquid Waste Management Program

The *Core Area Liquid Waste Management Plan 2013 Annual Programs Report* and the executive summaries or full annual report for the various programs are attached (appendices A to I). The full annual reports (in draft until final Board approval) are available on the CRD website.

**ALTERNATIVES**

That the Core Area Liquid Waste Management Committee:

1. (a) Forward the *Core Area Liquid Waste Management Plan 2013 Annual Programs Report* to the Capital Regional District (CRD) Board for approval; and  
(b) Request that the CRD Board direct staff to forward copies of the final annual reports to the Ministry of Environment and all participating stakeholders as applicable, and post them on the CRD website.
2. Not receive the *Core Area Liquid Waste Management Plan 2013 Annual Programs Report* and request staff to amend the report as required and present at the next meeting of the committee.

**PUBLIC HEALTH AND ENVIRONMENTAL IMPLICATIONS**

The CRD continues to meet its regulatory commitments to protect human health and the environment associated with the core area liquid waste management services.

**ECONOMIC IMPLICATIONS**

Environmental reporting is a required component of the various services under the LWMP. Funding for these reports is included in the budgets for these services.

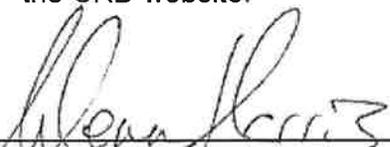
**CONCLUSIONS**

This is the third year for integrated reporting of the seven programs focused on the environmental management of liquid waste in the core area. Program staff continue to work collaboratively to ensure that the management of liquid waste in the core area meets regulatory requirements, protects human health and the environment, and the information is communicated to the regulators, stakeholders and general public.

**RECOMMENDATIONS**

That the Core Area Liquid Waste Management Committee:

1. Forward the *Core Area Liquid Waste Management Plan 2013 Annual Programs Report* to the Capital Regional District (CRD) Board for approval; and
2. Request that the CRD Board direct staff to forward copies of the final annual reports to the Ministry of Environment and all participating stakeholders as applicable, and post them on the CRD website.

  
\_\_\_\_\_  
Glenn Harris, Ph.D. R.P.Bio.  
Senior Manager, Environmental Protection

  
\_\_\_\_\_  
Heidi Gibson, M.N.R.M.  
Senior Manager, Environmental Partnerships

  
\_\_\_\_\_  
Dan Telford, P.Eng.  
Senior Manager,  
Environmental Engineering

  
\_\_\_\_\_  
Larisa Hutcheson, P.Eng.  
General Manager,  
Parks & Environmental Services

  
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Bob Lapham, MCIF, RPP  
Chief Administrative Officer  
Concurrence

DG:cam  
Attachments: 9

- Appendix A – *Core Area Liquid Waste Management Plan 2013 Annual Programs Report*
- Appendix B – *executive summary, Macaulay and Clover Points Wastewater and Marine Environment Program 2013 Annual Report*
- Appendix C – *executive summary, Regional Source Control Program 2013 Annual Report*
- Appendix D – *executive summary, Core Area Stormwater Quality Program 2013 Annual Report*
- Appendix E – *Gorge Waterway Initiative 2013 Annual Report*
- Appendix F – *Esquimalt Lagoon Stewardship Initiative 2013 Annual Report*
- Appendix G – *executive summary, Core Area Inflow & Infiltration Program 2013 Annual Report*
- Appendix H – *executive summary, Onsite Sewage Management Program 2013 Annual Report*
- Appendix I – *executive summary, Trucked Liquid Waste Program 2013 Annual Report*

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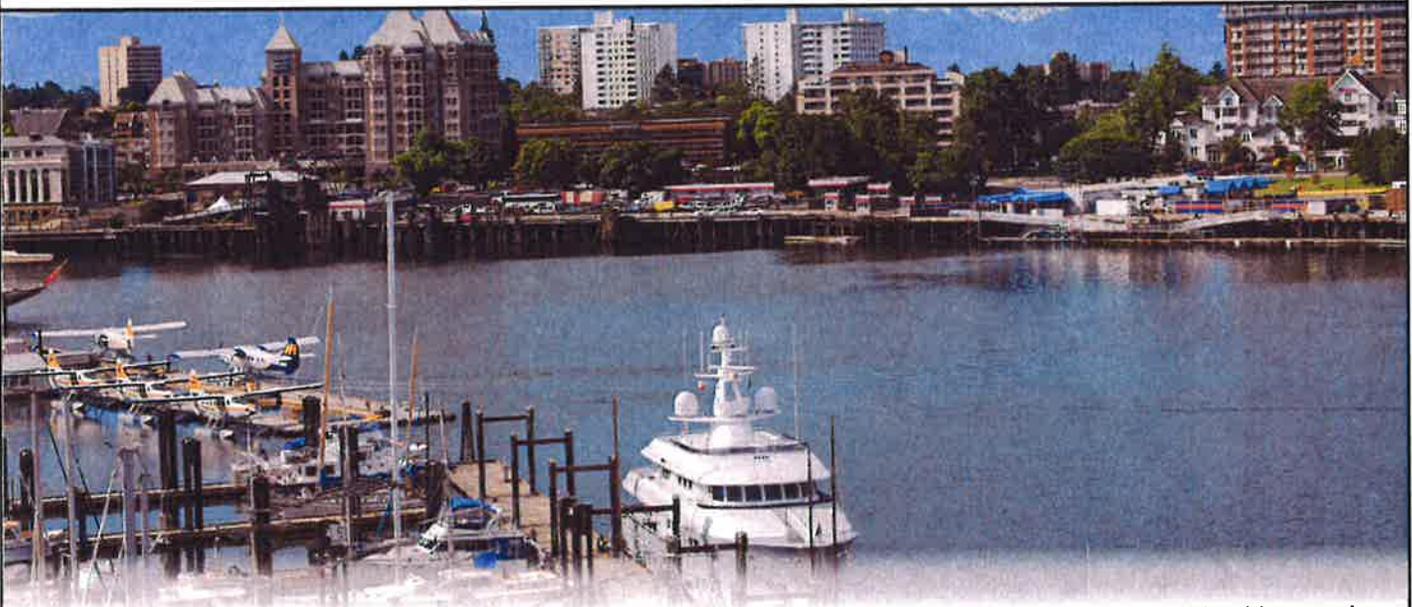


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# Core Area

# Liquid Waste Management Plan

## Capital Regional District | 2013 Annual Programs Report



View of the Inner Harbour.

The Capital Regional District (CRD), on behalf of the core area participants: Esquimalt Nation, Songhees First Nation, Colwood, Esquimalt, Langford, Oak Bay, Saanich, Victoria and View Royal manages wastewater and stormwater according to strategies and activities outlined in the Core Area Liquid Waste Management Plan (LWMP), a 25-year plan, under the Environmental Management Act, which was approved by the British Columbia Minister of Environment on March 26, 2003.

Look for these icons throughout the document for section headings in the seven program areas:



**Monitoring & Evaluation**



**Outreach & Education**



**Key Initiatives & Accomplishments**



**Looking Ahead**

Many LWMP activities have regulatory reporting requirements and commitments to inform and educate stakeholders. The seven programs are:

1. **Wastewater and marine environment monitoring;**
2. **Harbours environmental action;**
3. **Stormwater quality;**
4. **Source control;**
5. **Inflow & infiltration management;**
6. **Trucked liquid waste management; and**
7. **Onsite systems management.**

This overview document provides a summary of 2013 activities, 2014/2015 directions and describes the general scope and integration of the services provided in the LWMP.

# Wastewater & Marine Environment Monitoring

For almost 100 years, the Macaulay and Clover points outfalls have discharged Core Area wastewater into the waters of Juan de Fuca Strait. The outfalls were lengthened in 1971 (Macaulay) and 1981 (Clover) and they now **discharge fine-screened (6 mm) wastewater at distances of least 1,100 metres off-shore and depths of at least 60 metres.**

The two outfalls are regulated by the BC Ministry of Environment (MOE) through permits that specify wastewater **quality and flow volume limits, and through marine monitoring commitments** made in the Core Area LWMP. The outfalls are also subject to wastewater quality monitoring requirements under federal regulations.

Outfall monitoring is part of the Core Area Wastewater and Marine Environment Program (WMEP) with the following objectives:

- To monitor and assess wastewater quality and quantity.
- To provide compliance monitoring results to regulatory agencies.
- To monitor and assess the potential effects of the wastewater discharges to the marine environment.
- To monitor and assess the potential effects of the wastewater discharges to human health.
- To provide information to the CRD Regional Source Control Program.
- To provide information to wastewater managers regarding treatment plant and outfall diffuser performance.
- **To provide scientific assessment to the general public regarding the use of the marine environment for the disposal of wastewater.**

Regular WMEP monitoring was established in the late 1980s **and modified a number of times since then, with the latest program review and changes occurring in 2011.** The 2011 review was undertaken in collaboration with BC MOE staff **to address gaps identified in previous reviews and in light of the provincial direction for regional wastewater treatment.**

The current monitoring program is a five-year monitoring cycle, with 2013 representing the third year. A comprehensive assessment report will be completed for the **entire five year monitoring cycle once it is complete.**



## Monitoring & Evaluation

The 2013 WMEP sampling program included wastewater, surface water and water column monitoring.

### Wastewater Monitoring

The 2013 wastewater monitoring program consisted of: provincial and federal regulatory compliance monitoring, a comprehensive assessment of wastewater contaminants, and wastewater toxicity testing. 2013 results are consistent with previous years. Wastewater from both outfalls meets the regulatory requirements of their MOE permits.

Wastewater quality, however, did not meet federal regulatory limits. Therefore, the CRD applied for an authorization to temporarily exceed federal regulatory limits until further treatment can be installed in the Core Area. Based on the magnitude of the exceedences, the temporary **authorization specifies a deadline of December 31, 2020 for further treatment to be in place and effluent limits met.**

Wastewater toxicity test results for 2013 were also similar to previous years. Results indicated that undiluted wastewater **was toxic to fish and invertebrates within the initial dilution zone (IDZ),** an area that extends 100 metres around the end of each outfall. Based on minimum initial dilution factors at the edge of the IDZs, toxicity was not predicted beyond 100 metres from the outfalls. Installation of further treatment **will reduce effluent toxicity.**



Staff sampling seafloor sediment off Clover Point.

## Surface Water & Water Column Monitoring

The majority of surface water results were below human health protection guidelines. Guidelines were only exceeded in the summer at the edges of the IDZs of both outfalls and during the winter at Clover Point. Overall, these results indicate that potential for exposure to wastewater during recreational activities at the ocean surface was low.

**The deeper water column sampling results confirm the wastewater plumes were trapped at depth.** The bacterial levels at depth routinely exceeded human health protection at the edges of the IDZs indicating a higher risk below the surface of the ocean, for example if someone was SCUBA diving around the outfalls. These results are typical due to the intended design of the outfall diffusers and the high concentrations of bacteria being discharged. A few metals exceeded guidelines however, this is based on just a few samples and should be interpreted with caution. Overall, human health risk and potential for aquatic toxicity were low.

In 2013, an additional research investigation was started with Ocean Networks Canada to assess dissolved oxygen in relation to seafloor organism health around Macaulay Point.

## Key Initiatives & Accomplishments

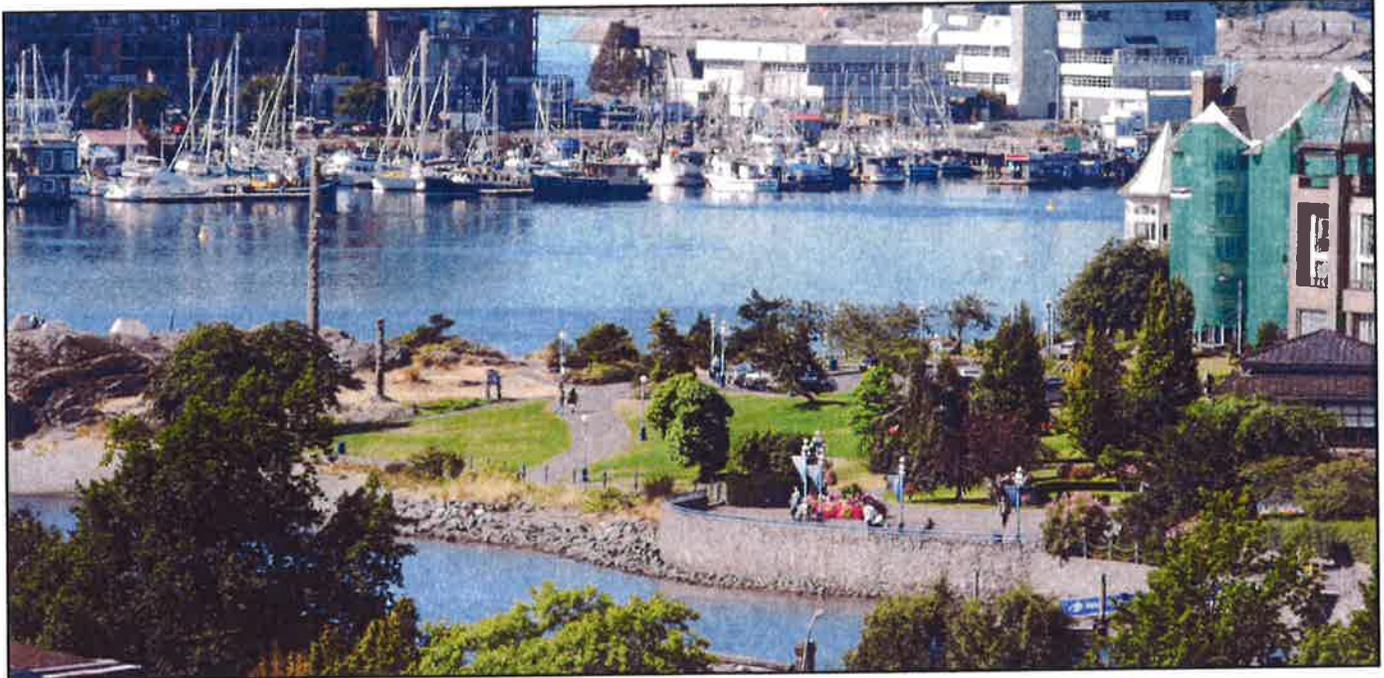
- Met 2013 reporting requirements
- Developed research collaborations



## Looking Ahead

In 2014/2015, the WMEP plans to:

- continue with routine regulatory (wastewater) and marine assessment (water column and surface water) monitoring.
- **undertake seafloor monitoring (sediment chemistry, seafloor community assessment for toxicity and bioaccumulation) around the Macaulay Point outfall.**
- complete an integrated assessment of the 2012 **seafloor invertebrate, sediment chemistry and toxicity** datasets.
- continue with the ongoing additional investigation with Ocean Networks Canada.
- review the need for other additional investigations.



Songhees walkway along the Inner Harbour.

## Harbours Environmental Action

The Harbours Environmental Action Program (HEAP) coordinates environmental protection and improvement efforts in Victoria and Esquimalt Harbours, Portage Inlet, the Gorge Waterway and Esquimalt Lagoon.

HEAP works with community groups, municipal partners, First Nations and other agencies to achieve the following LWMP goals:

- Decrease contaminant inputs
- Protect and enhance habitat quality
- Set environmental quality objectives
- Achieve environmentally protective land uses
- Monitor environmental quality

These commitments are implemented through various environmental projects and through collaborative, multi-stakeholder harbour initiatives, such as the Esquimalt Lagoon Stewardship Initiative (ELSI), the Gorge Waterway Initiative (GWI) and the Victoria and Esquimalt Harbours Environmental Action program.



## Monitoring & Evaluation

### Water Quality Objectives for the Harbours

Staff are working in partnership with MOE, to establish water quality objectives specific to the five unique harbours in the CRD's core area.

Building on 2012 sampling results, staff collected water quality data at 28 marine water sampling locations. In 2013, staff conducted water quality sampling in Colquitz, Colwood, Millstream and Cecelia Creeks and at several high-rated stormwater discharges entering Victoria Harbour. The intent of the sampling is to capture the first flush during the high flows and gain an accurate picture of high- and low- flow contaminant inputs to the harbours. Staff also monitored benthic invertebrate communities in the creeks.

### Flow Monitoring

Flow monitoring supports the development and monitoring of provincial WQO. Since 2012, the CRD has been monitoring water quality and flow in Colquitz, Colwood, and Cecelia creeks and flow in Hospital Creek. In late 2013, discharge rating curves were developed for these 4 creeks and annual runoff patterns determined.

These data have been provided to municipalities and First Nations and can be used to monitor long-term changes to creek hydrology as our climate changes.



## Outreach & Education

### Harbours Survey

Staff conducted an on-line survey during the summer to quantify how the public uses the harbours, what they value, what they have concerns about and their visions for the **future of the harbours**. **More than 740 people filled out the survey** and provided their input on the harbours.

### Website Review and Update

The CRD website underwent a major overhaul in 2013. All the harbours and watershed content was updated and new interactive websites were created for ELSI: [www.elsi.ca](http://www.elsi.ca) and GWI: [www.gorgewaterway.ca](http://www.gorgewaterway.ca).

### Community Events

Every year, staff and volunteers attend community events and celebrations, sponsor free public talks and participate in a variety of outreach and education events

### Restoration Activities

Staff coordinate and support volunteer efforts at several habitat restoration projects around the harbours including: annual broom pull and shoreline clean up at Coburg Peninsula, **fish monitoring for the creeks that enter Esquimalt Lagoon**, riparian enhancement along Bee Creek, dune restoration and monitoring at Coburg Peninsula, and shoreline restoration at Point Ellice on the Gorge Waterway. Hundreds of volunteer hours have contributed to much habitat restoration in the harbours.



## Key Initiatives & Accomplishments

In 2013, major accomplishments of the CRD Harbours Environmental Action Program include:

- **Completed first year of hydrometric monitoring** for Hospital, Cecelia, Colwood and Colquitz Creeks and developed discharge rating curves for each creek.
- Completed sampling for harbours and creek water quality objectives, compiled and provided data to MOE for interpretation.
- Conducted harbours survey and initiated data analysis.
- Updated and redesigned harbours and initiative websites.



Point Ellice bridge.



### Looking Ahead

In 2014/2015, HEAP plans to:

- complete the development of draft Water Quality Objectives for the harbours and conduct public consultation.
- continue hydrometric monitoring in priority creeks.
- analyse and report on the harbour survey results.

# Stormwater Quality

The Stormwater Quality Program (SQP) plans, promotes and coordinates the management of stormwater quality in consultation with the municipalities, Department of National Defence and First Nations.



## Monitoring & Evaluation

### Stormwater Discharge Evaluations

The core area stormwater discharge survey covers the coastline between the Colwood-Metchosin border in the west and the Saanich-Central Saanich border in the east, including the major harbours.

### Public Health: Fecal Coliforms

CRD staff collect water samples from selected stormwater discharges for measurement of fecal coliform bacteria levels.

There are approximately 650 stormwater discharges along the core area shoreline. The SQP visits priority discharges at least twice a year and aims to sample all discharges within a **five-year cycle**. The CRD analyzed 150 stormwater discharges for fecal coliform concentrations in 2013 with samples collected once during the winter and once during the summer to represent seasonal differences. Thirty-three stormwater discharges were rated high in 2013 and 117 were rated low or moderate.

The number of high-rated discharges decreased sharply after the program was initiated in 1993, but started increasing again in 2002. By 2011, the number of high-rated discharges reached 43. The increasing trend prompted staff to **refocus efforts on finding the sources of contamination to reduce or eliminate them**.

Joint efforts between participants and CRD staff have proven successful; in 2013, the number of high-rated discharges decreased to 33. Municipal efforts included relining sewer and stormwater pipes and separating combined sewer/stormwater manholes. Efforts to identify contamination were successful as fecal coliform levels in many discharges previously rated high are now reduced.

## Environment: Chemical Contaminants

The CRD also rates stormwater discharges for environmental concern based on the level of metals and organic contaminants measured in sediment collected within the stormwater collection system (i.e., pipes, manholes, ditches and creeks) relative to the CRD Marine Sediment Quality Guidelines for protection of aquatic life.

In 2013, the CRD collected 35 sediment samples within 30 stormwater discharge catchment areas. Eight of the discharges were assigned a low contaminant rating, ten discharges were rated moderate, and eight discharges were rated high.

Sources of chemical contaminants in stormwater sediment **can be complex to find and eliminate as sediment is not always available at upstream investigation sites, and the levels fluctuate with rainfall and as lines are cleaned out**. Many non-point sources from roadways, parking lots or transient point sources (e.g., spills) and can persist for a long time.

## Nearshore Marine Monitoring

Staff began annual surface water fecal coliform sampling of Esquimalt Lagoon, Esquimalt and Victoria harbours in 1993, with biannual surface grab samples

**Initial findings in 2011 and 2012 indicate that in all areas**, the parameters of concern are dissolved oxygen, total zinc, enterococci and fecal coliforms; in Esquimalt Lagoon nitrate is also of concern. Staff are working with MOE to develop water quality objectives for these parameters to monitor and manage these water bodies over time.

Based on the results from 2011 and 2012, staff conducted additional sampling in 2013 to provide information on land-based sources of the parameters of concern observed in the marine environment. Staff intensively sampled **five stormwater discharges and two creeks entering the harbours during the summer and fall flush of 2013**. This data has been shared with MOE and is still being summarized.



Water quality monitoring.

## Major Watercourse Monitoring

In 2013, staff assessed the health of 12 creeks (Bee, Bowker, Cecelia, Colquitz, Colwood, Craigflower, Douglas, Goldstream River, Hospital, Millstream, Noble and Selleck creeks) by measuring water quality at the mouth in the dry and wet seasons and completed more comprehensive assessments of creek health in Cecelia and Millstream creeks. In Cecelia and Millstream, staff conducted additional water quality sampling and assessment of the health of invertebrate animals living in the creek sediment.

The water quality parameters of most concern in 2013, as in previous years, were fecal coliforms, turbidity and phosphorus. This is consistent with what is seen throughout the region wherever there is increased human presence and agriculture. The fecal coliform shellfish harvesting guideline and draft Vancouver Island phosphorus objective were exceeded in all CRD creeks due to human and animal presence in these watersheds. Excluding these exceedences, nine of the 12 creeks sampled exceeded one or more of the remaining BC WQG in 2013.

In general, water quality was good in Craigflower, Colquitz and Goldstream, moderate in Bee, Colwood, Millstream and Selleck and poor in Bowker, Cecelia, Douglas, Hospital and Noble creeks.



## Outreach & Education

In mid-2013, the program received a \$75,000 grant from the Royal Bank of Canada's Blue Water Program. The grant is being used to develop educational material for public, school programs and businesses about watershed protection.



## Stormwater Quality **continued**



### Key Initiatives & Accomplishments

#### Bowker Creek Initiative

The Bowker Creek Initiative (funded by Oak Bay, Saanich and Victoria) has been active for 9 years. Significant projects in 2013 that involved the BCI were the planning for the restoration of a section of the creek as part of the Oak Bay High School construction, support of the Royal Jubilee Hospital's 2013-2030 Master Campus Plan, working with Hillside Centre (the largest impervious surface in the watershed) on design of rain gardens, Riparian Garden at Monteith, mitigation of invasive flora species and several outreach activities.

#### Natural Areas Atlas

The Natural Areas Atlas is a comprehensive, web-based information tool about natural areas in the CRD and is available at: <http://crdatlas.ca>. It is meant for use by anyone interested or involved in land use planning or stewardship in the region.

Bowker Creek pennant printing volunteers.



### Looking Ahead

In 2014/2015, the Stormwater Quality Program plans to:

- continue to investigate contaminant sources in the catchment areas of high-rated stormwater discharges.
- work with Ministry of Environment and the CRD Harbours program to complete the water quality objectives for the harbours.
- work with the Onsite Wastewater Management Program to determine if onsite septic systems have an impact on watercourse and marine areas.
- continue annual monitoring in priority streams each year to collect higher quality data on stream health.
- produce educational material for public, school programs and businesses about watershed protection with a \$75,000 grant from the Royal Bank of Canada's Blue Water Program.



Source control inspector checking monitoring device.

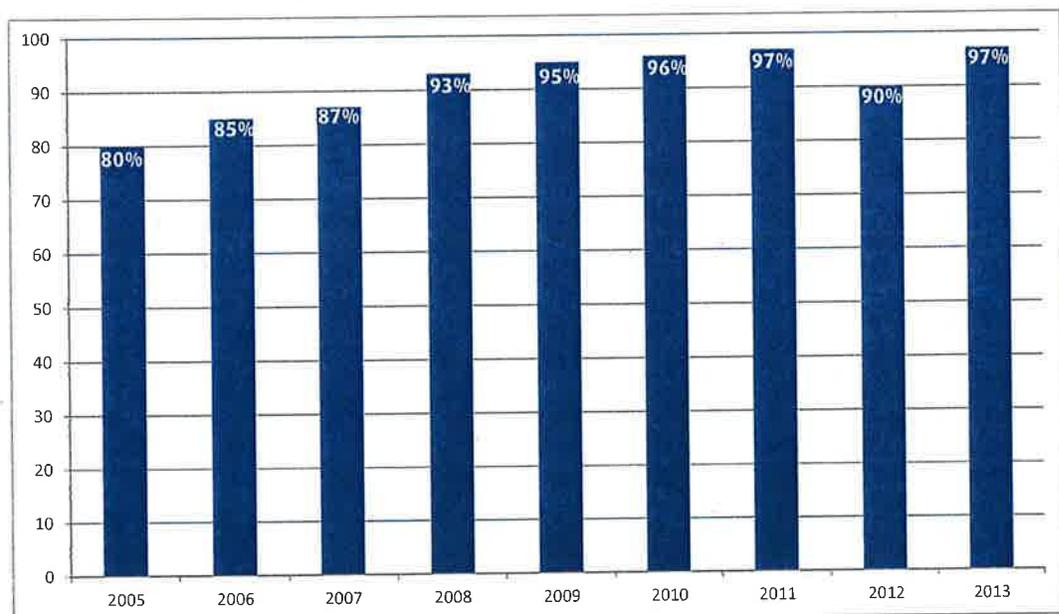
## Source Control

The Regional Source Control Program (RSCP) protects Core Area sewage collection and treatment facilities, public health and safety, and the marine receiving environment by reducing the amount of contaminants that industries, businesses, institutions and households discharge into the district's sanitary sewer systems.

The CRD adopted a Sewer Use Bylaw (Bylaw No. 2922) in 1994 to regulate sanitary sewer discharges. The RSCP meets or exceeds Canadian best practices for source control and the CRD is a nationally recognized leader in this field. The source control program continues to play an important role in achieving wastewater contaminant reductions and protecting sewage collection and treatment facilities throughout the region.

The RSCP has been very successful with efforts to share information and coordinate inspections internally (with Cross Connection Control and Demand Management programs), with regulatory partners (Vancouver Island Health Authority and municipal inspectors) and other CRD divisions.

Percentage  
of Regulated  
Businesses  
with Proper  
Waste  
Treatment  
Installed





Source control staff working with Saanich Peninsula Treatment Plant staff.



## Monitoring & Evaluation

The RSCP has 11 Codes of Practice, with a varying inspection frequency for each sector based on both associated effluent risks and sector size. In 2013, a total of 1,254 inspections were conducted at fermentation, recreation, dental, carpet cleaning, photographic imaging and food services operations. This number includes repeat site visits to facilities that were not found to be compliant on first visit. Overall, full compliance rates for COP, permitted industrial facilities and facilities operating under authorizations remained high in 2013.

Priority metals (those presenting the greatest concern regarding aquatic toxicity), including cadmium, chromium, copper, lead, mercury, manganese, nickel and zinc, exhibited significant decreases ranging from 1% to 19% per year. Organic compounds, including hydrocarbons, showed significant decreases in loads, ranging from 2% to 16% per year in core area effluent. A significant decrease of 6% per year was also observed for total oil and grease at core area outfalls.

Two key 2013 performance measures were:

- The percentage of regulated businesses with proper waste treatment installed in 2013 was 97%.
- Ninety-five percent of priority contaminants showed no increase in loads to the core area environment based on a recent trend assessment for 1990-2011 core area wastewater data.



## Outreach & Education

In 2013, outreach and education efforts focused on developing and delivering integrated messaging with other CRD programs, and included:

- A department-wide integrated environmental initiative “Green 365” focusing on two campaigns in 2013: Indoor and Outdoor Living.
- In support of Green 365 the “My Green High School Plan” challenge, four high schools from across the region submitted plans that demonstrated a commitment to environmental stewardship by reducing their school’s eco-footprint, raising student awareness and changing behaviour. All four high schools received funding to implement their green plans and approximately 4,000 students were reached.
- Point-of-sale outreach material was distributed at local businesses to promote proper waste medication disposal for residents.
- Two Medications Return Program education sessions were conducted for community health care staff and private home care clinicians.
- Two industry educational videos were released (food services operations and the automotive repair industry) and eight more videos were developed in 2013 and targeted for release in 2014.
- Staff participated in two training workshops for local educators and four youth and community engagement events.



## ✓ Key Initiatives & Accomplishments

- Launch of the “Green 365” outreach initiative.
- 1,254 commercial and institutional inspections were conducted in 2013, (500 of which were coordinated inspections with other agencies).
- RSCP continued to integrate Demand Management Program water audits as an expanded inspection service and worked collaboratively with the CRD Integrated Water Services Department, delivering audits for a major recreation facility, a First Nations band office and a mixed-use office building/restaurant.
- Developed a new significant incident response procedure for Implementation in 2014 following a significant spill of fuel oil into the CRD’s Lang Cove pump station in 2013.
- Piloted a technology study to test the effectiveness of automatic grease removal devices in the food services sector.
- Medications returns within the region in 2013 increased by 33% over the amount collected in 2012.



Source control staff inspecting a grease trap.



## Looking Ahead

In 2014/2015, the RSCP plans to:

- continue implementation of the RSCP five-year plan for 2011-2015.
- focus COP inspections, monitoring and sector investigations on the carpet cleaning, food services, automotive repair, photographic imaging and laboratory sectors.
- further develop the division’s “one window approach” to customer service for businesses.
- implement two pilot “Green 365” campaigns (Green 365 In the Kitchen and Green 365 Spring Cleaning).
- implement an Arts and Crafts environmental best management practices campaign.
- prepare a five-year review of the RSCP covering the period 2009-2013.



Manhole maintenance.

## Inflow & Infiltration Management

The Core Area Inflow and Infiltration (I&I) Program works with municipalities and First Nations to reduce the amount of rainwater and ground water that enters the sanitary sewer system. **Inflow is rainwater that enters the sanitary sewer system through improper physical connections and infiltration is groundwater that seeps into the sanitary sewer through cracks or loose joints in the sewer pipe and/or manholes.** Sewer networks are complex and contain many connections between various ages of infrastructure. Some I&I is unavoidable and is taken into account during sewer and treatment plant design. Problems occur when I&I exceeds the infrastructure's capacity.

Excessive amounts of I&I can lead to:

- **Overflows to the ocean and groundwater contamination** that can affect the environment and create public health concerns.
- Sewage back-ups into houses and buildings that can destroy belongings and require extensive clean-up and remediation.
- Increased operation and maintenance costs to convey **and treat sewage flows.**
- Reduction in available capacity in sewer systems requiring premature upgrades.

**The CRD has prepared an Inflow and Infiltration Management Plan.** In the plan, each municipality is divided into appropriately-sized sewer catchments.

Catchments are monitored annually then classified into one of three phases based on performance: (1) routine data collection; (2) detailed investigation work; and (3) rehabilitation work.

Efforts began in 2013 to develop a strategy for addressing **inflow and infiltration on private property I&I.** This included collaboration with local governments and consultants and stakeholder engagement with real estate professionals, insurance, plumbers, and home inspectors.



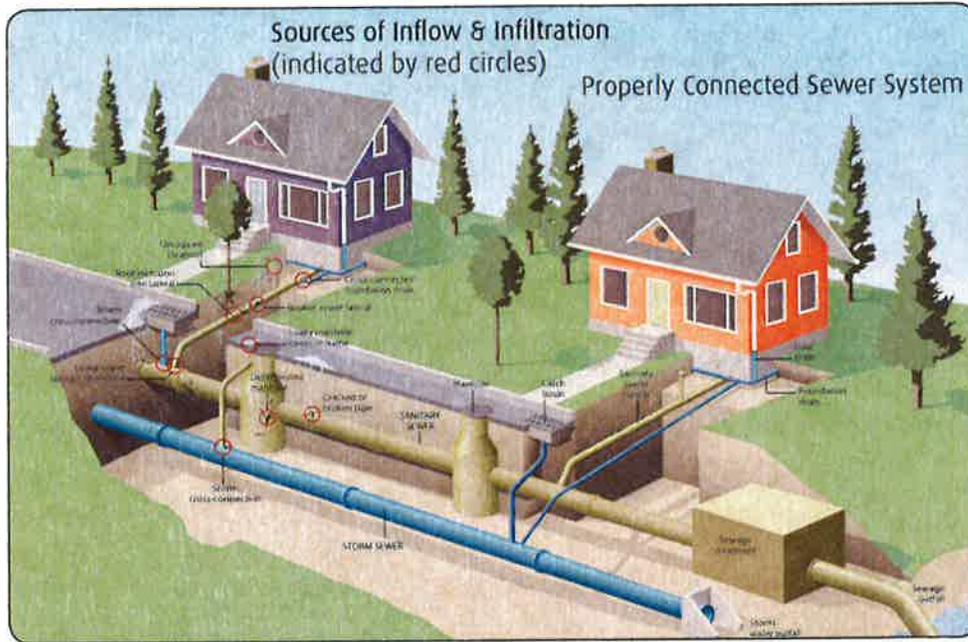
### Monitoring & Evaluation

The CRD analyzed flow monitoring data from 86 locations in the Core Area. This included 28 locations that were **monitored for the first time.** This data was used to calculate standardized I&I rates for each catchment.



### Outreach & Education

The I&I Program was represented at 19 public events as a part of the overall CRD Outreach program coordinated by CRD Environmental Partnerships.



## Key Initiatives & Accomplishments

In 2013, the following efforts were undertaken to reduce I&I:

- City of Colwood programmed its pump stations to collect **sewer flow data and performed visual inspections of manholes and cleanouts.**
- Township of Esquimalt separated 14 combined manholes (those with stormwater and sanitary sewer in close proximity) which will eliminate the potential **for I&I / overflows and upgraded or replaced 13 sewer manholes and 15 service connections.**
- City of Langford repaired 71 sewer inspection chambers, performed video inspections on 7.3 km of sewer mains and expanded the sewer system with new mains and connections.
- District of Oak Bay separated 28 combined sewer laterals into separate sanitary and storm pipes. It also performed video inspections on 3.2 km of sewer and repaired sewer infrastructure.
- District of Saanich replaced over 2800 m of sanitary sewer mains and 217 sanitary sewer connections and did video inspection of 16 km of sanitary sewer pipes.
- **City of Victoria monitored flows in 12 previously unmetered catchments targeted for I&I reduction.** It

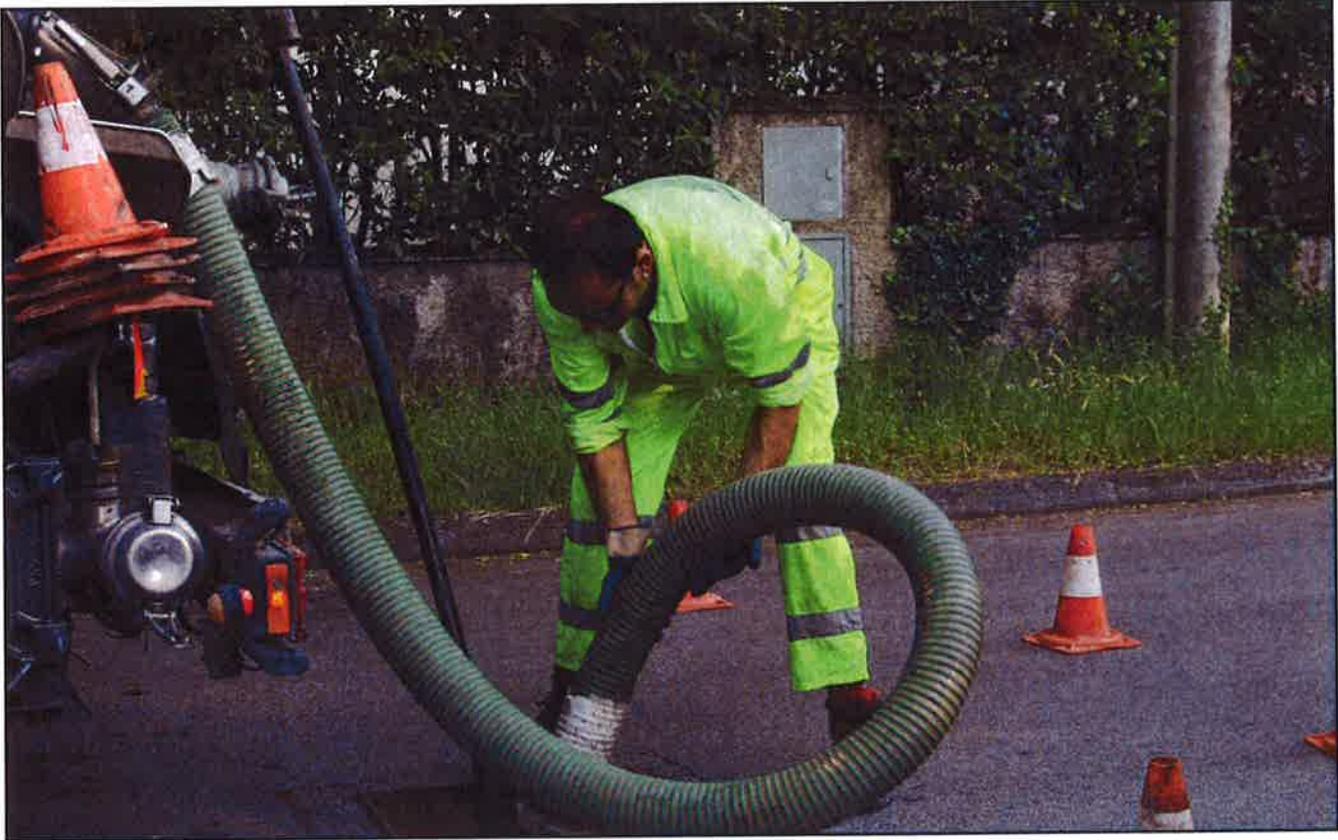
also relined 1 km of sewer, repaired 49 connections, and undertook video inspection of 36 km of sewer mains and 350 service connections.

- Town of View Royal upgraded the Stewart Pump Station and added a new flowmeter. It also carried out significant camera inspection work and inspected manholes.
- The CRD performed routine inspection and maintenance work on the CRD sewers and installed two new flow meters.

### 15 Looking Ahead

In 2014/2015, the Inflow and Infiltration Program plans to:

- continue with the implementation of the I&I Management Plan.
- update the regional approach for educating the public on private property I&I to promote the voluntary inspection and, if required, repair and maintenance of aging sewer connections.
- move forward with developing regional and municipal private property I&I programs.



Waste hauler collecting liquid waste for disposal.

## Trucked Liquid Waste Management

The Trucked Liquid Waste (TLW) program coordinates the collection and disposal of non-domestic liquid wastes that cannot be legally discharged to sewer or stormwater systems and must be transported by truck to an offsite disposal facility. Examples of TLW include catchbasin, grease interceptor and oil/water separator wastes.

The program's objective is to ensure that TLW is handled and disposed of in an appropriate and responsible manner in order to protect public health and the environment.

The four goals of the program are:

1. Ensure appropriate disposal of TLW by generators
2. Ensure proper and affordable disposal services available for all TLW
3. Promote appropriate government services
4. Build public support for the TLW program



## Monitoring & Evaluation

Staff annually review catchbasin waste quantities disposed of at local facilities. Overall quantities at known disposal facilities have declined in the last four years. However, **the analysis of trends in this data is difficult due to the existence of out-of-region disposal facilities, inconsistent maintenance intervals and variable sediment accumulation.**

Staff maintains TLW pages on the CRD website, which include information on proper management and disposal of wastes, catchbasin facts, technical reports and tools for waste haulers, as well as a service provider directory. **The majority of web traffic was related to catchbasin maintenance and servicing, which is the focus of the TLW fall 2013 ad campaign series and indicated that outreach material successfully directed traffic and interest to these pages.**



## Outreach & Education

Staff coordinated a number of outreach initiatives in 2013 specifically targeting TLW waste generators and haulers. Outreach initiatives included:

- Implemented a fall ad series including advertisements regarding catch basin maintenance.
- Update and review of the TLW Service Provider Directory.
- Partnered with the Regional Source Control Program (RSCP) to distribute outreach material on catch basin maintenance to property owners and waste generators.

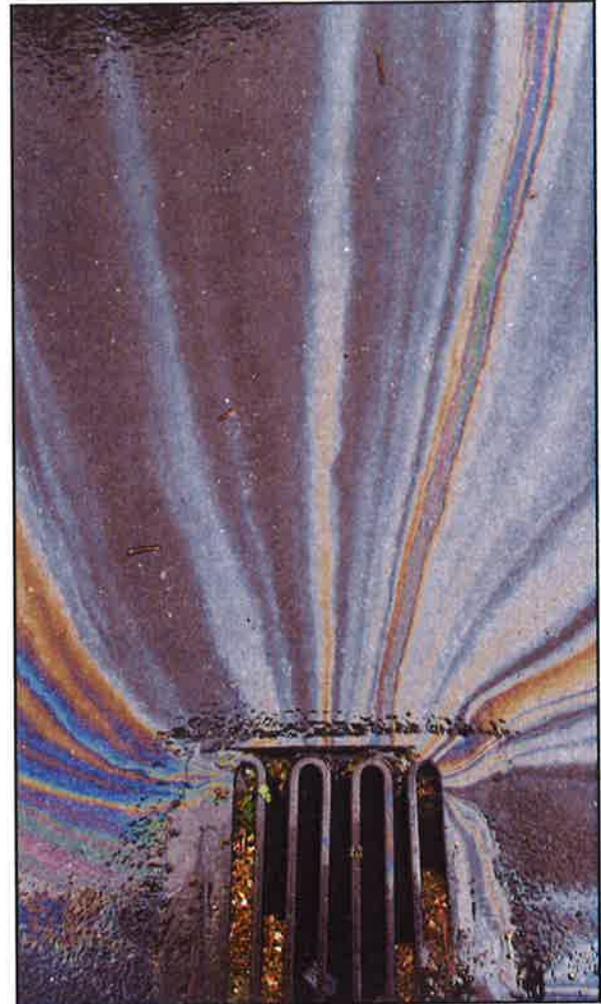


## Key Initiatives & Accomplishments

A stakeholder meeting is held annually in partnership with the Onsite Systems Management Program to promote CRD outreach programs and as an opportunity for stakeholders to raise current or emerging issues regarding TLW to staff.

A presentation was given at the annual stakeholder meeting that summarized the purpose and goals for the program as well as planned outreach initiatives and studies. Staff placed an emphasis on linkages to other CRD programs such as the Onsite Systems Management Program, Stormwater Quality Program and the Hartland Controlled Waste Program, in order to provide a greater context for the industry.

Tours of private facilities are conducted to increase knowledge of TLW processing/disposal and to foster positive working relationships with the industry.



Catch basins collect contaminants from impervious surfaces.



## Looking Ahead

In 2014/2015, the Trucked Liquid Waste Program plans to:

- develop a video or video series regarding catch basin maintenance.
- collaborate with Stormwater Quality Program to deliver outreach programs on catch basin maintenance and operation.
- consult and collaborate with TLW stakeholders through site visits, the annual fall meeting and the stakeholders group.



Onsite wastewater systems monitoring.

## Onsite Systems Management

The Onsite Wastewater Management Program (OMP) is a pollution prevention program that aims to protect public health and safety, local surface and groundwater resources, and the environment. The program strives to reduce the number of malfunctioning onsite wastewater systems by promoting proper care and maintenance and regulating pump-out frequency.

**This program is the first of its kind in British Columbia and the CRD is recognized as a leader in the field of septic management by other regional districts and municipalities.**

The CRD continues to collaborate with other levels of government and regional districts and municipalities across the province on onsite management. Program staff meet regularly with Island Health, the Ministry of Environment and Ministry of Health. Many other local governments are using CRD tools and information on its success and challenges in the development of their own onsite wastewater management programs including the Columbia Shuswap Regional District on exchange of outreach materials, the Regional District of Nanaimo on program initiatives and the Regional District of Kitimat-Stikine on program outreach and development.



## Monitoring & Evaluation

The program tracks 26,498 active onsite systems, 8,447 of which are regulated under Bylaw No. 3479 in the four participating municipalities of Colwood, Langford, Saanich and View Royal.



## Outreach & Education

- The OMP continues to work together with the TLW and RSCP to deliver collaborative workshops to industry partners in order to streamline CRD messaging.
- The OMP engaged 7,800 residents and businesses through participation at seven consumer and stakeholder workshops and various community outreach events through the Septic Savvy program
- **A workshop was delivered to financial lenders to inform on the risks associated with mortgages and onsite treatment systems.**
- The CRD's Onsite web pages which include useful resources such as videos on the care and maintenance of septic systems, received over 5,600 views in 2013.



## Key Initiatives & Accomplishments

The CRD provided support to Canada Mortgage and Housing Corporation (CMHC) by reviewing and providing input into development of a framework for management of onsite treatment systems. In addition, CRD staff participated on a BCWWA decentralized wastewater committee in order to garner support for onsite wastewater management programs in BC and build the CRD program regionally.

A proactive educational approach has improved compliance with the basic requirements of CRD Bylaw No. 3479. Less than 30% of residents pumped out their septic tank regularly prior to 2008 and now 82% of residents in the OMP database pump out their tank more often than once every five years.

The program began a study of industrial/commercial/institutional (ICI) properties using onsite wastewater treatment (scheduled for 2014 completion).



Cracked septic system pipe being removed.



## Looking Ahead

In 2014/2015, the Onsite Wastewater Management Program plans to:

- develop a regional Onsite Wastewater best management program that consistently applies both regulation and education across the CRD.
- launch a *Be Septic Savvy* educational campaign with a focus on encouraging residents to maintain their privately owned onsite wastewater treatment system.
- **develop incentives, such as a rebate on an inspection or installation of an effluent filter, to assist residents in repairing their onsite treatment system beyond basic maintenance.**
- undertake a 5-year program review of commitments in LWMP in 2014.

# Liquid Waste Management In 3 Easy Steps

## Step 1 Source

### control:

Stops contaminants from entering drains and sewer pipes.

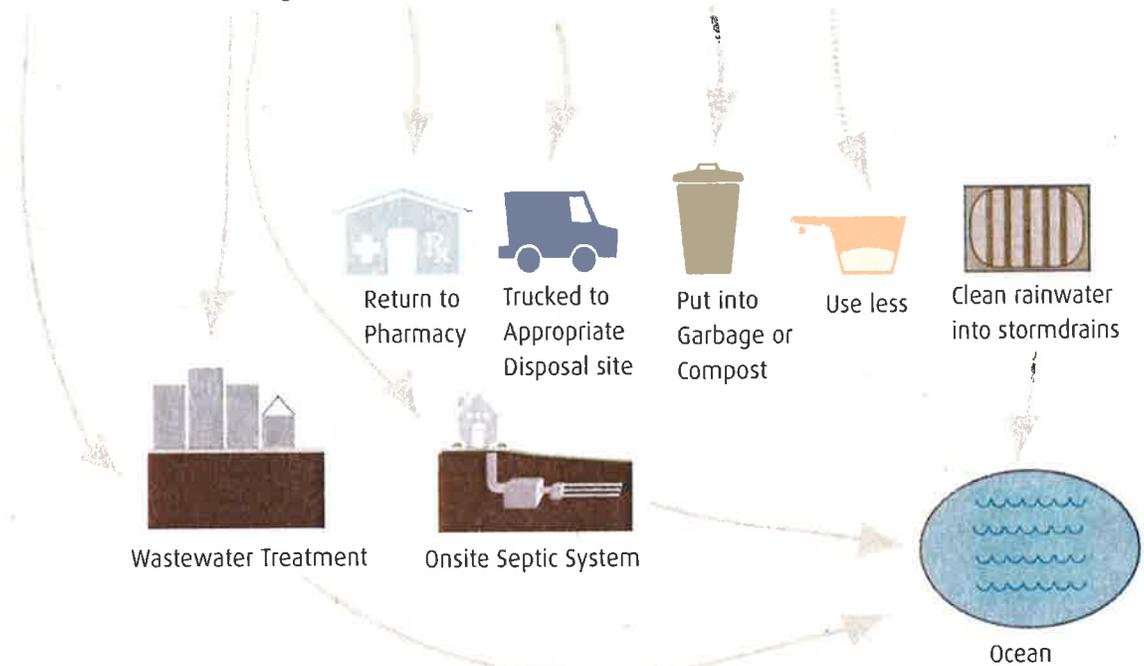


## Step 2

### Proper

### Disposal:

Ensures that pollutants are disposed of safely and in a way that protects the environment.



## Step 3

### Marine Monitoring & Sampling:

Assessing and addressing wastewater and stormwater quality and quantity are extremely important. Special emphasis is placed on outfalls and harbours to evaluate whether wastewater discharge affects ocean or human health.

The CRD monitors a range of water quality indicators and tests for over 200 substances, including:

- Wastewater flow
- Fecal coliform levels
- pH
- fats, oil and grease
- oxygen demand
- metals
- emerging chemicals
- organic compounds



University of Victoria students on a lagoon tour.

## Programs Working Together

The programs within the LWMP deliver coordinated, comprehensive and effective conveyance, treatment and environmental management of liquid waste in the core area. Monitoring, assessment, planning, reporting, outreach and education on different levels are performed by all components of the plan.

Marine Monitoring, Harbours and Stormwater Quality staff work to assess effects of contaminants on the region's watercourses, nearshore, harbours and ocean environments. These programs work with other CRD programs, local, Federal and Provincial governments and the region's residents to reduce contaminant inputs.

Source Control and Marine Monitoring work together to reduce contamination entering the wastewater stream. Marine data informs staff about changes in contaminant loadings over time and allows targeted reduction strategies for contaminants that have the greatest potential for impacts on human health and the environment. Staff continually review and prioritize the wastewater chemicals that the CRD monitors and regulates. CRD wastewater monitoring continues to evolve as new **chemicals of concern are identified.**

Stormwater and Harbours staff are working towards watershed and receiving environment protection. Staff continue to work with the Ministry of Environment to **develop specific water quality objectives for the region's harbours.** The intensive sampling required for these **objectives represents the first time that harbour water quality has been studied in detail across the harbours.**

Onsite and Stormwater Quality staff work to link onsite treatment systems to environmental data. Staff can narrow in on contaminant sources using maintenance data to assess areas where onsite treatment may be reaching the end of service life. These two groups with input from Marine Monitoring are also exploring the use of new test parameters to track sources of contamination.

The "Green365" initiative, developed and launched in 2013, brings together complimentary environmental messages from multiple program areas under a single initiative. It is **the department's first fully integrated initiative.**

Source Control and Onsite staff exchange information and share messaging and efforts. The programs collaborated on a fermentation sector review to inspect wineries, cider operations and distilleries using septic systems.



Green 365 outreach display at a community event.

## Programs Working Together

The Inflow and Infiltration and Stormwater Quality programs both deal with underground infrastructure. Leaking sewer infrastructure can cause contamination to enter stormdrain infrastructure as these pipes often run in the same excavation or manhole. Stormwater program outreach works to promote green infrastructure. Better conveyance of stormwater (less peak flows, slower release) reduces water infiltrating into the sanitary sewer system.

The Trucked Liquid Waste Program sits at the centre of a common issue: the proper disposal of wastes that do not belong in sewers or storm drains and that should not be illegally dumped to land. The work complements the efforts of the other programs by proactively working with businesses and haulers to divert materials to appropriate disposal sites rather than release into sewers or storm drains.

For more  
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Making a difference...together

The CRD programs covered by this report all work collaboratively, both internally and with external partners, to meet the goals of the Liquid Waste Management Plan and protect the region's receiving environments (land and water) from contamination.

These programs are constantly working to be at the forefront of their fields and lead the way in developing innovative cost-effective solutions while meeting regulatory requirements and ensuring the protection of human health and the environment.

**MACAULAY AND CLOVER POINTS  
WASTEWATER AND MARINE ENVIRONMENT PROGRAM  
2013 ANNUAL REPORT**

**EXECUTIVE SUMMARY**

The Capital Regional District (CRD) has conducted monitoring of wastewater discharges, surface waters and the seafloor environments in the vicinity of the Macaulay and Clover points outfalls as part of the Wastewater and Marine Environment Program (WMEP) on a regular basis since the late 1980s. Monitoring is undertaken to meet Provincial and Federal regulatory requirements, as well as to assess the impacts of the outfalls on the marine environment. The CRD has also undertaken additional investigations to more clearly define the effects of the outfalls on the receiving environment.

In March 2003, the CRD Core Area Liquid Waste Management Plan (LWMP) was approved. This LWMP outlined the CRD's plans to manage liquid wastes for the next 25 years. Commitments made in this plan were designed to protect public health and the environment from the impacts of liquid waste discharges. On July 21, 2006, the CRD received a letter from the minister of environment requiring an amendment to the Core Area LWMP, detailing a schedule for the provision of sewage treatment. In his letter, the minister also requested that the CRD continue the current monitoring program. The LWMP amendment #7 was submitted to the Ministry of Environment (MOE) in December 2009 with a follow up amendments #8 in June 2010 and #9 in July 2014. The CRD's Seaterra program and participating municipalities are currently planning for a system which will treat Macaulay and Clover points wastewater at one or more facilities. It is expected that this system will be operational by 2018 to meet current provincial requirements. The amendments, and current status of ongoing treatment plans, can be found at [www.wastewatermadeclear.ca](http://www.wastewatermadeclear.ca).

The WMEP has undergone a number of changes over the years, but remained relatively unchanged from 2000 to 2010. In 2011, the program was revised from an annual monitoring program to one based on a five-year cycle. This revised monitoring program was designed in collaboration with the British Columbia MOE to address gaps and concerns previously identified by various reviewers. The 2013 WMEP consisted of the following components:

- wastewater monitoring and analysis for a list of substances including conventional parameters, metals, and other priority substances (conducted monthly for each outfall)
- surface water and water column monitoring and analysis of bacteriological indicators of potential for human exposure to wastewater in the marine environment and a list of substances including conventional parameters, metals, and other priority substances (conducted quarterly at each outfall)
- an additional investigation that addresses specific questions about water column and seafloor monitoring components and that looks into emerging scientific issues regarding wastewater discharges and environmental effects.

The 2013 annual report presents results and updates for the different elements of the Macaulay and Clover points WMEP, including the routine monitoring components and additional investigations. This report is largely an update and data report for the 2013 (cycle year three) activities, as well as a follow-up on some of the 2012 activities. A more comprehensive assessment of results from the full five-year cycle will be prepared at the end of the cycle (i.e., 2016).

**WASTEWATER MONITORING**

Wastewater monitoring results for conventional parameters (i.e., pH, carbonaceous biochemical oxygen demand, total suspended solids and nutrients) indicated that the quality of the effluent from Macaulay and Clover points outfalls in 2013 was similar to previous years. Concentrations of all conventional parameters were within the expected range for fine-screened wastewater and met provincial regulatory requirements. Flow volumes also met provincial limits specified in the operating permits. Federal regulatory requirements, however, were not met in 2013. The CRD has received transitional

authorizations from the Federal government that allow the CRD to continue to discharge screened wastewaters until December 31, 2020 by which time further treatment must be installed.

Priority substances frequently detected in wastewater in 2013 were similar to previous years. Substances detected at a frequency greater than or equal to 50% of the time included a number of conventional parameters, total and dissolved metals, organotins, two phenolic compounds, polycyclic aromatic hydrocarbons, two phthalates, a few miscellaneous volatile organics and terpenes.

Estimated receiving environment concentrations were predicted by applying the minimum initial dilution factor (based on oceanographic modelling) that is expected at the edge of the initial dilution zone (IDZ). Twelve parameters were above applicable British Columbia or Canadian Council for Ministers of the Environment water quality guidelines (WQG) in undiluted effluent, including bacteriological indicators, weak acid dissociable cyanide, ammonia, sulphide, cadmium, copper, iron, lead, zinc, trichloromethane, PCB 105 and nonylphenols. However, as expected, only bacteriological indicators exceeded guidelines after the application of the predicted IDZ minimum initial dilution factor.

The program reintroduced wastewater toxicity testing in 2011. Similar to 2011/2012 and other historic results, the 2013 results indicated that undiluted wastewaters continue to be acutely lethal to fish, but not acutely toxic to invertebrates. Chronic toxicity was observed for both fish and invertebrates. However, the acute and chronic toxicity was observed at effluent concentrations that exceed those predicted in the environment after the application of the minimum initial dilution factors. Regardless, species toxicity will not be reduced until further treatment is installed for the outfalls.

Overall, the 2013 wastewater monitoring results were generally consistent with previous years. The toxicity test failures will likely continue until the installation of further treatment, as will the exceedences of federal regulatory limits for conventional parameters. Finally, the bacteriological WQG exceedences will also be reduced in magnitude and frequency following the installation of treatment.

#### SURFACE WATER AND WATER COLUMN MONITORING

The new monitoring cycle expanded the surface water component of the WMEP to include water column monitoring at the edge of the IDZ of each outfall starting in 2011. Changes in monitoring frequency also allowed for more direct comparisons to human health protection guidelines by shifting from monthly to quarterly sampling, with five sampling events occurring within 30 days each quarter.

Results of the 2013 quarterly surface water monitoring at both outfalls indicated that there were only two bacteriological WQG exceedences at the surface (i.e., 1 m depth). These exceedences were around the Clover Point outfall in the winter when human recreational activities were unlikely to occur. Repairs were made to both outfalls in 2014 to address deficiencies identified in recent outfall inspections (2009 and 2012). These inspections found that encrusting sea life has blocked some of the diffuser ports and that there may be minor cracks in the outfalls. These factors could be reducing the dilution efficiency of the outfalls and resulting in some of the surfacing events and WQG exceedences. Future monitoring will determine if this is the case or not.

Water column monitoring (i.e., at depths equal or greater than 5 m) at the edge of the IDZ included metals as well as bacteriological indicators. Unlike at the surface, the water column results indicated that MOE WQG for bacteriological indicators were regularly exceeded at depth around both outfalls. These exceedences were expected based on the bacteriological concentrations of the wastewaters and the intended outfall diffuser designs. Even though there were exceedences, risks to human health were still considered low as the CRD is unaware of any recreational activities taking place below the surface of the ocean near the outfalls. These WQG exceedences are expected to continue even after the installation of further treatment unless disinfection is installed as part of the process.

Overall, the surface and water column monitoring results indicated that the risk to human health through outfall-derived bacteriological exposure was low, the outfall plumes were predominantly trapped below the ocean surface (typically around 40 m depth), and the diffusers were working as expected.

A few copper and zinc concentrations also exceeded the thresholds set in the BC WQG indicating potential risk to water column dwelling organisms. However, the frequency of sampling did not allow for a direct comparison to the BC WQG and these exceedences should be interpreted with caution.

#### SEAFLOOR MONITORING

No seafloor sampling took place in 2013. However, additional 2012 results became available from around the Macaulay outfall, specifically the results of the benthic invertebrate taxonomic analyses. The 2012 results were qualitatively similar to previous years, but should be interpreted with caution (see below regarding the audit of the 2001 to 2012 results). Further assessment of the 2012 results will be provided in a future annual report once a sediment "triad" assessment has been completed. This assessment is currently underway and involves simultaneous assessment of the taxonomic results along with the sediment chemistry (presented in last year's annual report) and bioaccumulation and toxicity results that were also collected in 2012.

The CRD initiated a comprehensive review of the 2001 to 2012 benthic taxonomy data to determine potential causes of the apparent declines in benthic community health that have been observed since 2008. This review was completed in 2014 and was effectively an audit of the methodologies used and a review of the results from the last 12 years. Findings of the audit indicated that there were significant methodological issues employed by the taxonomist who analyzed the samples over the 2002 to 2012 time period. When historic samples were reanalyzed, and archived (previously untouched) samples were analyzed for the first time, it became clear that the level of effort employed by the 2002 to 2012 taxonomist was both inconsistent and insufficient to capture both the largest and smallest organisms contained in the samples. Therefore, previously reported results for the 2002 to 2012 time period were erroneously missing these organisms. When the smallest and largest organism counts from the reassessed samples were added back in, the apparent declines observed since 2008 disappeared. The audit results actually indicated that while the benthic invertebrate community around the Macaulay Point outfall is indeed impacted by the outfall, these impacts are limited spatially and have been stable over time (i.e., no declines apparent). Regardless, a new taxonomist has been retained by the CRD, and benthic invertebrate communities will continue to be monitored to assess changes in Macaulay outfall impacts over time and space.

#### ADDITIONAL INVESTIGATIONS

Additional investigations are important elements of the program that address specific questions or issues pertaining to the WMEP, clarify aspects of the program and provide concurrent data for the assessment of environmental effects. Some additional investigations are also requirements under the Core Area LVMP approval. Recommended studies are also reviewed by the Marine Monitoring Advisory Group on a regular basis. In 2012, staff initiated one additional investigation studying dissolved oxygen levels in collaboration with Ocean Networks Canada (ONC). One of the hypothesized causes of the Macaulay Point benthic invertebrate decline is low dissolved oxygen levels near the outfall. The CRD and ONC deployed dissolved oxygen sensors in 2013 around the Macaulay Point outfall and elsewhere in the Salish Sea to help determine the frequency of incursion of low-oxygen Pacific Ocean waters into the Salish Sea and whether these low-oxygen levels occur around the outfall. This investigation will continue in 2014 to 2015 and results will be presented in a future annual report.

#### OVERALL CONCLUSIONS

Results of wastewater monitoring showed that some substances were above WQG in undiluted wastewater, but all substances, except for bacteriological indicators, were below guidelines once the minimum dilution factors were applied. As expected, undiluted wastewater from both outfalls was acutely lethal to fish in 2013, although less toxic to invertebrates. Chronic toxicity was also observed. However, both the acute and chronic toxicity effects concentrations were well above predicted wastewater concentrations at the edge of the IDZ. Surface water and water column monitoring indicated that both the Clover and Macaulay wastewaters plumes were predominantly trapped at depth as expected, with only two WQG exceedences occurring, both in the winter around the Clover outfall. Below the ocean surface, however, bacteriological WQG for the protection of human health were regularly exceeded around both

outfalls as expected based on the intended design of the outfall diffusers. However, the likelihood for human exposure to pathogens contained in the discharged wastewater was low, as the CRD is unaware of any recreational activities occurring at depth (below 5 m) near the outfalls. Bacteriological WQG exceedences did not occur at the sea surface where recreation is more likely to occur. There was no seafloor monitoring in 2013, but assessment of 2012 results is still ongoing. Staff will present the results of the 2012 sediment "triad" assessment in next year's annual report.

In 2013, the CRD completed an investigation into the apparent benthic community health declines that have been observed around the Macaulay Point outfall since 2008. The results of this investigation indicate that the declines were not real, but were artefacts of inconsistent and insufficient effort on the part of the taxonomist employed from 2002 to 2012. Results actually indicate that the effects of the Macaulay Point outfall are measurable, but are limited spatially and have been stable over time.

Overall, the wastewater toxicity test failures and metal WQG exceedences are expected to continue until further wastewater treatment is installed. The bacteriological WQG exceedences in the receiving environment are expected to continue after the installation of further wastewater treatment for the Core Area unless disinfection is installed.

## REGIONAL SOURCE CONTROL PROGRAM 2013 ANNUAL REPORT

### EXECUTIVE SUMMARY

#### Introduction

The purpose of the Capital Regional District (CRD) Regional Source Control Program (RSCP) is to protect sewage collection and treatment facilities, public health and safety, and the marine receiving environment by reducing the amount of contaminants that industries, businesses, institutions and households discharge into the district's sanitary sewer systems.

The CRD adopted a Sewer Use Bylaw in 1994 to regulate sanitary sewer discharges. Implementation of a region-wide program began in 1995 with regulation of larger industries under a permit system, followed by adoption of the first regulatory codes of practice (COP) for commercial sectors in 1999. By the end of 2005, COP were developed, adopted and implemented to regulate discharges from approximately 2,000 businesses within 11 sectors. The RSCP works to ensure that the bylaw and its associated policies and procedures are applied consistently within all CRD sewage collection areas.

As part of the Environmental Partnerships Division (Partnerships), the RSCP shares a mission to deliver collaborative and responsible environmental services that engage and inspire changes in behaviour for the stewardship, protection and well-being of our region.

#### 2013 Program Activities

Efforts to share information and coordinate inspections within Partnerships (Cross Connection Control and Demand Management), regulatory partners (Vancouver Island Health Authority (VIHA) and municipal inspectors) and other CRD divisions have been very successful, with 500 coordinated inspections being completed in 2013.

In 2013, the RSCP continued to apply the "sector-by-sector" approach to COP inspections, focusing on the fermentation, recreation facilities, dental, carpet cleaning, photographic imaging and food services sectors. This approach resulted in a greater number of inspections, repeat site visits and more comprehensive investigations in comparison to 2012. Overall, full compliance rates for COP, permitted industrial facilities and facilities operating under authorizations remained high in 2013.

A statistical assessment of local wastewater trends over the period 1990-2011 was undertaken in 2012. Trend results confirmed findings of previous studies, indicating stronger evidence of stable or decreasing loads in a range of priority substances in wastewater discharged from the region's main sewage outfalls. These continuing decreasing trends and recent changes in loads are thought to be largely due to a combination of the success of source control efforts at regulating contaminants, increasing public and industry awareness regarding product selection, and use of proper waste treatment practices. The next wastewater trend assessment is scheduled for 2015.

In 2013, outreach and education efforts focused on developing and delivering integrated messaging with other CRD programs but continued to maintain and adapt existing RSCP campaigns, while developing and initiating new campaigns. Integrated messaging included the development of eight industry videos and taking a lead role in the development of themed campaigns under the umbrella initiative "Green 365" and ensuring that new campaigns include linked key messaging.

The source control program continues to play an important role in achieving wastewater contaminant reductions and protecting sewage collection and treatment facilities throughout the region.

The 2013 annual report presents background information, a summary of program activities and accomplishments over the period January to December 2013, and a brief account of initiatives planned for 2014. The main activities and accomplishments of the program in 2013 are outlined below.

### **Industrial, Commercial and Institutional Liquid Waste Regulation**

- COP inspections emphasized customer service in 2013 and a more qualitative “sector-by-sector” approach, with increased customer support – often requiring repeat site visits.
- Inspections focused on the fermentation, recreation facilities, dental, carpet cleaning, photographic imaging and food services sectors in 2013, providing an opportunity to review each sector and prepare for a future amendment of each COP.
- The overall inspection levels in 2013 (1254) were significantly higher than those recorded in 2012 (815), 2011 (577) and 2010 (657).
- A total of 627 food services operations were inspected in 2013, with an additional 290 follow-up visits for compliance and/or further support. For comparison, 133 dental inspections were carried out with 13 follow-up visits.
- A comprehensive investigation of the fermentation sector was launched including a review of code feasibility for solids diversion and emerging markets potentially not considered during the development of the original COP for fermentation operations in 2002-2003.
- The COP for recreation facility operations was reviewed to assess whether the code was effectively addressing contaminants of concern for the sector. The review recommended a revised best management practice (BMP) guideline for the sector along with the transfer of facilities with high volume sewer discharge and offsite waste management to authorizations in lieu of continued regulation through the code.
- Engagement with the carpet cleaning sector in 2013 included a telephone survey to help better direct and solicit industry cooperation for a thorough inspection schedule (to be conducted in 2014).
- RSCP inspectors worked with 86 facilities currently regulated under the photographic imaging code. Continued work within this sector is expected for 2014, with recommendations for modifications to the code to reflect current industry practice.
- RSCP staff initiated a pilot project to test the effectiveness of automatic grease recovery devices in the food services sector. Phase I of the study was completed in 2013 and Phase II is scheduled for 2014.
- Compliance issues related to undersized treatment works and application of alternative treatment works at three automotive facilities were resolved after a thorough review and modified operating practices resulting in all three facilities moving to regulation under authorizations.
- All permit inspections scheduled at the beginning of 2013 were completed within the year. Permits discharging priority contaminants received at least one or two additional inspections.

### **Monitoring**

- Most monitoring targets set for 2013 were achieved.
- On average, there were two scheduled audit monitoring events per permit in 2013.
- COP monitoring focused on the food services sector in 2013, with replicate sampling of five different types of facilities over time to determine the effectiveness of grease interceptors at retaining grease between clean-outs. The results of this monitoring project were inconclusive; however, some recommendations for future action were made.

### **Enforcement**

- One ticket was issued and paid under the CRD Ticket Information Authorization (TIA) Bylaw in 2013.
- Two warning notices were issued in 2013 under the TIA Bylaw.
- No charges were laid under the Sewer Use Bylaw.

## Contaminants Management

- A consultant was retained to predict the environmental risks associated with specific emerging chemicals in local wastewater and identify the main sources and potential source control strategies to reduce these risks. The study focused on the emerging contaminants triclosan, nonylphenol (NP) and nonylphenol ethoxylates (NPEs). Project recommendations included: continuing periodic monitoring of wastewater levels of these chemicals; incorporation of information regarding avoidance of use of certain products and alternative product substitution in outreach initiatives; and continuing to keep informed regarding federal and international reduction efforts. A stand-alone source control campaign aimed at triclosan reduction was not recommended due to the significant reduction efforts currently underway at the federal level in both Canada and the US.
- A Royal Roads University project with the running title *Investigation of Floor Care Trade Wastes* reviewed strategies for reducing the amount of priority contaminants that are discharged into the sanitary sewer system by floor care service providers. The investigation included a literature review, an examination of standards and regulations from other areas in Canada and Australia and interviews with a number of floor care service providers. Recommendations included: development of a BMP document specifically for hard floor surface cleaning and maintenance, and development and implementation of a monitoring program.
- CRD staff undertook a stakeholder consultation process to assist with further development of BMPs for the arts and crafts sector in early 2013, including the preparation of a draft brochure for distribution within the sector. Engaged stakeholders supported forming a partnership with the CRD to deliver education and outreach materials to key groups within the sector and at associated events.

## Contaminant Reductions

- Wastewater trend assessment results for Macaulay and Clover points and Saanich Peninsula wastewater treatment plant (SPWWTP) influent and effluent monitoring over the period 1990-2011 have confirmed findings of previous studies indicating stronger evidence of stable or decreasing loads in a range of priority substances in wastewater discharged from the region's main sewage outfalls.
- Loads of priority metals (those presenting the greatest concern regarding aquatic toxicity), including cadmium, chromium, copper, lead, mercury, manganese, nickel and zinc, exhibited significant decreases ranging from 1% to 19% per year in core area effluent.
- Organic compounds, including certain polynuclear aromatic hydrocarbons, 1,4-dichlorobenzene and tetrachloroethene, showed significant decreases in loads ranging from 2% to 16% per year in core area effluent.
- A significant decrease of 6% per year was also observed for total oil and grease at core area outfalls.
- The next full wastewater trend assessment for the Core Area and Saanich Peninsula is scheduled for 2015.
- For the fifth consecutive year, Ganges wastewater treatment plant mixed liquor results met the Class A criteria for all metals, including mercury. SPWWTP dewatered sludge monitoring commenced in March 2013. All of these results also met the Class A criteria for metals.

## Significant Incident Response

- A new significant incident response procedure was developed by RSCP staff in 2013 for implementation in 2014. The implementation process will involve response training for Core Area and SPWWTP operations staff and RSCP inspectors. The report form and response procedure was reviewed in 2013 following an incident involving a significant spill of Bunker "C" fuel oil into the CRD's Lang Cove pump station.
- There were three incidents involving fats, oils and grease build-up and one involving oily waste in municipal sewer lines in 2013 that were investigated by RSCP staff.

## Residential Outreach

- Point-of-sale outreach material was distributed at local pharmacies and staff continued to work collaboratively with VIHA to promote proper waste medication disposal to residents. The CRD continued to have one of the highest medication return rates per capita amongst regional districts in the province. Over 11.7 tonnes of medications were collected in the region during 2013, representing a 33% increase over the amounts collected in 2012.
- The program continued to foster and support integrated and collaborative messaging with external partners and initiatives to promote general and specific source control practices. "My Green Plan" and "Tap by Tap" were two new initiatives supported by the RSCP in 2013.
- The RSCP was the main lead in developing and piloting a departmental integrated environmental campaign: "Green 365". In 2013, two Green 365 campaigns were launched: "Green 365 Outdoor Living" and "Green 365 Indoor Living". The campaigns focused on promoting environmental practices associated with outdoor and indoor home improvement respectively. Two further themes will be implemented in 2014.

## Business Outreach

- Inspectors continued to be the front line staff delivering RSCP outreach messaging to local businesses. Outreach included distribution of RSCP sector-based posters and guidebooks. Inspectors delivered messaging regarding cross connection protection, water use reduction, the regional kitchen scraps strategy and other CRD initiatives.
- RSCP staff, in partnership with VIHA, delivered two Medications Return Program education sessions in 2013 for community health care staff and private clinicians who work with home-care patients throughout the CRD.
- The 2013 CRD EcoStar award event was co-sponsored by RSCP and staff again participated in the evaluation committee for the Water Stewardship and Waste Reduction categories.
- Two industry educational videos were released in 2013, one for food services operations and the other for the automotive repair industry. Based on the positive feedback from stakeholders, 8 more videos (4 per sector) were developed in 2013 and targeted for release in 2014.
- RSCP staff continued to participate in business outreach events. Although there was only one applicable business venue available in 2013, which RSCP staff participated in, staff also presented directly to the BC Restaurant and Food Services Association and Victoria Chapter of the BC Hotel Association at their respective membership meetings.
- A survey of businesses was conducted in 2013 to evaluate how businesses are currently receiving information on environmental regulations and best management practices and how they would prefer to receive this information. The survey was designed to support developing tools for integrated messaging associated with environmental regulations and best management practices.

## Education

- RSCP messaging was included in two training workshops for local educators in 2013.
- There were four youth and community engagement events in 2013 which included RSCP messaging and information.
- RSCP educational information was included in 30 Environmental Partnerships community outreach events held throughout 2013.
- In 2013, as part of the "My Green High School Plan" challenge, four high schools from across the region submitted plans that demonstrated a commitment to environmental stewardship by reducing their school's eco-footprint, raising student awareness and changing behaviour. All four high schools received funding to implement their green plans and approximately 4000 students were engaged at participating schools.

## **Regional Source Control Program Website**

- RSCP web pages continued to be a tool used by both residents and businesses to access source control information based on web page activity analysis. In 2013, most pages showed an increase in use over 2012.
- In conjunction with the launch of the new CRD corporate web site, RSCP web pages were significantly reorganized, redesigned and updated.

## **Partnerships Initiatives**

- In total, an estimated 500 coordinated inspections were conducted in 2013. These inspections included:
  - Providing access, information and/or services for two other programs within the division (Cross Connection Control and Demand Management).
  - Representation of other CRD programs and initiatives to customers (e.g., Regional Kitchen Scraps Strategy)
  - Collaboration with other municipal or VIHA staff (including combined on-site inspections) to resolve sewer incidents, share discharge information and enhance reporting procedures.
- Partnerships with external agencies in 2013 included: Metro Vancouver, VIHA, Royal Roads University, Camosun College, School District 61, British Columbia Pharmacy Association, Health Products Stewardship Association, Shaw Ocean Discovery Centre and federal agencies.
- RSCP continued to integrate Demand Management Program (DM) water audits as an expanded inspection service and work collaboratively with the Integrated Water Services Department, delivering audits for a major recreation facility, a First Nations band office and a complex building.
- RSCP staff met with Onsite Wastewater Management Program (OWMP) staff on a bi-weekly basis to exchange information and identify synergies for sharing messaging and efforts to maximize efficiencies. Both programs collaborated on a fermentation sector review to inspect wineries, cider operations and distilleries using septic systems to provide cross messaging and confirm best management practices.

## **Data Management**

- CRIMS Spatial, an integration of the RSCP regulatory database with the CRD geographic information system, was implemented in 2012. Operational integration of this application, for inspection planning purposes, continued throughout 2013.

## **Program Planning and Development**

- The RSCP continued to meet the commitments outlined in the Core Area and Saanich Peninsula LWMPs in 2013.
- The RSCP annual report for 2012 was presented to the Core Area Liquid Waste Management Committee, as part of a consolidated annual report for all Liquid Waste Management Plan programs, in October 2013. Copies of the annual report were subsequently sent to the Ministry of Environment.
- A work plan was developed for the RSCP in January 2013 as part of a divisional initiative. This plan was updated throughout the year, assisting in setting timelines and defining responsibilities for activities and projects within the overall context of the five-year plan for the period 2011-2015.
- The next five-year independent review of the program is scheduled for 2014. The findings of this review will assist in the development of a new plan for the period 2016-2020.

## **Performance Measures**

- The percentage of regulated businesses with proper waste treatment installed in 2013 was 97%.
- For the fifth consecutive year, the percentage of mixed liquor and dewatered sludge samples that meet Class A standards for metals was 100%.
- Percentage of priority contaminants showing no increase in loads to the core area environment was 95% – based on a recent trend assessment for 1990-2011 core area wastewater data.

## **Next Steps–2014/2015**

The main areas of program development in 2014/2015 include:

- Continued implementation of the RSCP five-year plan for 2011-2015.
- COP inspections, monitoring and sector investigations will focus on the carpet cleaning, food services, automotive repair, photographic imaging and laboratory sectors in 2014.
- Collaboration with internal and external partners to develop the division's "one window approach" to customer service for businesses.
- Implementation of two pilot "Green 365" campaigns ("Green 365 In the Kitchen" and "Green 365 Spring Cleaning") in 2014.
- Implementation of an arts and crafts environmental best management practices campaign in 2014.
- Continued research regarding priority and emerging contaminants.
- Initiation of Phase II of the automatic grease recovery device pilot project in 2014.
- Implementation of a new significant incident response procedure in 2014.
- Review and development of standard operating procedures for the RSCP.
- Review, update and amendment of the Sewer Use Bylaw.
- Preparation of a five-year review of the RSCP in 2014, covering the period 2009–2013.

## CORE AREA STORMWATER QUALITY PROGRAM 2013 ANNUAL REPORT

### EXECUTIVE SUMMARY

#### **INTRODUCTION**

The Capital Regional District (CRD) Integrated Watershed Management Program (IWMP) plans, promotes and coordinates the management of stormwater quality. In the core area, this work is guided by the Core Area Liquid Waste Management Plan (LWMP) and done in consultation with the municipalities, Department of National Defence (DND) and First Nations with the goal of protecting human health and the environment.

The 2013 annual report covers five main areas of activity:

1. **Stormwater Discharge Evaluations** – carried out along the entire coastline of the core area to investigate public health and environmental concerns of stormwater discharges.
2. **Source Investigations** – undertaken to identify the sources of contaminants in stormwater.
3. **Marine Surface Water Monitoring** – carried out in Esquimalt and Victoria harbours and Esquimalt Lagoon to determine the health of the water bodies and monitor for change over time.
4. **Major Watercourse Monitoring** – carried out in 12 creeks in the core area at the point of discharge into the marine environment. In addition, each year, two creeks undergo more intensive monitoring along the creek to assess creek health and monitor for change over time.
5. **Special Projects and Other Activities** – to improve stormwater and environmental quality in the region.

#### **RESULTS AND DISCUSSION**

##### **1. Stormwater Discharge Evaluations**

CRD staff evaluate water and sediment quality in stormwater discharges from the coastline between the Colwood-Metchosin border in the west and the Saanich-Central Saanich border in the east, including Esquimalt Lagoon, Esquimalt Harbour, Victoria Harbour, Gorge and Selkirk waters, Portage Inlet and the City of Langford coastline along Saanich Inlet.

##### **Public Health – Fecal Coliforms**

CRD staff collect a water sample from selected stormwater discharges for measurement of fecal coliform bacteria levels. The extent of contamination (i.e., fecal coliform counts and flow rate), and the potential that members of the public may contact the discharge flow, is used to rate each discharge for public health concern. This allows the jurisdictions involved to better manage limited funds and undertake remedial measures where most needed.

In 2013, the CRD analyzed 150 stormwater discharges for fecal coliform concentrations in samples collected once during the winter and once during the summer to represent seasonal differences. The discharges received the following public health concern ratings (refer to Table A, and Figures A and B):

- 48 were assigned a low rating,
- 69 were assigned a moderate rating, and
- 33 were assigned a high rating.

The number of high-rated discharges decreased sharply after the program was initiated in 1993, but increased again in 2002 (Table A). In 2007, the number of high-rated discharges reached 41. The increasing trend prompted IWMP and municipal staff to refocus efforts on finding sources of contamination and reducing or eliminating them. These efforts have proven successful; in 2013, the

number of high-rated discharges decreased to 33 from 43 in 2011, and of the 41 high-rated discharges identified in 2007, only 18 remain high-rated in 2013 (a 56% reduction). These results indicate the number of stormwater discharges rated high for public health concern is no longer trending upward (Table A). Municipal efforts in relining sewer and stormwater pipes and separating combined sewer/stormwater manholes have been significant in recent years and efforts to identify and repair sources of contamination were successful as fecal coliform levels in many discharges previously rated of high concern for public health are now reduced.

The remaining discharges have proven difficult to address and new sources continue to develop. Discharges assigned high public health concern ratings occur primarily in Esquimalt, Oak Bay and Victoria (Table A). These municipalities have some of the oldest sewer and stormwater infrastructure in the region. Issues, including aging, collapsed and cracked pipes, old construction practices such as combining sewer and storm sewer pipes, and negligent plumbing practices that result in cross connections can cause sewage contamination of stormwater. Even as municipalities repair and reline infrastructure on their property, there are similar issues on private property that are often unknown or expensive to repair.

In 2014, the CRD's IWMP will continue to put significant effort on source investigations in the catchment areas of stormwater discharges rated high for public health concern. The 41 discharges rated high in 2007 were identified as the high-priority subset and will continue to be monitored overtime to measure the success of the program.

**Table A. Number of Discharges with a High Public Health Concern Rating from 1993 to 2013**

Area	1993	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2011	2012	2013
Colwood	0	2	2	1	0	0	0	0	1	1	0	0	0	0	1	0	0
View Royal	1	0	0	0	0	0	0	0	0	1	0	1	2	1	1	1	0
Esquimalt	12	10	9	9	9	6	6	5	5	5	5	7	7	8	7	7	8
Esquimalt private <sup>1</sup>	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0
DND	0	0	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0
Saanich	6	2	1	2	1	0	2	2	1	0	4	1	1	2	2	3	4
Saanich private <sup>1</sup>	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0
Victoria	22	17	12	10	9	11	13	9	8	13	14	14	15	15	20	17	13
Victoria private <sup>1</sup>	*	*	*	*	*	*	*	*	*	*	*	2	3	5	3	1	1
Oak Bay	8	7	3	4	3	4	5	6	8	6	5	9	9	10	9	9	7
Langford <sup>2</sup>	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>49</b>	<b>38</b>	<b>28</b>	<b>28</b>	<b>23</b>	<b>22</b>	<b>27</b>	<b>22</b>	<b>23</b>	<b>26</b>	<b>28</b>	<b>34</b>	<b>37</b>	<b>41</b>	<b>43</b>	<b>38</b>	<b>33</b>

<sup>1</sup> Discharges that drain from private property do not fall under municipal jurisdiction. Starting in the 2006 report, discharges within the City of Victoria survey area that drain from private properties to the ocean are indicated separately. Other municipalities will be reported similarly in future annual reports.

<sup>2</sup> City of Langford stormwater discharges were sampled for the first time by the Stormwater Quality Program in 1998.

\* Private discharges included in the municipal totals.

**Table B. Success of Source Investigations and Municipal Efforts Since 2007**

Jurisdiction	Number of High Public Health Concern Ratings in 2007 High-Priority Subset				Reduction
	2007	2011	2012	2013	
Township of Esquimalt	8	3	4	3	63%
District of Oak Bay	10	7	6	4	60%
District of Saanich	2	0	0	1	50%
City of Victoria	16	13	11	9	44%
Town of View Royal	1	0	0	0	100%
Private Discharges <sup>1</sup>	4	2	1	1	75%
<b>Total</b>	<b>41</b>	<b>25</b>	<b>22</b>	<b>18</b>	<b>56%</b>

<sup>1</sup> Discharges that drain from private property do not fall under municipal jurisdiction.

## **Environment – Chemical Contaminants**

The CRD rates stormwater discharges for environmental concern based on the level of metals and organic contaminants measured in sediment collected within the stormwater collection system (i.e., pipes, manholes, ditches and creeks) relative to the CRD Marine Sediment Quality Guidelines for protection of aquatic life.

A high contaminant rating means that at least one parameter exceeded 75% of the guideline. Discharges are sampled annually until the rating and contaminant(s) are confirmed. Once confirmed, discharges are typically not visited for five years to allow limited funds to be reallocated for sampling other discharges. A high rating may result in a detailed investigation to locate the sources of contamination.

In 2013, the CRD collected 35 total sediment samples within 30 stormwater discharge catchment areas. Over this period, staff collected 26 samples at stormwater discharge points and nine samples upstream to investigate the source(s) of contamination previously identified. The ratings for the 26 stormwater flows sampled at the point of discharge are as follows:

- 8 discharges were assigned a low contaminant rating
- 10 discharges were assigned a moderate contaminant rating, and
- 8 discharges were assigned a high contaminant rating

When chemical contaminant ratings remain high for two years, and the parameter(s) of concern are determined, staff recommend actions to find and eliminate the source. Based on this data, 22 discharges are recommended for corrective action (Figures A and B). Note that some of the discharges rated high in 2013 are not on the action list as the ratings or contaminants of concern have not been confirmed.

The number of discharges recommended for corrective action increased from 20 in 2012 to 22 in 2013. In 2013, one discharge was removed from the action list (654; Saanich) due to lower contaminant levels while three discharges were added to the list due to consecutive high ratings (742, 749 and 849). Fourteen of the discharges recommended for action have been on the list for more than five years.

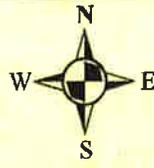
Sources of chemical contaminants in stormwater sediment can be complex to find and eliminate as sediment is not always present for sampling and the levels of contaminants change depending on the source. The amount of sediment fluctuates with rain fall frequency and intensity and depends on the type of pipe and on the frequency with which municipalities clean out the lines. In addition, many of the sources are non-point sources (i.e., from roadways, parking lots) while others are transient point sources (e.g., spills). In some cases the sediment can remain for a long time and therefore samples can reflect past practices that are no longer occurring.

Public education about source control has made commercial and private sectors more aware of products used on site and contaminant levels leaving their property. As well, the use and maintenance of stormwater rehabilitation units continues to increase. These units collect contaminants before they reach the marine receiving environment.

The CRD and municipalities will work together in 2014 to identify and eliminate potential sources of contamination for these discharges.

CRD - Parks & Environmental Services - Environmental Engineering - July 3, 2014 - Technologist: SP/JPB - SW06CoreDischargeColwoodConcern2013.mxd

**Figure A - Core Area 2013**  
**Stormwater Discharges Requiring Action for Public Health and Environmental concerns**  
**(Metchosin to Esquimalt Border)**



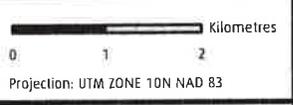
0 0.5 1 Kilometres  
 Projection: UTM ZONE 10N NAD 83

**Discharges Requiring Action**  
 ■ High Public Health Rating  
 ▲ High Environmental Rating and Recommended for Action

--- Municipal Boundaries  
 --- DND Boundaries  
 ~~~ Streams and Rivers  
 --- Major Roads  
 □ Stormwater Monitoring Area

Important: This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

**Figure B - Core Area 2013**  
 Stormwater Discharges Requiring Action for Public Health and Environmental Concerns  
 (Esquimalt to Central Saanich Border)



**Discharges Requiring Action**  
 ■ High Public Health Rating  
 ▲ High Environmental Rating and Recommended for Action

- Municipal Boundaries
- DND Boundaries
- ~ Streams and Rivers
- Major Roads
- Stormwater Monitoring Area

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**Table C. Discharges Recommended for Action Due to Elevated Chemical Contaminant Levels**

| <b>Jurisdiction</b>                        | <b>Discharges Recommended for Corrective Action</b> | <b>Total</b> |
|--------------------------------------------|-----------------------------------------------------|--------------|
| City of Colwood                            | -                                                   | 0            |
| Township of Esquimalt                      | 737, 742, 749, 780, 806, 812                        | 6            |
| City of Langford                           | 6006 <sup>1</sup>                                   | 1            |
| District of Oak Bay                        | 325                                                 | 1            |
| District of Saanich                        | -                                                   | 0            |
| District of Saanich – private <sup>2</sup> | -                                                   | 0            |
| City of Victoria                           | 216, 603, 613A, 614, 620, 627, 629, 634, 636, 767   | 10           |
| Town of View Royal                         | 866, 873A, 874                                      | 3            |
| DND                                        | 849                                                 | 1            |
| <b>Total</b>                               |                                                     | <b>22</b>    |

<sup>1</sup> The source of contamination has been found and the business has developed a plan to address the source.

<sup>2</sup> One discharge rated high in the District of Saanich drains from private property and does not fall under municipal jurisdiction.

## **2. Source Investigations**

In 2013, IWMP staff conducted fecal coliform source investigations in 16 stormwater discharge catchment areas and chemical contaminant source investigations in seven stormwater discharge catchment areas. Each sampling event involves collection of multiple upstream samples to narrow down the source of contamination and multiple sampling events were carried out for many of the discharges. A summary of the findings is below and shown in Table D.

The status of investigations to determine sources of high fecal coliform counts in the 16 stormwater discharges investigated in 2013 is summarized below:

- Two fecal coliform sources were eliminated in 2013 (discharges 813 and 310A).
- Two fecal coliform sources were narrowed down to within a block (discharges 736A and 749). Results were provided to municipal staff.
- A fecal coliform source was narrowed down to within a block and results were provided to municipal staff for three discharges (603, 744B and 805); however, additional sources are present and require further investigations.
- Source investigations are ongoing for nine discharges (245, 310, 503, 508, 613, 614, 627, 629 and 636). Results have been inconclusive to date due to presence of multiple sources, lower fecal coliform counts, lack of flows to sample, or inconclusive dye-testing.

The status of investigations to determine chemical contaminant sources in sediment in the seven stormwater discharges catchments is summarized below:

- The source of contaminants has been narrowed down in two discharges (316 and 619B).
- Contaminant levels have decreased in two discharges (216 and 307) and investigations will be ceased in discharge 307 and will continue to confirm finding in discharge 216.
- Investigations have been inconclusive for three discharges (627, 749 and 806).
- IWMP staff continue to work cooperatively with municipal staff, senior government and stakeholders to identify and reduce or eliminate contaminants at the source.

**Table D. Results of Upstream Investigations carried out in 2013**

| Status                                              | Number of Discharges |                |
|-----------------------------------------------------|----------------------|----------------|
|                                                     | Chemical Contaminant | Fecal Coliform |
| Source eliminated                                   | 0                    | 2              |
| One source narrowed down; investigating another     | 0                    | 3              |
| Source narrowed down; IWMP investigations complete  | 2                    | 2              |
| Investigation Inconclusive to date                  | 3                    | 9              |
| No source identified – contaminant levels decreased | 2                    | 0              |
| <b>Total</b>                                        | <b>7</b>             | <b>16</b>      |

### **3. Marine Surface Water Monitoring**

IWMP staff began annual surface water fecal coliform sampling of Esquimalt Lagoon, Esquimalt and Victoria harbours in 1993, with biannual surface grab samples. This method of sampling changed in 2011 to collection of five samples within a 30-day period for analysis of a variety of parameters. This method provides more robust data and allows comparison of results to provincial water quality guidelines (WQG). The influence of stormwater runoff on water quality was measured in the harbours by comparing dry and wet weather water quality near stormwater discharges and streams. CRD and BC Ministry of Environment (MOE) staff will use results to assess baseline water quality in the harbours and contribute to the development of Water Quality Objectives (WQO).

Initial findings indicate that the parameters of concern in all areas are dissolved oxygen, total zinc, enterococci and fecal coliforms; in Esquimalt Lagoon nitrate is also of concern. WQO are being developed for these parameters to monitor and manage these water bodies over time.

Based on the results from 2011 and 2012, IWMP staff conducted subsequent sampling in 2013 to provide information on land-based sources of the parameters of concern observed in the marine environment. Staff intensively sampled five stormwater discharges (613, 614, 627, 629 and 636) and two creeks (Cecelia and Millstream) entering the harbours. Water quality samples were collected five times in 30 days in the summer and fall flush of 2013. This data has been shared with MOE and is still being summarized. Results will be available in late 2014 or early 2015.

### **4. Major Watercourse Monitoring**

IWMP staff assessed the health of 12 creeks in the core area in 2013. Staff measured water quality at the mouth of 12 watercourses (Bee, Bowker, Cecelia, Colquitz, Colwood, Craigflower, Douglas, Goldstream River, Hospital, Millstream, Noble and Selleck creeks) in the dry and wet seasons and completed more comprehensive assessments of creek health in Cecelia and Millstream creeks. In Cecelia and Millstream staff conducted additional water quality sampling (more parameters, five times in 30 days in summer and fall flush periods throughout the watersheds) and assessment of the health of invertebrate animals living in the creek sediment.

The water quality parameters of most concern in 2013, as in previous years, were fecal coliforms, turbidity and phosphorus. This is consistent with what is seen throughout the region wherever there is increased human presence or agriculture. The fecal coliform shellfish harvesting guideline and draft Vancouver Island phosphorus objective were exceeded in all CRD creeks due to human and animal presence in these watersheds. Excluding these exceedences, nine of the 12 creeks sampled exceeded one or more of the remaining BC water quality guidelines (WQG) in 2013.

Preliminary data from the comprehensive creek assessments conducted in Cecelia and Millstream (2013) and Colquitz and Colwood (2012), indicate that several metals are also parameters of concern in core area creeks. Cadmium, copper and zinc were elevated above aquatic life guidelines in Cecelia, Colquitz and Colwood creeks.

In general, water quality was good in three of the 12 creeks (Craigflower, Colquitz and Goldstream) moderate in four creeks (Bee, Colwood, Millstream and Selleck) and poor in five creeks (Bowker, Cecelia, Douglas, Hospital and Noble).

### **Comprehensive Creek Assessment**

In 2013, the health of Cecelia and Millstream creeks was assessed through intensive water quality sampling, and collection of benthic invertebrate animals using the CABIN method. This allows creek health to be compared to other creeks in the region, and provides a baseline measure of health for future years. Characterization of the input of these creeks into Victoria Harbour and Esquimalt Lagoon will also assist in the development of WQO for the harbours (report in progress).

The preliminary data indicate that this type of monitoring provides useful information about the health of the creek and parameters of concern that sampling bi-yearly was not providing. For example, elevated metals were identified in Cecelia, Colquitz and Colwood creeks above WQG and average copper levels were elevated upstream in the Millstream watershed. Data on metal concentrations in these creeks were not previously available. In addition, contaminant data during heavy rainfall and first flush events was previously excluded. Finally, more robust data is now available for other parameters that CRD staff were previously collecting only twice per year.

In Cecelia Creek, preliminary 2013 data indicate that the parameters of concern for aquatic life include cadmium, chromium, copper, iron, zinc, dissolved oxygen, temperature, total suspended solids, turbidity, nitrite and phosphorus. Fecal coliforms and *E.coli* were also in exceedence of recreational primary contact (e.g., swimming) guidelines.

In Millstream Creek, preliminary 2013 data indicate that water quality is generally good; however, some exceedences of WQG for protection of aquatic life or recreation occurred at the mouth and Treanor Road. Parameters of concern include phosphorus, fecal coliforms and *E. coli*. Finally, average copper levels were elevated upstream in the Millstream watershed (886-9; tributary at Millstream Lake Road and Munn Road). Due to the low water hardness, this site is particularly sensitive to copper. Sources of copper at this location are unknown.

A report summarizing the water quality and benthic invertebrate data as part of MOE's harbour WQO report is in progress.

### **Special Projects and Other Activities**

Stormwater flows are the major pathway for contaminants from the land to the marine environment. Sources of stormwater pollution can originate from residential, commercial, industrial and/or agricultural land uses. CRD staff are involved with a number of special projects and activities to improve stormwater quality in the region and promote healthy, livable watersheds and their receiving environments. Some of the initiatives carried out to reduce stormwater pollution and related activities are as follows:

- Promotion of stormwater source control through development of model bylaws, codes of practice, best management practices, educational outreach and technical assistance.
- Development of an Integrated Watershed Management Program to work in partnership with municipalities and community groups to protect watersheds as regional assets rather than working at an individual watershed scale.
- Assisting MOE in the development of WQO in core area harbours and streams.
- Various initiatives to improve and protect the environmental quality of core area watersheds and harbours, in cooperation with community and municipal groups (i.e., Esquimalt Lagoon Stewardship Initiative, Gorge Waterway Initiative, Bowker Creek Initiative).
- Development of a web-based mapping tool that brings together environmental and land use information to assist with land-use decision-making (Natural Areas Atlas).
- Participation in community outreach events and hosting educational workshops.

## **2014 SAMPLING PROGRAM**

IWMP will continue to work with municipal partners to achieve LWMP goals to identify stormwater discharges of public health and environmental concern, and will put significant effort into investigating the sources of contamination.

Nearshore marine monitoring has shifted from sample collection twice a year in Esquimalt Lagoon, Victoria and Esquimalt harbours, the Gorge Waterway and Portage Inlet to a more intensive, but less frequent, sampling regime of five weekly samples in a 30-day period in both the dry and wet seasons, completed every three to five years. This plan will allow results to be compared to BC WQG, and has been formulated on the advice of MOE. The more robust data generated will allow WQO to be developed for the harbours.

A change from two single samples per year to a more intensive sampling regime will improve assessment of watercourse health in the core area. IWMP will assess the habitat and water chemistry of approximately two watercourses per year by collecting five samples in a 30-day period and analyzing for water chemistry, as well as conducting a benthic invertebrate assessment used as a stream health indicator. In addition, continuous monitoring of flow, turbidity, temperature and pH will continue to be conducted in select core creeks. Shifting to more intensive monitoring of approximately two creeks per year on a three- to five-year cycle would allow the collection of data that is more representative of water quality in each creek, while staying within budget limitations.

More intensive data collection in CRD streams and harbours will allow stormwater source control efforts to focus on regions and parameters of most concern with a solid scientific backing. It will also provide reliable baseline knowledge to judge changes in water quality over time.

# Gorge Waterway Initiative 2013 Annual Report



## Vision

A healthy environment for all life in the Gorge Waterway, Portage Inlet, their watersheds and communities for the well-being of present and future generations.

## Goals

### Goal 1:

Provide a forum for the exchange and sharing of information regarding the Gorge Waterway, Portage Inlet and their watersheds.

### Goal 2:

Promote education and awareness programs on appropriate land and water use.

### Goal 3:

Establish and encourage activities that show care and concern for the natural environment.

## Introduction

The Gorge Waterway Initiative (GWI) is a collaborative, community-driven group of organizations working to protect, enhance and restore the natural and cultural features of the Gorge Waterway, Portage Inlet and the surrounding watersheds. GWI provides a coordinated approach to environmental stewardship of the Gorge and Portage Inlet and their watersheds. GWI is led by a consensus-based steering committee responsible for guiding the implementation of the Gorge Waterway Stewardship Strategy. A part-time coordinator, funded through the Capital Regional District (CRD), initiates and manages projects, seeks funding and provides administrative support.

In 2013 the GWI helped distribute a Harbours Survey, for the Gorge Waterway/Portage Inlet, redesigned the website and initiated a project with municipal partners to design interpretive signs for the new Craigflower Bridge. Throughout the year GWI continued to improve community appreciation and stewardship for the waterway, helped protect threatened and endangered wildlife on the waterway and conducted habitat restoration projects.

GWI welcomed three new groups to the partnership: Friends of Swan Creek Watershed, Colquitz Salmonid Stewardship and Education Society and the Esquimalt Residents Association.

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# Highlights

## Water Quality Objectives

Data collection for the development of harbour water quality objectives continued with CRD staff collecting **more robust data on water quality, flow dynamics** and benthic invertebrate communities in the creeks entering Portage Inlet and the Gorge Waterway. The **first full year of continuous monitoring of flow, pH, temperature and turbidity** in Cecelia and Colquitz creeks was completed. The creek data, along with the harbour water quality data collected in 2012, were submitted to the BC Ministry of Environment for interpretation and development of recommended objectives. The report should be available in fall of 2014.



*Sampling in recent years at the mouth of Cecelia Creek showed elevated levels of fecal coliform, zinc, copper, lead and manganese entering Gorge Waterway.*

## Harbours Survey

CRD Harbours Program staff conducted a public survey in summer 2013 to support development of water quality objectives for the harbours. GWI members provided input on the questions about the Gorge Waterway and Portage Inlet, and helped distribute the surveys at outreach events. The survey covered how people use and value the waterway and adjacent lands, issues of concern and visions for the future. Close to 500 people provided input about the Gorge Waterway and Portage Inlet. Results will be available in 2014.

GWI collaborated with the University of Victoria Geography Department where students in several geography courses focused on the Gorge and Portage Inlet as case study areas. Results are now posted on the GWI website.

## Land & Water Use

The **Craigflower Bridge replacement project** was started in 2013, and municipal staff kept GWI members informed of the progress of bridge construction. GWI members provided valuable input regarding environmental mitigation and compensation efforts. Utility conduits were installed under the bridge deck to eliminate bird kills on aerial hydro wires, hundreds of native Olympia oysters were transplanted from the old bridge pilings, new piers were constructed with oyster-friendly attachment surfaces and marsh vegetation was transplanted. GWI partnered with View Royal, Saanich, Esquimalt Nation and Songhees Nation to develop interpretive signage for the new bridge. The design will be based on the template developed for the existing GWI signs along the waterway.

The GWI began discussions with Shoreline Middle School about working together to restore the Portage Inlet shoreline along the new pipeline route during the **Craigflower sewer pump station relocation**. This project provides an opportunity to restore and improve habitat along 150m of shoreline, including a large marsh area.

GWI provided feedback to local government regarding anchored boats in the Gorge Waterway. This has been an ongoing issue as many boats have been anchored **near Banfield Park in Selkirk Arm for several years**. GWI and other community members are concerned that untreated sewage and other contaminants may be entering the Gorge from some of the boats and that eelgrass beds could be impacted by anchoring.

GWI members provided input and received regular updates about a proposed community allotment garden in Gorge Park.

*A big thank you to our dedicated community volunteers, St. Michaels University School, Rotaract Club of Victoria and our government and business supporters: Ellice Recycling, BC Heritage Branch, Point Ellice House staff and volunteers. The CRD provided financial support.*

## Community Outreach

Member volunteers hosted the GWI information display and the interactive Gorge watershed model at these community events: Vic West Fest in Banfield Park, Selkirk Waterfront Festival, Oceans Day Festival at Fishermen's Wharf, Canada Day Picnic in Gorge Waterway Park and at the Gorge Swim Fest. Volunteers also distributed the Harbours Survey at these events.



*For the second year, the GWI hosted the Gorge Swim Fest website and helped with publicity and communications for this popular event.*

## New GWI Website

The GWI website was fully redesigned and updated in 2013. It is now easier to view on tablets and smart phones. Check it out at [www.gorgewaterway.ca](http://www.gorgewaterway.ca)

## Point Ellice Shoreline Restoration

GWI is in the final stage of work on a major shoreline restoration project begun in 2008 at Point Ellice House. Monthly work parties were held with service club, school and community volunteers to remove invasive plants and replant with native vegetation. More than 2870 volunteer hours to date have resulted in the removal of 26 tonnes of invasive plants from the site. Native shrubs and perennials now create a diverse understory regularly used by river otters, birds and other wildlife.



*GWI installed three interpretive signs that explain the Point Ellice shoreline restoration project and the important ecological values of the unique native forest ecosystem remaining at this site.*

# GWI Partners

## Community Members

- Burnside Gorge Community Association
- Colquitz Salmonid Stewardship and Education Society
- Esquimalt Residents Association
- Friends of Cuthbert Holmes
- Friends of Swan Creek Watershed
- Gorge Tillicum Community Association
- Gorge Waterway Action Society
- Habitat Acquisition Trust
- Portage Inlet Protection Society
- Portage Inlet Sanctuary Colquitz Estuary Society
- SeaChange Marine Conservation Society
- Victoria Canoe and Kayak Club
- Victoria West Community Association
- World Fisheries Trust

## Local Government Members

- Capital Regional District
- City of Victoria
- District of Saanich
- Township of Esquimalt
- Town of View Royal

# Gorge Waterway Initiative

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## Focus for 2014

In 2014, GWI will focus on:

- Working with View Royal, Saanich, Esquimalt Nation and Songhees Nation to complete interpretive signs for the Craigflower Bridge and its approaches
- Working with Shoreline Middle School and other partners to restore shoreline habitat along the pipeline route for the new Craigflower sewer pump station in Portage Inlet
- Analysis and reporting of the harbour survey results and creek flow data, and establishing water quality objectives for the Gorge Waterway and Portage Inlet
- Finalizing the Point Ellice Shoreline Restoration project
- Promoting activities that engage the community in stewardship of the Gorge Waterway and Portage Inlet

*GWI is working with municipal and First Nations partners to create interpretive signage for the new Craigflower Bridge that opens in May 2014. GWI member World Fisheries Trust is monitoring the native oyster population at the site during and after construction. Photo credit: C. Barlow*

# Esquimalt Lagoon Stewardship Initiative 2013 Annual Report



## Introduction

The Esquimalt Lagoon Stewardship Initiative (ELSI) is a broad coalition of community and environmental groups, institutions, government and First Nations working together to protect, enhance and restore the Esquimalt Lagoon and Coburg Peninsula. Since our founding in 2001, ELSI developed a Stewardship Plan for Esquimalt Lagoon which provides the framework for a coordinated approach to environmental management of the area. ELSI creates opportunities for collaboration on environmental projects and outreach activities and provides a forum for exchange and sharing of information. ELSI is led by a consensus-based steering committee responsible for guiding the implementation of the Esquimalt Lagoon Stewardship Plan. ELSI is chaired by the CRD Harbours and Watersheds Coordinator. A part-time ELSI coordinator funded through the CRD initiates and manages projects, seeks funding and coordinates ELSI.

This year ELSI helped distribute a harbours survey for Esquimalt Lagoon and redesigned and updated the website. Throughout the year ELSI volunteers worked to improve stewardship of the lagoon and adjacent dune ecosystem, helped support the Bee Creek restoration project and conducted outreach and education.

## Vision

To protect, enhance and restore the health of Esquimalt Lagoon for future generations of people, plants and animals.

## Goals

### Goal 1:

Promote and support lagoon stewardship and education

### Goal 2:

Prevent further loss or destruction of habitat and wildlife

### Goal 3:

Reduce contaminant inputs to the lagoon

### Goal 4:

Promote environmentally protective recreation use in the lagoon area

### Goal 5:

Promote environmentally protective land use

Proudly supported by the 

# Highlights

## Water Quality Objectives

Data collection for the development of harbour water quality objectives continued with CRD staff collecting **more robust data on water quality, flow dynamics and benthic invertebrate communities** in Colwood Creek, the main tributary to Esquimalt Lagoon. Sampling in February and September at the mouth of Colwood Creek indicated that fecal coliform and phosphorus contamination is a concern. It is not known whether the source of fecal coliform bacteria is from human or animal waste, and the elevated phosphorus may be due to failing septic systems, land clearing or improper fertilizer use. Phosphorus can potentially impact the lagoon by promoting algal growth which adversely affects aquatic life. A full year of data has now been **collected from flow monitors in Colwood Creek**. The creek data, along with the lagoon water quality data collected in 2012, were submitted to the BC Ministry of Environment for interpretation and development of recommended objectives. The report should be available in fall of 2014.

## Harbours Survey

CRD Harbours Program staff conducted a public survey during the summer to support development of water quality objectives for the core area harbours. ELSI members provided input for the questions about Esquimalt Lagoon and helped distribute the surveys at outreach events. The survey covered how people value and use the lagoon and adjacent areas, issues of concern and visions for the future. More than 280 people provided input about the lagoon. Results will be available in 2014.

ELSI collaborated with the University of Victoria Geography Department as part of the public engagement process for establishing water quality objectives. Students enrolled in the urban ethnecology

course, "Place Making at Esquimalt Lagoon", interviewed many local residents to learn their stories and researched other aspects of peoples' relationship to the lagoon now and in the past. Their reports are posted on the ELSI website.



*ELSI volunteers at the annual September beach clean-up.*

## Stewardship and Outreach Events

ELSI volunteers held a broom pull on Coburg Peninsula in the spring and a shoreline clean-up at the lagoon in the fall. ELSI participated in the annual Canada Day celebrations and the Off-the-Grid event at Fort Rodd Hill National Historic Site as well as the Mother's Day Paint-In at Royal Roads University.

ELSI volunteers continued their regular beached-birds and coastal water bird surveys in partnership with Canada Wildlife Services. ELSI also worked with Colwood staff to develop an updated dog on-leash flyer for distribution at the lagoon and public events. Keeping pets on a leash is vital for minimizing disturbance to birds in the federally designated Migratory Bird Sanctuary at Esquimalt Lagoon.



*Camosun College students helped propagate over 500 dune grass seedlings started from seeds collected on Coburg Peninsula in 2012. ELSI members are grateful to former ELSI coordinator Natalie Bandringa (far right), for her years of dedicated work in support of the lagoon and its ecosystems. Thank you Natalie! Kitty Lloyd is now the ELSI coordinator.*

## Fish Monitoring

ELSI volunteers continued to monitor fish in the creeks that enter Esquimalt Lagoon. Continuous monitoring since 2004 confirms that there are resident populations of cutthroat trout throughout Bee and Colwood creeks. Coho salmon fry are found regularly in Colwood Creek despite the concern of low summer flows. With the ongoing restoration in Bee Creek, it is hoped that coho will eventually be found there as well.

## Bee Creek Restoration

The dedicated volunteers for the Bee Creek restoration project spent 250 hours working to restore the riparian area along the lower reaches of this creek where it flows through the Coast Collective Art Gallery before entering the lagoon. Now in the third phase of the project, the focus is on removal of invasive plants including reed canary grass, spurge laurel (*Daphne*) and Himalayan blackberry. Replanting is done with native species that volunteers have propagated onsite including roses, sword fern, red flowering currant, blue-eyed grass, sedge, false lily-of-the-valley, beach strawberry and dune grass.

Restoration volunteers also worked with Camosun College to propagate and maintain dune grass seedlings for the Dune Habitat Restoration Project.

## Pilot Dune Habitat Restoration Project

Camosun College completed a summary report of six years of dune habitat restoration project monitoring, now posted on the ELSI website. Overall, native plant species are increasing and non-native species, except for grasses, are decreasing. Total cover of all plant species, on both treatment and control plots, showed slightly declining trends over the six year period. Despite this, overall plant cover remained high (>90%) which is encouraging considering the high visitor use along this dune ecosystem and the amount and movement of large driftwood from annual winter storms. The report recommends the continuation of the annual monitoring.

## New ELSI Website

The ELSI website was fully redesigned and updated in 2013. It is now easier to view on tablets and smart phones. Check it out at [www.elsi.ca](http://www.elsi.ca)

# Esquimalt Lagoon Stewardship Initiative

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## ELSI Partners

### Committee Members

- Canadian Wildlife Services
- Capital Regional District
- City of Colwood
- City of Langford
- Esquimalt Lagoon Enhancement Association
- Habitat Acquisition Trust
- Local residents
- Parks Canada
- Royal Roads University
- SeaChange Marine Conservation Society
- Victoria Natural History Society

### Advisory Members

- Esquimalt Nation
- Songhees Nation
- BC Ministry of Environment
- Department of National Defence
- Environment Canada
- Fisheries and Oceans Canada



## Focus for 2014

In 2014, ELSI will focus on:

- Reviewing and providing comments on development proposals in the lagoon area
- Analysis and reporting of the harbour survey results and creek flow data
- Establishing water quality objectives for Esquimalt Lagoon
- Working with our partners to improve water quality in the lagoon and investigating nutrient sources entering the lagoon and its tributary creeks
- Facilitating installation of the First Nations interpretive signs and cedar mural with Colwood and First Nations partners
- Promoting activities that engage the community in stewardship of the Esquimalt Lagoon watershed

*ELSI introduced many students to the sensitive ecosystems surrounding the lagoon.*

CRD Core Area Inflow and Infiltration Program  
Annual Report for 2013

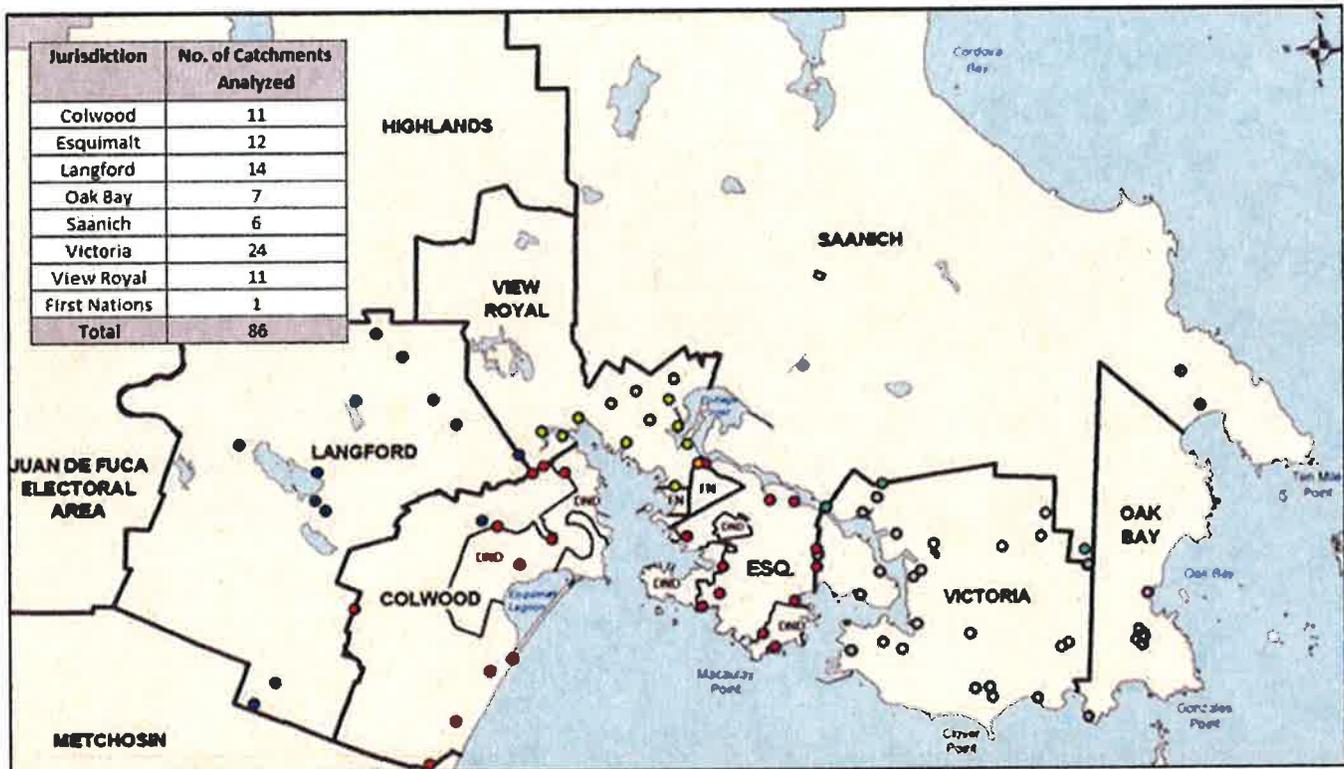
**Introduction**

Results from the October 2012 to March 2014 flow monitoring period are documented in the draft Inflow and Infiltration (I&I) Analyses Results Report for 2013 that will be reviewed by each municipality, then finalized. The report details how the updated I&I rates were calculated and documents the status of the Core Area I&I Management Plan; Public Education, Private Property I&I Plan and the Core Area Overflow Management Plan.

**Flow Monitoring**

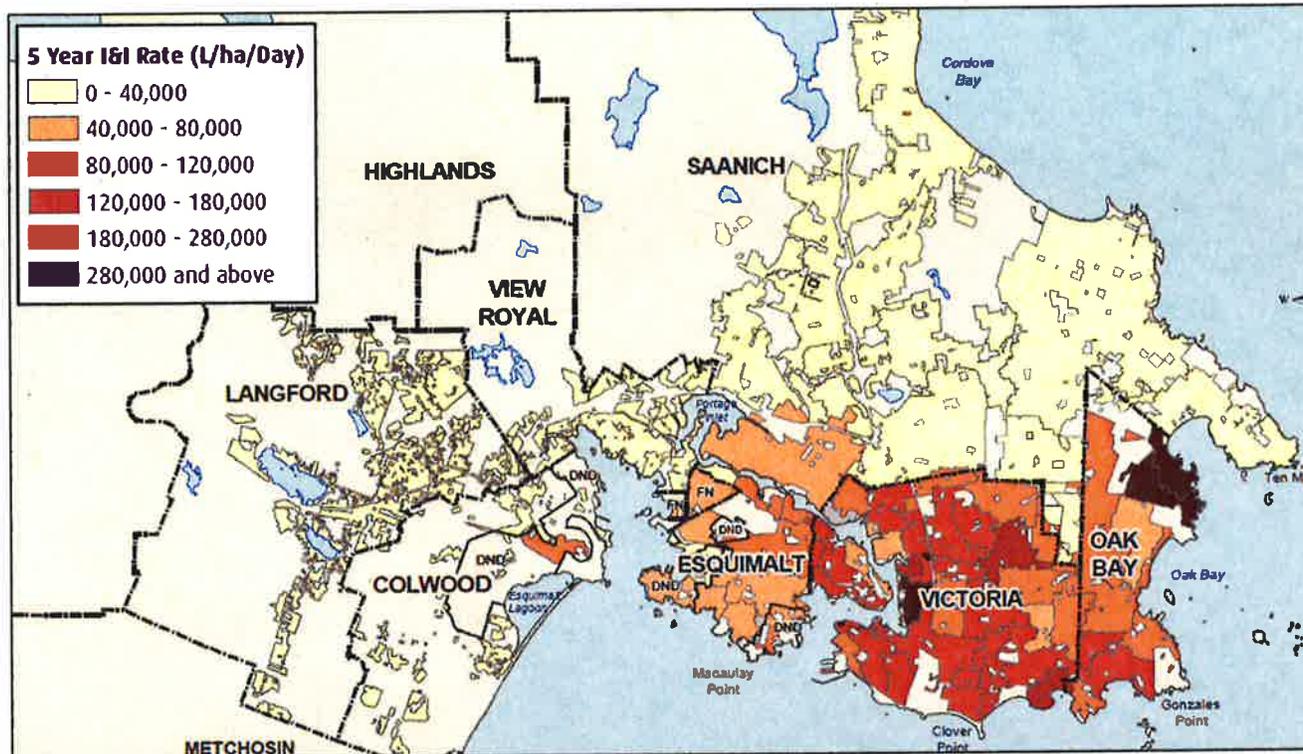
Eighty six flow monitoring locations were analyzed as part of this report, with 28 monitored for the first time. Seventy of the locations have permanent meters that collect ongoing, cost effective data. The other 16 locations were monitored with portable meters, on a temporary basis, to investigate particular areas of interest. Figure 1 summarizes all of the locations where flow meter data was analyzed.

Figure 1: Flow Meter Locations and Data Analyzed for this Report



The I&I rates are based on a five-year storm event I&I flow rate because the Municipal Sewage Regulation stipulates that a sewer system must be able to convey flow under this condition without an overflow. The results have been added to the overall core area I&I map as shown in Figure 2.

Figure 2: Updated I&I Rates Map for the Core Area



The individual I&I rates within each municipality have been converted into an overall weighted average for each municipality and compared with previous years' estimated I&I rates (see Table 1). This table is useful in providing a performance measure benchmark for each municipality to track overall I&I trends, but it must be interpreted with caution because it summarizes a vast amount of data into single municipal averages. For instance, one very high I&I sub-area could skew the overall municipal average, or one year of erratic weather and/or flow data could lead to wrong conclusions. Therefore, it is prudent to allow sufficient time to measure the full effect of any I&I reduction work in addition to gathering, compiling and analyzing weather patterns and I&I rates to track overall trends.

It should be noted that I&I tends to increase with sewer age due to sewer deterioration over time, sewer materials used, and the installation practices of the day.

**Table 1: Summary Core Area Municipal Peak 5-Year I&I Rates**

| Municipality         | Average Age of Sewers | Estimated 5-Year Peak I&I Rate (L/ha/day) |             |             |             |             |
|----------------------|-----------------------|-------------------------------------------|-------------|-------------|-------------|-------------|
|                      |                       | 2005/06                                   | 2006/08     | 2008/10     | 2010/12     | 2012/14     |
| <b>Colwood</b>       |                       |                                           |             |             |             |             |
| Including DND        | 24                    | 40-45,000                                 | 40-45,000   | 40-45,000   | 40-45,000   | 29,000      |
| Excluding DND        | 13                    | 18-22,000                                 | 18-22,000   | 18-22,000   | 18-22,000   | 16,000      |
| <b>Esquimalt</b>     |                       |                                           |             |             |             |             |
| Excluding DND        | 86                    | 95-110,000                                | 100-115,000 | 85-90,000   | 85-90,000   | 81,000      |
| DND only             |                       | 75-80,000                                 | 75-80,000   | 75-80,000   | 75-80,000   | 65,000      |
| <b>Langford</b>      | 12                    | 17-22,000                                 | 17-22,000   | 17-22,000   | 17-22,000   | 16,000      |
| <b>Oak Bay</b>       |                       | 110-120,000                               | 110-120,000 | 110-120,000 | 110-120,000 | 110-120,000 |
| <b>Uplands</b>       | 78                    | > 400,000                                 | > 400,000   | > 400,000   | > 400,000   | > 400,000   |
| <b>Saanich</b>       | 37                    | 18-22,000                                 | 18-22,000   | 18-22,000   | 18-22,000   | 18-22,000   |
| <b>Victoria</b>      | 93                    | 150-160,000                               | 145-150,000 | 145-150,000 | 145-150,000 | 144,000     |
| <b>View Royal</b>    | 25                    | 18-22,000                                 | 20-25,000   | 20-25,000   | 20-25,000   | 23,000      |
| <b>First Nations</b> | 37                    | 50-55,000                                 | 55-60,000   | 55-60,000   | 55-60,000   | 82,000      |

### **I&I Management Plan**

The Core Area I&I Management Plan was completed and submitted to the Province in April 2012. In preparing the municipal portion of the plan, each municipality was divided into appropriately sized sewer catchments. Each catchment will be flow monitored and classified into one of the following three phases.

#### Phase 1: Routine Data Collection

All catchments start out in this phase. There is a commitment to flow monitor each catchment at least once every 10 years and to analyze the data for I&I. Catchments that remain below the agreed upon I&I threshold will remain in this phase. Catchments that exceed the threshold are recommended for Phase 2 work.

#### Phase 2: Detailed Investigation Work

This phase involves investigation work to determine the sources of the I&I. It may include camera inspections (CCTV), smoke testing, detailed investigations, etc. The resulting data is analyzed to determine if Phase 3 sewer rehabilitation is warranted.

#### Phase 3: Rehabilitation Work

This phase involves creating sewer rehabilitation plans, prioritizing the plans, and systematically carrying out the rehabilitation work. The amount of work carried out is determined based on available resources (i.e. annual budgets, grants).

The following sections provide a summary of actions being carried out by the core area municipalities regarding the plan:

#### Colwood

Each of Colwood's catchments is in Phase 1 and currently has a permanent flow meter. Eight of these permanent flow meters were added in 2013 when Colwood programmed its SCADA system to collect sewer flow data from its pump stations and the data was analyzed for I&I as part of this report. In addition, Colwood visually inspected its manholes and cleanouts.

#### Esquimalt

Esquimalt has aging sewers. Esquimalt is currently carrying out rehabilitation work to separate combined manholes. In addition, all of Esquimalt's sewer catchments are flow monitored using permanent meters and Esquimalt's sewers have been smoke tested and camera inspected (CCTV). Future private property I&I reduction efforts will reduce Esquimalt's I&I further. In 2013, Esquimalt separated 14 combined manholes which will eliminate the potential for I&I / overflows. It also upgraded / replaced 13 sewer manholes and 15 service laterals.

#### Langford

Each of Langford's sewer catchments is in Phase 1 and currently has a permanent flow meter. Langford is vigilant in ensuring the I&I remains low to ensure that the sewer capacity is reserved for future growth. In 2013, Langford rehabbed 71 sewer inspection chambers; camera inspected 7.3 km of sewer mains, and expanded its sewer system with new mains, connections, etc.

#### Oak Bay

Oak Bay has aging sewers. From 2011 to 2014, Oak Bay collected sewer flow data from 4 of its I&I management plan catchments and plans to move the meters to its remaining unmetered catchments in late 2014. The flow data will be used to rank Oak Bay's catchments, from best to worst, based on I&I rates. The data will be used to prioritize I&I reduction efforts. In 2013, Oak Bay separated 28 combined sewer laterals into separate sanitary and storm laterals. It also camera inspected 3.2 km of sewer and rehabbed sewer infrastructure.

#### Saanich

Each of Saanich's catchments are in Phase 1 and require flow monitoring within the next 10 years. Currently, 6 of the catchments are flow monitored using the CRD SCADA system. In 2013, Saanich replaced over 2800 m of sanitary sewer mains and 217 sanitary sewer laterals connections. Saanich also camera inspected 16 km of sanitary sewer.

#### Victoria

Victoria has aging sewers and will be using the I&I management plan data to help prioritize future rehabilitation works. In late 2012, Victoria purchased 12 portable meters which allowed it to collect data from its remaining unmetered I&I management plan catchments. The data will be used to rank Victoria's catchments, from best to worst, based on I&I rates. In addition, Victoria is in the process of smoke testing and camera inspecting (CCTV) its entire sewer system, which should be complete by the end of 2015. In 2013, Victoria also relined 1 km of sewer, repaired 49 laterals, and camera inspected 36 km of mains and 350 laterals.

#### View Royal

Each of View Royal's sewer catchments is in Phase 1 and currently has a permanent flow meter. View Royal is currently in the process of upgrading sewer pump stations. In 2013, View Royal upgraded the Stewart Pump Station and added a new flowmeter. It also carried out significant camera inspection work and inspected manholes.

#### First Nations

The CRD currently flow monitors the sewer flows from the Songhees First Nation.

#### CRD

The CRD is working with the municipalities to prepare a plan for addressing private property I&I in the Core Area. (see Private Property I&I section) In 2013, the CRD performed routine inspection and maintenance work on the CRD sewers and installed two new permanent sewer flow meters.

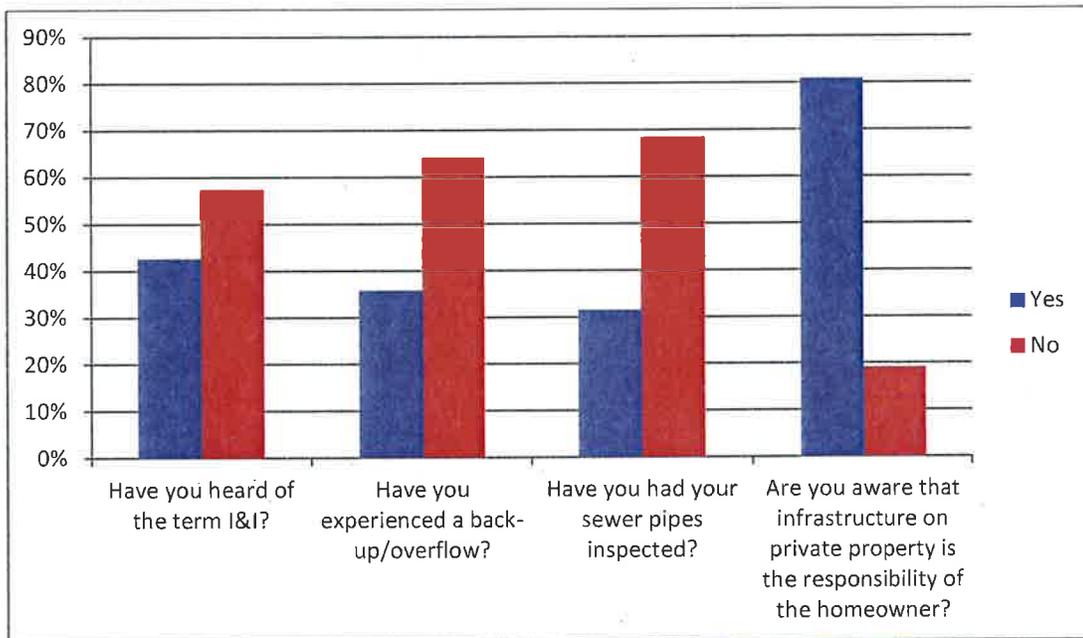
## **Public Education**

The CRD is continuing to educate the public on the issue of I&I, where it comes from, and the problems it creates so that when funding is required and/or rehabilitation work is proposed in local neighbourhoods, the public will have a better understanding of why the work is required.

To do this the CRD, in collaboration with the core area municipalities, created an I&I brochure, two sets of videos to help explain I&I, and an I&I website. This information is valuable when staff are providing notification to neighbourhoods of upcoming video inspection, smoke testing, sewer rehabilitation or other work related to I&I management. The brochure and videos can be found on the CRD website at the following link: <https://www.crd.bc.ca/education/at-home/inflow-infiltration>.

In 2013, I&I was presented at 26 public events as a part of the CRD Outreach program. Currently, the campaign is one of general public awareness and basic information, and a way of establishing a baseline of public understanding to build upon. At the events, I&I materials are displayed along with educational materials from other CRD programs. The public was encouraged to fill out a four question, multiple-choice survey to determine their understanding of I&I for a chance to win the year's \$100 gift certificate.

**Figure 3: Summary of I&I Survey Results**



Based on the response to date the following preliminary conclusions can be drawn:

- A significant proportion of residents surveyed had experienced a sewer back-up.
- Although there is growing awareness of responsibility for infrastructure on private property, relatively few property owners have had their sewer pipes inspected.
- Homeowners clearly recognize that infrastructure on private property is their responsibility. Future educational material should highlight that pipes underground are part of their infrastructure and therefore their responsibility as the homeowner.

## **Private Property I&I**

Presently there is no region-wide program for addressing private property I&I. On an individual basis, each municipality sets standards for new lateral installations and requires that laterals be tested prior to connection to the municipal sewer main. A few municipalities have carried out small pilot projects that included the repair or replacement of private sewer laterals. Two municipalities within the Core Area require that laterals be inspected and fixed, if required, when applications are made for major building permits.

Since 2010, the CRD staff have:

- Reviewed case studies of jurisdictions from across North America that are taking steps to deal with I&I;
- Met with various experts and consulted Metro Vancouver who will also be establishing programs to address private property I&I;
- Commissioned a report completed by Stantec, showing potential management options for addressing private property I&I; (the report included a summary of private property I&I programs used throughout North America, costs / effectiveness of these programs, and legal options for implementing programs in the CRD (see CRD I&I website)
- Held a workshop with municipal and regional staff;
- Put on a workshop for CRD elected representatives;
- Put on a workshop for the Victoria Real Estate Board; and
- Completed the I&I Management Plan (2012) which included a section addressing private property I&I.

In 2013, the CRD and the core area municipalities narrowed down and refined program options. This included information interviews with real estate professionals, plumbers, contractors, building inspectors and municipal staff.

It's becoming clear that a broad regional approach for addressing private property I&I may not be the best approach due to the dramatically different ages of sewer laterals and gross variance of I&I rates between municipalities in the core area. The differences make it difficult to generate a plan that addresses I&I where it is needed while not burdening property owners in areas where it is not.

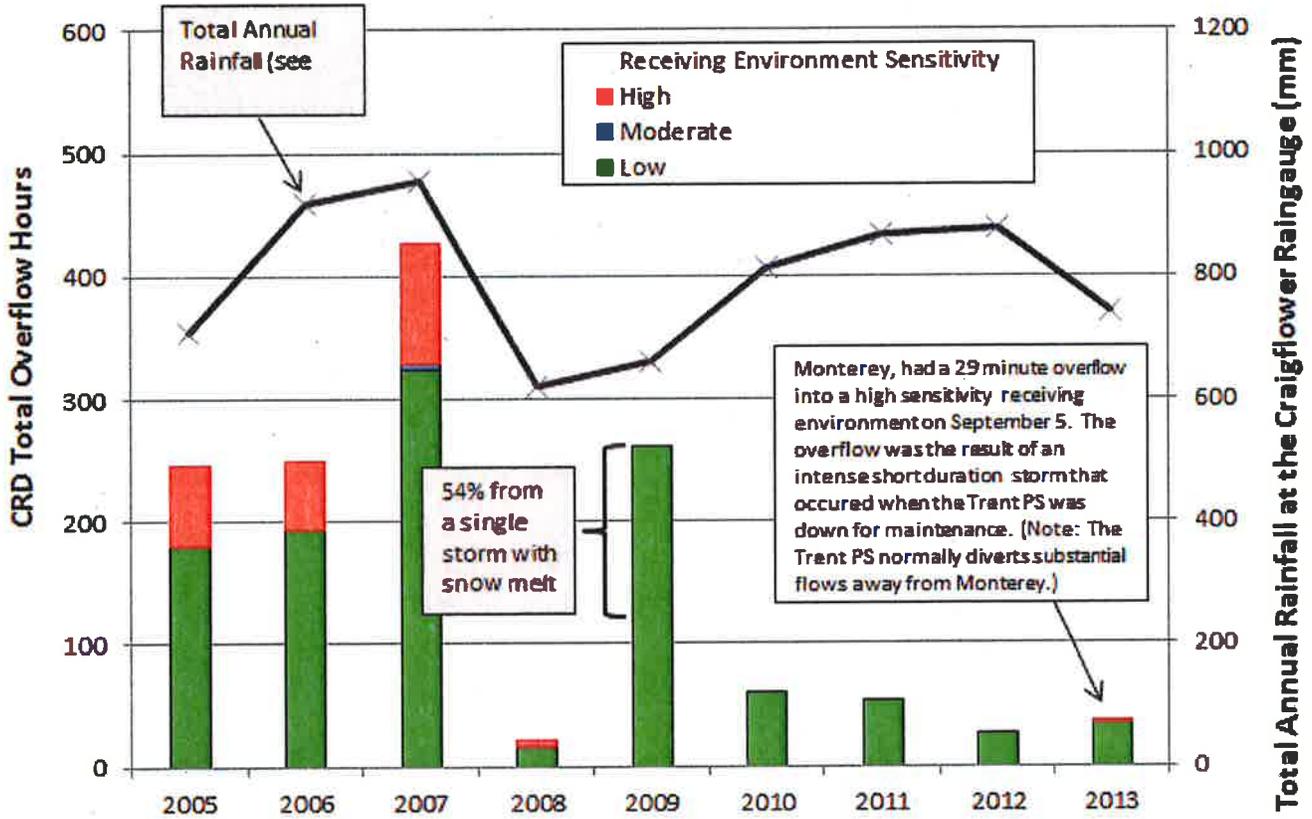
In 2014, the CRD and core area municipalities confirmed that each municipality should have their own custom approach for meeting agreed upon targets. The CRD will provide assistance with the development of these approaches and will continue with broad I&I education as well.

## **Sanitary Sewer Overflow Management Plan**

Sanitary sewer overflows are releases of raw sewage into storm drains and/or local waterways. The majority of overflows are caused from excessive I&I during moderate to heavy rain when sufficient rainwater finds its way into the sanitary sewer that it exceeds the system's capacity, resulting in overflows.

In June 2008, the CRD submitted a sanitary sewer overflow management plan to the Ministry of Environment. The plan documents the known overflow locations in the core area and includes short- and long-term action plans from the CRD and each of the core area municipalities. Significant accomplishments have already been achieved. For example, since Trent pump station was commissioned in November 2008, there have been no overflows into Bowker Creek, whereas in previous years there were about 10 per year. As of 2013, each of the core area municipalities is generally on-track regarding their commitments in the plan. Of note, Esquimalt is significantly ahead of schedule on its commitment to separate their combined manholes.

Figure 4: Graphical Comparison of Rainfall vs. Overflows



Note: The small number of overflow hours in 2008, 2010, 2011 and 2012 is attributed to some infrastructure improvements and also due to relatively small storm events or few back-to-back storms when the ground is saturated.

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## ONSITE WASTEWATER MANAGEMENT PROGRAM 2013 ANNUAL SUMMARY

### **BACKGROUND**

The Onsite Wastewater Management Program (OMP) is a pollution prevention program that aims to protect public health and safety, local surface and groundwater resources and the environment. The program strives to reduce the number of malfunctioning onsite wastewater systems by promoting proper care and maintenance and regulating pump-out frequency.

Since the adoption of the Capital Regional District (CRD) Onsite Sewage System Maintenance Bylaw (Bylaw No. 3479), staff have improved upon the onsite management information system database for recording and reporting onsite system activity, promoted voluntary compliance with Bylaw No. 3479 and enhanced the outreach and education component for consumers to properly maintain their onsite septic systems. As a result of this combination of strategies, the program has seen an increase in compliance with Bylaw No. 3479 from less than 30% to 82%.

The OMP has established a robust data set identifying residents with septic systems, and in cooperation with industry, has developed effective practices for monitoring compliance with the CRD Onsite Sewage System Maintenance Regulation Bylaw No. 3479. The program delivers a successful Septic Savvy education and outreach program, which includes web and print materials, outreach events, and consumer and stakeholder workshops to approximately 27,000 households with onsite wastewater systems. The OMP is the first of its kind in British Columbia and the CRD is recognized as a leader in the field of septic management by other regional districts and municipalities.

### **2013 ACTIVITIES**

#### **Education, Outreach and Engagement**

##### **Septic Savvy Education Program**

The OMP encourages proper operation and maintenance of the region's privately-owned onsite wastewater systems through education, outreach and engagement. To date, approximately 7,800 people have attended a Septic Savvy Workshop or engaged with CRD staff about septic systems at a community event since 2001. Since 2010, this program has been provided by the CRD Environmental Partnerships Division, in order to deliver shared messaging, with other programs, aimed at increasing environmentally responsible behavior.

In 2013, there were more than 4,000 consumer engagements with Environmental Partnerships at community outreach events where shared messaging was presented. In addition, there were 870 direct engagements regarding septic system maintenance through participation at septic workshops and information booths at public events. Seven Septic Savvy workshops were delivered to homeowners and industry stakeholders. In 2013, the program was successful in developing and hosting its first workshop for financial lenders on the risks associated with mortgages on homes with onsite systems. In addition, five Septic Savvy articles were published in community newsletters in 2013 and a children's colouring sheet was developed with septic messaging as a youth outreach tool.

Access to educational materials available on the CRD website is a valuable resource for consumers. In 2013, consumers accessed the following education and informational materials from the CRD website:

- 5,666 visits to the Septic Systems in the CRD page
- 3,473 visits to the Household Information page
- 1,550 visits to the New Requirements for Onsite Sewage Systems
- 1,557 downloads of the Septic Savvy Household Kit materials

## **Enhanced Education**

In 2011, a survey of septic system owners within Bylaw No. 3479 participating municipalities was conducted. The survey was to identify challenges in complying with Bylaw No. 3479 and to gather baseline data regarding what knowledge owners have about their septic systems and how to properly maintain and operate their system; and to better understand how the CRD can communicate with residents on these topics. A follow-up focus group was conducted in 2012. As a result, the CRD continues to communicate with residents directly by letter mail on regulatory requirements, including reminder notifications for bylaw requirements and is planning a print media campaign for 2014 highlighting the CRD's available resources and encouraging proper septic system maintenance by registered practitioners.

## **Stakeholder Engagement**

The OMP hosts an annual meeting with onsite wastewater practitioners and professionals where issues can be discussed. In 2013, the meeting included a series of roundtable discussions to engage with industry on practices and concerns within our region. The CRD aims to provide consumer protection information to residents and ensure industry is able to support maintenance requirements by CRD Bylaw No. 3479. In 2013, both the Trucked Liquid Waste and the Regional Source Control programs participated in this engagement, since both programs regulate this industry.

## **Collaboration**

The CRD continues to collaborate with other levels of government and regional districts and municipalities across the province on onsite management. Many other local governments are using CRD tools and information on its success and challenges in the development of their own onsite wastewater management programs, including the Columbia Shuswap Regional District on exchange of outreach materials, the Regional District of Nanaimo on program initiatives and the Regional District of Kitimat-Stikine on program outreach and development. In 2013, the CRD provided support to Canada Mortgage and Housing Corporation (CMHC) by reviewing and providing input into development of a framework for management of onsite treatment systems. In addition, CRD staff participated on a BC Water & Waste Association decentralized wastewater committee in order to garner support for onsite wastewater management programs in BC and build the CRD program regionally. Program staff meet regularly with Island Health, the Ministry of Environment and Ministry of Health.

## **Bylaw No. 3479 Compliance**

The program is in its fifth year of regulating the maintenance of approximately 9,000 septic systems under Bylaw No. 3479 in the four participating municipalities: Colwood, Langford, Saanich and View Royal. By 2013, the Capital Regional District (CRD) reached a compliance rate of 82% for Type 1 systems to schedule a pump-out no less than once every five years. Many systems need to be pumped out more frequently depending on age, size and usage and the program encourages that through education initiatives. For Type 2 and Type 3 systems the requirement under Bylaw No. 3479 is for annual maintenance. These systems are more complex and introduce further treatment to produce a higher quality effluent that can be discharged into smaller drain fields. In 2013, the program conducted a review of compliance with Type 2 and Type 3 systems since it was only at 26%. After a review with industry for proper submission of paperwork and a review with owners of these systems, the compliance rate is now 82% of these Type 2/3 systems receiving annual maintenance. To date, all methods of increasing compliance have been educational and have not required enforcement methods.

## **Regional Data Set**

The Onsite Program has established a regional data set identifying residents with onsite systems, where none existed before. Information supporting the database comes from municipal sewer information, industry maintenance activity, the Health Authority (Island Health) and the BC Assessment Authority. Currently, the program is tracking and reporting on the following onsite septic systems:

- 26, 498 active onsite systems with the CRD
- 8,447 active onsite septic systems under regulatory requirements of Bylaw No. 3479 (within the four participating municipalities in the core area of the CRD)

## **Study of Industrial, Commercial and Institutional (ICI) properties within Bylaw No. 3479**

The Onsite Management Program has partnered with Royal Roads University, Bachelor of Science Program to conduct a study of ICI properties using onsite wastewater treatment within the bylaw area. The study will inventory ICI properties, summarize potential environmental and human health concerns associated with waste contaminants generated by facility types discharging high strength and/or high volume non-domestic liquid waste to ground. The project will be completed in 2014 and will make recommendations on how ICI facilities can be addressed, under Bylaw No. 3479, and with educational materials to protect human health and the environment.

## **Future Initiatives**

The OMP is continuing to develop in order to achieve a consistent program throughout the region. Maintaining compliance rates and continuing to engage with residents on proper care and maintenance of their onsite wastewater systems are the main priorities. In alignment with other successful CRD programs, a proactive method to encourage owners to repair their privately owned onsite treatment and disposal systems could be beneficial. While compliance with Bylaw No. 3479 is high, it is known that many systems require repair beyond pumping out once every five years. The cost of repairs varies greatly in each situation. An incentive could be explored in order to encourage residents to repair their system; such as, installing risers to maintain easy access or retrofitting their system to install an effluent filter, which greatly extends the life of the dispersal field. The program is also preparing for a program review in 2014 to evaluate how effective the program has been at achieving its goal of preventing the environmental degradation associated with poorly-maintained systems. The program aims to address 90% of the problems associated with onsite system failures.

## Trucked Liquid Waste Program 2013 Annual Report

### EXECUTIVE SUMMARY

#### Program Objectives

Under Section 19 of the Core Area Liquid Waste Management Plan (LWMP), the Capital Regional District (CRD) implements a program to coordinate the collection and disposal of trucked liquid waste (TLW). Trucked liquid waste is non-domestic liquid wastes that cannot be legally discharged to sanitary sewer or stormwater systems and must be transported by truck to an offsite disposal facility. Examples of TLW include catch basin, grease interceptor and oil/water separator wastes.

The program objective is to ensure that TLW is handled and disposed of in an appropriate and responsible manner to protect public health and the environment. The four goals of the program are:

1. Ensure appropriate disposal of TLW by generators
2. Ensure proper and affordable disposal services available for all TLW
3. Promote appropriate government services
4. Build public support for the TLW program

### 2013 ACTIVITIES

#### Education and Outreach

Staff coordinated a number of outreach initiatives in 2013 specifically targeting TLW waste generators and haulers. Outreach initiatives included:

- The fall ad series which is an annual advertising program that is typically run in early October. In 2013, advertisements regarding catch basin maintenance were placed in numerous news publications to remind waste generators/property owners to inspect and clean out their catch basins.
- Update and review of the TLW Service Provider Directory; redundant and unused information was removed.
- Staff partnered with the Regional Source Control Program (RSCP) to distribute outreach material on catch basin maintenance to property owners and waste generators. RSCP inspectors were also asked to collect basic information from businesses with regard to catch basin cleanout and inspection cycles. A small information card was provided to the business owner/staff with information on catch basin maintenance procedures.

#### Industry Relations

A stakeholder meeting is held annually in partnership with the Onsite Systems Management Program to promote CRD outreach programs and as an opportunity for stakeholders to raise current or emerging issues regarding TLW to staff. In 2013, a presentation was given to stakeholders and summarized the purpose and goals for the program as well as planned outreach initiatives and studies. Staff placed an emphasis on linkages to other CRD programs such as the Integrated Watershed Management Program and the Hartland Controlled Waste Program, in order to provide a greater context for the industry.

In addition to the annual stakeholder meeting, tours of private facilities are conducted to increase staff knowledge of TLW processing/disposal and to foster positive working relationships with the industry.

### **Waste Quantities**

Staff annually reviews catch basin waste quantities disposed of at local facilities. These data are used as a performance measure for outreach activities and to track catch basin maintenance cycles. Overall quantities at known disposal facilities have declined in the last four years. However, the analysis of trends in this data is difficult due to the existence of out-of-region disposal facilities, inconsistent maintenance intervals and variable sediment accumulation.

### **Looking Ahead to 2014-2015**

The following projects will be undertaken in 2014 to achieve program objectives:

- Development of a video or video series regarding catch basin maintenance.
- • Collaboration with Integrated Watershed Management Program to deliver outreach programs on basin maintenance and operation.
- Continuation of the fall advertising series promoting catch basin clean out and expand outreach network.
- Review and maintenance of website content and service provider directory.
- Tracking of performance measures, website traffic and analysis waste volumes.
- Consultation and collaboration with TLW stakeholders through site visits, the annual fall meeting and the stakeholders group.

**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF WEDNESDAY, OCTOBER 8, 2014**

**SUBJECT      SERVICE PLANS REVIEW PROCESS**

**ISSUE**

The Capital Regional District (CRD) embarked on a three year budget and service planning cycle in 2012. 2015 represents the last year of the current three year planning cycle (2013-2015). This report is developed to provide information on the overall service plans and budget review process.

**BACKGROUND**

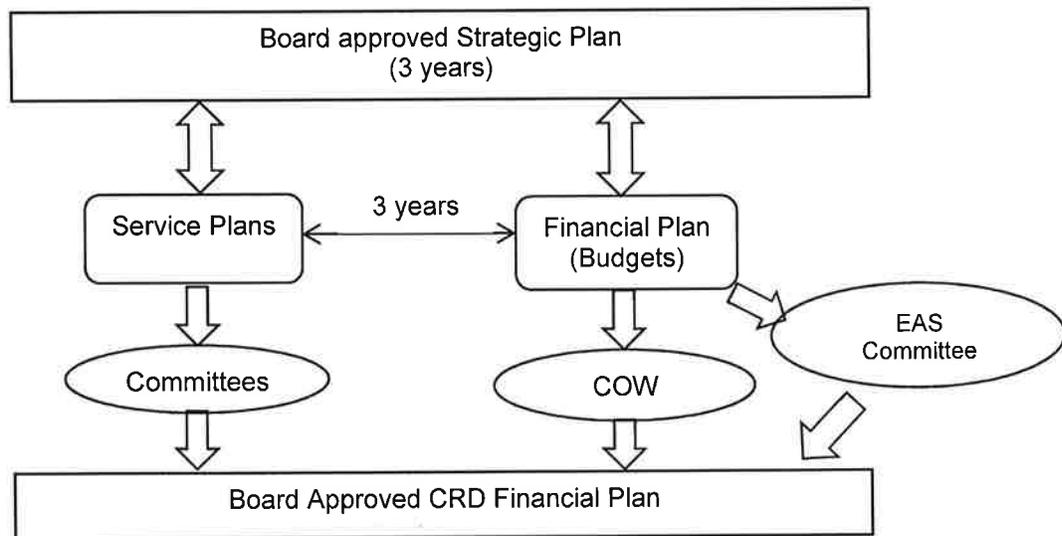
Service plans are primarily developed to describe core service information including key service drivers such as trends, service levels and performance measures. These plans also highlight divisional initiatives and implications for the overall work program for a specific area.

Three year service plans (2013-2015) were specifically developed to provide for continuity of service delivery priorities through the election cycle and to ensure alignment with Board strategic priorities. These plans also provide the CRD with a tool to communicate with stakeholders on service delivery priorities and related outcomes.

The 2013-2015 plans were developed in 2012 for Committee consideration. The plans have now been updated to reflect the 2014 work program results and highlight key changes for 2015. To assist the Committee review process, a one page service plan summary has also been developed to summarize the key points.

**Approval Process:**

The following figure identifies the structure for service plan and budget approvals.



The presentation of service plans to the appropriate committee permits the more detailed assessment and knowledge of service delivery and programs. The service plans are intended to provide the committees with information on each division. This update provides committees the opportunity to review

the work program and make service amendments as necessary. This iterative process is intended to provide staff with an effective planning tool to deliver their work efficiently.

Under Board direction, the presentation of budgets is segregated between the Electoral Area Services Committee (EASC) or service commissions with delegated authority and the Committee of the Whole. The EASC and/or the service commissions are responsible for reviewing and recommending approval to the Board for electoral area-only service budgets while regional and sub-regional service budgets are presented to the Committee of the Whole. Ultimately, the Board is responsible for approval of all of the service budgets.

**FINANCIAL IMPLICATIONS**

2015 Financial Plan estimates are being worked on and will be presented for review and approval at the Committee of the Whole and the EASC meetings in October. The Financial Plan will reflect the results of the Committee review of service plans.

**CONCLUSION**

Departments have prepared service plans for presentation to the appropriate standing committee to provide a more detailed assessment and knowledge of service delivery and programs. These service summaries highlight the 2014 results and focus on key changes for 2015.

**RECOMMENDATION**

That the Core Area Liquid Waste Management Committee approve the attached service plan.



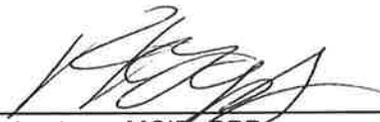
Rajat Sharma, MBA, CPA, CMA  
Senior Manager, Financial Services



Diana E. Lokken, CPA, CMA  
General Manager, Finance & Technology Dept.  
Concurrence



Ted Robbins, BSc, CTEch  
General Manager, Integrated Water Services  
Concurrence



Robert Lapham, MCIP, RPP  
Chief Administrative Officer  
Concurrence

Attachments: Service Plans

**SERVICE NAME:** Core Area Liquid Waste

**Changes in assumptions, trends, and other issues since 2014:** (linked to section 1.4, 2.6 of the detailed service plan)

There are no changes in assumptions or trends at the divisional program level planned for 2015 that will impact the Core Area Liquid Waste Service. The following are broader changes for the service for 2015:

- With the pausing of the Seaterra Program, divisional staff involved with supporting the Seaterra team in advancing the original plan (engineering and operational input, proposal evaluations, etc) have shifted to supporting the new planning work.
- With the current uncertainty regarding the final configuration of the conveyance systems, resulting from the new treatment planning work, all conveyance system capital projects planned for 2015 have been deferred to 2016-2019.
- The four trunk sewer operating budgets (Northwest Trunk, Northeast Trunk – Clover, Northeast Trunk - Bowker, East Coast Interceptor) which include conveyance system operations, engineering and regulatory, scientific and technical program support, have planned budget increases between 0.81% and 1.39%; the corresponding requisition increases range from 0.80% to 1.34%.

**Overall 2014 budget performance:**

The four trunk sewer operating budgets (Northwest Trunk, Northeast Trunk – Clover, Northeast Trunk - Bowker, East Coast Interceptor) which include conveyance system operations, engineering and regulatory, scientific and technical program support, are projected to be on budget for year-end 2014.

**New division initiatives:** (service plans have been updated accordingly; linked to section 3 of the detailed service plan)

None planned for 2015 related to the Core Area Liquid Waste service.

**Proposed changes to staffing levels:** (linked to section 2.3 of the detailed service plan)

No staffing level changes planned for Core Area Liquid Waste support services/programs for 2015 – the new FTE originally planned for 2015 (Wastewater Treatment Operations Manager) has been eliminated.

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# Service Plan for Core Area Liquid Waste Service

2013-2015  
September 2014

Capital Regional District

Capital Regional District / Integrated Water Services  
Core Area Liquid Waste Service  
470 Island Highway, Victoria, BC  
T: 250.474.9600 [www.crd.bc.ca](http://www.crd.bc.ca)

  
Making a difference...together

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# 1 Overview

## 1.1 Scope

The Capital Regional District (CRD) provides wastewater management to residential, commercial, industrial and institutional customers, equivalent to a population of approximately 330,000 persons distributed throughout the Core Area and West Shore communities. These communities include the cities of Victoria, Langford and Colwood, the districts of Oak Bay and Saanich, the Township of Esquimalt, the Town of View Royal and First Nations communities. In 2006, the CRD commenced the planning for the expansion and upgrading of the wastewater management system with the principal goal of moving from the existing preliminary level of treatment to secondary treatment.

The municipalities of Esquimalt, Oak Bay and Victoria are fully served by sewers. The majority of properties in View Royal have sewers but a few still remain outside of the service area. A large, predominantly rural area of Saanich is outside of the sewerage service area. Increasing areas of Colwood and Langford are served by sewers, with plans for further expansion. In the long term, both municipalities are expected to be fully served by sewers.

Properties not served by sewers rely on septic tanks or small treatments plants to provide wastewater treatment. These onsite systems primarily rely on tile fields or other distribution methods for ground disposal of treated effluent.

The Core Area Liquid Waste Service as a whole is delivered by a number of CRD services and programs delivered by various CRD departments and divisions. There are four main service and program areas, described below.

## 1.2 Primary Contact

### Core Area Wastewater Conveyance System Operations and Engineering

**Name:** Ted Robbins

**Title:** General Manager, Integrated Water Services

**Contact Information:** 250.360.3061, [trobbins@crd.bc.ca](mailto:trobbins@crd.bc.ca)

### Regulatory, Scientific and Technical Programs

**Name:** Larisa Hutcheson,

**Title:** General Manager, Parks and Environmental Services

**Contact Information:** 250.360.3085, [lhutcheson@crd.bc.ca](mailto:lhutcheson@crd.bc.ca)

### Seattera Program

**Name:** Albert Sweetnam

**Title:** Program Director

**Contact Information:** 250.360.3002, [asweetnam@crd.bc.ca](mailto:asweetnam@crd.bc.ca)

## CRD Administration and Finance

**Name:** Robert (Bob) Lapham

**Title:** Chief Administrative Officer

**Contact Information:** 250.360.3285, [rlapham@crd.bc.ca](mailto:rlapham@crd.bc.ca)

Core Area Liquid Waste role: liaison between the Seaterra Program Commission, the Core Area Liquid Waste Management Committee and the CRD Board, Co-chair of the Agreement Management Committee (AMC) whose duties include establishing and implementing a detailed audit plan.

**Name:** Diana Lokken

**Title:** General Manager, Corporate Services, (Finance Officer)

**Contact Information:** 250.360.3010, [dlokken@crd.bc.ca](mailto:dlokken@crd.bc.ca)

Core Area Liquid Waste role: overall financial responsibility, responsibility to negotiate and administer contribution agreements with senior levels of government, real estate transactions.

# 2 Services and Programs

## Core Area Wastewater Conveyance System Operations and Engineering

The services provided under this function include the operation, maintenance, engineering and capital project delivery for the Core Area Wastewater System including wastewater collection, conveyance, screening and disposal through the ocean outfalls. The conveyance system is primarily comprised of the four trunks:

**North West Trunk** - The North West Trunk sewer system includes the Macaulay Point pump station and outfall, as well as the Marigold, Craigflower and Lang Cove pump stations and interconnecting trunk sewer main infrastructure.

Operating costs are recovered by requisition to all participating members based on member percentage of total sewage input. Costs for the North West Trunk are shared by Saanich, Victoria, Esquimalt, View Royal, Colwood, Langford, Songhees First Nation, DND and Esquimalt First Nation under a separate agreement.

**North East Trunk – Clover** - The North East Trunk Clover sewer system includes the Clover Point pump station and outfall, as well as the Harling Point pump station and interconnecting trunk sewer main infrastructure.

Operating costs are recovered by requisition to all participating municipalities based on each participant's percentage of total sewage input. Costs for the North East Trunk Clover are shared by Victoria, Saanich and Oak Bay.

**North East Trunk – Bowker** - The North East Trunk Bowker sewer system includes the Trent pump station and interconnecting trunk sewer main infrastructure.

Operating costs are recovered by requisition to all participating municipalities based on each participant's percentage of total sewage input. Costs for the North East Trunk Bowker are shared by Victoria, Saanich and Oak Bay.

**East Coast Interceptor** - The East Coast Interceptor Trunk sewer system includes seven pump stations, the largest being the Currie Road pump station in Oak Bay and the Penrhyn pump station in Saanich East, as well as the interconnecting trunk sewer main infrastructure. The East Coast Interceptor conveys sewer flows to the North East Trunk Clover for eventual discharge at Clover Point.

Operating costs are recovered by requisition to all participating municipalities based on each participant's percentage of total sewage input. Costs for the East Coast Interceptor are shared by Victoria, Saanich and Oak Bay.

Capital costs and net annual debt costs for the four trunks and facilities are apportioned on the basis of the design capacity benefit that each participating area derives from each component of the system. Where the benefit is not an increase in capacity, the design capacity benefit is based on the existing maximum allocated capacity for each participant and for each facility.

These services are delivered by the Infrastructure Operations Division and the Infrastructure Engineering Division, both under the Integrated Water Services Department.

### **Regulatory, Scientific and Technical Programs**

The services provided under this function include the administration of the Core Area Liquid Waste Management Plan (LWMP), and the programs that fulfill the commitments made under the LWMP, including the Infiltration and Inflow Management Program, the Wastewater and Marine Environment Program, the Regional Source Control Program, the Stormwater Quality Management Program, the Harbours Environmental Action Program, the On-site Septic System Program, and Management of Trucked Liquid Waste.

**Core Area Liquid Waste Management Plan (LWMP)** - The CRD completed a Liquid Waste Management Plan in July 2000 to serve the municipalities of Colwood, Esquimalt, Langford, Oak Bay, Saanich, Victoria and View Royal. The plan provides a strategy for managing liquid wastes for the next 25 years, and was approved by the Minister of Environment in March 2003. Since that time, the Plan has had eight amendments.

**Infiltration and Inflow Management Program** - Infiltration and inflow (I&I) refers to rainwater and groundwater that enters the sanitary sewer. A certain amount of I&I is unavoidable and is accounted for in routine sewer design. However, when I&I exceeds design allowances, sewer capacity is consumed and may result in overflows, risks to health, damage to the environment and increased conveyance costs. The purpose of the program is to reduce the amount of rainwater and groundwater entering the sanitary sewer system when it is cost-effective to do so. Reduction of I&I in the system lowers the risk of sanitary sewer overflows and can decrease the costs of conveying and treating wastewater.

**Wastewater and Marine Environment Program** – The Wastewater and Marine Program provides regulatory compliance monitoring and scientific assessment services on behalf of Integrated Water Services to assess the potential effects of the outfalls on the marine environment and human health. The program includes assessment of wastewater flows, surface water and water column quality and assessment of the seafloor and organisms living near the outfall. The results are shared internally to guide the efforts of the Regional Source Control Program. The Wastewater and Marine Program works closely with regulatory agencies to ensure compliance and provides scientific assessment and annual reporting for the general public. The monitoring and analysis follows a rigorous quality assurance and quality control regime in the field and in the laboratory that ensures the quality of the data collected.

**Regional Source Control Program** - The Regional Source Control program is a pollution prevention initiative aimed at reducing the amount of contaminants that industry, businesses, institutions and households discharge into the district's sanitary sewer systems. The program has been active region-wide since the adoption of the CRD's Sewer Use Bylaw in August 1994. Source Control is a cost effective way of reducing the impacts of wastewater on the environment.

**Stormwater Quality Management Program** - The Stormwater, Harbours and Watersheds Program (SHWP) plans, promotes and coordinates the management of stormwater quality in the LWMP area, in consultation with the municipalities, the Department of National Defence and First Nations.

**Harbours Environmental Action Program** - The Harbours Environmental Action Program (HEAP) coordinates environmental protection and improvement efforts in Victoria and Esquimalt harbours, Portage Inlet, the Gorge Waterway and Esquimalt Lagoon. HEAP works with community groups, municipal partners and other agencies to achieve the following goals: decrease contaminant inputs, protect and enhance habitat quality, set environmental quality objectives, achieve environmentally protective land uses, monitor environmental quality.

**On-Site Septic System Program** - Septic systems, also known as on-site sewage systems, are an effective treatment option when designed, installed and maintained properly. Lack of maintenance, such as regular pump-outs, is the number one cause of system failure in the CRD. The program provides administration and implementation of CRD Bylaw 3479 which outlines maintenance requirements for on-site septic systems. The bylaw requires owners with Type 1 systems (septic tanks) to have pumped out their system every five years. Owners of Type 2 or Type 3 systems (often package treatment plants) are required to maintain their system according to the maintenance plan for the system, and ensure it is maintained by an Authorized Person at least once per calendar year.

**Management of Trucked Liquid Waste** - Many industrial, commercial and institutional operations produce liquid waste that is not suitable for discharge to the sanitary sewer or storm water system. These wastes are generated at operations such as: restaurants (grease interceptors), car washes (vehicle wash interceptors), automotive repair shops (oil water separators), parking lots (catch basins / stormwater rehabilitation units), dry cleaners (PERC from dry cleaning machines), photo processors (fixer), and laboratories (various chemicals). These by-products are considered to be high-strength liquid wastes or obstructive wastes and it is therefore illegal to discharge these wastes to the sanitary sewer system or the storm drain system. Proper disposal of these wastes requires a licensed hauler to pick up the waste, and transport it to a proper disposal facility.

These services and programs are delivered by the Environmental Engineering Division, the Environmental Partnerships Division, and the Environmental Protection Division, under the Parks and Environmental Services Department.

### **Seaterra Program**

The Seattera Program provides the foundation for wastewater treatment in the core area and Greater Victoria for the next century. As the region grows, the Seattera Program will provide responsible wastewater management and contribute to the environmental health of the region for generations to come. The Seattera Program consists of three main elements: treatment plant and outfall, resource recovery centre and conveyance system infrastructure.

The core area served by the Seattera Program includes Colwood, Esquimalt, Langford, Oak Bay, Saanich, Victoria and View Royal. Seattera Program facilities and pipes will be located throughout the core area municipalities.

The Seattera Program will provide preliminary, primary and secondary wastewater treatment for the core area. This is an important step forward from the current level of wastewater treatment provided in the core area. By 2018, Greater Victoria will no longer release untreated wastewater into the Juan de Fuca Strait.

The Seattera Program is being delivered by a division that has been established for this sole purpose. The Program Director reports to the Program Commission that has been established to administer the program delivery.

# 3 Governing Committee and Commission

**Core Area Liquid Waste Management Committee** – The CRD Core Area Liquid Waste Management Committee is a standing committee established by the CRD Board to oversee and make recommendations to the Board regarding the Core Area Liquid Waste Management Plan and certain aspects of the Seaterra Program. The mandate of the committee is to oversee and make recommendations to the Board regarding the administration and regulatory reporting for the Core Area LWMP, core area trunk sewers and sewage disposal systems and opportunities for resource recovery. With regards to the Seaterra Program and the Program Commission, the committee is also responsible for reviewing all documents and reports prepared by the Commission for submission to the Board, advise the Commission on local issues that may affect the Program, advise the Board on matters being considered by the Commission that may affect the Program, monitor the financial and Program construction performance of the Commission, review any Program changes being recommended by the Commission for Board consideration and appoint a representative to an agreement management committee under the contribution agreements.

**Seaterra Program Commission** – The Seaterra Program Commission (Core Area Wastewater Treatment Program Commission) was established by the CRD Board for the purpose of administering the Seaterra Program, including conducting procurement processes, completing the Program within established budget and timeframe, achieving the best overall value for money of the Program and the best overall triple bottom line outcomes for the Program, and ensure Program compliance with all applicable Provincial and Federal regulations and Contribution Agreements.

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**SERVICE NAME:** Infrastructure Operations - Integrated Water Services

**Changes in assumptions, trends, and other issues since 2014:** (linked to section 1.4, 2.6 of the detailed service plan)

Wastewater

The Core Area Wastewater Operation staff are working with the Seaterra Program to continue with completing the construction of the Craigflower Pump Station and the design of the Arbutus Tank. This work is expected to be completed by the Fall 2014.

Management is still reviewing opportunities to implement the Utility Operator Proposal (UOP) proposal put forward by the joint union/management committee and outlined in the 2013 divisional service plan. The UOP is to bring consistency to operator training and certification opportunities across all IWS utility operating sections through multi-year programs that allowed advancement through four classifications.

Water

There has been a change in the Confined Space Entry Regulations by Worksafe BC that will impact the operating budget in 2014. The regulations are more stringent and meant to improve worker safety. As a result the operating budget will increase in some areas more than others such as Water Systems Operation.

We are experiencing a significant increase in frequency of water services/meter leaks for the Juan de Fuca Water Service area. Many of the water service laterals are made of copper piping and experiencing pinhole leaks. Both Water Quality and Infrastructure Operations divisions are investigating the matter and potential future budget increases.

**Overall 2014 budget performance:**

At mid-year the divisional budget is on track and the 2014 Estimated Actuals is in alignment with the approved 2014 Budget.

**New division initiatives:** (service plans have been updated accordingly; linked to section 3 of the detailed service plan)

None

**Proposed changes to staffing levels:** (linked to section 2.3 of the detailed service plan)

There are no changes to staffing levels.

**KEY PERFORMANCE INDICATORS** (linked to section 4 of the detailed service plan)

| Indicator Name    | 2013<br>Planned/Actual | 2014 Planned  | 2014 Actual | 2015          |
|-------------------|------------------------|---------------|-------------|---------------|
| JDF Main Upgrades | 85%                    | 95%           | 90%         | 100%          |
| Odour Complaints  | 5 in total             | <5 per system | 5 in total  | <5 per system |
| PM Completed      | 89% overall            | 95% overall   | 95% overall | 95% overall   |

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# Service Plan for Infrastructure Operations

2013-2015

September 2014

Capital Regional District

Capital Regional District / Integrated Water Services  
Infrastructure Operations  
479 Island Highway, Victoria, BC  
T: 250.474-9600 [www.crd.bc.ca](http://www.crd.bc.ca)

  
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# 1 Overview

## 1.1 Scope

The Infrastructure Operations Division operates a number of drinking water and wastewater systems across the Capital Region, with a focus on providing clean and safe potable water, and wastewater collection and disposal services, while ensuring compliance with public health and environmental regulations. Infrastructure Operations staff includes highly trained and qualified utility operators, tradespeople and technicians, who operate and proactively manage our valuable infrastructure assets that exist in the following service areas:

- The Regional Water Supply – treatment and transmission
- The Juan de Fuca Water Distribution System
- The Saanich Peninsula Water Supply System
- The Regional Trunk Wastewater System – conveyance and disposal
- The Saanich Peninsula Wastewater System – collection, treatment and disposal
- 18 Local Service Area Small Water and Wastewater Systems

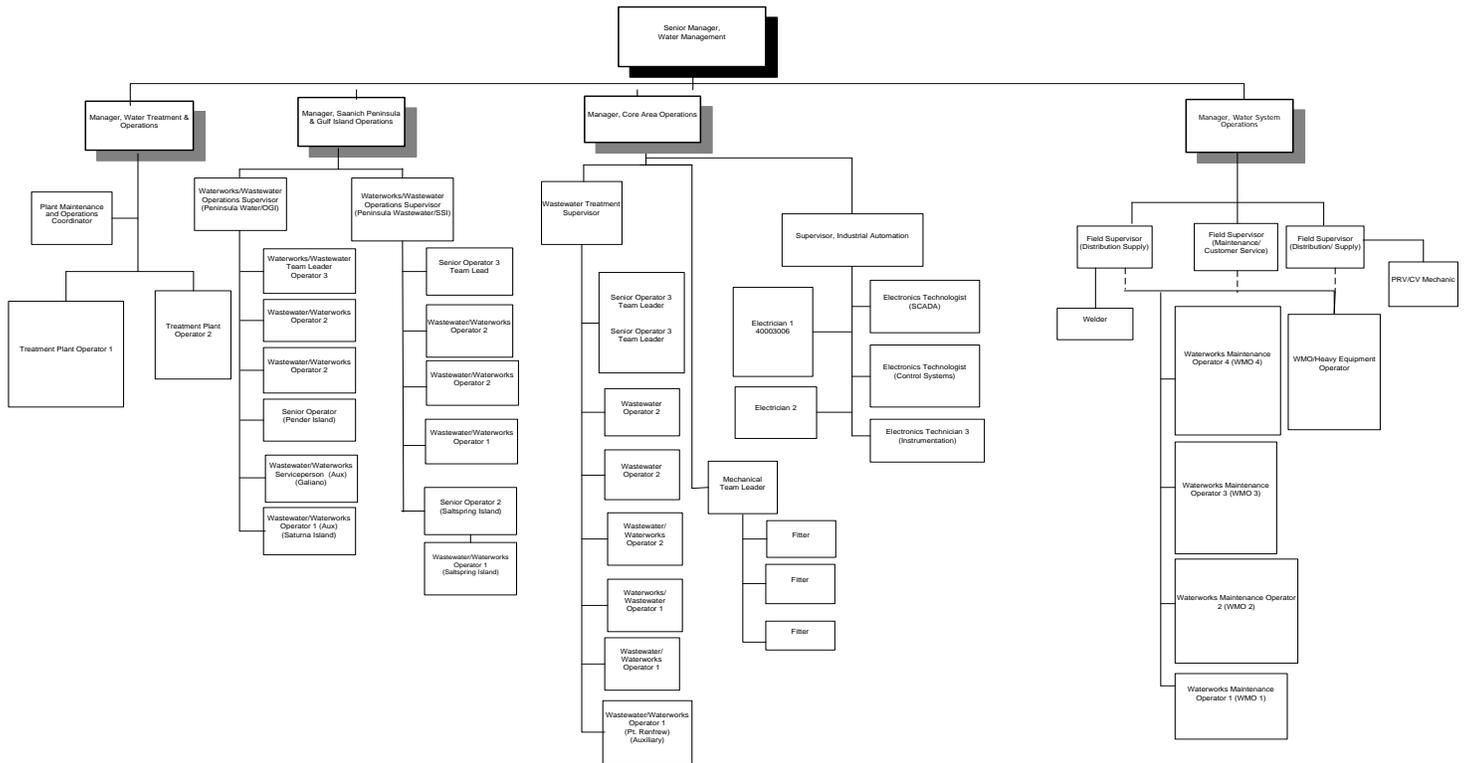
## 1.2 Primary Contact

**Name:** Peter Sparanese

**Title:** Senior Manager

**Contact information:** 250-474-9662 or [psparanese@crd.bc.ca](mailto:psparanese@crd.bc.ca)

# 1.3 Organization Chart



# 1.4 Key Trends and Issues

**Core Area Wastewater Treatment Project** – it is anticipated that Infrastructure Operations staff will be involved in the project, providing design input from an operational perspective in the early phases, to eventual commissioning and operation of the new facilities in the completion phases. Staffing requirements will increase as new facilities are completed.

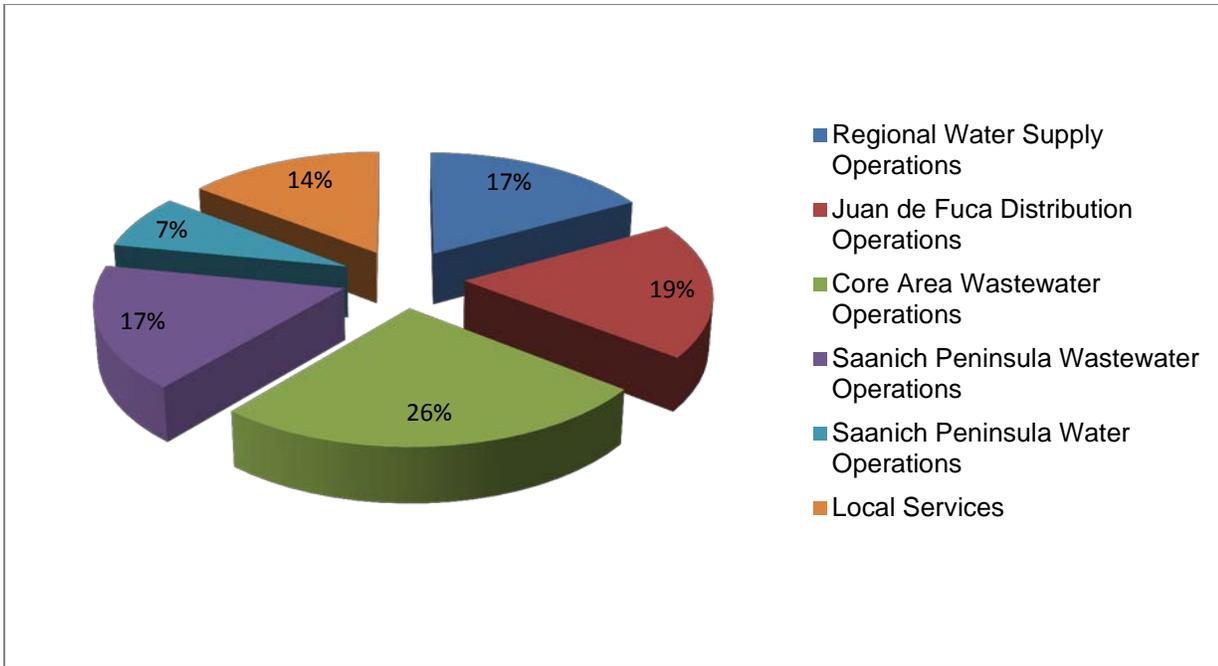
**Implementation of the Utility Operator Program** – the new comprehensive program for water and wastewater operators will be implemented in 2012/2013 and features a four level progression for ‘big system’ utility operators and a five level progression for ‘small system’ utility operators, where operators progress through the classifications based on qualifications. The program also outlines positions at the Team Leader and Supervisor level. It is anticipated that staff will seek opportunities available through the program to diversify and advance. The program is also expected to improve our ability to recruit and retain operator staff.

**2014 Update**-The UOP program was not ratified by the union therefore the program was not able to proceed as planned. Steps have been taken to align supervisory and team leader positions across all operations work sections to provide continuity in duties and responsibilities as well as remuneration.

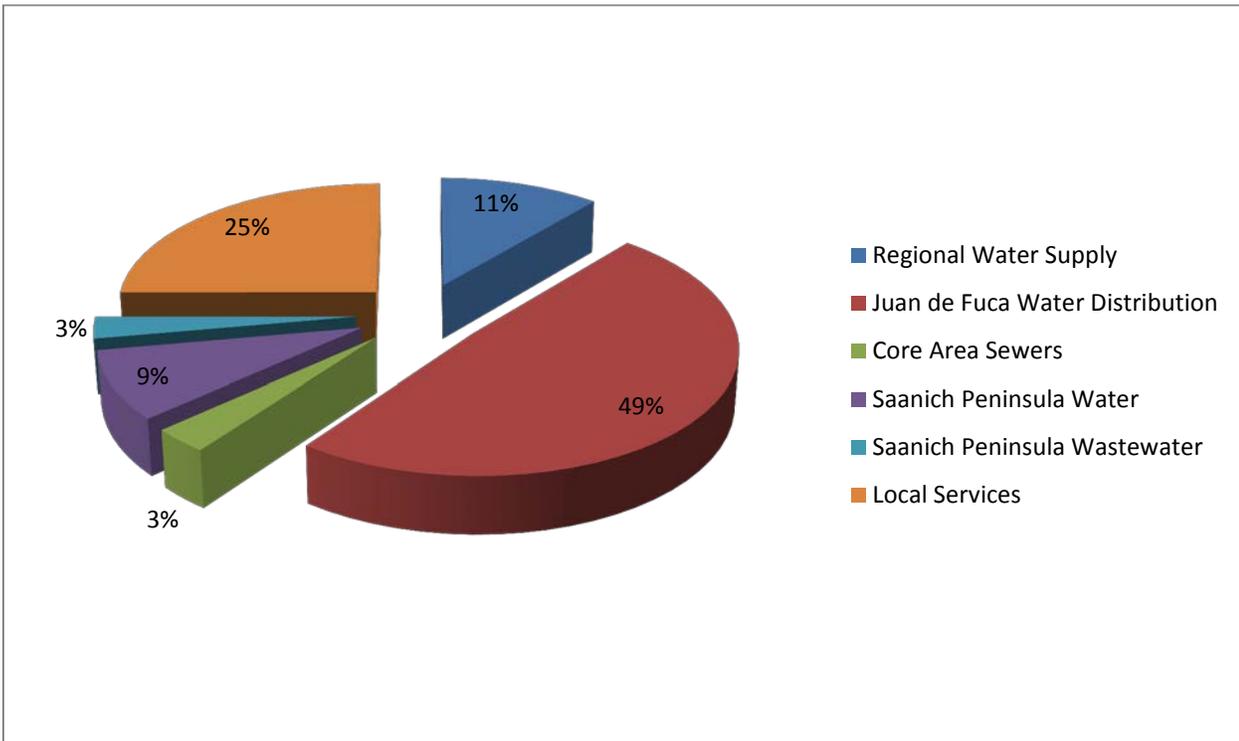
**Local Service Area Operations and Capital Improvements** – It is anticipated that Infrastructure Operations staff will be directly involved in the planning and completion of the many infrastructure improvement projects that are required across the Local Service Area water and wastewater systems, to address failing infrastructure. The expected level of involvement will have an impact on available staff resources.

**Workforce Planning** – A focus on divisional workforce planning will be necessary over the next three years to identify staffing requirements and the divisional organizational structure requirements necessary to operate the new facilities and backfill the large number of retirements anticipated.

# 1.5 Summary of 2014 Expenditures and Capital



|                                |                     |
|--------------------------------|---------------------|
| <b>2014 Total Expenditures</b> | <b>\$19,036,900</b> |
|--------------------------------|---------------------|



|                           |                     |
|---------------------------|---------------------|
| <b>2014 Total Capital</b> | <b>\$24,800,000</b> |
|---------------------------|---------------------|

## 2 Services

### 2.1 Core Services

| Service                                                   | Scope                                                                                                                                            |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Regional Water Supply Operations</b>                   | Operation and maintenance of sub-regional service providing wholesale water service to municipalities                                            |
| <b>Juan de Fuca Water Distribution Operations</b>         | Operation and maintenance of sub-regional service providing retail water service to municipalities                                               |
| <b>Core Area Wastewater Operations</b>                    | Operation and maintenance of sub-regional service providing regional wastewater service to municipalities                                        |
| <b>Saanich Peninsula Wastewater Operations</b>            | Operation and maintenance of sub-regional service providing wastewater service to municipalities, Peninsula First Nations, IOS, Victoria Airport |
| <b>Saanich Peninsula Water Operations</b>                 | Operation and maintenance of sub-regional service providing wholesale water service to municipalities                                            |
| <b>Local Service Area Water and Wastewater Operations</b> | Operation and maintenance of Local Service Areas in the Electoral Areas – 13 water service areas, 4 sewer service areas, 1 septage service       |

**Regional Water Supply Operations** - CRD Integrated Water Services is the wholesale water supplier to the 340,000 consumers in the Greater Victoria area. The Infrastructure Operations Division is responsible for the operation and maintenance of the Regional Water Supply treatment and transmission systems, delivering bulk water to the municipalities.

**Juan de Fuca Water Distribution Operations** – CRD Integrated Water Services is the retail water supplier to the 58,000 residents in the five municipalities in the Western Communities including Sooke, and First Nations Reserves. The Infrastructure Operations Division is responsible for the operation and maintenance of the water distribution system.

**Core Area Wastewater Operations** – The Infrastructure Operations Division operates and maintains the Core Area Wastewater collection, conveyance and disposal systems, providing regional wastewater service to the eight core area municipalities.

**Saanich Peninsula Wastewater Operations** – The Infrastructure Operations Division operates and maintains the Saanich Peninsula Wastewater collection and conveyance systems and the treatment plant, providing wastewater service to the three Peninsula municipalities, first nations, IOS, and the Victoria Airport.

**Saanich Peninsula Water Operations** – The Infrastructure Operations Division operates and maintains the Saanich Peninsula Water system providing wholesale water to the three Peninsula municipalities.

**Salt Spring Islands, Southern Gulf Island and Juan de Fuca** –The Infrastructure Operations Division operates and maintains the water supply, treatment and distribution systems, and the wastewater, collection, treatment and septage systems as per the table below.

| Electoral Area                       | Services |    |    |    |     |     |
|--------------------------------------|----------|----|----|----|-----|-----|
| Salt Spring Island                   | GW       | SW | WT | WD | WWC | WWT |
| Beddis Water System                  |          | ✓  | ✓  | ✓  |     |     |
| Cedar Lane Water System              | ✓        |    | ✓  | ✓  |     |     |
| Cedars of Tuam Water System          | ✓        |    | ✓  | ✓  |     |     |
| Fernwood Water System                |          | ✓  | ✓  | ✓  |     |     |
| Fulford Water System                 |          | ✓  | ✓  | ✓  |     |     |
| Ganges Sewer System                  |          |    |    |    | ✓   | ✓   |
| Maliview Sewer System                |          |    |    |    | ✓   | ✓   |
| <b>Southern Gulf Islands</b>         |          |    |    |    |     |     |
| Lyall Harbour/Boot Cove Water System |          | ✓  | ✓  | ✓  |     |     |
| Magic Lake Estates Water System      |          | ✓  | ✓  | ✓  |     |     |
| Magic Lake Estates Sewer System      |          |    |    |    | ✓   | ✓   |
| Skana Water System                   | ✓        |    | ✓  | ✓  |     |     |
| Sticks Allison Water System          | ✓        |    | ✓  | ✓  |     |     |
| Surfside Park Estates Water System   | ✓        |    | ✓  | ✓  |     |     |
| <b>Juan De Fuca</b>                  |          |    |    |    |     |     |
| Port Renfrew Water System            | ✓        |    | ✓  | ✓  |     |     |
| Port Renfrew Sewer System            |          |    |    |    | ✓   | ✓   |
| Wilderness Mountain Water System     |          | ✓  | ✓  | ✓  |     |     |

GW-Ground Well  
SW-Surface Water  
WT-Water Treatment

WD-Water Distribution  
WWC-Wastewater Collection  
WWT-Wastewater Treatment

## 2.2 Service Levels

| Service                                 | Service Level Adjustments                                                                                                                                   |               |               |               |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|
|                                         | Base year 2012                                                                                                                                              | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| Water and wastewater system operation   | Water and wastewater treatment; supply and distribution system operation; collection and transmission system operation; system monitoring; customer service | No change     | No change     | No change     |
| Water and Wastewater system maintenance | Facility inspection; consumables management; component preventative maintenance                                                                             | No change     | No change     | No change     |
| Emergency response/system failure       | Water main breaks; wastewater overflows; unplanned service interruptions                                                                                    | No change     | No change     | No change     |
| Capital works                           | Main installations; equipment replacement; capital projects support                                                                                         | No change     | No change     | No change     |

## 2.3 Workforce Considerations

| Service      | Workforce (FTEs) |               |               |               |
|--------------|------------------|---------------|---------------|---------------|
|              | Base Year 2012   | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| <b>Total</b> | 86.39            | 86.39         | 87.39         | 89.39         |

## 2.4 Customers and Governance

| Service                                            | External Customers                                                          | Internal Customers | Reviewing Commissions & Committees                                                             |
|----------------------------------------------------|-----------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------|
| Regional Water Supply Operations                   | Water Suppliers (Municipalities)                                            | See below          | Regional Water Supply Commission (Standing)                                                    |
| Juan de Fuca Water Distribution Operations         | Water Suppliers (Municipalities), First Nations                             | See below          | Juan de Fuca Water Distribution Commission (Standing)                                          |
| Core Area Wastewater Operations                    | Wastewater Conveyors (Municipalities), First Nations, DND                   | See below          | Environmental Sustainability Committee, Core Area Liquid Waste Management Committee (Standing) |
| Saanich Peninsula Wastewater Operations            | Wastewater Conveyors (Municipalities), First Nations, IOS, Victoria Airport | See below          | Saanich Peninsula Wastewater Commission (Standing)                                             |
| Local Service Area Water and Wastewater Operations | Service area customers                                                      | None               | Various Water and Wastewater Local Service Commissions (Advisory Commissions)                  |

The Standing Commissions are created by the CRD Board to operate a service under a Board mandated bylaw. The Standing Commissions have board delegated authority to make decisions such as approving budgets and contracts.

The Standing Committees are made up of CRD Board Chair appointed Board members who advise the Board on specific issues and then carry out the Board's directions on those issues.

The Advisory Commissions are created by the CRD Board to be advisory to the Board and staff on the operation of a service under a Board mandated bylaw. The Advisory Commissions make recommendations to the Board on items such as budget approval and contracts.

Although the Infrastructure Operations Division doesn't provide services to other departments the division sections do provide technical trade and operations support to other divisions and sections within the IWS Department.

## 2.5 Delivery Strategy

| Service                                            | Delivery Strategy                                     | Funding                                                         | Legislative Authority        |
|----------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------|------------------------------|
| Regional Water Supply Operations                   | CRD resources                                         | Funded through bulk water sales revenue                         | Bylaw 2537                   |
| Juan de Fuca Water Distribution Operations         | CRD resources                                         | Funded through retail water sales revenue                       | Bylaw 2538                   |
| Core Area Wastewater Operations                    | CRD resources                                         | Funded through tax requisition                                  | Bylaw 2312                   |
| Saanich Peninsula Wastewater Operations            | CRD resources                                         | Funded through tax requisition                                  | Bylaw 2388                   |
| Saanich Peninsula Water Operations                 | CRD Resources                                         | Funded through wholesale water sales revenue                    | Supplementary Letters Patent |
| Local Service Area Water and Wastewater Operations | CRD Resources; 5 water systems operated by contractor | Funded through parcel tax and user charges (fixed and variable) | Various establishing bylaws  |

In the case of most of the services, the service delivery strategy is to utilize CRD resources to deliver the service. There are some support service contracts in place such as bin hauling, laboratory services, and water system operating contracts. The large water services are funded through water sales revenue, while the small water services use a combination of parcel tax and user charges as funding sources. Some small water services are funded through a variable component of the user charge that is consumption based. The large wastewater services are funded through tax requisitions, while the small wastewater services use a combination of parcel tax and user charge. The funding philosophy for the small services has been that parcel tax funds capital costs and user charges fund operating costs.

## 2.6 Assumptions and Risks

| Service | Key Assumptions | Risks |
|---------|-----------------|-------|
| None    |                 |       |

# 3 Divisional Initiatives

This section highlights divisional Strategic Plan initiatives for 2013 – 2015 and CRD Strategic Plan priorities.

## Infrastructure Operations Initiatives

| Corporate Initiatives                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Budget Implications                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goldstream Gravel Pit Management Plan (2013)                                           | Develop a defined strategy for management of the gravel pit to establish short term and long term needs and impacts of continued operation vs. closure.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | None (in house study)                                                                                                                                                                                                                                                                                                                                                                             |
| Cross Sectional Training and Development                                               | <p>Work with employees that are interested in opportunities to enhance their skills and abilities in other Infrastructure Operations work sections. Benefits include:</p> <ul style="list-style-type: none"> <li>Enhanced workforce with more diverse employees</li> <li>It will assist with workforce planning issues including retirements, and future staffing requirements for the new Core Area Treatment Plant.</li> <li>Continue to build on the reciprocal assistance and respect across Infrastructure Operations work sections originally initiated through the service delivery review.</li> </ul> | Employee initiative and co-operation could make this no cost to the operations budgets; however there could be a small increase to the training budgets.                                                                                                                                                                                                                                          |
| Core Area Operations Standard Operating Procedure Manuals                              | Develop standardized operating procedures for all of the Core Area wastewater pump station facilities. Detailed SOP's will be relevant to the work currently being performed by the Industrial Automation, Mechanical and Operations staff.                                                                                                                                                                                                                                                                                                                                                                   | None ( technical assistance may be required by others with no impact to the operations budget)                                                                                                                                                                                                                                                                                                    |
| Implement the Utility Operator Program (UOP) and Local Utility Operator (LUO) Programs | <p>Work with the union to finalize the implementation of the UOP and LUO programs, and put into effect the UOP 5 and 6 levels for existing Team Leads and Supervisors.</p> <p><b>2014 Update-</b>The UOP proposal was rejected by the union and will not be implemented as planned. Some of the changes that were going to be implemented as part of the UOP Program were completed outside of the plan including finalizing 3 JEPE reclassifications and putting into service a Team Leader position within the Water System Operations section.</p>                                                         | <p>\$21,000 impact across the Local Services budgets for 2013<br/>           \$28,000 impact across the Saanich Peninsula and Core Area Wastewater budgets and the Saanich Peninsula Water budget for 2013</p> <p><b>2014-Update-</b>The annual financial implication for Water System Operations is close to \$20,000 or approximately 0.29 % of the combined RWS/JDF 2013 operating budget.</p> |

CRD Strategic Priorities 2013-2015

| Strategic Priority                 | Corporate Goal (per Strategic Plan) | Strategic Initiatives                                               | Description                                                                                                                                                                                                                  | Budget Implications                                                                  |
|------------------------------------|-------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Regional Cooperation               |                                     | Not applicable                                                      |                                                                                                                                                                                                                              |                                                                                      |
| Regional Transportation & Planning |                                     | Not applicable                                                      |                                                                                                                                                                                                                              |                                                                                      |
| Healthy Region                     |                                     | Not applicable                                                      |                                                                                                                                                                                                                              |                                                                                      |
| Regional Infrastructure            |                                     | Core Area Wastewater Treatment Project<br><br>Regional Water Supply | Infrastructure Operations will be an active participant in the design, construction and operation of the new facilities. Infrastructure Operations will continue to maintain high quality water delivery from source to tap. | TBD when the CAWTP budgets are established<br><br>No short term budget implications. |
| Regional Environmental Stewardship |                                     | Not applicable                                                      |                                                                                                                                                                                                                              |                                                                                      |
| Corporate                          |                                     | Emergency Preparedness                                              | Infrastructure Operations will be an active participant as this corporate initiative rolls out.                                                                                                                              | TBD                                                                                  |

## 4 Performance Monitoring

| Indicator                                                                                               | 2013 Planned                                                      | (2013) (actual)                                                   | (2014) (actual) | (2015) (projected) |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|-----------------|--------------------|
| <b>Financial</b>                                                                                        |                                                                   |                                                                   |                 |                    |
| Hourly charge out rates for tradespeople within +/-5% of private sector rates                           | +/-5%<br><br>-3.6% Electrical Staff<br><br>-8.1% Mechanical Staff | +/-5%<br><br>-3.6% Electrical Staff<br><br>-8.1% Mechanical Staff | +/-5%           | +/-5%              |
| Complete 100% of the annual capital water main upgrades within the JDF Water Distribution service area. | 96%/85% to date                                                   | 96%/85% to date                                                   | 98%/            | 100%/              |

| Indicator                                                                                      | 2013 Planned                                                                | (2013)<br>(actual)                                                                                            | (2014)<br>(actual) | (2015)<br>(projected) |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------|-----------------------|
| <b>Customers</b>                                                                               |                                                                             |                                                                                                               |                    |                       |
| Meet VIHA, Provincial and Federal Drinking water health guidelines in all water service areas. | Meet Requirements<br><br>Met Requirements                                   | Requirements<br><br>Met Requirements                                                                          | Same               | same                  |
| Wastewater system odour complaints <5/system                                                   | <5/system<br><br>/5 (Core Area)<br>0 (San Pen)<br>0 (Ganges, MLE, Maliview) | <5/system<br><br>/5 (Core Area)<br>0 (San Pen)<br>0 (Ganges, MLE, Maliview)                                   | <5/system          | <5/system             |
| <b>Business Processes</b>                                                                      | <b>Current year</b>                                                         | <b>Year 1</b>                                                                                                 | <b>Year 2</b>      | <b>Year 3</b>         |
| Complete 98% of planned maintenance on water/wastewater systems annually                       | 90%/                                                                        | Water Sys Ops<br>91.%<br>Core Area Ops<br>90%<br>Saan Pen/<br>GI 78%<br>JGTP<br>95%<br><br><b>Average 89%</b> | 95%                | 98%                   |



**SERVICE NAME:** Infrastructure Engineering Division – Integrated Water Services

**Changes in assumptions, trends, and other issues since 2014:** (linked to section 1.4, 2.6 of the detailed service plan)

Increases in stringency of regulation (environmental, safety, electrical, etc.) will increase capital project costs.

Infrastructure planning and renewal is taking on increasing importance. Not all CRD sewer and water services have well defined asset replacement strategies. Asset management plans are being developed.

Reorganization of the Infrastructure Engineering Section will provide more focus on planning, design, project management and implementation of projects. This change will also improve efficiencies and effective of the Section. Long-term expectation is to provide greater focus on customer service from a people, technology and process perspective. This will be a significant change initiative for the Section.

**Overall 2014 budget performance:**

At mid-year the Section budget is on track and the projected 2014 Estimated Actuals are in alignment with the 2014 Budget.

**New division initiatives:** (service plans have been updated accordingly; linked to section 3 of the detailed service plan)

Complete Asset Management Plans for small systems, Core Area Sewers, & SPWWC. Review Asset Management Plans for RWSC, JDFWC & SPWC.

Revise IE Section organizational structure and business processes.

**Proposed changes to staffing levels:** (linked to section 2.3 of the detailed service plan)

The Senior Manager of Infrastructure Engineering position has been eliminated as a result of reorganizational changes. Reassignment of the FTE is under review.

**KEY PERFORMANCE INDICATORS** (linked to section 4 of the detailed service plan)

| Indicator Name                               | 2013<br>Planned/Actual | 2014 Planned | 2014 Forecast | 2015 |
|----------------------------------------------|------------------------|--------------|---------------|------|
| Projects on Budget                           | 50%                    | 80%          | 85%           | 90%  |
| Fish Flow Releases on Target                 | 100%                   | 100%         | 100%          | 100% |
| Development Drawings Processed within 60days | 90%                    | 95%          | 100%          | 100% |

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# Service Plan for Infrastructure Engineering

2013-2015

September 2014

Capital Regional District

Capital Regional District / Integrated Water Services  
Infrastructure Engineering  
479 Island Highway, Victoria, BC  
T: 250.474.9600 [www.crd.bc.ca](http://www.crd.bc.ca)

  
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# 1 Overview

## 1.1 Scope

The Infrastructure Engineering Division provides planning and engineering services and capital project delivery services for the Integrated Water Services Department. Technical services provided by the Division include:

- Engineering design and drafting
- Project management
- Survey and mapping
- Response to development referrals
- Support to operations
- Dam safety inspections and administration
- Watershed hydrology and water supply planning

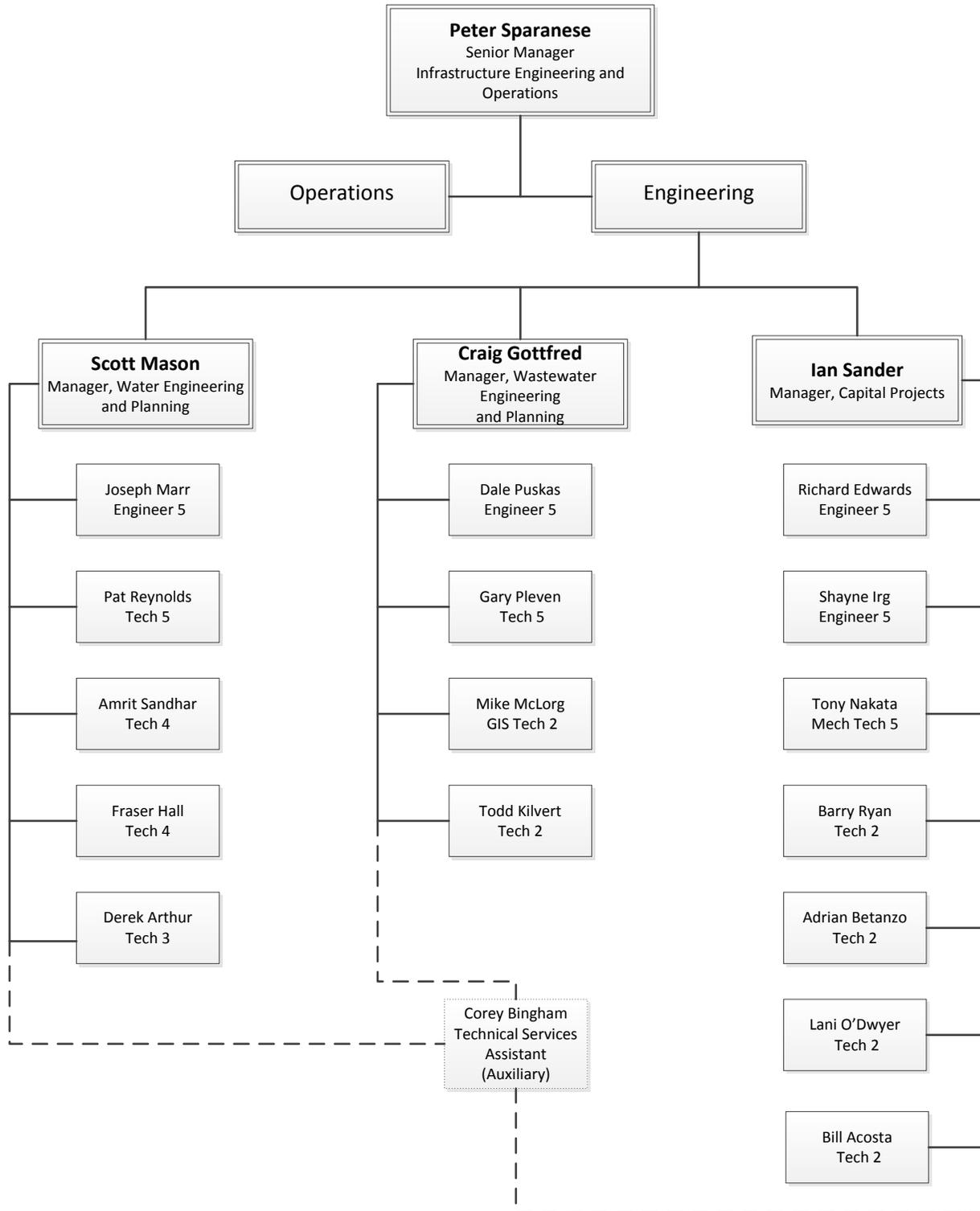
These infrastructure management tasks are provided for the following CRD services:

- Regional Water Supply
- Juan de Fuca Water Distribution System
- Core Area Sewers
- Peninsula Water & Sewer
- Local Services – small water and wastewater systems in the Electoral Areas.

## 1.2 Primary Contact

Name: Peter Sparanese  
Title: Senior Manager, Infrastructure Engineering  
Contact information: 250.474.9662, psparanese@crd.bc.ca

# 1.3 Organization Chart



## 1.4 Key Trends and Issues

**Infrastructure renewal:** Generally speaking, sewer and water Infrastructure in North America has not been replaced at a sustainable rate. There is now an increased awareness of the “infrastructure deficit” and the need to replace system components, although funding is not in place for most services yet.

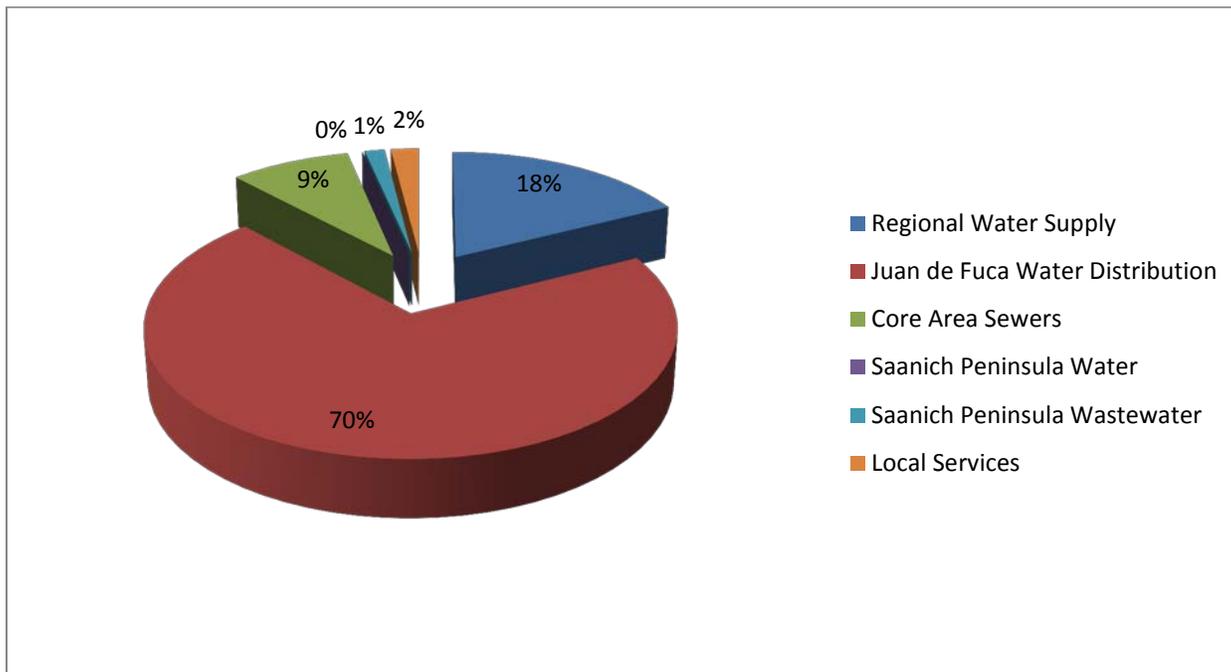
**Climate Change:** Increased severity of storms may lead to flooding and increased duration of power outages. Infrastructure in flood prone areas needs to be designed with possible flooding in mind, and all infrastructure design needs to consider increased requirements for backup power.

**Regulatory Changes:** Increased stringency of environmental, safety and electrical regulations are causing cost increases for capital projects and operating budgets.

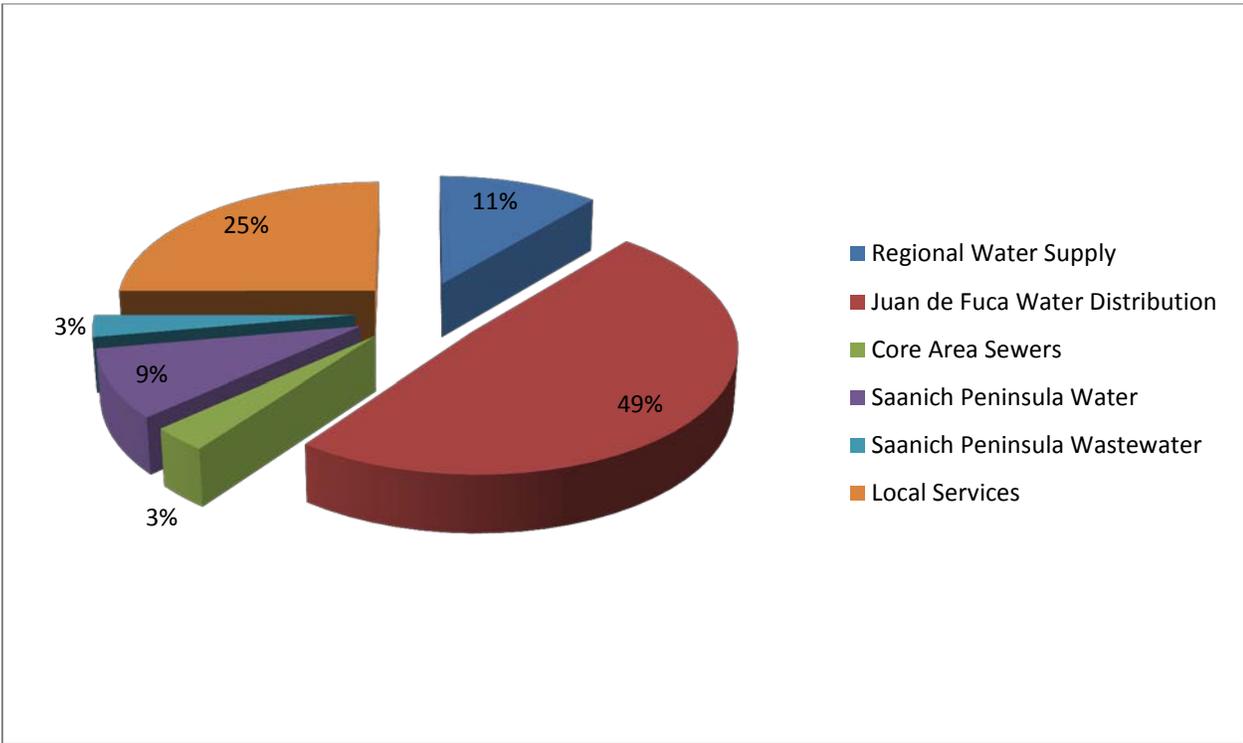
**Retirements:** Demographics will soon lead to several senior-level retirements, with the associated loss of institutional knowledge.

**Reorganization:** In 2013 the IE Division underwent an internal reorganization. As a result of this, many IE business processes are being re-examined and re-designed. In 2014, due the retirement of a senior staff member, further reorganization was necessitated and is underway.

## 1.5 Summary of 2014 Expenditures and Capital



|                                |                    |
|--------------------------------|--------------------|
| <b>2014 Total Expenditures</b> | <b>\$1,054,000</b> |
|--------------------------------|--------------------|



|                           |                     |
|---------------------------|---------------------|
| <b>2014 Total Capital</b> | <b>\$24,800,000</b> |
|---------------------------|---------------------|

## 2 Services

### 2.1 Core Services

| Service                                        | Scope                                                                                                                    |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Regional Water Supply</b>                   | Regional service providing wholesale water service to 3 core municipalities, Saanich Peninsula & JDF Distribution System |
| <b>Juan de Fuca Water Distribution System</b>  | Sub-regional service providing retail water service to 6 municipalities and JDF Electoral Area                           |
| <b>Core Area Wastewater</b>                    | Regional service providing regional wastewater service to 8 municipalities                                               |
| <b>Saanich Peninsula Wastewater</b>            | Sub-regional service providing wastewater service to 3 municipalities, Peninsula First Nations, IOS, Victoria Airport    |
| <b>Saanich Peninsula Water</b>                 | Sub-regional service providing wholesale water service to 3 municipalities                                               |
| <b>Local Service Area Water and Wastewater</b> | Local Service Areas in the Electoral Areas – 13 water service areas, 4 sewer service areas, 1 septage service            |

**Regional Water Supply** - CRD Integrated Water Services is the wholesale water supplier to the 340,000 consumers in the Greater Victoria area. The Infrastructure Engineering Division is responsible for water supply planning, infrastructure planning and replacement for the Regional Water Supply treatment and transmission systems.

**Juan de Fuca Water Distribution** – CRD Integrated Water Services is the retail water supplier to the 58,000 residents in the five municipalities in the Western Communities and Sooke. The Infrastructure Engineering Division is responsible for infrastructure planning and replacement for the water distribution system.

**Core Area Wastewater** – The Infrastructure Engineering Division is responsible for infrastructure planning and replacement for the Core Area Wastewater collection, conveyance and disposal systems, which provide regional wastewater service.

**Saanich Peninsula Wastewater** – The Infrastructure Engineering Division is responsible for infrastructure planning and replacement for the Saanich Peninsula Wastewater collection and conveyance systems and the treatment plant, which provide wastewater service to the three Peninsula municipalities, first nations, IOS, and the Victoria Airport.

**Saanich Peninsula Water** – The Infrastructure Engineering Division is responsible for infrastructure planning and replacement for the Saanich Peninsula Water system, which provides wholesale water to the three Peninsula municipalities.

**Local Services** – The Infrastructure Engineering Division is responsible for infrastructure planning and replacement for the 18 local services located in the JDF, SGI and SSI Electoral Areas. These small systems include 13 water systems, 3 sewer systems and 1 septage facility.

## 2.2 Service Levels

| Service Level Adjustments       |                                                                                                  |               |               |               |
|---------------------------------|--------------------------------------------------------------------------------------------------|---------------|---------------|---------------|
| Service                         | Base year 2012                                                                                   | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| <b>Infrastructure planning</b>  | Strategic infrastructure planning; system modeling and capacity analysis; infrastructure renewal | No change     | No change     | No change     |
| <b>Capital project delivery</b> | Project design; procurement; project management and delivery                                     | No change     | No change     | No change     |
| <b>Engineering services</b>     | Development and referrals; hydrology and dams; survey and mapping; operational support           | No change     | No change     | No change     |

## 2.3 Workforce Considerations

| Workforce (FTEs) |                |               |               |               |
|------------------|----------------|---------------|---------------|---------------|
| Service          | Base Year 2012 | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| <b>Total</b>     | 20             | 20            | 20            | 20            |

## 2.4 Customers and Governance

| Service                                                   | External Customers                                                     | Internal Customers | Reviewing Commissions & Committees                                                             |
|-----------------------------------------------------------|------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------|
| <b>Regional Water Supply Operations</b>                   | Municipalities, Peninsula, JDF Distribution System, First Nations, DFO | none               | Regional Water Supply Commission (Standing)                                                    |
| <b>Juan de Fuca Water Distribution Operations</b>         | Municipalities, First Nations                                          | none               | Juan de Fuca Water Distribution Commission (Standing)                                          |
| <b>Core Area Wastewater Operations</b>                    | Municipalities, First Nations, DND                                     | none               | Environmental Sustainability Committee, Core Area Liquid Waste Management Committee (Standing) |
| <b>Saanich Peninsula Wastewater Operations</b>            | Municipalities, First Nations, IOS, Victoria Airport                   | none               | Saanich Peninsula Wastewater Commission (Standing)                                             |
| <b>Saanich Peninsula Water Operations</b>                 | Municipalities                                                         | none               | Saanich Peninsula Water Commission (Standing)                                                  |
| <b>Local Service Area Water and Wastewater Operations</b> | Service area customers                                                 | none               | Various Water and Wastewater Local Service Commissions (Advisory Commissions)                  |

Standing Commissions are created by the CRD Board to operate a service under a Board mandated bylaw. Standing Commissions have board delegated authority to make decisions such as approving budgets and contracts.

Standing Committees are made up of CRD Board Chair appointed Board members who advise the Board on specific issues and then carry out the Board's directions on those issues.

Advisory Commissions are created by the CRD Board to be advisory to the Board and staff on the operation of a service under a Board mandated bylaw. Advisory Commissions make recommendations to the Board on items such as budget approval and contracts.

## 2.5 Delivery Strategy

| Service                                                   | Delivery Strategy                                     | Funding                                                         | Legislative Authority        |
|-----------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------|------------------------------|
| <b>Regional Water Supply Operations</b>                   | CRD resources                                         | Funded through bulk water sales revenue                         | Bylaw 2537                   |
| <b>Juan de Fuca Water Distribution Operations</b>         | CRD resources                                         | Funded through retail water sales revenue                       | Bylaw 2538                   |
| <b>Core Area Wastewater Operations</b>                    | CRD resources                                         | Funded through tax requisition                                  | Bylaw 2312                   |
| <b>Saanich Peninsula Wastewater Operations</b>            | CRD resources                                         | Funded through tax requisition                                  | Bylaw 2388                   |
| <b>Saanich Peninsula Water Operations</b>                 | CRD Resources                                         | Funded through wholesale water sales revenue                    | Supplementary Letters Patent |
| <b>Local Service Area Water and Wastewater Operations</b> | CRD Resources; 5 water systems operated by contractor | Funded through parcel tax and user charges (fixed and variable) | Various establishing bylaws  |

In the case of most of the services, the service delivery strategy is to utilize CRD resources to deliver the service. Larger capital projects are delivered using consultants and contractors under the oversight of CRD staff. The large water services are funded through water sales revenue, while the small water services use a combination of parcel tax and user charges as funding sources. Some small water services are funded through a variable component of the user charge that is consumption based. The large wastewater services are funded through tax requisitions, while the small wastewater services use a combination of parcel tax and user charge. The funding philosophy for the small services has been that parcel tax funds capital costs and user charges fund operating costs.

## 2.6 Assumptions and Risks

| Service                                           | Key Assumptions | Risks          |
|---------------------------------------------------|-----------------|----------------|
| <b>Regional Water Supply Operations</b>           | Not applicable  | Not applicable |
| <b>Juan de Fuca Water Distribution Operations</b> | Not applicable  | Not applicable |
| <b>Core Area Wastewater Operations</b>            | Not applicable  | Not applicable |
| <b>Saanich Peninsula Wastewater Operations</b>    | Not applicable  | Not applicable |
| <b>Saanich Peninsula Water Operations</b>         | Not applicable  | Not applicable |
| <b>Local Services</b>                             | Not applicable  | Not applicable |

### 3 Divisional Initiatives

| Corporate Initiatives                                   | Description                                                                                                                                                                                    | Budget Implications         |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>IE Reorganization</b>                                | Revise Organizational Structure & Revise Business Processes                                                                                                                                    | Funded by Operating Budgets |
| <b>Wastewater Asset Management Plans</b>                | Complete Strategic Asset Management Plans for Core Area and Peninsula, generate prioritized asset replacement list                                                                             | Funded by Capital Budgets   |
| <b>Small System Asset Management Plans</b>              | Complete Strategic Asset Management Plans for 18 Small Water and Wastewater Systems, generate prioritized asset replacement list; identify funding model for long-term asset replacement plans | Funded by Capital Budgets   |
| <b>Review JDFWC Main Replacement Program</b>            | Review and update selection methodology for mains to be replaced in annual main replacement program                                                                                            | Funded by Operating Budgets |
| <b>Review JDFWC Fireflow Improvement Program</b>        | Review and update list of mains to be replaced using computer modeling; add consideration of storage to program                                                                                | Funded by Operating Budgets |
| <b>JDFWC Pump Station Condition Assessment</b>          | Review condition of existing water pumpstations and prioritized list of pump station upgrades and replacements                                                                                 | Funded by Operating Budgets |
| <b>JDFWC Meter Replacement Strategy</b>                 | Generate Strategy for long-term residential and commercial meter replacements                                                                                                                  | Funded by Capital Budgets   |
| <b>RWSC Transmission Main Assessment</b>                | Review condition of water transmission mains and generate prioritized replacement list                                                                                                         | Funded by Capital Budgets   |
| <b>RWSC Upgrade Disinfection Process at Japan Gulch</b> | Review, select and implement new methods of adding chlorine and ammonia to water for disinfection                                                                                              | Funded by Capital Budgets   |
| <b>Municipal Agreements</b>                             | Create service agreements with municipalities which include water and wastewater services                                                                                                      | Funded by Operating Budgets |

**CRD Strategic Priorities 2013-2015**

| CRD Strategic Priority                        | Corporate Goal (per Strategic Plan) | Strategic Initiatives | Description | Budget Implications |
|-----------------------------------------------|-------------------------------------|-----------------------|-------------|---------------------|
| <b>Regional Cooperation</b>                   | Not applicable                      |                       |             |                     |
| <b>Regional Transportation &amp; Planning</b> | Not applicable                      |                       |             |                     |
| <b>Healthy Region</b>                         | Not applicable                      |                       |             |                     |

| CRD Strategic Priority             | Corporate Goal (per Strategic Plan) | Strategic Initiatives          | Description                                                                | Budget Implications                                     |
|------------------------------------|-------------------------------------|--------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------|
| Regional Infrastructure            |                                     | Infrastructure Strategic Plans | Assessment of existing infrastructure and plan for sustainable replacement | Future capital projects will be identified and budgeted |
| Regional Environmental Stewardship | Not applicable                      |                                |                                                                            |                                                         |

## 4 Performance Monitoring

| Indicator                                                                                            | 2013 Planned        | (2013) (actual) | (2014) (actual) | (2015) (projected) |
|------------------------------------------------------------------------------------------------------|---------------------|-----------------|-----------------|--------------------|
| <b>Financial</b>                                                                                     |                     |                 |                 |                    |
| Capital Projects Delivered on Budget                                                                 |                     | 50%             | 85%             | 100%               |
| <b>Customers</b>                                                                                     |                     |                 |                 |                    |
| Meet Provincial, Federal & VIHA Drinking Water Guidelines, Acts & Regulations in water service areas | 100%                | 100%            | 100%            | 100%               |
| Meet Required Flow Targets for Fisheries Support                                                     | 100%                | 100%            | 100%            | 100%               |
| <b>Business Processes</b>                                                                            | <b>Current year</b> | <b>Year 1</b>   | <b>Year 2</b>   | <b>Year 3</b>      |
| 100% of development drawings processed within 60 days                                                | 90%                 | 95%             | 100%            | 100%               |

**SERVICE NAME:** Customer and Technical Services – Integrated Water Services

**Changes in assumptions, trends, and other issues since 2014:** (linked to section 1.4, 2.6 of the detailed service plan)

Work Management (Plant Maintenance)

The development of the Maintenance Management System will be ongoing to meet the growing needs of system users and growth within the CRD. The development of reports was initiated in 2014 using Information Technology resources. The further development and ownership of these reports need to be transferred over to the Maintenance Management Team.

Challenges will be to achieve the following with existing resources;

- Update, develop and document Maintenance Management business processes and reports as the needs and experience of users change,
- Providing support to the ongoing growth in users and equipment within CRD and analysis to optimize and prioritize maintenance practices.

Central Fleet

The implementation strategy for fleet management was approved at the end of 2012. The review of the revised policies and procedures will be ongoing in 2014 with final approval by the ELT in 2014/2015. The implementation and administration of these policies will have an impact on the present resources.

The National Safety Code Inspectors who audit Fleet Programs in BC are focusing on all aspects of Fleet Management and no longer only on maintenance programs. A Fleet Safety/Training Officer will ensure that the proper records are in place, incidents are investigated and training is available to all CRD drivers.

**Overall 2014 budget performance:**

- The projected 2014 Expenditure is expected to be within 95% of the planned budget
- The projected 2014 Allocations recovery is expected to be within budget.
- The projected 2014 Capital Expenditure is expected to be within budget.

**New division initiatives:** (service plans have been updated accordingly; linked to section 3 of the detailed service plan)

1. *Fleet Preventative Maintenance Program* - Review maintenance programs for effectiveness, efficiency and to ensure compliance with NSC and CVIP requirements.
2. *Fleet Safety & Training* - Establish a fleet safety and training program to comply with NSC regulations and improve driver training to reduce collisions and vehicle maintenance.
3. *Work Management (Plant Maintenance)*: Implement business processes for data analysis, system monitoring, reporting and root cause analysis.
4. *Work Management (Plant Maintenance)*: Provide corporate support for new users.

**Proposed changes to staffing levels:** (linked to section 2.3 of the detailed service plan)

**KEY PERFORMANCE INDICATORS** (linked to section 4 of the detailed service plan)

| Indicator Name                        | 2013<br>Planned/Actual | 2014 Planned | 2014 Forecast | 2015      |
|---------------------------------------|------------------------|--------------|---------------|-----------|
| Annual budget variance to expenditure | Within 7% / 6%         | Within 5%    | Within 5%     | Within 5% |
| Worker Check coverage                 | 100% / 100%            | 100%         | 100%          | 100%      |
| % of WO's monitored                   | 85% / 80%              | 90%          | 85%           | 90%       |

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# Service Plan for Customer and Technical Services

2013-2015  
September 2014

Capital Regional District

Capital Regional District / Integrated Water Services  
Customer and Technical Services  
479 Island Highway, Victoria, BC  
T: 250.474-9600 [www.crd.bc.ca](http://www.crd.bc.ca)

  
Making a difference...together

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# 1 Overview

## 1.1 Scope

Customer and Technical Services Division operate in-house professional Fleet Management, Maintenance Management, Administration and Safety advisor (incl. worker check) resource services. Although the core customer base is Integrated Water Services Department, Safety advisor service is provided to Environmental Sustainability and Fleet Management services are provided to all departments and divisions of the Capital Regional District. Division staff includes qualified and experienced management, technical and administrative staff.

## 1.2 Primary Contact

Name: Jan van Niekerk

Title: Senior Manager, Customer and Technical Services

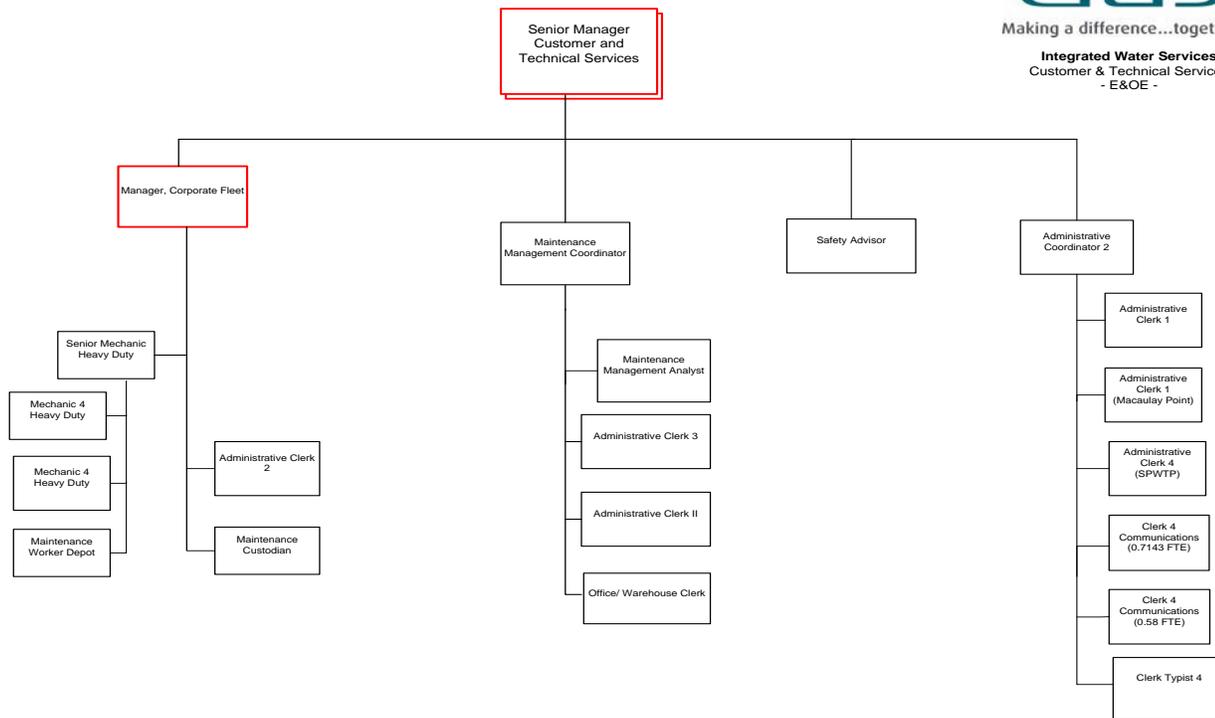
Contact information: 250.474.9655; [jvanniekerk@crd.bc.ca](mailto:jvanniekerk@crd.bc.ca)

# 1.3 Organization Chart



Making a difference...together

**Integrated Water Services**  
Customer & Technical Services  
- E&OE -



# 1.4 Key Trends and Issues

## Maintenance Management:-

The development of the Maintenance Management System will be ongoing to meet the growing needs of system users and growth within the CRD. The provision of support and maintenance of standards will be a developing challenge with the existing level of resources.

Maintenance data has been collected in the maintenance management system since go live in 2012. The development of reports was initiated in 2014 using Information Technology resources. The further development and ownership of these reports need to be transferred over to the Maintenance Management Team.

Further challenges in the future will be to achieve the following with existing resources;

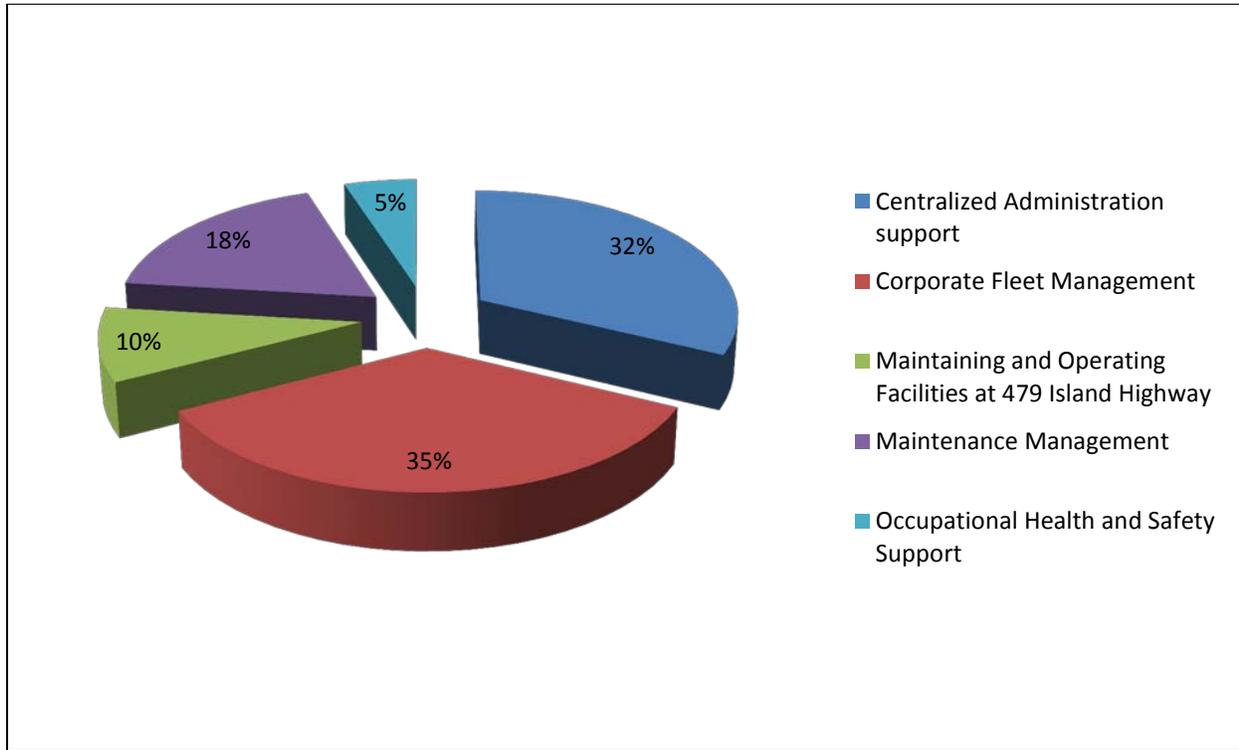
- Update, develop or document Maintenance Management business processes as the needs and experience of users change,
- Internal customers have distinct business needs and will require ongoing support and analysis to optimize and prioritize maintenance practices.

## Central Fleet:-

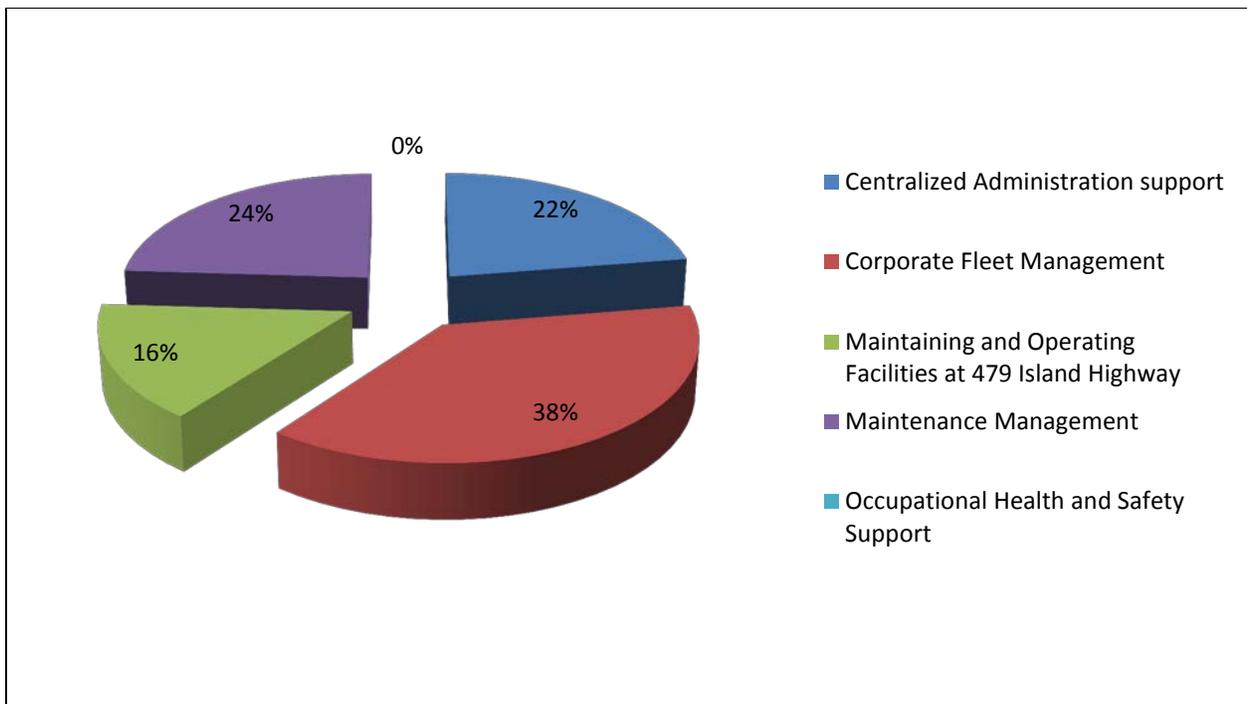
The implementation strategy for fleet management was approved at the end of 2012. The review of the revised policies and procedures will be ongoing in 2014 with final approval by the ELT in 2014/2015. The implementation and administration of these policies will have an impact on the present resources.

The National Safety Code Inspectors who audit Fleet Programs in BC are focusing on all aspects of Fleet Management and no longer only on maintenance programs. A Fleet Safety/Training Officer will ensure that the proper records are in place, incidents are investigated and training is available to all CRD drivers.

# 1.5 Summary of 2014 Expenditures and Capital



|                                |                    |
|--------------------------------|--------------------|
| <b>2014 Total Expenditures</b> | <b>\$2,618,000</b> |
|--------------------------------|--------------------|



|                           |                  |
|---------------------------|------------------|
| <b>2014 Total Capital</b> | <b>\$832,000</b> |
|---------------------------|------------------|

## 2 Services

### 2.1 Core Services

| Service                                | Scope                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Centralized Administrative support     | <ul style="list-style-type: none"> <li>• Ensure record system is maintained according to policies and procedures</li> <li>• Provision of accurate and timely document processing according to established policies, procedures and standards</li> <li>• Scheduling and recording meetings according to policies and procedures</li> <li>• Scheduling and tracking of compliance and professional development training courses and hours</li> </ul> |
| Corporate Fleet Management             | <ul style="list-style-type: none"> <li>• Provision of purchasing and disposal for all fleet assets</li> <li>• Manage maintenance program for vehicles and equipment</li> <li>• Ensure that CVIP regulated vehicles undergo annual inspections</li> </ul>                                                                                                                                                                                           |
| Maintenance Management                 | <ul style="list-style-type: none"> <li>• Provide work order management</li> <li>• Provide preventative maintenance planning</li> <li>• Manage infrastructure and equipment data</li> <li>• Monitor user activities and data</li> <li>• Support users in the use of the system</li> <li>• Provide data and process analysis</li> <li>• Provide training</li> </ul>                                                                                  |
| Occupational Health and Safety Support | <ul style="list-style-type: none"> <li>• Provide occupational health and safety advice, guidance and support</li> </ul>                                                                                                                                                                                                                                                                                                                            |

### 2.2 Service Levels

| Service                            | Service Level Adjustments                                                                                                                                                                                                                                                                                                                                                                                                              |               |               |               |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|
|                                    | Base year 2012                                                                                                                                                                                                                                                                                                                                                                                                                         | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| Centralized Administration support | <ul style="list-style-type: none"> <li>• Maintains over 1400 files in the record system;</li> <li>• Provides mail collection and distribution once daily;</li> <li>• Processing of correspondence documents for over 35 employees</li> <li>• Scheduling and record minutes for more than 30 IWS teams and committees;</li> <li>• Provide training coordination and tracking for more than 120 employees</li> </ul>                     | No change     | No change     | No change     |
| Corporate Fleet Management         | <ul style="list-style-type: none"> <li>• Procurement of vehicles and equipment;</li> <li>• Maintenance for vehicles at 5000 km intervals;</li> <li>• Maintenance for equipment at 250 hr intervals;</li> <li>• Daily fuelling of heavy equipment</li> <li>• Weekly fuelling of generators and fire pumps</li> <li>• Coordination of preventative maintenance work daily for 3 employees and over 290 vehicles and equipment</li> </ul> | No change     | No change     | No change     |

| Service                                | Base year 2012                                                                                                                                                                                                                                                                                                                                                                                              | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|
| Maintenance Management                 | <ul style="list-style-type: none"> <li>Master data collection and maintenance of data for over 500 sites including more than 15,000 pieces of equipment.</li> <li>Provide a preventative maintenance program for over 500 sites and 97 maintenance staff;</li> <li>Daily monitoring data</li> <li>Provide ongoing support and training to 97 users</li> </ul> Processing over 2100 purchase orders annually | No change     | No change     | No change     |
| Occupational Health and Safety Support | <ul style="list-style-type: none"> <li>Guidance and advice; research; site visits; procedure development</li> </ul>                                                                                                                                                                                                                                                                                         | No change     | No change     | No change     |

## 2.3 Workforce Considerations

| Service      | Workforce (FTEs) |               |               |               |
|--------------|------------------|---------------|---------------|---------------|
|              | Base Year 2012   | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| <b>Total</b> | 20.29            | 20.29         | 21.29         | 21.29         |

## 2.4 Customers and Governance

| Service                                | External Customers | Internal Customers                                                                           | Reviewing Commissions & Committees |
|----------------------------------------|--------------------|----------------------------------------------------------------------------------------------|------------------------------------|
| Centralized Administration support     | None               | All IWS Divisions<br>Local Service<br>Committees/Commissions<br>Corporate Services (Billing) |                                    |
| Corporate Fleet Management             | BC CVSE / NSC      | CRD                                                                                          |                                    |
| Maintenance Management                 | None               | All IWS Divisions                                                                            |                                    |
| Occupational Health and Safety Support | WorkSafe BC        | All IWS and ES Divisions                                                                     |                                    |

## 2.5 Delivery Strategy

| Service                                | Delivery Strategy                 | Funding                    | Legislative Authority                            |
|----------------------------------------|-----------------------------------|----------------------------|--------------------------------------------------|
| Centralized Administration support     | CRD Resources, contracted service | Funded through allocations |                                                  |
| Corporate Fleet Management             | CRD Resources, contracted service | Funded through allocations | BC Motor Vehicle Act, CVSE, NSC                  |
| Maintenance Management                 | CRD Resources, contracted service | Funded through allocations |                                                  |
| Occupational Health and Safety Support | CRD Resources, contracted service | Funded through allocations | Occupation Health and Safety Act and Regulations |

Customer and Technical services are primarily delivered through internal CRD resources. External resources are used for specialized activities including Custodian backup, HVAC servicing, OH&S interpretation. The service is funded through internal allocations.

## 2.6 Assumptions and Risks

| Service                                | Key Assumptions                                                                                          | Risks                                                                                                                         |
|----------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Centralized Administration support     | Not applicable                                                                                           | Not applicable                                                                                                                |
| Corporate Fleet Management             | The corporate policy documents and selection of fleet management software will be approved in 2014/2015. | Noncompliance with CVSE/NSC PM program, garage license<br><br>Noncompliance with NSC Carrier regulations, NSC Carrier profile |
| Maintenance Management                 | CRD will support the maintenance management strategy and ongoing development of the system.              | System is not sustainable.<br><br>User support is not available.<br><br>Data in system is not being used for decision making. |
| Occupational Health and Safety Support | Ongoing support to develop safety programs.                                                              | Noncompliance with legislative requirements.                                                                                  |

All key assumptions are based on the projected internal organizational needs and requirements. Unforeseen changes in CRD policy and operating needs, legislative requirements, or outside influences may impact the level of service provided.

# 3 Divisional Initiatives

This section highlights divisional Strategic Plan initiatives for 2013 – 2015 and CRD Strategic Plan priorities.

## Customer and Technical Services Initiatives

| Regional Parks Initiatives                                       | Description                                                                                                                                                     | Budget Implications       |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>2013</b>                                                      |                                                                                                                                                                 |                           |
| <b>Set up Records Classification System for IWS</b>              | To work with the consultant for the RCS to convert all previous file systems to the new Corporate RCS for IWS                                                   | None                      |
| <b>Complete Coordination of SharePoint for all IWS Divisions</b> | To work with IT to complete creation of IWS SharePoint libraries and provide instructions to staff on use of SharePoint libraries in coordination with the RCS. | None                      |
| <b>Fleet Preventative Maintenance Program</b>                    | Implement a corporate wide preventative maintenance program to ensure NSC and DVIP compliance as well as reduce costs.                                          | TBD                       |
| <b>2014</b>                                                      |                                                                                                                                                                 |                           |
| <b>Work Management</b>                                           | Develop reporting                                                                                                                                               | \$50,000                  |
| <b>Work Management</b>                                           | Expand monitoring and system development                                                                                                                        | \$100,000                 |
| <b>2015</b>                                                      |                                                                                                                                                                 |                           |
| <b>Fleet Preventative Maintenance Program</b>                    | Review maintenance programs for effectiveness, efficiency and to ensure compliance with NSC and CVIP requirements.                                              | No impact on 2015 budget. |
| <b>Fleet Safety &amp; Training</b>                               | Explore a fleet safety and training program to comply with NSC regulations and improve driver training to reduce collisions and vehicle maintenance.            | No impact on 2015 budget  |
| <b>Work Management (Plant Maintenance)</b>                       | Implement business processes for data analysis, system monitoring, reporting and root cause analysis.                                                           | No impact on 2015 budget  |
| <b>Work Management (Plant Maintenance)</b>                       | Provide corporate support for new users.                                                                                                                        | No impact on 2015 budget. |

**CRD Strategic Priorities 2013-2015**

| CRD Strategic Priority                        | Corporate Goal (per Strategic Plan) | Strategic Initiatives      | Description                                                                                               | Budget Implications |
|-----------------------------------------------|-------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------|---------------------|
| <b>Regional Cooperation</b>                   |                                     |                            |                                                                                                           |                     |
| <b>Overall Corporate Strategic Plan</b>       |                                     | Organizational performance | Support Corporate strategy and provide leadership to advance corporate strategic initiatives as required. |                     |
| <b>Regional Transportation &amp; Planning</b> |                                     |                            |                                                                                                           |                     |
| <b>Healthy Region</b>                         |                                     |                            |                                                                                                           |                     |
| <b>Regional Environmental Stewardship</b>     |                                     |                            |                                                                                                           |                     |

## 4 Performance Monitoring

| Indicator                                                               | 2013 Planned                    | (2013) (actual) | (2014) (actual) | (2015) (projected) |
|-------------------------------------------------------------------------|---------------------------------|-----------------|-----------------|--------------------|
| <b>Financial</b>                                                        |                                 |                 |                 |                    |
| Annual budget variance to expenditure                                   | Within 7%                       | Within 6%       | Within 5%       | Within 5%          |
| <b>Customers</b>                                                        |                                 |                 |                 |                    |
| % of time which the worker check desk is staffed between 7am to 4:30pm. | 100%                            | 100%            | 100%            | 100%               |
| <b>Business Processes</b>                                               | <b>Current year</b>             | <b>Year 1</b>   | <b>Year 2</b>   | <b>Year 3</b>      |
| % of Work order's monitored.                                            | Implemented in June 2013<br>85% | 80%             | 90%             | 90%                |

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**SERVICE NAME:** Environmental Engineering

**Changes in assumptions, trends, and other issues since 2014:** *(linked to section 1.4, 2.6 of the detailed service plan)*

All assumptions, trends and other issues identified in the 2013-2015 service delivery plan remain current and relevant. The total value capital projects actively managed will significantly increase with addition of the Hillside Care Facility project for the Capital Regional Hospital District.

**Overall 2014 budget performance:**

2014 revenues are on track to meet budget expectations.

Any surplus that may occur by yearend will result in Engineering's hourly chargeout rates being reduced and corresponding credits being transferred back into the appropriate project budgets.

No significant changes are anticipated for 2015.

**New division initiatives:** *(service plans have been updated accordingly; linked to section 3 of the detailed service plan)*

Increased project activity at Hartland landfill resulting from the kitchen scraps composting initiative and the Seaterra RRC project, and the Hillside Care Facility project is expected 2015.

**Proposed changes to staffing levels:** *(linked to section 2.3 of the detailed service plan)*

One 3-year term position in project management will be added in 2015 to meet the increased workload.

**KEY PERFORMANCE INDICATORS** *(linked to section 4 of the detailed service plan)*

| Indicator Name                                                                     | 2013 Planned   | 2013 Actual    | 2014 Actual    | 2015 projected |
|------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|
| <b>Financial:</b><br>Chargeout rates to remain comparable with private consultants | On target      | On target      | On target      | On target      |
| <b>Customers:</b><br>Project sponsor satisfaction                                  | Very satisfied | Very satisfied | Very satisfied | Very satisfied |
| <b>Business Process:</b><br>Project completion on budget                           | 100%           | 100%           | 100%           | 100%           |

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# Service Plan for Environmental Engineering

2013-2015

Updated September 15, 2014

Capital Regional District

Capital Regional District / Parks & Environmental Services Department  
Environmental Engineering Division  
625 Fisgard Street, Victoria, BC V8W 2S6  
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**CRD**  
Making a difference...together

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# 1 Overview

## 1.1 Scope

The Environmental Engineering Division is responsible for providing professional engineering services to the P&ES Department and other CRD departments as needed as well as ensuring that CRD engineering standards are maintained throughout the organization.

Environmental Engineering provides leadership, engineering and construction management support to corporate projects, integrated waste management and resource recovery plans, landfill projects and emerging green environmentally valuable projects/opportunities.

Environmental Engineering is also responsible for the preparation and management of the CRD liquid waste management plans and ensuring the implementation of the commitments made under the plans.

Environmental Engineering administrative and contract management staff provide administrative, financial and clerical support to all division functions.

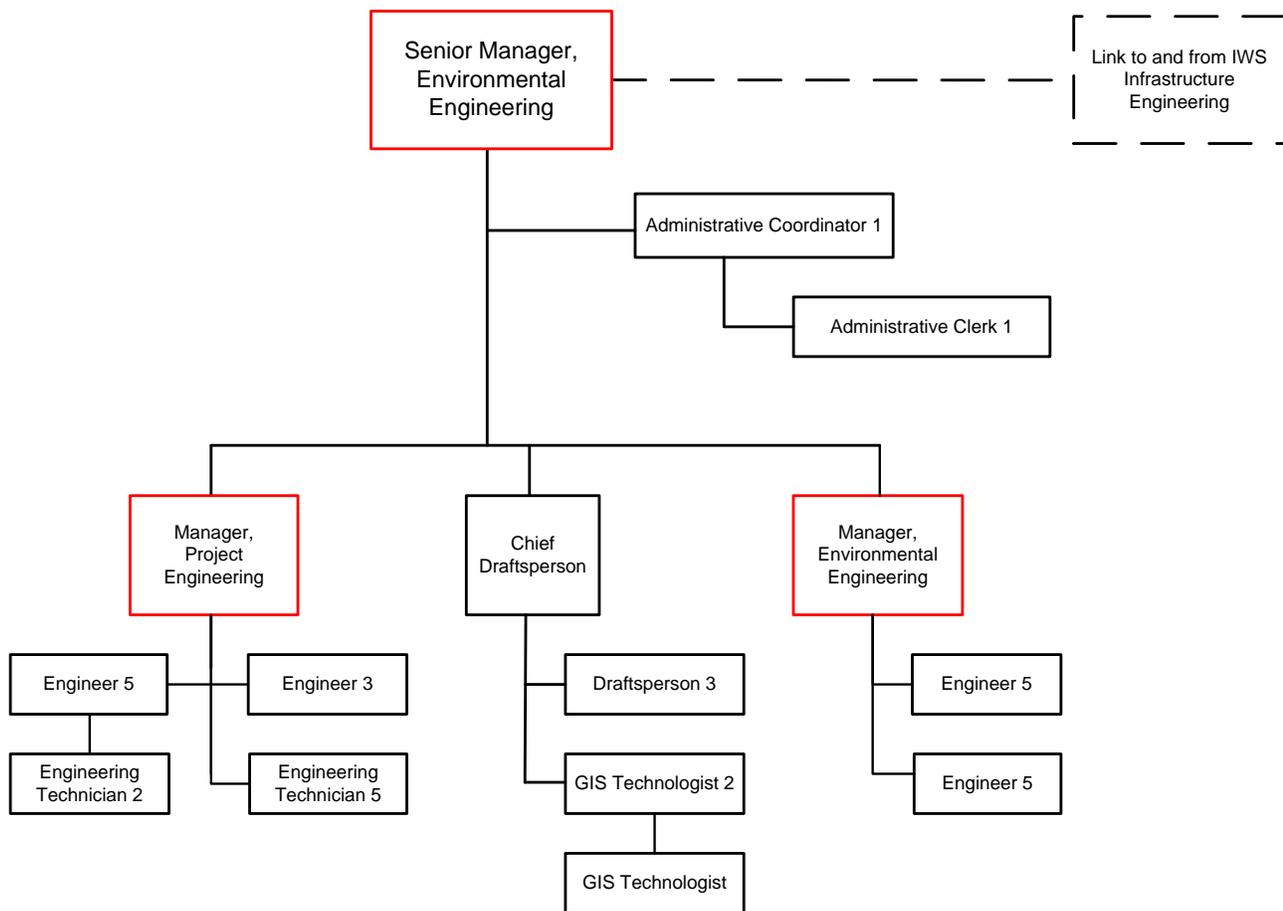
## 1.2 Primary Contact

Name: Dan Telford

Title: Senior Manager, Environmental Engineering Division

Contact Information: Tel: 250-360-3064 Email: [dtelford@crd.bc.ca](mailto:dtelford@crd.bc.ca)

## 1.3 Organization Chart



## 1.4 Key Trends and Issues

### Implementation of a Regional Thermal Energy Recovery System

- This new energy recovery system will be based on the development of a series of district energy systems (DES) along major regional water and wastewater trunk mains that recover available thermal energy to displace natural gas usage for heating public facilities across the region. The systems may also be used to provide cooling to the facilities served. Emergence of municipal and private developer systems will need to be managed to not adversely impact on the operation of the potable water and wastewater core infrastructure systems.
- It is anticipated that Environmental Engineering will be performing a key role in the implementation of the proposed DES to be developed as part of the Seaterra Program.

### Integration of Resource Recovery with Liquid and Solid Waste Management at Hartland Landfill

- The location of the Seaterra Resource Recovery Centre (RRC) at Hartland presents opportunities for utilizing surplus landfill gas, rainfall runoff storage for RRC process water and the centrate pipeline system for thermal energy conveyance to district energy systems.

Core Area Wastewater Treatment Program (Seattera)

- It is anticipated that Environmental Engineering staff will be involved in this project providing design input and support from an environmental engineering and operational perspective in the early phases and to the eventual commissioning and operation of the new facilities in the completion phases.

Regional Parks Projects

- It is anticipated that Environmental Engineering will provide engineering support to a number of Parks projects over the long term.

Project Stewardship Pilot

- It is anticipated that Environmental Engineering will be performing a key role in the implementation of the Project Stewardship Initiative.

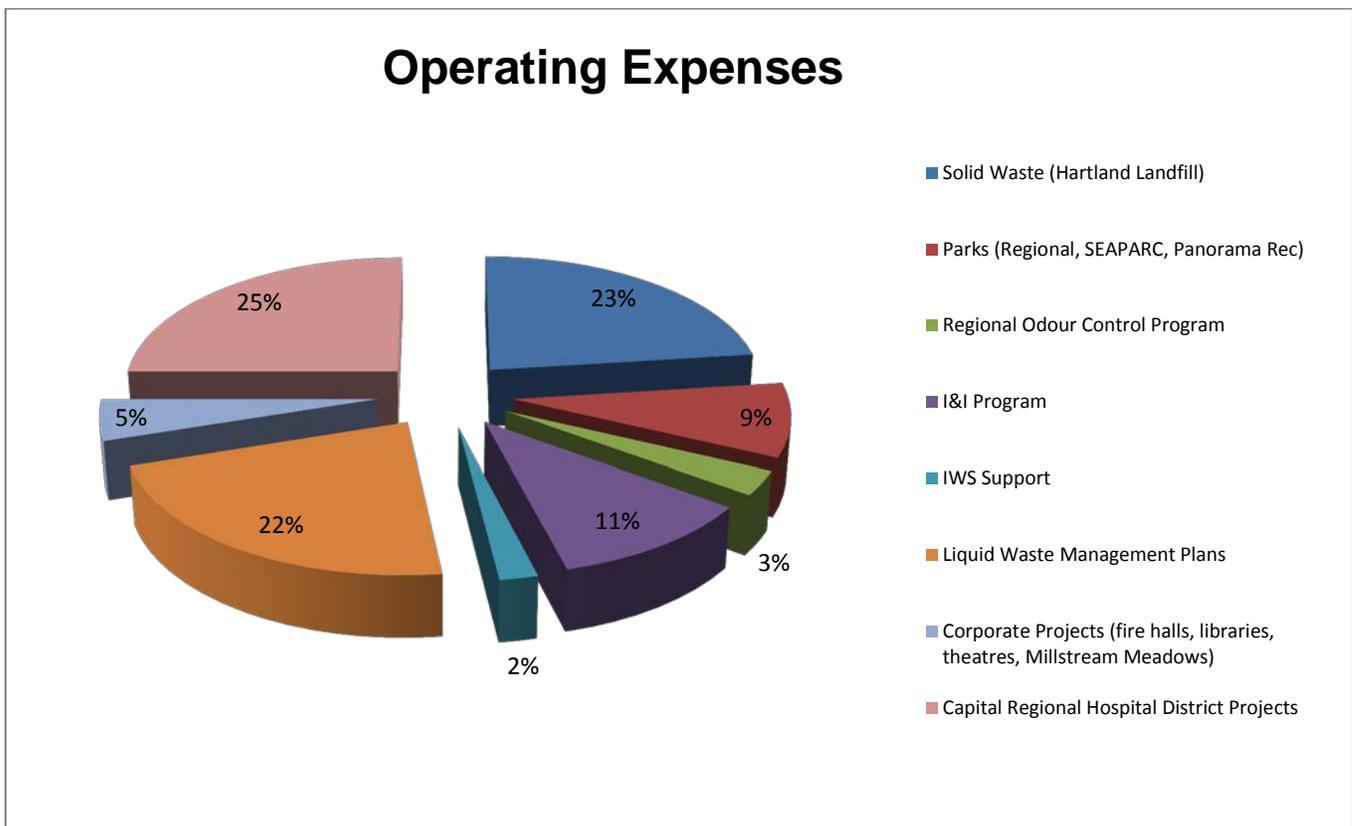
Corporate Facility Projects

- It is anticipated that Environmental Engineering will provide engineering support to an increasing number of Corporate projects over the long term.

Capital Regional Hospital District Projects

- It is anticipated that Environmental Engineering will provide engineering and project management support to a number of Capital Regional Hospital District (CRHD) projects over the long term, including the new Hillside Care Facility project.

## 1.5 Summary of 2014 Expenditures and Capital



| Environmental Engineering       | 2014 Budget        |
|---------------------------------|--------------------|
| <b>Total Operating Expenses</b> | <b>\$2,253,485</b> |

## 2 Services

### 2.1 Core Services

| Service                                  | Scope                                                                                                                                              |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Environmental Engineering Service</b> | Regional service:<br>Provides engineering support services to all CRD departments.<br>Helps develop new initiatives related to CRD Core functions. |

| EE Service/Function                                                                | Description of Service/Function                                                                                                                                                                                                |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering Design and Construction Management Services</b>                     | Provide engineering feasibility studies, detailed design, tendering, construction management and commissioning services for Parks & Environmental Services Department capital projects.                                        |
| <b>Hartland Landfill Operations</b>                                                | Provide engineering feasibility studies, detailed design, tendering, construction management and commissioning services for Hartland Landfill Operations.                                                                      |
| <b>Regional Parks</b>                                                              | Assist with implementation of capital plan projects.                                                                                                                                                                           |
| <b>Regional Odour Management Program</b>                                           | Develop and implement odour control strategies to eliminate odours originating from sewer trunk system and treatment plants throughout the region.                                                                             |
| <b>Inflow &amp; Infiltration Program</b>                                           | Develop and implement strategies to reduce I&I into sewers to minimize conveyance, treatment and disposal costs to provide reliable sewer service for the community in compliance with regulations related to sewer overflows. |
| <b>Core Area Liquid Waste Management Plan</b>                                      | Ensure implementation of the commitments set out in the Core Area Liquid Waste Management Plan.                                                                                                                                |
| <b>Saanich Peninsula Liquid Waste Management Plan</b>                              | Ensure implementation of the commitments as set out in the Saanich Peninsula Liquid Waste Management Plan.                                                                                                                     |
| <b>Project Management Services for Corporate Projects</b>                          | Provide overall project management services including engineering feasibility studies, detailed design, tendering, construction management and commissioning services for other CRD departments' capital projects.             |
| <b>Thermal Energy Recovery Initiatives and District Energy Systems</b>             | Develop and implement a new thermal energy recovery utility based on DES systems utilizing waste heat recovered from regional treated wastewater effluent, raw sewage and potable water systems.                               |
| <b>CRD Project Stewardship Program</b>                                             | Develop and implement CRD-wide project stewardship program to standardize how all CRD departments manage their projects.                                                                                                       |
| <b>Core Area Wastewater Treatment Program</b>                                      | Provide engineering support to this project on an as required basis.                                                                                                                                                           |
| <b>Transportation</b>                                                              | Provide engineering and project management support for regional transportation projects development.                                                                                                                           |
| <b>Project Management Services for Capital Regional Hospital District Projects</b> | Provide overall project management services including engineering feasibility studies, detailed design, tendering, construction management and commissioning services for CRHD capital projects.                               |

## 2.2 Service Levels

|                                | Service Level Adjustments |                                                                                          |               |                                                                                               |
|--------------------------------|---------------------------|------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------|
| Service                        | Base year 2012            | Year 1 (2013)                                                                            | Year 2 (2014) | Year 3 (2015)                                                                                 |
| <b>Manage Capital Projects</b> | \$33 million              | \$36 million<br><br>The additional workload will be supported by a 3-year term employee. | \$37 million  | \$112 million<br><br>The additional workload will be supported by a new 3-year term employee. |

## 2.3 Workforce Considerations

|                                           | Workforce (FTEs) |               |               |               |
|-------------------------------------------|------------------|---------------|---------------|---------------|
| Service                                   | Base Year 2012   | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| <b>Environmental Engineering Division</b> | 13               | 13            | 13            | 13            |

A 3-year term position in project management was required starting in 2014 to meet the increased workload associated with the implementation of the regional thermal energy recovery system, Regional Parks Projects, Project Stewardship Initiative, addition of operating contract management at the Hartland landfill and an overall growth in the number of corporate capital projects.

An additional 3-year term position in project management is required starting in 2015 to meet the significantly increased workload associated with the implementation of the new Hillside Care Facility project for the Capital Regional Hospital District.

## 2.4 Customers and Governance

| Service                                   | External Customers                                                                                                                                                                                                           | Internal Customers                      | Reviewing Commissions & Committees                                                                                                                                                                                                                          |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Environmental Engineering Services</b> | Ministry of Transportation and Infrastructure<br><br>School Districts<br><br>Vancouver Island Health Authority<br><br>Salt Spring Island Public Library Association<br><br>Galiano Library Society<br><br>Municipal Partners | All CRD Departments, Seatearra and CRHD | Environmental Services Committee<br><br>Core Area Liquid Waste Management Committee (Standing)<br><br>Saanich Peninsula Wastewater Commission (Standing)<br><br>Regional Water Supply Commission (Standing)<br><br>Capital Regional Hospital District Board |

## 2.5 Delivery Strategy

| Service                                                                                                                  | Delivery Strategy            | Funding                                                                                 | Legislative Authority                                            |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------|
| <b>Project Management, Engineering Design and Construction Management for P&amp;ES, various CRD Departments and CRHD</b> | CRD resources<br>Consultants | Tax requisition<br>fees for services senior<br>government grants                        | Bylaw 2312<br>Bylaw 2388                                         |
| <b>Odour Management; Inflow &amp; Infiltration Programs</b>                                                              | CRD resources<br>Consultants | Budget allocation from<br>Sewer function                                                | Bylaw 2312<br>Bylaw 2388                                         |
| <b>Liquid Waste Management Plans</b>                                                                                     | CRD resources<br>Consultants | Budget allocation from<br>Sewer function                                                | Bylaw 2312<br>Bylaw 2388                                         |
| <b>New Initiatives</b>                                                                                                   | CRD resources<br>Consultants | Fee for services,<br>Project partners funding<br>transfers,<br>Senior government grants | New bylaws<br>Community Charter, i.e.,<br>Climate Action Charter |

## 2.6 Assumptions and Risks

| Service                                                                                                                  | Key Assumptions                                                                                | Risks                                                                        |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <b>Project Management, Engineering Design and Construction Management for P&amp;ES, various CRD departments and CRHD</b> | Services requisitions are steady as projected.<br><br>Referendum is approved on some projects. | No risks anticipated.                                                        |
| <b>Odour Management; Inflow &amp; Infiltration Programs</b>                                                              | Services requisitions are steady as projected.                                                 | No risks anticipated.                                                        |
| <b>Liquid Waste Management Plans</b>                                                                                     | Services requisitions are steady as projected.                                                 | No risks anticipated.                                                        |
| <b>New Initiatives</b>                                                                                                   | Services requisitions increased as projected.                                                  | Staff time available is not able to handle the additional services required. |

There are five main initiatives that Environmental Engineering is currently fostering, namely Thermal Energy Recovery Initiatives; CRD Project Stewardship; Transportation; supporting the Core Area Wastewater Treatment Program; and CRHD projects.

The current staffing level is not able to handle this additional workload without the additional staffing support requested.

# 3 Divisional Initiatives

This section highlights divisional Strategic Plan initiatives for 2013-2015 and CRD Strategic Plan priorities.

## Environmental Engineering Initiatives

| Core Initiatives                                | Description                                                                                                                                                                                                                                                 | Budget Implications |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>2013</b>                                     |                                                                                                                                                                                                                                                             |                     |
| <b>Regional Thermal Energy Recovery Utility</b> | Develop and implement new regional thermal energy recovery system based on a series of district energy systems along major regional water and sewer trunks that recover thermal heat and displace natural gas usage in public facilities across the region. | TBD                 |
| <b>Corporate</b>                                | Environmental Engineering will be an active participant in the design, construction and commissioning of new corporate projects.                                                                                                                            | TBD                 |
| <b>Regional Parks</b>                           | Environmental Engineering will be an active participant in the design, construction and commissioning of Parks capital projects.                                                                                                                            | TBD                 |
| <b>2014</b>                                     |                                                                                                                                                                                                                                                             |                     |
| <b>Regional Thermal Energy Recovery Utility</b> | Develop and implement new regional thermal energy recovery system based on a series of district energy systems along major regional water and sewer trunks that recover thermal heat and displace natural gas usage in public facilities across the region. | TBD                 |
| <b>Corporate</b>                                | Environmental Engineering will be an active participant in the design, construction and commissioning of new corporate projects.                                                                                                                            | TBD                 |
| <b>Regional Parks</b>                           | Environmental Engineering will be an active participant in the design, construction and commissioning of Parks capital projects.                                                                                                                            | TBD                 |
| <b>2015</b>                                     |                                                                                                                                                                                                                                                             |                     |
| <b>Regional Thermal Energy Recovery Utility</b> | Develop and implement new regional thermal energy recovery system based on a series of district energy systems along major regional water and sewer trunks that recover thermal heat and displace natural gas usage in public facilities across the region. | TBD                 |
| <b>Corporate</b>                                | Environmental Engineering will be an active participant in the design, construction and commissioning of new CRD corporate projects.                                                                                                                        | TBD                 |
| <b>Regional Parks and Recreation</b>            | Environmental Engineering will be an active participant in the design, construction and commissioning of Regional Parks and Recreation capital projects.                                                                                                    | TBD                 |
| <b>Capital Regional Hospital District</b>       | Environmental Engineering will be an active participant in the project management of the new Hillside Care Facility and future projects.                                                                                                                    | TBD                 |

**CRD Strategic Priorities 2013-2015**

| CRD Strategic Priority                        | Corporate Goal (per Strategic Plan)                                                                                                | Strategic Initiatives   | Description                                                                                                                                   | Budget Implications |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Regional Transportation &amp; Planning</b> | Improved pedestrian and cycling facilities                                                                                         | Regional Transportation | Environmental Engineering will be an active participant in these initiatives.                                                                 | TBD                 |
| <b>Regional Infrastructure</b>                | Increase infrastructure resilience and emergency preparedness for natural disasters and the impacts associated with climate change | Seatterra Program       | Environmental Engineering will be a participant in the design, construction and commissioning of the new facilities, on an as required basis. | TBD                 |

## 4 Performance Monitoring

| Indicator                                                                                               | 2013 Planned                     | (2013) (actual) | (2014) (actual) | (2015) (projected) |
|---------------------------------------------------------------------------------------------------------|----------------------------------|-----------------|-----------------|--------------------|
| <b>Financial</b>                                                                                        |                                  |                 |                 |                    |
| <b>Hourly chargeout rates for professional staff to be comparable with private consulting firm fees</b> | On target                        | On target       | On target       | On target          |
| <b>Customers</b>                                                                                        |                                  |                 |                 |                    |
| <b>Wastewater system odour complaints &lt;5/system</b>                                                  | 4 (Core Area)<br>1 (Saanich Pen) | <5/system       | <5/system       | <5/system          |
| <b>Project Sponsor: Satisfaction with deliverables</b>                                                  |                                  | Very satisfied  | Very satisfied  | Very satisfied     |
| <b>Business Processes</b>                                                                               | <b>Current year</b>              | <b>Year 1</b>   | <b>Year 2</b>   | <b>Year 3</b>      |
| <b>Complete 98% of planned workload annually</b>                                                        | 90%                              | 98%             | 98%             | 99%                |
| <b>Complete projects on budget</b>                                                                      | 100%                             | 100%            | 100%            | 100%               |

**SERVICE NAME:** Environmental Partnerships

**Changes in assumptions, trends, and other issues since 2014:** *(linked to section 1.4, 2.6 of the detailed service plan)*

Assumptions, trends and other issues will remain unchanged for 2015.

The division continues with developing and implementing a departmental approach with outreach. The results of the Green 365 pilot will be used to inform future campaigns in 2015.

**Overall 2014 budget performance:**

Cross Connection Control – a shortfall of \$21,000 is anticipated due to increased labour costs of developing and implementing the digital form.

Senior budget surplus will be diverted to multi-year departmental outreach initiatives, equipment replacement fund and/or returned to programs.

**New division initiatives:** *(service plans have been updated accordingly; linked to section 3 of the detailed service plan)*

There are no new, unfunded division initiatives for 2015.

**Proposed changes to staffing levels:** *(linked to section 2.3 of the detailed service plan)*

All services – no change.

**KEY PERFORMANCE INDICATORS** *(linked to section 4 of the detailed service plan)*

| Indicator Name                      | 2013 Planned | 2013 Actual | 2014 Actual | 2015 Projected |
|-------------------------------------|--------------|-------------|-------------|----------------|
| RSCP proper waste treatment         | 90%          | 91%         | 90%         | 90%            |
| RSCP inspection targets             | 100%         | 100%        | 100%        | 100%           |
| Demand Management budget reductions | 100%         | 100%        | 100%        | 100%           |

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# Service Plan for Environmental Partnerships

2013-2015

Updated September 15, 2014

Capital Regional District

Capital Regional District / Parks & Environmental Services Department  
Environmental Partnerships Division  
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# 1 Overview

## 1.1 Scope

Environmental Partnerships Division is responsible for identifying partnerships and outreach opportunities to deliver services that foster sustainable environmental behaviour. The division uses a comprehensive tool box approach, including social marketing, education and environmental compliance to provide services and resources that inform, motivate and engage citizens, businesses and local government partners. The division delivers services in five main areas:

- Demand Management
- Regional Source Control
- Cross Connection Control
- Onsite Systems Management
- Outreach and Education

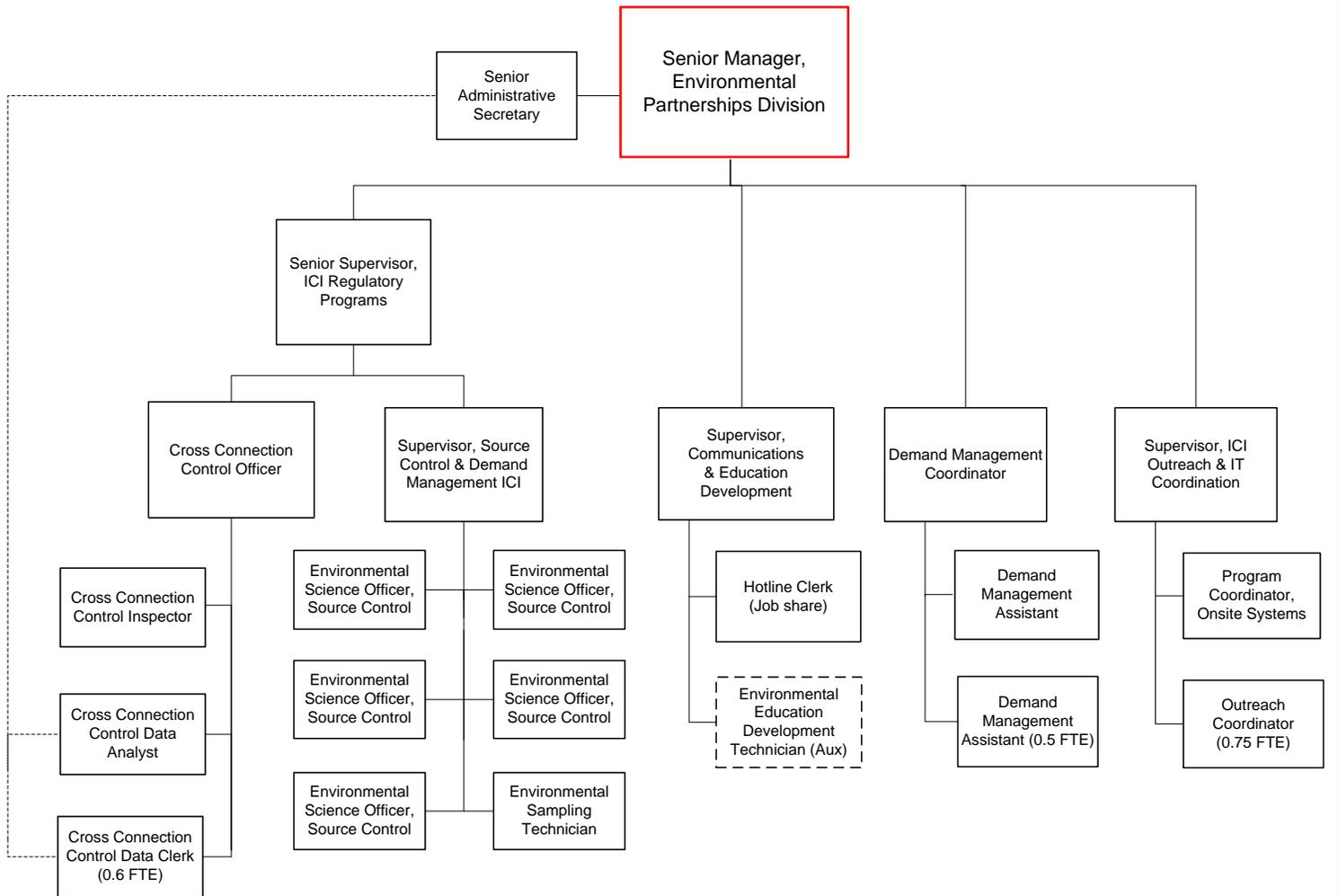
## 1.2 Primary Contact

Name: Heidi Gibson

Title: Senior Manager

Contact information: Tel: 250-360-3307 Email: [hgibson@crd.bc.ca](mailto:hgibson@crd.bc.ca)

## 1.3 Organization Chart



## 1.4 Key Trends and Issues

The Environmental Partnerships Division is continuing with implementation of a “one-window” approach of integrating regulatory compliance with outreach to encourage sustainable environmental behavior in the region. A key trend in coordinated and integrated outreach will be an ongoing shift into promoting waste reduction for residential and industrial, commercial, and institutional (ICI) sectors. Regional source control inspectors will assist in reaching the business sector to promote the kitchen scraps program. Other key divisional trends include development of department-wide outreach and education initiatives and evaluating internal business processes to identify and implement efficiencies.

Program specific trends include:

**Cross Connection Control** – The Cross Connection Control (CCC) Program follows a five-year facility inspection cycle that includes tracking and monitoring of backflow prevention devices. The program supports the critical role of preventing potential backflow of contaminants into the potable water supply. A substantial number of new installations and the continued monitoring of existing devices have contributed to a data entry backlog. Attention will now be focused on the technology and resources required to reduce the backlog and thereafter support the program for future years.

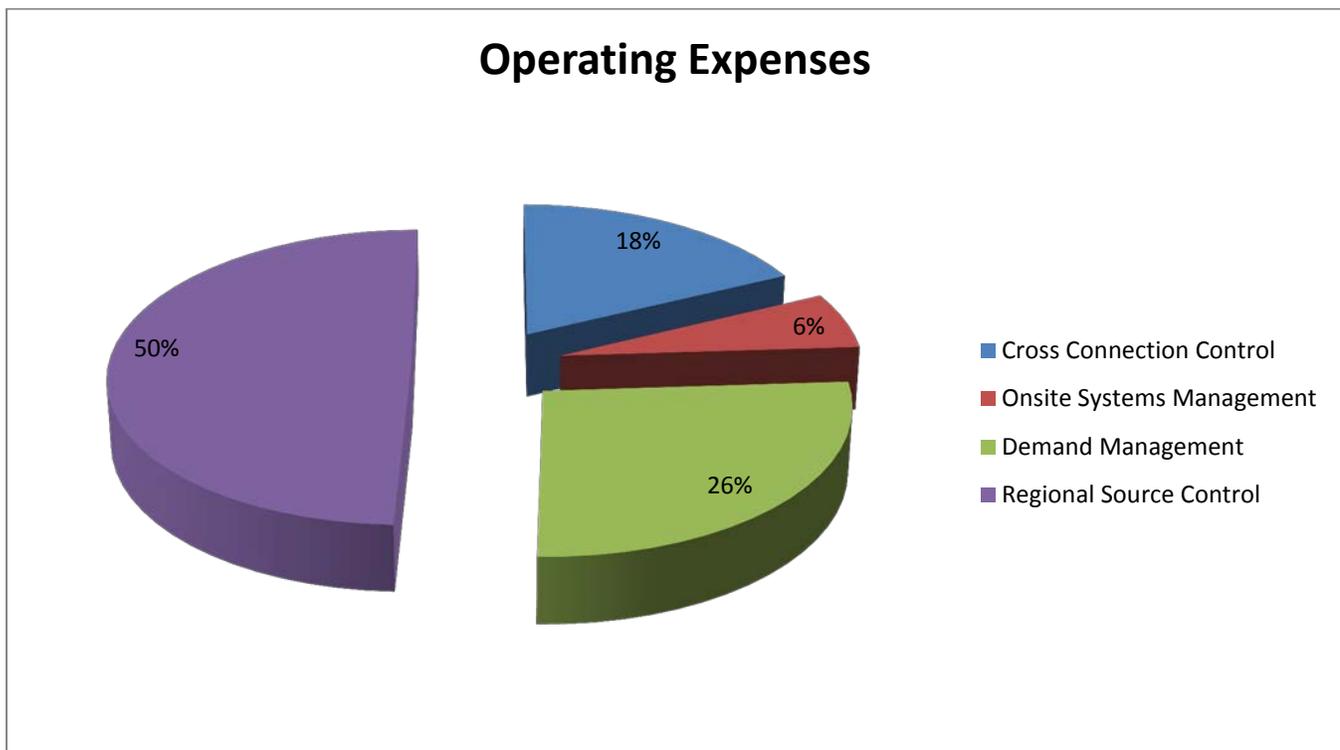
**Regional Source Control** – The Regional Source Control Program (RSCP) continues to drive pollution prevention initiatives for residential, businesses, institutions and industry through integrated approaches of education and outreach, inspection and enforcement. High levels of business compliance with regulations have resulted in significant contaminant reductions. However, increasing trends in certain emerging contaminants that are more difficult to control will present challenges for the program in future years.

**Demand Management** – The Demand Management (DM) Program is responsible for developing water conservation strategies for the region. Overall water use trends in the region are continuing to decline in part due to the success of the program in both the residential and ICI sectors. As a result in declining water consumption, the Demand Management Program funding is reduced by 25% to reflect this trend.

**Onsite Systems Management** – The Onsite Management Program (OMP) administers the Onsite Sewage System Maintenance Bylaw No. 3479. It is in the second year of regulating maintenance of onsite systems in the four participating municipalities. OMP encourages voluntary bylaw compliance coupled with a bylaw support plan in order to sustain high compliance rates.

**Outreach and Education** – The Outreach and Education Program areas engage and educate students, residents and businesses in the region to foster environmental behavior change and promote departmental campaigns, initiatives and services. Ongoing engagement and education is critical for promoting sustainable behavior and improving the capacity for citizens to understand and address regional environmental issues.

## 1.5 Summary of 2014 Expenditures and Capital



| Environmental Partnerships      | 2014 Budget        |
|---------------------------------|--------------------|
| <b>Total Operating Expenses</b> | <b>\$2,789,689</b> |

## 2 Services

### 2.1 Core Services

| Service                          | Scope                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Demand Management</b>         | The primary target is to defer the expansion of the drinking water supply system for at least 50 years. Activities include promoting the wise and efficient use of water to both the residential and ICI sectors through education (school learning resources) and public awareness programs, community outreach, administration of CRD Water Conservation Bylaw No. 3061, ICI water audits and grants, research and data analysis.                                                                                                              |
| <b>Regional Source Control</b>   | Service to 10 municipalities, 3 electoral areas, 4 First Nations and 2 federal institutions – all with connections to CRD sewage facilities. This service controls the amount of contaminants discharged to sanitary sewers to protect sewage collection and treatment facilities, public health and safety, and the marine receiving environment. Activities include business inspection, monitoring, bylaw enforcement and outreach to businesses and the public.                                                                              |
| <b>Cross Connection Control</b>  | Service protects the Greater Victoria drinking water supply system against the possibility of contamination by removing or isolating sources that may backflow in the system – protecting public health throughout the region. Activities include facility audits, device tracking, annual testing notification and database management.                                                                                                                                                                                                         |
| <b>Onsite Systems Management</b> | Sub-regional service to 4 municipalities participating in a regulatory bylaw and 10 municipalities and 1 electoral area participating in an outreach program. The Onsite Management Program protects human and environmental health from failing onsite systems by working with industry and systems owners to ensure systems are regularly pumped out. Activities include tracking pump outs and direct mail communication. The outreach program reduces systems failures by educating owners on how their system works and what can impact it. |
| <b>Outreach and Education</b>    | Responsible for coordinating and implementing comprehensive and integrated outreach and education services to internal and external stakeholders, on behalf of the department.                                                                                                                                                                                                                                                                                                                                                                   |

### 2.2 Service Levels

| Service                  | Service Level Adjustments                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                        |               |                                                                                                                                                                                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | Base year 2012                                                                                                                                                                                                                                                                                | Year 1 (2013)                                                                                                                                                                                                          | Year 2 (2014) | Year 3 (2015)                                                                                                                                                                                                                                           |
| <b>Demand Management</b> | <ul style="list-style-type: none"> <li>Administers water conservation bylaw</li> <li>Coordinates 30 community outreach events per year</li> <li>Education through delivery of 31 workshops, 15 public speaking engagements per year</li> <li>Conducts 10 ICI water audits per year</li> </ul> | 25% budget reduction which will result in .3 FTE cut to DM staff, 3 summer students, printing, advertising, and education curriculum. Resources will be reallocated to support departmental-wide outreach initiatives. | No change     | Elimination of “once-through-cooling water” rebates to businesses will result in a further 2% budget reduction from current year. Elimination of rebates is delayed until Year 3 to allow time to notify local businesses of pending program reduction. |

|                                 |                                                                                                                                                                                                                                                                                                                     |                                                        |           |           |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------|-----------|
| <b>Regional Source Control</b>  | <ul style="list-style-type: none"> <li>• Outreach, inspections, monitoring and enforcement for 2,000 businesses on sanitary sewers</li> <li>• Over 500 coordinated site inspections per year</li> <li>• Over 150 sampling events per year</li> </ul>                                                                | 1 student (shifted from the Demand Management Program) | No change | No change |
| <b>Cross Connection Control</b> | <ul style="list-style-type: none"> <li>• Complete approximately 250 audits per year</li> <li>• Record keeping and data entry of results for annual testing of 14,000 currently installed backflow prevention devices</li> </ul>                                                                                     | No change                                              | No change | No change |
| <b>Onsite Systems</b>           | <ul style="list-style-type: none"> <li>• Outreach to approximately 27,000 households with onsite sewage systems</li> <li>• Monitoring the compliance of approximately 10,000 systems regulated by bylaw</li> </ul>                                                                                                  | No change                                              | No change | No change |
| <b>Outreach and Education</b>   | <ul style="list-style-type: none"> <li>• Delivers outreach and education through participation in 19 community presentations, 12 community tours, responding to 55,000 hotline telephone enquiries, 40 facility tours, workshops, and 59 school presentations in 13 municipalities and 3 electoral areas</li> </ul> | 1 student (shifted from the Demand Management Program) | No change | No change |

## 2.3 Workforce Considerations

| Service                        | Workforce (FTEs) |               |               |               |
|--------------------------------|------------------|---------------|---------------|---------------|
|                                | Base Year 2012   | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| Senior Manager                 | 1                | 1             | 1             | 1             |
| Administration                 | 1                | 1             | 1             | 1             |
| Regional Source Control        | 8                | 8             | 8             | 8             |
| Cross Connection Control       | 3.6              | 3.6           | 3.6           | 3.6           |
| Education and Communication    | 2                | 2             | 2             | 2             |
| Onsite System and ICI Outreach | 2.75             | 2.75          | 2.75          | 2.75          |
| Demand Management              | 2.5              | 2.5           | 2.5           | 2.5           |

## 2.4 Customers and Governance

| Service                          | External Customers                                                                                                                                             | Internal Customers                                                                                                     | Reviewing Commissions & Committees                                                                                                                                                                                                                                                               |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Demand Management</b>         | 13 municipalities<br>Residential and ICI customers that are connected to the CRD drinking water supply provided by Sooke Lake Reservoir                        | Integrated Water Services (IWS), Parks & Environmental Services, Environmental Resource Management (ERM)               | Regional Water Supply Commission (standing)<br>Water Advisory Committee (standing)                                                                                                                                                                                                               |
| <b>Regional Source Control</b>   | 10 municipalities<br>3 electoral areas<br>4 First Nations<br>2 federal facilities<br>industrial, commercial and institutional facilities throughout the region | Hartland landfill, CRD recreation centres and other CRD facilities                                                     | Environmental Services Committee (standing)<br>Saanich Peninsula Wastewater Commission (standing)<br>Ganges Sewer Local Service Commission (standing)<br>Highland Water and Sewer Local Services Commission (standing)<br>Magic Lake Estates Water and Sewer Local Services Committee (standing) |
| <b>Cross Connection Control</b>  | 13 municipalities<br>1 electoral area<br>federal and provincial facilities<br>certified backflow prevention testers                                            | CRD facilities and IWS                                                                                                 | Regional Water Supply Commission<br>Water Advisory Committee                                                                                                                                                                                                                                     |
| <b>Onsite Systems Management</b> | 4 municipalities                                                                                                                                               | CRD facilities serviced by onsite systems                                                                              | Environmental Services Committee                                                                                                                                                                                                                                                                 |
| <b>Onsite Outreach</b>           | 8 municipalities<br>1 electoral area                                                                                                                           | not applicable                                                                                                         | Environmental Services Committee                                                                                                                                                                                                                                                                 |
| <b>Outreach and Education</b>    | 4 school districts<br>13 municipalities<br>3 electoral areas<br>senior government institutions                                                                 | Environmental Protection, ERM, Environmental Engineering, Core Area Sewage Treatment, IWS and Corporate Communications | Environmental Services Committee                                                                                                                                                                                                                                                                 |

## 2.5 Delivery Strategy

| Service                          | Delivery Strategy                                | Funding                                                       | Legislative Authority                                                                                                                                                                                                                                  |
|----------------------------------|--------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Demand Management</b>         | CRD resources                                    | Bulk drinking water sales revenue                             | BC Reg. 284/97, Sec. 5 under Capital Region Water Supply and Sooke Hills Protection Act.<br><br>CRD Water Management Strategic Plan Bylaw No. 2739<br><br>CRD Water Conservation Bylaw No. 3061<br><br>Regional Water Supply Commission Bylaw No. 2539 |
| <b>Cross Connection Control</b>  | CRD resources                                    | Bulk drinking water sales revenue                             | CRD Cross Connection Control Bylaw No. 3516                                                                                                                                                                                                            |
| <b>Regional Source Control</b>   | CRD resources, consultants & laboratory services | Municipal tax requisition, grants, fees and fines             | Source Control Local Service Establishing Bylaw No. 3351<br><br>CRD Sewer Use Bylaw No. 2922                                                                                                                                                           |
| <b>Onsite Systems Management</b> | CRD resources                                    | Municipal tax requisition, grants                             | Management of Onsite Sewage Systems Establishment Bylaw No. 3478<br><br>Onsite Sewage System Maintenance Bylaw No. 3479                                                                                                                                |
| <b>Onsite Outreach</b>           | CRD resources                                    | Permits and fees for disposal of septage at regional facility | CRD Septage Disposal Bylaw No. 2827                                                                                                                                                                                                                    |
| <b>Outreach and Education</b>    | CRD resources                                    | Cost                                                          | Not applicable                                                                                                                                                                                                                                         |

## 2.6 Assumptions and Risks

| Service                        | Key Assumptions                                                                                                                                                                                                                                                                                            | Risks                                                                                                                                                                                                     |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Demand Management</b>       | The refocused program adapts resources to the downward trend in water consumption and shifts departmental resources towards new mandates such as coordinated and integrated environmental community outreach.<br><br>Climate change predictions are for hotter and drier than average springs and summers. | With hotter and drier summers, water quality and quantity are potentially affected particularly during the summer months due to higher per capita of water consumption and increase in population growth. |
| <b>Regional Source Control</b> | Source control has been effective in reducing the number of significant incidents in collection systems and at CRD treatment plants. This protective role will become increasingly important with the move to enhanced sewage collection and treatment in the core area.                                   | Introduction of new sewage treatment may counteract importance of the source control program from a public/business perspective, decreased public support and buy-in to source control initiatives        |

# 3 Divisional Initiatives

## Environmental Partnerships Initiatives

| Core Initiatives                                                                          | Description                                                                                                                                                                                                                                                                                                                                                       | Budget Implications |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>2013</b>                                                                               |                                                                                                                                                                                                                                                                                                                                                                   |                     |
| <b>Cross Connection Control Electronic Test Report Project (2013)</b>                     | Cross Connection and ICI Outreach are currently working with IT to develop an electronic up loadable test report to reduce current backlog and find program efficiencies.<br>Expected savings will be created through speed of data entry. As well, the form will be able to confirm the tester and test equipment's current status with regard to certification. | Core budget         |
| <b>Best Practices guidebook ICI – web tool (2013-2014)</b>                                | Guidebook that combines messaging for all Environmental Services programs with targets for specific sectors.                                                                                                                                                                                                                                                      | Core budget         |
| <b>Regional Source Control Program – 5-Year Plan (2013-2015)</b>                          | Assist in delivery of Environmental Partnerships' mandate through coordinated program strategies including outreach and education, inspections and monitoring, program review and metrics, and research of emerging treatment technologies                                                                                                                        | Core budget         |
| <b>Strategic Partnerships (2013-2015)</b>                                                 | Pursue strategic partnership opportunities to leverage funding and/or form linkages with community, private sector, government and other entities.                                                                                                                                                                                                                | Core budget         |
| <b>2014</b>                                                                               |                                                                                                                                                                                                                                                                                                                                                                   |                     |
| <b>Cross Connection Control Electronic Test Report Project (2013) (completed in 2014)</b> | Cross Connection and ICI Outreach are currently working with IT to develop an electronic up loadable test report to reduce current backlog and find program efficiencies.<br>Expected savings will be created through speed of data entry. As well, the form will be able to confirm the tester and test equipment's current status with regard to certification. | Core budget         |
| <b>Best Practices guidebook ICI – web tool (2013-2014)</b>                                | Online tool that combines messaging for all Parks & Environmental Services programs with targets for specific sectors.                                                                                                                                                                                                                                            | Core budget         |
| <b>Regional Source Control Program – 5-Year Plan (2013-2015)</b>                          | Assist in delivery of Environmental Partnerships' mandate through coordinated program strategies, including outreach and education, inspections and monitoring, program review and metrics, and research of emerging treatment technologies                                                                                                                       | Core budget         |
| <b>CRD Residential Water Survey (completed in 2013)</b>                                   | Conduct survey of residential water users to ascertain attitudes and practices surrounding water use and to identify levels of awareness with regards to CRD water services.                                                                                                                                                                                      | Core budget         |
| <b>Multi-Residential Audit Manual (completed in 2014)</b>                                 | Update manual to assist multi-residential property owners in undertaking water audits.                                                                                                                                                                                                                                                                            | Core budget         |
| <b>2015</b>                                                                               |                                                                                                                                                                                                                                                                                                                                                                   |                     |
| <b>Best Practices guidebook ICI – web tool (2013-2015)</b>                                | Online tool that combines messaging for all Parks & Environmental Services programs with targets for specific sectors.                                                                                                                                                                                                                                            | Core budget         |
| <b>Regional Source Control Program – 5-Year Plan (2013-2015)</b>                          | Assist in delivery of Environmental Partnerships' mandate through coordinated program strategies, including outreach and education, inspections and monitoring, program review and metrics, and research of emerging treatment technologies                                                                                                                       | Core budget         |

**CRD Strategic Priorities 2013-2015**

| <b>CRD Strategic Priority</b>                                   | <b>Corporate Goal (per Strategic Plan)</b> | <b>Strategic Initiatives</b>                | <b>Description</b>                                                                                                                                     | <b>Budget Implications</b> |
|-----------------------------------------------------------------|--------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Regional Environmental Stewardship (2 year term position hired) | Links to outcome statement                 | Coordinated environmental education program | Coordinate existing learning resources and develop new education programming for the middle, secondary and post-secondary levels                       | Core budget                |
| Regional Environmental Stewardship                              | Links to outcome statement                 | "Green 365" Outreach Campaign               | Departmental outreach campaign that integrates environmental messaging across programs to encourage environmentally sustainable behavior in the region | Core budget                |

## 4 Performance Monitoring

| <b>Indicator</b>                                                                                                                                                   | <b>2013 Planned</b>                 | <b>(2013) (actual)</b>       | <b>(2014) (actual)</b>       | <b>(2015) (projected)</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------|------------------------------|---------------------------|
| <b>Financial</b>                                                                                                                                                   |                                     |                              |                              |                           |
| <b>Implement demand management program funding reductions as per program review</b>                                                                                | 100%                                | 100%                         | 100%                         | 100%                      |
| <b>Customers</b>                                                                                                                                                   |                                     |                              |                              |                           |
| <b>External – Industrial, Commercial, Institutions and Nonprofits, First Nations</b><br><br><b>Maintain and enhance partnerships with parties in these sectors</b> | >2% increase in partnerships        | >2% increase in partnerships | >2% increase in partnerships | >2% increase              |
| <b>External – Customer service improvement through coordinated inspections</b>                                                                                     | 500 coordinated inspections         | 500                          | 500                          | 525                       |
| <b>External – Undertake cross connection control facility audits</b>                                                                                               | 300 cross connection control audits | 300 audits                   | 400 audits                   | 400 audits                |
| <b>External – Coordinate the CRD information booth at community events</b>                                                                                         | 30 community events                 | 30 community events          | 30 community events          | 30 community events       |
| <b>External – Utilized the water cart at community events</b>                                                                                                      | 15 community events                 | 15 community events          | 15 community events          | 15 community events       |
| <b>External – Deliver irrigation workshops to promote water conservation</b>                                                                                       | 10 workshops                        | 10 workshops                 | 10 workshops                 | 10 workshops              |
| <b>External – Deliver native plant workshops to promote water conservation</b>                                                                                     | 12 workshops                        | 12 workshops                 | 12 workshops                 | 12 workshops              |
| <b>External – Conduct water audits for ICI organizations</b>                                                                                                       | 10 water audits                     | 10 audits                    | 10 audits                    | 10 audits                 |

| <b>Business Processes</b>                                                                                                                          | <b>Current year</b>                                                 | <b>Year 1</b>  | <b>Year 2</b>  | <b>Year 3</b>  |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------|----------------|----------------|
| <b>RSCP Core Area priority contaminant reductions (based on trend assessment every three years)</b>                                                | 95% of priority contaminant loads are decreasing or stable          | Not applicable | Not applicable | Not applicable |
| <b>RSCP Progress on installation of Proper Waste Treatment</b>                                                                                     | 90% of regulated businesses have proper waste treatment installed   | >90%           | >90%           | >90%           |
| <b>RSCP Inspection Targets</b>                                                                                                                     | 100% of annual code of practice sector inspection targets completed | 100%           | 100%           | 100%           |
| <b>Assess business process review for OMIS database and implement improvements that will reduce current requirements of administrative support</b> | 25%                                                                 | 50%            | 50%            | 100%           |

**SERVICE NAME:** Environmental Protection

**Changes in assumptions, trends, and other issues since 2014:** (linked to section 1.4, 2.6 of the detailed service plan)

Environmental Protection programs are on track to complete year 3 of the current budget and work plan cycle.

There are no changes in assumptions or trends since 2014.

**Overall 2014 budget performance:**

All budgets for all programs are on track to meet budget expectations.

Small surpluses will be carried over for multi-year projects or returned to the main budgets.

**New division initiatives:** (service plans have been updated accordingly; linked to section 3 of the detailed service plan)

There are no new, unfunded division initiatives for 2015.

**Proposed changes to staffing levels:** (linked to section 2.3 of the detailed service plan)

There are no changes to staffing levels for 2015.

**KEY PERFORMANCE INDICATORS** (linked to section 4 of the detailed service plan)

| Indicator Name                                                           | 2013 Planned | 2013 Actual | 2014 Actual | 2015 Projected |
|--------------------------------------------------------------------------|--------------|-------------|-------------|----------------|
| Meet carbon neutral requirements                                         | 100%         | 100%        | 100%        | 100%           |
| Investigate high-rated stormwater discharges in core area municipalities | 80%          | 80%         | 80%         | 80%            |
| Meet marine environment monitoring requirements                          | 90%          | 90%         | 90%         | 90%            |

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# Service Plan for Environmental Protection

2013-2015

Updated September 15, 2014

Capital Regional District

Capital Regional District / Parks & Environmental Services Department  
Environmental Protection & Water Quality Division  
625 Fisgard Street, Victoria, BC V8W 2S6  
T: 250.360.3078 [www.crd.bc.ca](http://www.crd.bc.ca)

  
Making a difference...together

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# 1 Overview

## 1.1 Scope

The division provides scientific, technical and regulatory support to the corporation, municipalities, electoral areas and general public to meet goals and objectives for the restoration, protection and enhancement of the regional environment. The division provides support for service delivery and environmental management in the following areas:

- Wastewater and marine monitoring and assessment;
- Integrated Watershed Management, including: stormwater, harbours and watershed protection;
- Geo-environmental programs (e.g. landfill monitoring, contaminated sites remediation, odour, controlled waste, trucked liquid waste and regional septage, ); and
- Climate action

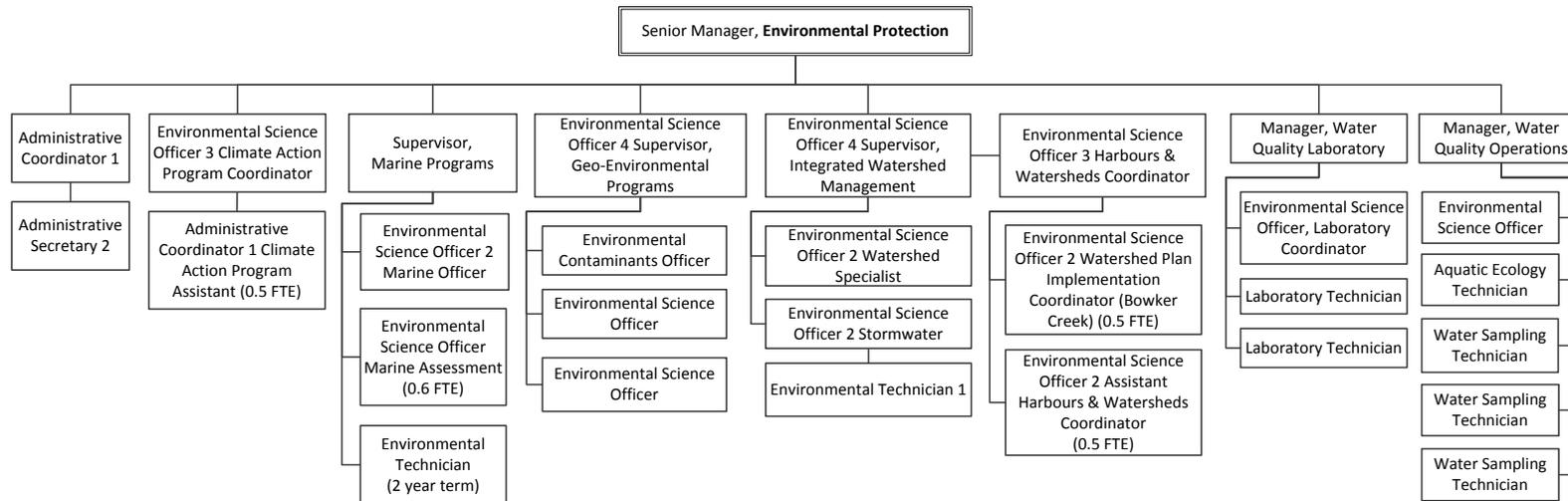
## 1.2 Primary Contact

Name: Glenn Harris

Title: Senior Manager, Environmental Protection & Water Quality Division

Contact Information: Tel: 250-360-3090 Email: [gharris@crd.bc.ca](mailto:gharris@crd.bc.ca)

# 1.3 Organization Chart



## 1.4 Key Trends and Issues

The Division provides support and leadership for environmental management in regional services and functions. There are several major trends and issues that will impact Division work over the next three years. Research and information around climate change will emphasize the need for increased attention on mitigation (i.e., reduction of energy use) and adaptation (e.g., to rising sea levels and increased weather variability) over the short term.

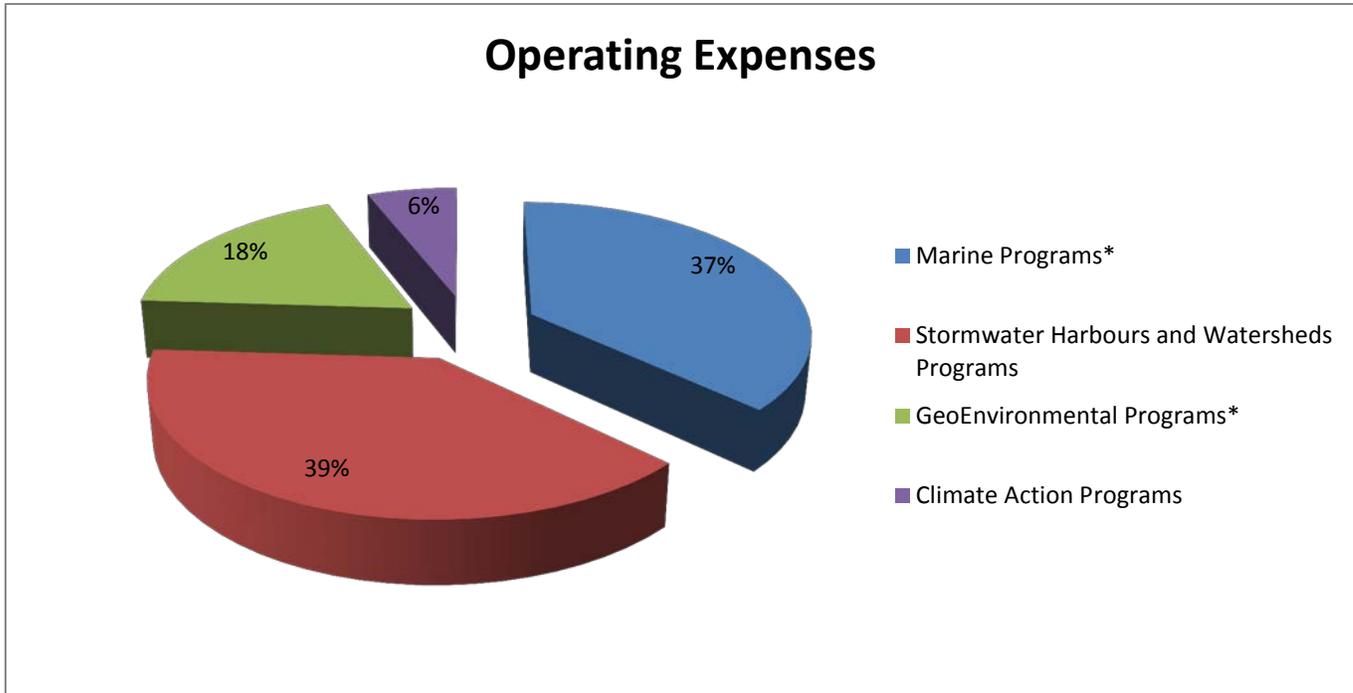
At the corporate level, the 2013-2015 Strategic Plan includes regional environmental stewardship as one of the six core priorities. A focus on climate change, conservation of habitat, and protection of watersheds, receiving environments and overall environmental quality are key threads in this priority. The Regional Sustainability Strategy (RSS) includes climate action through the entire document and the Division will play a key role in developing the climate action sub-strategy and the overall document, as well as working with municipalities and electoral areas on implementation.

The core area wastewater treatment project will result in changes to the marine monitoring and assessment programs, as well as support for wastewater characterization and baseline monitoring and assessment. The Integrated Solid Waste and Resource Management Plan will likely result in new support from our Division on policy and planning, as well as project development work in addition to the continued environmental monitoring programs. The Division will support Environmental Engineering development of resource recovery projects and opportunities for potential carbon and energy reduction.

At the program level,

- 1) The Wastewater and Marine Environmental program has developed a five-year Core Area monitoring program in collaboration with the BC Ministry of Environment. This program will further evolve as the core area sewage treatment project finalizes outfall locations and addresses regulatory monitoring and assessment requirements. Similar monitoring cycles have been put in place for the Saanich Peninsula (4-year cycle) and Electoral Area (3-year cycle) treatment plants.
- 2) The Climate Action program will continue its role to educate and enable internal departments, municipalities and electoral areas and the community to mitigate greenhouse gas emissions and adapt to climate change. Demand for climate action support will likely continue to increase as the economic case builds to complement the environmental need for action. The development of corporate greenhouse gas balancing projects will be a focus of short-term work as well.
- 3) The Integrated Watershed Management program will continue to implement an integrated watershed management approach to protecting multi-use regional watersheds. The program will perform annual monitoring, evaluation and reporting for stormwater discharges, watercourses and receiving water bodies as well as facilitate and promote collaboration among local governments, senior governments, stewardship groups and other stakeholders. The program also supports other CRD programs as required.
- 4) The Geo-Environmental programs will focus on support to the Environmental Resource Management division, including Hartland Environmental programs, as well as miscellaneous waste programs and contaminated sites, such as Millstream Meadows and Thetis Lake Rifle Range.

## 1.5 Summary of 2014 Expenditures and Capital



\* The Operating expenditures are included in other department/divisional budgets

| Environmental Protection        | 2014 Budget        |
|---------------------------------|--------------------|
| <b>Total Operating Expenses</b> | <b>\$3,687,351</b> |

## 2 Services

### 2.1 Core Services

Division services come at the request of other departments or divisions to meet regulatory obligations (e.g., marine monitoring, stormwater monitoring and landfill monitoring) or at the request of the Board to provide strategic support (e.g., climate action). The division also provides general environmental expertise on an “as needed” basis. This includes support for environmental assessments of capital projects, oversight of contaminated sites remediation or enhancement of capital assets and targeted educational initiatives.

| Service                                                                                             | Scope                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1 Marine Monitoring and Assessment – Core Area</b>                                               | <ul style="list-style-type: none"> <li>• Provide regulatory compliance monitoring and scientific assessment services on behalf of Integrated Water Services</li> <li>• Assess the potential effects of the outfalls on the marine environment and human health</li> <li>• Share results internally to guide Regional Source Control Program efforts and Integrated Water Services to inform plant operators about efficiency of treatment processes</li> <li>• Prepare comprehensive annual reports and data interpretation</li> </ul> |
| <b>2. Marine Monitoring and Assessment - Saanich Peninsula and Electoral Areas (SGI, SSI, JdeF)</b> | <ul style="list-style-type: none"> <li>• Provide regulatory compliance monitoring and scientific assessment services on behalf of Integrated Water Services</li> <li>• Assess the potential effects of the outfalls on the marine environment and human health</li> <li>• Share results internally to guide Regional Source Control Program efforts and Integrated Water Services to inform plant operators about efficiency of treatment processes</li> <li>• Prepare comprehensive annual reports and data interpretation</li> </ul> |
| <b>3. Stormwater – Core Area</b>                                                                    | <ul style="list-style-type: none"> <li>• Monitor stormwater discharges to the environment</li> <li>• Perform upstream investigations to narrow down sources of contamination</li> <li>• Monitor conditions in watercourses</li> <li>• Support municipal staff with resources and information</li> <li>• Development and/or coordination of watershed plans</li> </ul> <p>Deliver public education programs related to controlling contamination and environmental stewardship</p>                                                      |
| <b>4. Stormwater - Saanich Peninsula</b>                                                            | <ul style="list-style-type: none"> <li>• Monitor stormwater discharges to the environment</li> <li>• Perform upstream investigations to narrow down sources of contamination</li> <li>• Monitor conditions in watercourses</li> <li>• Support municipal staff with resources and information</li> <li>• Deliver public education programs related to controlling contamination and environmental stewardship</li> </ul>                                                                                                                |
| <b>5. Stormwater Source Control - Saanich Peninsula</b>                                             | <ul style="list-style-type: none"> <li>• Evaluate stormwater-carried contamination leaving properties</li> <li>• Provide guidance and education in order to assist the business to resolve potential and/or active contamination issues</li> <li>• Monitor properties for potential contamination issues</li> <li>• Enforce a stormwater protection bylaw</li> </ul>                                                                                                                                                                   |
| <b>6. Stormwater – Salt Spring Island</b>                                                           | <ul style="list-style-type: none"> <li>• Monitor stormwater discharges to the environment</li> <li>• Perform upstream investigations to narrow down sources of contamination</li> <li>• Monitor conditions in watercourses</li> </ul>                                                                                                                                                                                                                                                                                                  |
| <b>7. Stormwater – Southern Gulf Islands</b>                                                        | <ul style="list-style-type: none"> <li>• Undertake activities related to the protection of multi-use watersheds (Salt Spring Island)</li> <li>• Support Electoral Area directors with resources and information</li> <li>• Deliver public education programs related to controlling contamination and environmental stewardship</li> </ul>                                                                                                                                                                                             |
| <b>8. Stormwater – Juan de Fuca</b>                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>9. Stormwater - Sooke</b>              | <ul style="list-style-type: none"> <li>• Monitor stormwater discharges to the environment</li> <li>• Perform upstream investigations to narrow down sources of contamination</li> <li>• Monitor conditions in watercourses</li> <li>• Support municipal staff with resources and information</li> <li>• Deliver public education programs related to controlling contamination and environmental stewardship</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>10. Harbours</b>                       | <ul style="list-style-type: none"> <li>• Coordination and implementation of harbours environmental protection and improvement initiatives, and related activities within Portage Inlet, Gorge Waterway, Victoria Harbour, Esquimalt Harbour and Esquimalt Lagoon</li> <li>• Monitoring, mapping, reporting and public education on issues relating to the marine and shore area environments</li> <li>• Coordination and collaboration with public authorities and other persons on issues relating to the marine and shore area environments</li> <li>• Implementing programs related to rehabilitation and improvement of the marine and shore area environments</li> </ul>                                                                                                                                                                                                                                                                                                          |
| <b>11. Hartland Environmental</b>         | <ul style="list-style-type: none"> <li>• Conduct regulatory compliance monitoring of groundwater and surface water in operational areas and at property compliance locations to assess effectiveness of leachate containment and control systems</li> <li>• Conduct monthly monitoring of leachate quality to assess permit compliance for discharge to sanitary sewer</li> <li>• Conduct regular monitoring of ambient air, property boundary and building foundations to assess potential for subsurface migration of landfill gas and protection of worker health and safety</li> <li>• Monitoring assesses effectiveness of collection and control systems for landfill gas and leachate</li> <li>• Issue controlled waste permits and respond to public inquires</li> <li>• Prepare comprehensive annual report to comply with MOE Operational Certificate requirements</li> <li>• Coordinate and provide technical expertise on major projects and operational issues</li> </ul> |
| <b>12. Environmental Contaminants</b>     | <ul style="list-style-type: none"> <li>• Work collaboratively with trucked liquid waste service providers to ensure appropriate disposal practices</li> <li>• Provide support to municipalities regarding options for high-strength liquid waste disposal</li> <li>• Monitor and assess sewer odour complaints and liaise with Integrated Water Services and Environmental Engineering to implement sewer odour control strategies</li> <li>• Monitor the quality of sludge from CRD wastewater treatment facilities</li> <li>• Manage the contract for the regional septage facility</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>13. Millstream Meadows Remediation</b> | <ul style="list-style-type: none"> <li>• Conduct quarterly monitoring of groundwater quality to assess the effectiveness of remedial actions on groundwater conditions at the site</li> <li>• Conduct drilling and well installation to assess potential pathways for contaminant movement in the groundwater on the site and within the regional aquifer</li> <li>• Conduct hydrogeological testing and evaluation to assess potential flow pathways for groundwater movement</li> <li>• Planning and implementing activities to identify risks and mitigation strategies, support risk management of the site and advance site remediation</li> <li>• Complete quarterly monitoring of domestic wells within 1 km of the site and reporting of results to residents</li> </ul>                                                                                                                                                                                                       |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>14. Climate Action</b> | <ul style="list-style-type: none"> <li>• Provide support to local governments in developing and implementing climate action plans, policies, programs and bylaws</li> <li>• Support the CRD in achieving corporate climate action objectives including carbon neutral operations and adaptation preparedness</li> <li>• Compile and distribute scientific information, data and indicators related to local and regional GHG emissions and projected climate impacts</li> <li>• Liaise with senior levels of government on climate-related programs, policies and legislation</li> <li>• Increase public awareness of climate change impacts and strategies for emissions reductions through engaging the public and private sectors, non-profit organizations and community organizations</li> </ul> |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 2.2 Service Levels

| Service                                                                            | Service Level Adjustments                                                                                                |                                                                                       |                                                                                                               |                                                                                                              |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|                                                                                    | Base year 2012                                                                                                           | Year 1 (2013)                                                                         | Year 2 (2014)                                                                                                 | Year 3 (2015)                                                                                                |
| <b>1. Marine Monitoring and Assessment – Core Area</b>                             | Monitoring of 2 outfalls and 34 marine stations (surface) to meet regulatory requirements under 5-year plan (2011-2015)  | New federal regulations require increased wastewater monitoring as of January 1, 2013 | Increased allocation from IWS budgets for the new wastewater sampling.                                        | No change relative to Year 2.                                                                                |
|                                                                                    | Monitoring of 2 outfalls and 17 marine stations (seafloor) to meet regulatory requirements under 5-year plan (2011-2015) | No marine monitoring under 5-year plan (2011-2015)                                    | Monitoring of 2 outfalls and 17 marine stations to meet regulatory requirements under 5-year plan (2011-2015) | Monitoring of 2 outfalls and 3 marine stations to meet regulatory requirements under 5-year plan (2011-2015) |
| <b>2. Marine Monitoring and Assessment – Saanich Peninsula and Electoral Areas</b> | Saanich Peninsula: Monitoring and assessment of 1 outfall and 37 marine stations to meet regulatory requirements         | Updated monitoring (within existing budget) after review with MOE                     | No change relative to Year 1                                                                                  | No change relative to Year 2                                                                                 |
|                                                                                    | Electoral Areas: Monitoring and assessment of 5 outfalls and 30 marine stations to meet regulatory requirements          | Potential changes (within existing budgets) after review with MOE                     | No change                                                                                                     | No change                                                                                                    |
| <b>3. Stormwater – Core Area</b>                                                   | Monitor 650 discharges                                                                                                   | No change                                                                             | No change                                                                                                     | No change                                                                                                    |
|                                                                                    | Investigate 43 high-rated discharges                                                                                     | Investigate high-rated                                                                | Investigate high-rated                                                                                        | Investigate high-rated                                                                                       |

|                                                         |                                                                                                                                      | discharges from 2012                        | discharges from 2013                        | discharges from 2014                        |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
|                                                         | Hold 6 IWM inter-municipal meetings                                                                                                  | No change                                   | No change                                   | No change                                   |
| <b>4. Stormwater - Saanich Peninsula</b>                | Monitor 290 discharges                                                                                                               | No change                                   | No change                                   | No change                                   |
|                                                         | Investigate 12 high-rated discharges                                                                                                 | Investigate high-rated discharges from 2012 | Investigate high-rated discharges from 2013 | Investigate high-rated discharges from 2014 |
| <b>5. Stormwater Source Control – Saanich Peninsula</b> | Program Development                                                                                                                  | No change (Implementation phase)            | Meet regulatory requirements                | Meet regulatory requirements                |
| <b>6. Stormwater – Salt Spring Island</b>               | Provide support related to multi-use watershed protection                                                                            | No change                                   | No change                                   | No change                                   |
| <b>7. Stormwater – Southern Gulf Islands</b>            | Monitor 80 discharges                                                                                                                | No change                                   | No change                                   | No change                                   |
| <b>8. Stormwater – Juan de Fuca</b>                     | Monitor 97 discharges                                                                                                                | No change                                   | No change                                   | No change                                   |
| <b>9. Stormwater - Sooke</b>                            | Monitor 147 discharges                                                                                                               | No change                                   | No change                                   | No change                                   |
| <b>10. Harbours</b>                                     | Meet regulatory requirements                                                                                                         | No change                                   | No change                                   | No change                                   |
| <b>11. Hartland Environmental</b>                       | Complete quarterly groundwater quality monitoring on 49 boundary compliance wells                                                    | No change                                   | No change                                   | No change                                   |
|                                                         | Complete semi-annual groundwater quality monitoring on 59 assessment wells                                                           | No change                                   | No change                                   | No change                                   |
|                                                         | Complete groundwater flow monitoring and analysis on 120 wells a minimum of 6 times per year                                         | No change                                   | No change                                   | No change                                   |
|                                                         | Complete monthly leachate quality sampling at 5 stations to assess compliance                                                        | No change                                   | No change                                   | No change                                   |
|                                                         | Complete surface water quality monitoring at 5 boundary compliance stations and 25 assessment stations a minimum of 6 times per year | No change                                   | No change                                   | No change                                   |
|                                                         | Conduct ambient grid monitoring for landfill gas at 140 locations                                                                    | No change                                   | No change                                   | No change                                   |
|                                                         | Conduct subsurface gas probe monitoring at 17 locations                                                                              | No change                                   | No change                                   | No change                                   |

|                                           |                                                                                                                           |                                                                                                                                  |                                                                                         |                                                                                                    |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                           | Report gas collection efficiency quarterly                                                                                | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
|                                           | Complete 12 controlled waste audits per year                                                                              | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
|                                           | Process controlled waste permits as required (approx. 180 annually)                                                       | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
| <b>12. Environmental Contaminants</b>     | Track volume of trucked liquid waste received at the seepage facility (2,718,406 gallons of trucked liquid waste in 2011) | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
| <b>13. Millstream Meadows Remediation</b> | Complete quarterly monitoring for 20 wells, including property boundary wells                                             | Complete Stage 1 work to install 5 proposed exploratory drill holes and complete hydrogeologic testing (see 5 year Capital Plan) | Complete Stage 2 work to install perimeter groundwater system (see 5-year Capital Plan) | Conduct soil vapour assessment, risk assessment and remediation planning (see 5-year Capital Plan) |
|                                           | Complete quarterly monitoring of 20 privately-owned domestic drinking water wells within 1 km of the site                 | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
| <b>14. Climate Action</b>                 | Complete 13 local and 1 regional Community Energy and Emissions Inventory Reports (2012)                                  | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
|                                           | Support 15 community climate events, projects or campaigns annually                                                       | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
|                                           | Host 4 inter-municipal climate action working group meetings annually                                                     | No change                                                                                                                        | No change                                                                               | No change                                                                                          |
|                                           | Complete 1 corporate Green House Gas (GHG) inventory report annually                                                      | No change                                                                                                                        | No change                                                                               | No change                                                                                          |

## 2.3 Workforce Considerations

| Service                                      | Workforce (FTEs) |               |               |               |
|----------------------------------------------|------------------|---------------|---------------|---------------|
|                                              | Base Year 2012   | Year 1 (2013) | Year 2 (2014) | Year 3 (2015) |
| Senior Manager                               | 1                | 1             | 1             | 1             |
| Administration                               | 2                | 2             | 2             | 2             |
| Wastewater and Marine Environmental Programs | 3                | 3             | 3             | 3             |
| Integrated Watershed Management Program      | 6                | 6             | 6             | 6             |
| Climate Action Program                       | 1.5              | 1.5           | 1.5           | 1.5           |
| GeoEnvironmental Program                     | 3.6              | 3.6           | 3.6           | 3.6           |
| <b>Total</b>                                 | <b>17.1</b>      | <b>17.1</b>   | <b>17.1</b>   | <b>17.1</b>   |

## 2.4 Customers and Governance

| Service                                                   | External Customers                                                                                 | Internal Customers  | Reviewing Commissions & Committees                                                                                                                         |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Marine Monitoring and Assessment – Core Area</b>       | Core municipalities MOE (regulatory), MMAG (advisory), IOS/UVic/SFU (research)                     | IWS                 | ESC                                                                                                                                                        |
| <b>Marine Monitoring and Assessment–Saanich Peninsula</b> | Sidney, North Saanich, Central Saanich, MoE (regulatory), MMAG (advisory), IOS/UVic/SFU (research) | IWS                 | SPWWC                                                                                                                                                      |
| <b>Marine Monitoring and Assessment – Electoral Areas</b> | SSI, SGI, Port Renfrew, MoE (regulatory), MMAG (advisory)                                          | IWS                 | Ganges Sewer Local Services Committee (LSC), Highland Water and Sewer LSC, Magic Lake Estates Water and Sewer LSC, Port Renfrew Utility Services Committee |
| <b>Stormwater – Core Area</b>                             | Core municipalities, Esquimalt and Songhees FN                                                     | ES                  | ESC                                                                                                                                                        |
| <b>Stormwater – Saanich Peninsula</b>                     | Sidney, North Saanich, Central Saanich, Peninsula FNs                                              | ES                  | SPWWC                                                                                                                                                      |
| <b>Stormwater Source Control – Saanich Peninsula</b>      | Sidney, North Saanich, Central Saanich                                                             | ES                  | SPWWC                                                                                                                                                      |
| <b>Stormwater – Salt Spring Island</b>                    | Internal                                                                                           | ES                  | SSI Director, EASC                                                                                                                                         |
| <b>Stormwater – Southern Gulf Islands</b>                 | Internal                                                                                           | ES                  | SGI Director, EASC                                                                                                                                         |
| <b>Stormwater – Juan de Fuca</b>                          | Internal                                                                                           | PPS (EA planning)   | JdeF Director, EASC                                                                                                                                        |
| <b>Stormwater - Sooke</b>                                 | Sooke                                                                                              | ES                  | Sooke Council                                                                                                                                              |
| <b>Harbours</b>                                           | MOE                                                                                                | ES                  | ESC                                                                                                                                                        |
| <b>Hartland Environmental</b>                             | MOE (regulatory)                                                                                   | ERM                 | ESC                                                                                                                                                        |
| <b>Environmental Contaminants</b>                         | MOE (regulatory)                                                                                   | IWS, ES             | ESC                                                                                                                                                        |
| <b>Millstream Meadows Remediation</b>                     | Ministry of Forests, Lands and Natural Resources Operations, MOE                                   | ES                  | ESC                                                                                                                                                        |
| <b>Climate Action</b>                                     | Municipalities, electoral areas, MCSCD (regulatory via LGA)                                        | All CRD departments | ESC                                                                                                                                                        |

## 2.5 Delivery Strategy

Generally, Environmental Protection works with municipal partners to provide monitoring and reporting services. Information regarding stormwater quality and any forensic investigations are provided directly to municipal engineering departments, as well as to the provincial regulator, as required. The Harbours program was

developed in consultation with municipal partners and coordinates many community groups around harbour stewardship issues. Part of the service now lies outside of the LWMP commitments. Wastewater and marine monitoring is negotiated with the regulator (now on a 5-year plan) and reported out to the ESC/Board and the regulator annually. The Climate Action program provides support and information to municipalities, the corporation, as well as the general public. The GeoEnvironmental program provides technical and regulatory support to other departments and divisions for the Hartland Environmental and Environmental Contaminants components of the program. The Millstream Meadows remediation provides services to municipal partners and the province.

| Service                                                          | Delivery Strategy                        | Funding                     | Legislative Authority                                                                                                                                                                                |
|------------------------------------------------------------------|------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Marine Monitoring and Assessment – Core Area</b>              | CRD Resources, contract, partnership     | Allocation from IWS         | <ul style="list-style-type: none"> <li>• <i>Environmental Management Act</i> (EMA)</li> <li>• Municipal Sewage Regulation (MSR)</li> <li>• Wastewater Systems Effluent Regulations (WSER)</li> </ul> |
| <b>Marine Monitoring – Saanich Peninsula and Electoral Areas</b> | CRD Resources                            | Allocation from IWS         | EMA, MSR, WSER                                                                                                                                                                                       |
| <b>Stormwater – Core Area</b>                                    | CRD Resources, contract                  | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Stormwater – Saanich Peninsula</b>                            | CRD Resources                            | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Stormwater Source Control – Saanich Peninsula</b>             | CRD Resources                            | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Stormwater – Salt Spring Island</b>                           | CRD Resources                            | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Stormwater – Southern Gulf Islands</b>                        | CRD Resources                            | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Stormwater – Juan de Fuca</b>                                 | CRD Resources                            | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Stormwater - Sooke</b>                                        | CRD Resources                            | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Harbours</b>                                                  | CRD Resources                            | Requisition                 | EMA, MSR                                                                                                                                                                                             |
| <b>Hartland Environmental</b>                                    | CRD Resources, contract                  | Allocation from ERM         | EMA, Landfill Gas Regulation                                                                                                                                                                         |
| <b>Environmental Contaminants</b>                                | CRD Resources                            | Allocation from IWS, ES     | EMA                                                                                                                                                                                                  |
| <b>Millstream Meadows Remediation</b>                            | CRD Resources, contract, partnership     | Capital project requisition | EMA, CSR                                                                                                                                                                                             |
| <b>Climate Action</b>                                            | CRD Resources, external funding partners | Requisition and Grants      | LGA, BC Climate Act Charter, Greenhouse Gas Reduction Target Act                                                                                                                                     |

In the case of most services, the strategy is to utilize CRD resources (staff, equipment and operating funds) to deliver the service. Marine, stormwater and geoenvironmental programs utilize some contract services for analytical laboratory work and some data analyses. The climate action program has several partnerships (e.g., federal and provincial governments, BC Hydro) to deliver integrated messages and programs. The Millstream Meadows contaminated site remediation is a partnership with the BC government and utilizes contracted services for much of the on-site work. The Thetis Lake Rifle Range Remediation project utilizes consultant, contracting and internal resources (Environmental Protection and Parks divisions).

## 2.6 Assumptions and Risks

| Service                                                          | Key Assumptions                                                                  | Risks                                                                                                                                                                                                          |
|------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Marine Monitoring and Assessment – Core Area</b>              | LWMP and MSR mandated service                                                    | <ul style="list-style-type: none"> <li>• Changes in legislated requirements may impact programs.</li> <li>• Negative environmental effects from contamination may require increased program effort.</li> </ul> |
| <b>Marine Monitoring – Saanich Peninsula and Electoral Areas</b> | LWMP and MSR mandated service                                                    |                                                                                                                                                                                                                |
| <b>Stormwater – Core Area</b>                                    | LWMP mandated service                                                            |                                                                                                                                                                                                                |
| <b>Stormwater – Saanich Peninsula</b>                            | LWMP mandated service                                                            |                                                                                                                                                                                                                |
| <b>Stormwater Source Control – Saanich Peninsula</b>             | Requested service by municipalities, LWMP Mandated (by amendment)                |                                                                                                                                                                                                                |
| <b>Stormwater – Salt Spring Island</b>                           | Required service by EAs                                                          |                                                                                                                                                                                                                |
| <b>Stormwater – Southern Gulf Islands</b>                        | Required service by EAs                                                          |                                                                                                                                                                                                                |
| <b>Stormwater – Juan de Fuca</b>                                 | Required service by EAs                                                          |                                                                                                                                                                                                                |
| <b>Stormwater - Sooke</b>                                        | Required service by EAs                                                          |                                                                                                                                                                                                                |
| <b>Harbours</b>                                                  | LWMP mandated service                                                            |                                                                                                                                                                                                                |
| <b>Hartland Environmental</b>                                    | SWMP mandated service                                                            |                                                                                                                                                                                                                |
| <b>Environmental Contaminants</b>                                | LWMP mandated service (Trucked Liquid Waste)                                     |                                                                                                                                                                                                                |
| <b>Millstream Meadows Remediation</b>                            | Liability - mandated service (EMA); property held until remediation completed    |                                                                                                                                                                                                                |
| <b>Thetis Lake Rifle Range Remediation</b>                       | Secured funding through existing Parks allocations and awarded provincial grant. |                                                                                                                                                                                                                |
| <b>Climate Action</b>                                            | Requested regional service                                                       |                                                                                                                                                                                                                |

### 3 Divisional Initiatives

This section highlights divisional Strategic Plan initiatives for 2013 – 2015 and CRD Strategic Plan priorities.

#### **Environmental Protection Division Initiatives**

| <b>Core Initiatives</b>                                                             | <b>Description</b>                                                                                                                                                                                    | <b>Budget Implications</b>                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>2013-2015</b>                                                                    |                                                                                                                                                                                                       |                                                                                              |
| <b>Core Stormwater - IWM</b>                                                        | Continue with integrated watershed management in core stormwater program                                                                                                                              | \$25K supplemental                                                                           |
| <b>Core Stormwater – monitoring</b>                                                 | Develop and implement watershed monitoring and assessment program                                                                                                                                     | none                                                                                         |
| <b>Harbours Water Quality Objectives</b>                                            | Develop water quality objectives for harbours in partnership with MOE                                                                                                                                 | none                                                                                         |
| <b>Regional Sustainability Strategy and Climate Action Sub-Strategy Development</b> | Integrate climate-related policies into all five chapters of the Regional Sustainability Strategy and develop Climate Action Sub-Strategy to guide regional efforts for next decade                   | none                                                                                         |
| <b>Carbon Neutral Operations Reporting</b>                                          | Complete annual corporate greenhouse gas inventory and associated reporting on behalf of CRD                                                                                                          | Climate Action Revenue Incentive Program funds                                               |
| <b>Growing Solutions Program</b>                                                    | Continued implementation of educational campaign on food/climate change issues                                                                                                                        | Included in \$30,000 continuous supplemental request (contingent on external matching funds) |
| <b>Hartland Environmental</b>                                                       | Provide assistance to initiate hydrogeological review to assess leachate management requirements for future landfilling.<br><br>Provide assistance to implement enhanced landfill gas management plan | ERM funding                                                                                  |
| <b>Millstream Meadows Remediation</b>                                               | Exploratory drilling and hydrogeological testing for contaminant pathways assessment<br><br>Planning and implementing remedial activities to support risk management of the site                      | none                                                                                         |

| Core Initiatives                                                                    | Description                                                                                                                                                                                                     | Budget Implications                                                                                                           |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Marine Monitoring and Assessment – Core Area</b>                                 | New federal wastewater regulations came in effect January 1, 2013. Additional monitoring is necessary to meet the regulations.                                                                                  | \$44K<br><br>(\$22K continuous supplementary for each northeast trunk (Clover) and northwest trunk (Macaulay) sewer systems.) |
| <b>Marine Monitoring and Assessment – Saanich Peninsula and Electoral Areas</b>     | Finalize monitoring program design for Electoral Area treatment plant monitoring programs                                                                                                                       | none                                                                                                                          |
| <b>Core Area Stormwater -IWM</b>                                                    | Continue with integrated watershed management in core area stormwater program                                                                                                                                   | \$25K continuous supplementary approved for 2013                                                                              |
| <b>Core Area Stormwater – monitoring</b>                                            | Develop and implement watershed monitoring and assessment program                                                                                                                                               | none                                                                                                                          |
| <b>Harbours Water Quality Objectives</b>                                            | Develop water quality objectives for harbours in partnership with MOE                                                                                                                                           | none                                                                                                                          |
| <b>Watershed Education Initiative</b>                                               | A multi-media campaign to inform and engage residents, youth and businesses about watershed issues and to inspire action. This is core program work that is substantially enhanced with a RBC Blue Water grant. | \$50,000 (2013/2014 already allocated IWMP budget item) plus \$75,000 grant from Royal Bank.                                  |
| <b>Regional Sustainability Strategy and Climate Action Sub-Strategy Development</b> | Support the development of the Regional Sustainability Strategy and associated Climate Action Sub-Strategy & Climate Action Blueprint through consultation and regional integration.                            | Not yet determined                                                                                                            |
| <b>Coastal Sea Level Rise Risk Assessment &amp; Model Bylaw Project</b>             | Complete sea level rise risk assessment for capital region.<br><br>Create a model bylaw for management of coastal flood hazard areas in response to rising sea-levels.                                          | \$50,000 secured from NRCan and \$15,000 secured from Tides Canada                                                            |
| <b>Carbon Neutral Operations Reporting</b>                                          | Complete annual corporate greenhouse gas inventory and associated reporting on behalf of CRD                                                                                                                    | Climate Action Revenue Incentive Program funds                                                                                |
| <b>Hartland Environmental</b>                                                       | Provide assistance to initiate hydrogeological review to assess leachate management requirements for future landfilling.<br><br>Provide assistance to implement enhanced landfill gas management plan           | ERM funding                                                                                                                   |
| <b>Thetis Lake Rifle Range Remediation</b>                                          | Undertake site remediation through Independent Remediation process.                                                                                                                                             | Dedicated Parks allocation of \$683,854 and provincial grant of up to \$177,500                                               |

| Core Initiatives                      | Description                                                                                                                                                                             | Budget Implications |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Millstream Meadows Remediation</b> | <p>Exploratory drilling and hydrogeological testing for contaminant pathways assessment</p> <p>Planning and implementing remedial activities to support risk management of the site</p> | none                |

**CRD Strategic Priorities 2013-2015**

| CRD Strategic Priority                        | Corporate Goal (per Strategic Plan)                                      | Strategic Initiatives                                                           | Description                                                                                                                                                                                     | Budget Implications                                                |
|-----------------------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Regional Cooperation</b>                   | Develop stronger relationships with First Nations in the CRD             | Integrated Watershed Management                                                 | Discuss IWM with First Nations and see if traditional ecological knowledge can be incorporated into IWM                                                                                         | Included in 2013-2015 budget                                       |
|                                               |                                                                          | Marine Assessment                                                               | Discuss outfall monitoring results with First Nations and see if potential impacts on First Nations fisheries interests can be better incorporated into the overall outfall impact assessments. | Included in 2013-2015 budget                                       |
| <b>Regional Transportation &amp; Planning</b> | Increase integration of regional transportation and land use planning    | Electric Vehicle Infrastructure and Strategy                                    | Complete electric vehicle network planning, educate consumers, and help to accelerate installation of electric vehicle charging stations across region.                                         |                                                                    |
| <b>Regional Infrastructure</b>                | Increase infrastructure resilient and emergency preparedness for natural | Improve capacity and quality of infrastructure to handle climate change impacts | Complete sea level rise risk assessment for capital region. Create a model bylaw for                                                                                                            | \$50,000 secured from NRCan and \$15,000 secured from Tides Canada |

| CRD Strategic Priority                    | Corporate Goal (per Strategic Plan)                      | Strategic Initiatives                                                                                                                         | Description                                                                                                                     | Budget Implications                                                              |
|-------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
|                                           | disasters and the impacts associated with climate change |                                                                                                                                               | management of coastal flood hazard areas in response to rising sea-levels.                                                      |                                                                                  |
| <b>Regional Environmental Stewardship</b> | Increase efforts to mitigate further climate change      | Maintain support to municipalities, electoral areas, businesses and individuals for reducing regional energy use and greenhouse gas emissions | Service activities and programming                                                                                              | \$30,000 continuous supplemental request (contingent on external matching funds) |
|                                           |                                                          | Achieve corporate carbon neutral operations                                                                                                   | Annual program to measure energy and fuel use, reduce consumption, offset or balance carbon impacts and report to stakeholders. | Departmental costs to purchase carbon offsets, if required.                      |
|                                           | Increase response to the effects of climate change       | Increase regional capacity and action to adapt to the effects of climate change                                                               | Implement programs to educate and support businesses, households and institutions                                               | \$30,000 continuous supplemental request (contingent on external matching funds) |

## 4 Performance Monitoring

| Level                                                                                                        | Performance Measure                                                              | 2013 Planned                                                                                            | 2013 Actual | 2014      | 2015      |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------|-----------|-----------|
| Wastewater and Marine Environmental Programs (WMEP) - Core Area (Macaulay/Clover)                            | Meet all regulatory compliance monitoring requirements                           | 100% of necessary samples collected and reported                                                        | No change   | No change | No change |
| WMEP - Saanich Peninsula Wastewater Treatment Plant (WTP)                                                    | Meet all regulatory compliance monitoring requirements                           | 100% of necessary samples collected and reported                                                        | No change   | No change | No change |
| WMEP - Ganges Harbour WTP                                                                                    | Meet all regulatory compliance monitoring requirements                           | 100% of necessary samples collected and reported                                                        | No change   | No change | No change |
| WMEP - Maliview Estates WTP                                                                                  | Meet all regulatory compliance monitoring requirements                           | 100% of necessary samples collected and reported                                                        | No change   | No change | No change |
| WMEP - Schooner Way WTP                                                                                      | Meet all regulatory compliance monitoring requirements                           | 100% of necessary samples collected and reported                                                        | No change   | No change | No change |
| WMEP - Cannon Crescent WTP                                                                                   | Meet all regulatory compliance monitoring requirements                           | 100% of necessary samples collected and reported                                                        | No change   | No change | No change |
| WMEP - Port Renfrew WTP                                                                                      | Meet all regulatory compliance monitoring requirements                           | 100% of necessary samples collected and reported                                                        | No change   | No change | No change |
| WMEP - Core Area (Macaulay/Clover) Receiving Environment Effects Monitoring                                  | Meet all receiving environment effects monitoring requirements                   | 90% of samples, proposed in Ministry of Environment approved monitoring program, collected and reported | No change   | No change | No change |
| WMEP - Saanich Peninsula WTP Receiving Environment Effects Monitoring                                        | Meet all receiving environment effects monitoring requirements                   | 90% of samples, proposed in Ministry of Environment approved monitoring program, collected and reported | No change   | No change | No change |
| Integrated Watershed Management Program (IWMP/WMP) – Stormwater Quality (Core Area, SaaPen, Sooke, SGI, JdF) | Amount of catalogued stormwater discharges sampled                               | 20% of all stormwater discharges sampled each year                                                      | No change   | No change | No change |
| IWMP – Stormwater Quality (Core Area, SaaPen, Sooke, SGI, JdF)                                               | Amount of discharges sampled that had received high-ratings in the previous year | 80% of all high-rated discharges sampled each year                                                      | No change   | No change | No change |

|                                                           |                                                                                                                                                                                                                         |                                                                |           |           |           |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------|-----------|-----------|
| IWMP – Stormwater Quality (Core, SaaPen, Sooke, SGI, JdF) | Amount of discharges that received high-ratings in the previous year that receive upstream investigative efforts                                                                                                        | 80% of all high-rated discharges investigated each year        | No change | No change | No change |
| IWMP – Harbours Program and Stormwater Quality            | Number of streams with continuous flow monitoring                                                                                                                                                                       | 4 streams                                                      | No change | No change | No change |
| IWMP – Harbours Program and Stormwater Quality            | Number of streams with continuous water quality monitoring                                                                                                                                                              | 2 streams                                                      | No change | No change | No change |
| IWMP – Stormwater Source Control SaaPen                   | Number of businesses inspected                                                                                                                                                                                          | 15% of businesses regulated under the bylaw inspected annually | No change | No change | No change |
| IWMP – Integrated Watershed Management (IWM)              | Number of public events participated in with a high level of IWMP content                                                                                                                                               | 2 major public events annually                                 | No change | No change | No change |
| IWMP - IWM                                                | Number of regular meetings with municipalities to provide feedback on IWM work plans, create opportunities to work together to achieve IWM goals and ensure sharing of watershed-related information among participants | 6 meetings annually                                            | No change | No change | No change |
| IWMP – Stormwater Quality (Core, SaaPen, Sooke, SGI, JdF) | Number of sampling reports produced.                                                                                                                                                                                    | 5 or 3 (varies due to reporting cycle) reports annually        | 5         | 3         | No change |
| IWMP – IWM                                                | Number of workshops/ forums to provide educational and professional growth opportunities for CRD and municipal staff on topics related to watershed management                                                          | 1 workshop held each year                                      | No change | No change | No change |
| IWMP – Harbours Program                                   | Amount of volunteer hours leveraged to efficiently deliver program                                                                                                                                                      | 300 volunteer hours on projects each year                      | No change | No change | No change |

|                                                                   |                                                                                                                               |                                                                                                                                         |           |           |           |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| IWMP – Harbours Program                                           | Number of multi-stakeholder committees and community groups engaged and/or coordinated                                        | 1) 3 multi-stakeholder committees supported annually<br>2) 15 community groups engaged or supported through program activities annually | No change | No change | No change |
| IWMP – Harbours Program                                           | Number of active inventory or habitat restoration projects in-progress                                                        | 2 projects in-progress at a time during each year                                                                                       | No change | No change | No change |
| GeoEnvironmental Programs (GEP) - Hartland Environmental Programs | Groundwater, surface water and leachate monitoring                                                                            | 100% of compliance stations monitored each year                                                                                         | No change | No change | No change |
| GEP - Hartland Environmental Programs                             | Groundwater, surface water and leachate monitoring                                                                            | 90% of assessment stations monitored each year                                                                                          | No change | No change | No change |
| GEP – Hartland Environmental Program – Controlled Waste           | Monitor waste received for acceptability and ensure all permit conditions are met                                             | Minimum 12 audits/inspections per year                                                                                                  | No change | No change | No change |
| GEP – Hartland Environmental Program – Landfill Gas               | Ambient monitoring of landfill surface to evaluate the integrity of cover systems and identify locations of gas release       | Minimum of 2 monitoring events per year                                                                                                 | No change | No change | No change |
| GEP – Hartland Environmental Program – Landfill Gas               | Monitoring of building foundation and perimeter wells to ensure compliance with BC Landfill criteria                          | Minimum of 4 (quarterly) monitoring events per year                                                                                     | No change | No change | No change |
| GEP – Environmental Contaminants – Sewer Odour Monitoring         | Monitoring of sewer headspace to identify locations not in compliance with regional target of 10 ppm H <sub>2</sub> S average | 90% of assessment stations monitored and reported each year                                                                             | No change | No change | No change |
| GEP – Environmental Contaminants – Trucked Liquid Waste           | Conduct public education with advertising campaign                                                                            | Minimum of 6 advertisements per year                                                                                                    | No change | No change | No change |
| GEP – Environmental Contaminants – Trucked Liquid Waste           | Engage service providers/ stakeholders and provide opportunity for communication and education                                | Minimum of 1 service provider/ stakeholder meeting per year                                                                             | No change | No change | No change |

|                                                              |                                                                                                                                                          |                                                                                                                                                                                                                         |           |           |           |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| GEP – Environmental Contaminants – Trucked Liquid Waste      | Volume of trucked liquid waste received at the Septage facility                                                                                          | 100% of 2011 level                                                                                                                                                                                                      | No change | No change | No change |
| GEP – Environmental Contaminants – Regional Septage Disposal | Continuity of service and compliance with terms of contract                                                                                              | Minimum of 1 contractor meeting per year                                                                                                                                                                                | No change | No change | No change |
| GEP – Contaminated Sites – Millstream Meadows                | Millstream Meadows site remediation                                                                                                                      | 100% of compliance wells monitored each quarter                                                                                                                                                                         | No change | No change | No change |
| GEP – Contaminated Sites – Millstream Meadows                | Millstream Meadows site remediation                                                                                                                      | 100% of domestic wells in program sampled quarterly and results reported to all residents within 1km of site, within 6 weeks of sampling.                                                                               | No change | No change | No change |
| Climate Action Program                                       | Complete annual carbon neutral operation commitments                                                                                                     | 100% of all requirements for the preceding year, completed by March 31                                                                                                                                                  | No change | No change | No change |
| Climate Action Program                                       | Ensure municipalities and electoral areas have access to timely information and/or opportunities related to climate action                               | a) 4 inter-municipal climate action working group meetings annually<br>b) 2 inter-municipal climate action steering committee meetings annually<br>c) 12 e-newsletters annually<br>d) annual 1:1 municipal staff visits | No change | No change | No change |
| Climate Action Program                                       | Engage in projects, presentations and initiatives with community stakeholders on topics of energy conservation, GHG mitigation and/or climate adaptation | 15 events/sessions annually                                                                                                                                                                                             | No change | No change | No change |



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| 3.798C - Debt - Core Area Wastewater Treatment Program | 2014               |                    | BUDGET REQUEST    |                    |                   | 2016                | 2017                | 2018                | 2019                |
|--------------------------------------------------------|--------------------|--------------------|-------------------|--------------------|-------------------|---------------------|---------------------|---------------------|---------------------|
|                                                        | BOARD BUDGET       | ESTIMATED ACTUAL   | 2015 CORE BUDGET  | 2015 Supplementary | 2015 TOTAL        | TOTAL               | TOTAL               | TOTAL               | TOTAL               |
| <u>OPERATING COSTS:</u>                                |                    |                    |                   |                    |                   |                     |                     |                     |                     |
| Operating Expenditures                                 | 2,050              | 2,050              | 10,500            | 0                  | 10,500            | 13,500              | 14,000              | 5,000               | 5,000               |
| <b>TOTAL OPERATING COSTS</b>                           | <b>2,050</b>       | <b>2,050</b>       | <b>10,500</b>     | <b>0</b>           | <b>10,500</b>     | <b>13,500</b>       | <b>14,000</b>       | <b>5,000</b>        | <b>5,000</b>        |
| *Percentage Increase over prior year                   |                    |                    |                   |                    | 412.20%           | 28.57%              | 3.70%               | -62.96%             | -64.29%             |
| <u>CAPITAL / RESERVE</u>                               |                    |                    |                   |                    |                   |                     |                     |                     |                     |
| Capital Reserve Expenditures                           | 8,892,650<br>0     | 9,616,627<br>0     | 13,368,750<br>0   | 0<br>0             | 13,368,750<br>0   | 14,647,694<br>0     | 6,363,374<br>0      | 5,654,700<br>0      | 12,213,488<br>0     |
| <b>TOTAL CAPITAL / RESERVES</b>                        | <b>8,892,650</b>   | <b>9,616,627</b>   | <b>13,368,750</b> | <b>0</b>           | <b>13,368,750</b> | <b>14,647,694</b>   | <b>6,363,374</b>    | <b>5,654,700</b>    | <b>12,213,488</b>   |
| Debt Expenditures                                      | 893,200            | 234,850            | 1,620,750         | 0                  | 1,620,750         | 5,338,806           | 18,622,626          | 25,940,300          | 19,381,512          |
| MFA Debt Reserve                                       | 212,100            | 146,473            | 30,430            | 0                  | 30,430            | 1,012,760           | 1,732,460           | 0                   | 0                   |
| <b>TOTAL COSTS</b>                                     | <b>10,000,000</b>  | <b>10,000,000</b>  | <b>15,030,430</b> | <b>0</b>           | <b>15,030,430</b> | <b>21,012,760</b>   | <b>26,732,460</b>   | <b>31,600,000</b>   | <b>31,600,000</b>   |
| *Percentage Increase over prior year                   |                    |                    |                   |                    | 50.30%            | 39.80%              | 27.22%              | 50.38%              | 18.21%              |
| Operating Expenditures                                 | 0                  | 0                  | 0                 | 0                  | 0                 | 0                   | 0                   | 0                   | 0                   |
| Recovery - Other                                       | 0                  | 0                  | (30,430)          | 0                  | (30,430)          | (1,012,760)         | (1,732,460)         | 0                   | 0                   |
| <b>OPERATING COSTS LESS INTERNAL RECOVERIES</b>        | <b>10,000,000</b>  | <b>10,000,000</b>  | <b>15,000,000</b> | <b>0</b>           | <b>15,000,000</b> | <b>20,000,000</b>   | <b>25,000,000</b>   | <b>31,600,000</b>   | <b>31,600,000</b>   |
| *Percentage Increase over prior year                   |                    |                    |                   |                    | 50.00%            | 33.33%              | 25.00%              | 58.00%              | 26.40%              |
| <u>FUNDING SOURCES (REVENUE)</u>                       |                    |                    |                   |                    |                   |                     |                     |                     |                     |
| estimated balance c/f from current to Next year        |                    | 0                  |                   |                    |                   |                     |                     |                     |                     |
| Balance C/F from Prior to Current year                 | 0                  | 0                  | 0                 | 0                  | 0                 | 0                   | 0                   | 0                   | 0                   |
| Revenue                                                | (259,853)          | (259,853)          | 0                 | 0                  | 0                 | 0                   | 0                   | 0                   | 0                   |
| <b>TOTAL REVENUE</b>                                   | <b>(259,853)</b>   | <b>(259,853)</b>   | <b>0</b>          | <b>0</b>           | <b>0</b>          | <b>0</b>            | <b>0</b>            | <b>0</b>            | <b>0</b>            |
| <b>REQUISITION</b>                                     | <b>(9,740,147)</b> | <b>(9,740,147)</b> | <b>15,000,000</b> | <b>0</b>           | <b>15,000,000</b> | <b>(20,000,000)</b> | <b>(25,000,000)</b> | <b>(31,600,000)</b> | <b>(31,600,000)</b> |
| *Percentage Increase over prior year                   |                    |                    |                   |                    | -254.00%          | -233.33%            | 25.00%              | 58.00%              | 26.40%              |
| NOTE: Capital / Reserve Fund Expenditures              | 0                  | 0                  | 0                 | 0                  | 0                 | 0                   | 0                   | 0                   | 0                   |
| PARTICIPANTS:                                          |                    |                    |                   |                    |                   |                     |                     |                     |                     |
| AUTHORIZED POSITIONS:                                  |                    |                    |                   |                    |                   |                     |                     |                     |                     |
| Salaried                                               | 0.00               | 0.00               | 0.00              | 0.00               | 0.00              | 0.00                | 0.00                | 0.00                | 0.00                |
| Hourly                                                 | 0.00               | 0.00               | 0.00              | 0.00               | 0.00              | 0.00                | 0.00                | 0.00                | 0.00                |

Capital Regional District

3.798 Debt/Capital - LWMP Core Treatment Facilities (incl. Seattera)  
 2015 - 5 YEAR CAPITAL PLAN  
 (\$'000 - 2015 Dollars)

| Capital Works Description                      | Cap Type | 2014 Estimate       | 2015          | 2016           | 2017           | 2018          | 2019          | 5 Yr Total     | Projected completion cost                                                             |
|------------------------------------------------|----------|---------------------|---------------|----------------|----------------|---------------|---------------|----------------|---------------------------------------------------------------------------------------|
| Wastewater Treatment Program (WTP) - grantable | S        | 19,078 <sup>A</sup> | 71,908        | 251,855        | 309,488        | 76,122        | 8,611         | 717,984        | Accumulated Costs to 2014 + Grantable 5 yr + Non-Grantable Financing 5 yr =           |
| WTP - CRD non-grantable financing              | S        | 104 <sup>A</sup>    | 320           | 1,937          | 8,796          | 13,274        | 2,482         | 26,809         | Total Project Costs                                                                   |
| WTP - CRD non-grantable                        |          | 1,000               | 2,204         | 2,259          | 2,315          | 2,373         | 2,433         | 11,584         | (\$43,114,000+717,984,000+26,809,000=787,907,000) Includes \$5M 2014 Budget Amendment |
| Land                                           | L        | 17,000              | 0             | 0              | 0              | 0             | 0             | -              |                                                                                       |
| <b>TOTAL</b>                                   |          | <b>37,182</b>       | <b>74,432</b> | <b>256,051</b> | <b>320,599</b> | <b>91,769</b> | <b>13,526</b> | <b>756,377</b> |                                                                                       |

- Cap Type:
- B = Buildings
  - E = Equipment
  - L = Land
  - S = Engineering Structures
  - V = Vehicles

CAPITAL REGIONAL DISTRICT 2014  
REQUISITION

3.78X / 3.79X TRUNK SEWERS & SEWAGE DISPOSAL - DEBT CHARGES + ANNUAL SEWAGE TREATMENT FUNDING OF \$5 MILLION  
- SLP, Division VII, Dec. 28, 1967 as amended PER YEAR (Increasing)

| Municipalities              | Basis of<br>Apportionment | Initial<br>Requisition | Invoice by<br>Agreement | Net<br>Requisition |
|-----------------------------|---------------------------|------------------------|-------------------------|--------------------|
| City of Colwood             |                           | 567,588                | 0                       | 567,588            |
| City of Victoria            | see attached              | 6,015,367              | (6,015,367)             | 0                  |
| District of Central Saanich | Schedule 3.78X-B          | 7,993                  |                         | 7,993              |
| Township of Esquimalt       |                           | 872,413                |                         | 872,413            |
| City of Langford            |                           | 1,422,641              |                         | 1,422,641          |
| District of Saanich         |                           | 4,338,765              | (4,338,765)             | 0                  |
| District of Oak Bay         |                           | 1,265,955              | (1,006,239)             | 259,716            |
| District of North Saanich   |                           | 3,077                  | (3,077)                 | 0                  |
| Town of Sidney              |                           | 7,410                  |                         | 7,410              |
| Town of View Royal          |                           | 411,877                |                         | 411,877            |
| District of Highland        |                           | 0                      |                         | 0                  |
|                             |                           | 14,913,086             | (11,363,448)            | 3,549,638          |
| <b>Federal Government</b>   |                           |                        |                         |                    |
| National Defence            |                           | 196                    |                         | 196                |
| Public Works                |                           | 0                      |                         | 0                  |
| Indian Affairs              |                           | 0                      |                         | 0                  |
|                             |                           | 196                    | 0                       | 196                |
| <b>Other Recovery</b>       |                           |                        |                         |                    |
| Songhees (D.R.F.)           |                           | 0                      |                         | 0                  |
| Songhees Band               |                           | 0                      |                         | 0                  |
| Esquimalt Band              |                           | 0                      |                         | 0                  |
|                             |                           | 0                      | 0                       | 0                  |
|                             |                           | 14,913,282             | (11,363,448)            | 3,549,834          |

CAPITAL REGIONAL DISTRICT

Capital Regional District  
Sewers Operating - 2014

| Service                   | Total Service Budget |                  |                     | Municipality's Share |                 |
|---------------------------|----------------------|------------------|---------------------|----------------------|-----------------|
|                           | 2013 Requisition     | 2014 Requisition | Increase (Decrease) | 2014 Total Colwood   | Share of Budget |
| 3.710 N W Trunk           | 2,574,803            | 2,578,797        | 3,994               | 181,032              | 7.02%           |
| (Invoice) Sewer Operating | 2,574,803            | 2,578,797        |                     | 181,032              |                 |

Sewers Debt - 2014

| Service                                    | Total Service Budget |                  |                     | Municipality's Share |                 |
|--------------------------------------------|----------------------|------------------|---------------------|----------------------|-----------------|
|                                            | 2013 Requisition     | 2014 Requisition | Increase (Decrease) | 2014 Total Colwood   | Share of Budget |
| 3.768 NWT - Vortex / Siphon Upgrade        | 16,502               | 17,103           | 601                 | 5,062                | 30%             |
| 3.768 NWT - Vortex / Siphon Upgrade (0%)   |                      |                  |                     | 0                    | Invoice         |
| 3.769 Macaulay - Genset                    | 14,966               | 13,788           | (1,178)             | 2,838                | 21%             |
| 3.769 Macaulay - Genset (0%)               |                      |                  |                     | 0                    | Invoice         |
| 3.772 NWT Upgrade                          | 527,998              | 439,433          | (88,565)            | 18,105               | 4%              |
| 3.772 NWT Upgrade (0%)                     |                      |                  |                     | 0                    | Invoice         |
| 3.773 Grndwtr Relief & Flow Mntrg          | 14,646               | 13,259           | (1,387)             | 1,724                | 13%             |
| 3.773 Grndwtr Relief & Flow Mntrg (0%)     |                      |                  |                     | 0                    | Invoice         |
| 3.776 W. Communities Trunk                 | 22,640               | (7,434)          | (30,074)            | (2,174)              | 29%             |
| 3.776 W. Communities Trunk (100%)          |                      |                  |                     | 0                    | Invoice         |
| 3.777 Esq Trunk Upgrade                    | 1,382                | (1,833)          | (3,215)             | (629)                | 34%             |
| 3.777 Esq Trunk Upgrade (100%)             |                      |                  |                     | 0                    | Invoice         |
| 3.779 LWMP                                 | 0                    | 0                | 0                   | 0                    |                 |
| 3.779 LWMP (100%)                          |                      |                  |                     | 0                    | Invoice         |
| 3.792 Craigflower PS                       | 86,690               | 87,527           | 837                 | 30,179               | 34%             |
| 3.792 Craigflower PS (0%)                  |                      |                  |                     | 0                    | Invoice         |
| 3.798 Core - Sewage Integrated T.F.        | 975,153              | 968,215          | (6,938)             | 53,416               | 6%              |
| 3.798 Core - Sewage Integrated T.F. (0%)   |                      |                  |                     | 0                    | Invoice         |
| 3.798B Core - Sewage Integrated T.F.       | 1,098,409            | 1,084,667        | (13,742)            | 44,135               | 4%              |
| 3.798B Core - Sewage Integrated T.F.       |                      |                  |                     | 0                    | Invoice         |
| 3.798C Core - Wastewater Treatment Program | 5,000,000            | 9,740,147        | 4,740,147           | 414,930              | 4%              |
| 3.798C Core - Wastewater Treatment Program |                      |                  |                     | 0                    | Invoice         |
| Sewer Debt                                 | 7,758,386            | 12,354,872       |                     | 567,588              |                 |

Cost sharing: with the exception of the East Coast Interceptor (ECI) all of the above debt is cost shared on the basis of design capacity. The ECI is cost shared on the basis of current year taxable assessments for the benefiting area converted by the prior year municipal multiples.

CAPITAL REGIONAL DISTRICT

| Capital Regional District<br>Sewers Operating - 2014 |                     | Total Service Budget |                        |                         | Municipality's Share |  |
|------------------------------------------------------|---------------------|----------------------|------------------------|-------------------------|----------------------|--|
| Service                                              | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Esquimalt | Share of<br>Budget   |  |
| 3.710 N W Trunk                                      | 2,574,803           | 2,578,797            | 3,994                  | 391,204                 | 15%                  |  |
| Sewer Operating                                      | 2,574,803           | 2,578,797            |                        | 391,204                 |                      |  |

| Sewers Debt - 2014                         |                     | Total Service Budget |                        |                         | Municipality's Share |  |
|--------------------------------------------|---------------------|----------------------|------------------------|-------------------------|----------------------|--|
| Service                                    | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Esquimalt | Share of<br>Budget   |  |
| 3.768 NWT - Vortex / Siphon Upgrade        | 16,502              | 17,103               | 601                    | 5,382                   | 31%                  |  |
| 3.769 Macaulay - Genset                    | 14,966              | 13,788               | (1,178)                | 6,282                   | 46%                  |  |
| 3.772 NWT Upgrade                          | 527,998             | 439,433              | (88,565)               | 78,263                  | 18%                  |  |
| 3.773 Grndwtr Relief & Flow Mntrg          | 14,646              | 13,259               | (1,387)                | 6,511                   | 49%                  |  |
| 3.776 W. Communities Trunk                 | 22,640              | (7,434)              | (30,074)               | (427)                   | 6%                   |  |
| 3.777 Esq Trunk Upgrade                    | 1,382               | (1,833)              | (3,215)                | (282)                   | 15%                  |  |
| 3.778 Esq Design Memorandum                | 0                   | 0                    | 0                      | 0                       | N/A                  |  |
| 3.779 LWMP                                 | 0                   | 0                    | 0                      | 0                       |                      |  |
| 3.786 SCADA                                | 0                   | 0                    | 0                      | 0                       |                      |  |
| 3.792 Craigflower PS                       | 86,690              | 87,527               | 837                    | 700                     | 0.80%                |  |
| 3.798 Core - Sewage Integrated T.F.        | 975,153             | 968,215              | (6,938)                | 51,480                  | 5.32%                |  |
| 3.798B Core - Sewage Integrated T.F.       | 1,098,409           | 1,084,667            | (13,742)               | 76,784                  | 7.08%                |  |
| 3.798C Core - Wastewater Treatment Program | 5,000,000           | 9,740,147            | 4,740,147              | 647,720                 | 6.65%                |  |
| Sewer Debt                                 | 7,758,386           | 12,354,872           |                        | 872,413                 |                      |  |

\* Denotes borrowings subject  
to Facilities Assistance Grants

Cost sharing: with the exception of the East Coast Interceptor (ECI) all of the above debt is cost shared on the basis of design capacity. The ECI is cost shared on the basis of current year taxable assessments for the benefiting area converted by the prior year municipal multiples.

## CAPITAL REGIONAL DISTRICT

| Capital Regional District<br>Sewers Operating - 2014 |                     | Total Service Budget |                        |                        | Municipality's Share |  |
|------------------------------------------------------|---------------------|----------------------|------------------------|------------------------|----------------------|--|
| Service                                              | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Langford | Share of<br>Budget   |  |
| 3.710 N W Trunk                                      | 2,574,803           | 2,578,797            | 3,994                  | 316,934                | 12%                  |  |
| Sewer Operating                                      | 2,574,803           | 2,578,797            |                        | 316,934                |                      |  |

| Sewers Debt - 2014                         |                     | Total Service Budget |                        |                        | Municipality's Share |  |
|--------------------------------------------|---------------------|----------------------|------------------------|------------------------|----------------------|--|
| Service                                    | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Langford | Share of<br>Budget   |  |
| 3.768 NWT - Vortex / Siphon Upgrade        | 16,502              | 17,103               | 601                    | 6,658                  | 39%                  |  |
| 3.769 Macaulay - Genset                    | 14,966              | 13,788               | (1,178)                | 4,292                  | 31%                  |  |
| 3.772 NWT Upgrade                          | 527,998             | 439,433              | (88,565)               | 19,159                 | 4%                   |  |
| 3.773 Grndwtr Relief & Flow Mntrg          | 14,646              | 13,259               | (1,387)                | 3,756                  | 28%                  |  |
| 3.776 W. Communities Trunk                 | 22,640              | (7,434)              | (30,074)               | (4,318)                | 58%                  |  |
| 3.777 Esq Trunk Upgrade                    | 1,382               | (1,833)              | (3,215)                | (756)                  | 41%                  |  |
| 3.779 LWMP                                 | 0                   | 0                    | 0                      | 0                      |                      |  |
| 3.792 Craigflower PS                       | 86,690              | 87,527               | 837                    | 33,033                 | 38%                  |  |
| 3.798 Core - Sewage Integrated T.F.        | 975,153             | 968,215              | (6,938)                | 51,896                 | 5%                   |  |
| 3.798B Core - Sewage Integrated T.F.       | 1,098,409           | 1,084,667            | (13,742)               | 75,818                 | 7%                   |  |
| 3.798C Core - Wastewater Treatment Program | 5,000,000           | 9,740,147            | 4,740,147              | 1,233,103              | 13%                  |  |
| Sewer Debt                                 | 7,758,386           | 12,354,872           |                        | 1,422,641              |                      |  |

Cost sharing: with the exception of the East Coast Interceptor (ECI) all of the above debt is cost shared on the basis of design capacity. The ECI is cost shared on the basis of current year taxable assessments for the benefiting area converted by the prior year municipal multiples.

CAPITAL REGIONAL DISTRICT

| Capital Regional District<br>Sewers Operating - 2014 |                     | Total Service Budget |                        |                       | Municipality's Share |  |
|------------------------------------------------------|---------------------|----------------------|------------------------|-----------------------|----------------------|--|
| Service                                              | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Oak Bay | Share of<br>Budget   |  |
| 3.712 NE Trunk                                       | 1,934,733           | 1,973,052            | 38,319                 | 320,424               | 16%                  |  |
| 3.713 East Coast Interceptor                         | 834,076             | 843,065              | 8,989                  | 218,270               | 26%                  |  |
| 3.715 NE Trunk #2 - Bowker                           | 443,288             | 446,383              | 3,095                  | 124,585               | 28%                  |  |
| <b>Sewer Operating</b>                               | <b>3,212,097</b>    | <b>3,262,500</b>     |                        | <b>663,279</b>        |                      |  |

| Sewers Debt - 2014                          |                     | Total Service Budget |                        |                       | Municipality's Share |  |
|---------------------------------------------|---------------------|----------------------|------------------------|-----------------------|----------------------|--|
| Service                                     | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Oak Bay | Share of<br>Budget   |  |
| 3.771 NET Bowker                            | 204,923             | 192,402              | (12,521)               | 76,076                | 40%                  |  |
| 3.779 LWMP                                  | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.783* East coast Interceptor               | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.770 NET & ECI Upgrade                     | 1,138,101           | 1,137,796            | (305)                  | 183,640               | 16%                  |  |
| 3.770A NET & ECI Upgrade                    | 1,135,261           | 1,133,099            | (2,162)                | 182,882               | 16%                  |  |
| 3.770A NET & ECI Upgrade (100% for          |                     | 0                    |                        | (182,882)             | Invoice              |  |
| 3.786 SCADA                                 | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.787 East Coast Interceptor                | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.797 Ross Bay / Clover Point               | 0                   | 0                    | 0                      | 0                     | N/A                  |  |
| 3.798 Core - Sewage Integrated T.F.         | 975,153             | 968,215              | (6,938)                | 59,797                | 6%                   |  |
| 3.798 Core - Sewage Integrated T.F. (100%)  |                     | 0                    |                        | (59,797)              | Invoice              |  |
| 3.798B Core - Sewage Integrated T.F.        | 1,098,409           | 1,084,667            | (13,742)               | 91,676                | 8%                   |  |
| 3.798B Core - Sewage Integrated T.F. (100%) |                     | 0                    |                        | (91,676)              | Invoice              |  |
| 3.798C Core - Wastewater Treatment Program  | 5,000,000           | 9,740,147            | 4,740,147              | 628,239               | 6%                   |  |
| 3.798C Core - Wastewater Treatment Program  |                     |                      |                        | (628,239)             | Invoice              |  |
| 3.799 Oak Bay - Humber / Rutland            | 43,653              | 43,644               | (9)                    | 43,644                | 100%                 |  |
| 3.799 Oak Bay - Humber / Rutland (100%)     |                     | 0                    |                        | (43,644)              | Invoice              |  |
| <b>Sewer Debt</b>                           | <b>9,390,577</b>    | <b>14,107,568</b>    |                        | <b>259,716</b>        |                      |  |

\* Denotes borrowings subject to Facilities Assistance Grants

Cost sharing: with the exception of the East Coast Interceptor (ECI) all of the above debt is cost shared on the basis of design capacity. The ECI is cost shared on the basis of current year taxable assessments for the benefiting area converted by the prior year municipal multiples.

CAPITAL REGIONAL DISTRICT

| Capital Regional District<br>Sewers Operating - 2014 |                     | Total Service Budget |                        |                       | Municipality's Share |  |
|------------------------------------------------------|---------------------|----------------------|------------------------|-----------------------|----------------------|--|
| Service                                              | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Saanich | Share of<br>Budget   |  |
| 3.710 N W Trunk                                      | 2,574,803           | 2,578,797            | 3,994                  | 1,171,547             | 45%                  |  |
| 3.712 NE Trunk                                       | 1,934,733           | 1,973,052            | 38,319                 | 382,377               | 19%                  |  |
| 3.713 East Coast Interceptor                         | 834,076             | 843,065              | 8,989                  | 260,760               | 31%                  |  |
| 3.715 NE Trunk #2 - Bowker                           | 443,288             | 446,383              | 3,095                  | 16,114                | 4%                   |  |
| (Invoice) Sewer Operating                            | 5,786,900           | 5,841,297            |                        | 1,830,799             |                      |  |

| Sewers Debt - 2014                         |                     | Total Service Budget |                        |                       | Municipality's Share |  |
|--------------------------------------------|---------------------|----------------------|------------------------|-----------------------|----------------------|--|
| Service                                    | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Saanich | Share of<br>Budget   |  |
| 3.771 NET Bowker                           | 204,923             | 192,402              | (12,521)               | 13,122                | 7%                   |  |
| 3.772 NWT Upgrade                          | 527,998             | 439,433              | (88,565)               | 180,080               | 41%                  |  |
| 3.779 LWMP                                 | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.780* NW Trunk                            | 0                   | 0                    | 0                      | 0                     | N/A                  |  |
| 3.782* NE Trunk                            | 0                   | 0                    | 0                      | 0                     | N/A                  |  |
| 3.783* East coast Interceptor              | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.784 NWT Screens                          | 0                   | 0                    | 0                      | 0                     | N/A                  |  |
| 3.770 NET & ECI Upgrade                    | 1,138,101           | 1,137,796            | (305)                  | 255,663               | 22%                  |  |
| 3.770A NET & ECI Upgrade                   | 1,135,261           | 1,133,099            | (2,162)                | 254,607               | 22%                  |  |
| 3.786 SCADA                                | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.787 East Coast Interceptor               | 0                   | 0                    | 0                      | 0                     |                      |  |
| 3.789 Gorge Siphon                         | 0                   | 0                    | 0                      | 0                     | N/A                  |  |
| 3.793 Saanich                              | 0                   | 0                    | 0                      | 0                     | N/A                  |  |
| 3.794 Saanich (no grant)                   | 70,749              | 32,989               | (37,760)               | 32,989                | 100%                 |  |
| 3.798 Core - Sewage Integrated T.F.        | 975,153             | 968,215              | (6,938)                | 299,769               | 31%                  |  |
| 3.798B Core - Sewage Integrated T.F.       | 1,098,409           | 1,084,667            | (13,742)               | 327,895               | 30%                  |  |
| 3.798C Core - Wastewater Treatment Program | 5,000,000           | 9,740,147            | 4,740,147              | 2,974,641             | 31%                  |  |
| (Invoice) Sewer Debt                       | 9,945,671           | 14,536,346           |                        | 4,338,765             |                      |  |

\* Denotes borrowings subject to Facilities Assistance Grants

Cost sharing: with the exception of the East Coast Interceptor (ECI) all of the above debt is cost shared on the basis of design capacity. The ECI is cost shared on the basis of current year taxable assessments for the benefiting area converted by the prior year municipal multiples.

CAPITAL REGIONAL DISTRICT

| Capital Regional District<br>Sewers Operating - 2014 |                     | Total Service Budget |                        |                        | Municipality's Share |  |
|------------------------------------------------------|---------------------|----------------------|------------------------|------------------------|----------------------|--|
| Service                                              | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Victoria | Share of<br>Budget   |  |
| 3.710 N W Trunk                                      | 2,574,803           | 2,578,797            | 3,994                  | 373,410                | 14%                  |  |
| 3.712 NE Trunk                                       | 1,934,733           | 1,973,052            | 38,319                 | 1,270,251              | 64%                  |  |
| 3.713 East Coast Interceptor                         | 834,076             | 843,065              | 8,989                  | 364,035                | 43%                  |  |
| 3.715 NE Trunk #2 - Bowker                           | 443,288             | 446,383              | 3,095                  | 305,683                | 68%                  |  |
| Total Sewer Operating                                | 5,786,900           | 5,841,297            | 54,397                 | 2,313,379              |                      |  |
| (Invoice) Sewer Operating                            | 0                   | 0                    |                        | 2,313,379              |                      |  |
| Net Sewer Operating                                  | 5,786,900           | 5,841,297            |                        | 0                      |                      |  |

| L.W.M.P. - 2014                         |                     | Total Service Budget |                        |                        | Municipality's Share |  |
|-----------------------------------------|---------------------|----------------------|------------------------|------------------------|----------------------|--|
| Service                                 | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Victoria | Share of<br>Budget   |  |
| 3.750 LWMP - Public Involvement Process | 893,773             | 893,773              | 0                      | 359,717                | 40%                  |  |
| 3.753 Trucked Liquid Waste              | 0                   | 0                    | 0                      | 0                      |                      |  |
| Total L.W.M.P.                          | 893,773             | 893,773              | 0                      | 359,717                |                      |  |
| (Invoice) L.W.M.P.                      | 0                   | 0                    |                        | 359,717                |                      |  |
| Net L.W.M.P.                            | 893,773             | 893,773              |                        | 0                      |                      |  |

| Sewers Debt - 2014                         |                     | Total Service Budget |                        |                        | Municipality's Share |  |
|--------------------------------------------|---------------------|----------------------|------------------------|------------------------|----------------------|--|
| Service                                    | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>Victoria | Share of<br>Budget   |  |
| 3.771 NET Bowker                           | 204,923             | 192,402              | (12,521)               | 103,204                | 54%                  |  |
| 3.772 NWT Upgrade                          | 527,998             | 439,433              | (88,565)               | 142,069                | 32%                  |  |
| 3.773 Grndwtr Relief & Flow Mntrg          | 14,646              | 13,259               | (1,387)                | 1,268                  | 10%                  |  |
| 3.776 W. Communities Trunk                 | 22,640              | (7,434)              | (30,074)               | (502)                  | 7%                   |  |
| 3.779 LWMP                                 | 0                   | 0                    | 0                      | 0                      |                      |  |
| 3.783* East coast Interceptor              | 0                   | 0                    | 0                      | 0                      |                      |  |
| 3.784 NWT Screens                          | 0                   | 0                    | 0                      | 0                      | N/A                  |  |
| 3.770 NET & ECI Upgrade                    | 1,138,101           | 1,137,796            | (305)                  | 698,493                | 61%                  |  |
| 3.770A NET & ECI Upgrade                   | 1,135,261           | 1,133,099            | (2,162)                | 695,609                | 61%                  |  |
| 3.786 SCADA                                | 0                   | 0                    | 0                      | 0                      |                      |  |
| 3.787 East Coast Interceptor               | 0                   | 0                    | 0                      | 0                      |                      |  |
| 3.798 Core - Sewage Integrated T.F.        | 975,153             | 968,215              | (6,938)                | 404,665                | 42%                  |  |
| 3.798B Core - Sewage Integrated T.F.       | 1,098,409           | 1,084,667            | (13,742)               | 439,757                | 41%                  |  |
| 3.798C Core - Wastewater Treatment Program | 5,000,000           | 9,740,147            | 4,740,147              | 3,530,803              | 36%                  |  |
| Total Sewer Debt                           | 10,117,131          | 14,701,584           | 4,584,453              | 6,015,367              |                      |  |
| (Invoice) Sewer Operating                  | 0                   | 0                    |                        | 6,015,367              |                      |  |
| Net Sewer Debt                             | 10,117,131          | 14,701,584           |                        | 0                      |                      |  |

\* Denotes borrowings subject  
to Facilities Assistance Grants

Cost sharing: with the exception of the East Coast Interceptor (ECI) all of the above debt is cost shared on the basis of design capacity. The ECI is cost shared on the basis of current year taxable assessments for the benefiting area converted by the prior year municipal multiples.

CAPITAL REGIONAL DISTRICT

| Capital Regional District<br>Sewers Operating - 2014 |                     | Total Service Budget |                        |                          | Municipality's Share |  |
|------------------------------------------------------|---------------------|----------------------|------------------------|--------------------------|----------------------|--|
| Service                                              | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>View Royal | Share of<br>Budget   |  |
| 3.710 N W Trunk                                      | 2,574,803           | 2,578,797            | 3,994                  | 94,642                   | 4%                   |  |
| Sewer Operating                                      | 2,574,803           | 2,578,797            |                        | 94,642                   |                      |  |

| Sewers Debt - 2014                         |                     | Total Service Budget |                        |                          | Municipality's Share |  |
|--------------------------------------------|---------------------|----------------------|------------------------|--------------------------|----------------------|--|
| Service                                    | 2013<br>Requisition | 2014<br>Requisition  | Increase<br>(Decrease) | 2014 Total<br>View Royal | Share of<br>Budget   |  |
| 3.772 NWT Upgrade                          | 527,998             | 439,433              | (88,565)               | 1,758                    | 0%                   |  |
| 3.778 Esq Design Memorandum                | 0                   | 0                    | 0                      | 0                        | N/A                  |  |
| 3.779 LWMP                                 | 0                   | 0                    | 0                      | 0                        |                      |  |
| 3.786 SCADA                                | 0                   | 0                    | 0                      | 0                        |                      |  |
| 3.792 Craigflower PS                       | 86,690              | 87,527               | 837                    | 23,615                   | 26.98%               |  |
| 3.798 Core - Sewage Integrated T.F.        | 975,153             | 968,215              | (6,938)                | 47,191                   | 5%                   |  |
| 3.798B Core - Sewage Integrated T.F.       | 1,098,409           | 1,084,667            | (13,742)               | 28,603                   | 3%                   |  |
| 3.798C Core - Wastewater Treatment Program | 5,000,000           | 9,740,147            | 4,740,147              | 310,711                  | 3%                   |  |
| Sewer Debt                                 | 7,688,250           | 12,319,939           |                        | 411,877                  |                      |  |

\* Denotes borrowings subject  
to Facilities Assistance Grants

Cost sharing: with the exception of the East Coast Interceptor (ECI) all of the above debt is cost shared on the basis of design capacity. The ECI is cost shared on the basis of current year taxable assessments for the benefiting area converted by the prior year municipal multiples.

**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF WEDNESDAY, OCTOBER 8, 2014**

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**SUBJECT**     **LIQUID WASTE MANAGEMENT PLANNING FOR CORE AREA – NEXT STEPS**

**ISSUE**

To consider next steps in moving forward on planning for sewage treatment for the Core Area.

**BACKGROUND**

At the Core Area Liquid Waste Management Committee (CALWMC) meeting held September 10, 2014, the committee considered Terms of Reference (TOR) for an options study for Core Area Wastewater Treatment. The report was referred back to staff until the next CALWMC meeting in order to update the TOR to include suggestions from the September 3, 2014 correspondence from the Westside mayors and First Nations (Appendix A) and also guiding principles approved by the Committee (edited and included as part of Appendix B).

Since the September 10 CALWMC meeting, Capital Regional District (CRD) staff have met with both elected officials and administrators of the participating municipalities to better understand their interests.

Westside participant mayors from Colwood, Langford, View Royal and Esquimalt have indicated a desire to establish a subcommittee to evaluate options and develop a subregional wastewater treatment and resource recovery plan. The subcommittee would report to the CALWMC and be supported by CRD staff, Westside staff, consultants and a technical working group. The subcommittee and technical working group would be governed by TOR to be developed in accordance with the principles approved by the CALWMC and the CRD Board. Initial efforts would involve engagement and consultation with Westside residents and would begin immediately upon approval of the subcommittee concept by the CALWMC and Board. The TOR for the subcommittee, addressing the mandate, procedures and membership, are expected to be submitted for approval at the next meeting of the CALWMC in November.

The goal of the subcommittee will be to produce a conceptual plan for wastewater treatment and resource recovery for those participating jurisdictions that optimizes existing infrastructure, is developed in a collaborative manner with the other participants, is environmentally sound and minimizes cost while meeting the unique needs of the Westside in a proactive and timely way. Consultants engaged by the Westside participants anticipate that a conceptual plan will be brought forward by March 31, 2015. A plan proposed by Westside participants, and similar plans for Victoria, Oak Bay and Saanich, together with an accommodation of First Nation requirements, would form the basis for an amendment to the Core Area Liquid Waste Management Plan (CALWMP).

The City of Victoria has authorized City staff to proceed with a three-phase business case designed to explore legally-available options for governance, explore feasible sites for a Victoria-only system, and for a system cooperating with Saanich and Oak Bay. The

authorization includes initiating discussions with owners of potential sites and developing preliminary cost estimates for the various options to be explored. The authorization also includes the development of a public engagement strategy and approved funding to begin the process. An update report is scheduled to be provided to City of Victoria Council on October 23, 2014. This concept is similar to the approach envisioned by the Westside municipalities and could become part of an overall strategy under the CRD umbrella.

While CRD staff are engaged and already working to support the individual and collective efforts of Victoria and Westside participants, as recognized in the suggested guiding principles referred to staff by the Committee, it is acknowledged that any of the individual participants may be undertaking their own work or wish to engage with CRD staff at any time to explore their own options. At the present time, there has been no formal engagement between the CRD Board and participant councils to confirm their support for this new approach and staff are relying on the correspondence received at the last CALWMC meeting and committee direction to proceed as outlined in this report. It is also important that the CRD continue to engage with and work toward solutions on behalf of all participants through this process, as the CRD remains solely responsible for the implementation of the approved CALWMP and the operation and administration of the service. The CRD is also responsible to meet the requirements and necessary timelines to comply with regulations.

The role of the Independent Manager and Fairness and Transparency Advisor, as contemplated in the draft TOR for an Options Study considered by the Committee last month, may be more appropriate to re-evaluate in a few months' time when options developed by participants on a sub-regional basis are integrated into one overall plan amendment.

### **ALTERNATIVES**

1. That the Core Area Liquid Waste Management Committee recommend to the CRD Board:
  - a) that the principles and approaches for all participants moving forward found in Appendix B be endorsed;
  - b) that the formation of a subcommittee for the Westside participants be approved and staff be directed to develop terms of reference for a Westside Liquid Waste subcommittee for approval;
  - c) that immediate engagement and consultation with Westside residents, as determined by the subcommittee, be approved and that staff support resident engagement as requested by any participant within their jurisdiction;
  - d) that an update to the Core Area Technical and Community Advisory Committee be provided; and
  - e) that funding for community engagement and the evaluation of options for each participant be drawn from the annual capital funding requisition on a participant basis.
2. That staff be directed to complete the TOR for an options study for all participants of the service and submit at the next meeting of the CALWMC.

### **FINANCIAL IMPLICATIONS**

The principles outlined in Appendix B will govern total cost and distribution of grants and funding if approved in the agreement renegotiating process with the provincial and federal governments.

Funding for planning and development of Westside participant options will be drawn from the annual capital funding requisition and funded by the Westside participants only. The work will be managed and administered by CRD staff under the direction of the Westside subcommittee. This approach could be undertaken by other participants of the service, if desired. Initial funding in the amount of \$50,000 would allow the Westside participants to immediately undertake engagement activities with a further detailed workplan and budget to be presented to the Westside subcommittee for approval.

### **INTERGOVERNMENTAL IMPLICATIONS**

The subcommittee approach mirrors a Westside subcommittee made up of Colwood and Langford that was established in October 2009 for a similar purpose. Governance changes to support the Westside proposal could be developed to support a similar approach for the other participants to work with their neighbours or each other in any combination.

The Songhees First Nation would like representation on both the Westside subcommittee and the technical working group. This approach does not limit First Nations from also participating in other subcommittees that may be formed by the participants or individually.

The CALWMP and sewage treatment options for the Core Area remain the sole responsibility and accountability of the CRD. The proposal outlined above and adherence to the principles in Appendix B preserve this fundamental principle while maintaining the autonomy of the municipalities over land use decision making and the participants taking a lead role in consultation with the public.

### **TIMING IMPLICATIONS**

There is a growing awareness amongst participants, as discussed at length during the Westside technical working group meeting on September 26, 2014, that meeting the current CALWMP timeframes of 2018 and the federal guidelines of 2020 are extremely challenging, and that there is no other proposed Plan amendment at this time. Time is of the essence and demonstration of resolve and collaboration is necessary if provincial and federal funding is to be preserved.

### **CONCLUSION**

Westside participants within the Core Area have indicated a desire to establish a subcommittee to evaluate options and develop a subregional wastewater treatment and resource recovery plan. The Westside plan, and similar plans for Victoria, Oak Bay and Saanich, together with an accommodation of First Nation requirements, would form the basis for an amendment to the CALWMP.

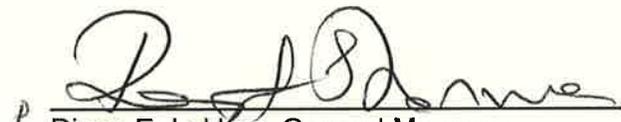
Time is of the essence. Though implementing a new wastewater treatment plan may not be achievable by the federal deadline, the subcommittee approach will allow the CRD to produce a plan and implementation schedule that could demonstrate the resolve and collaboration that allows for the preservation of funding from the provincial and federal governments.

**RECOMMENDATION**

That the Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:

1. that the principles and approaches for all participants moving forward found in Appendix B be endorsed;
2. that the formation of a subcommittee for the Westside be approved and staff be directed to develop terms of reference for a Westside Liquid Waste subcommittee for approval;
3. that immediate engagement and consultation with Westside residents be approved;
4. that an update to the Core Area Technical and Community Advisory Committee be provided; and
5. that funding for community engagement and the evaluation of options for each participant be drawn from the annual capital funding requisition on a participant basis.

  
Larisa Hutcheson, P.Eng., General Manager  
Parks & Environmental Services  
Concurrence

  
Diana E. Lokken, General Manager  
Finance & Technology  
Concurrence

  
Robert Lapham, MCIP, RPP  
Chief Administrative Officer  
Concurrence

LH:cl

Attachments: 2

CRD EXECUTIVE OFFICE

*Received*

SEP 04 2014

Date: September 3, 2014

File: 6440-40-COM-16926



City of Langford  
www.cityoflangford.ca



**COLWOOD CITY HALL**  
3300 Wishart Road  
Colwood, BC V9C 1R1

**CONTACT**

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8:30 am – 4:30 pm  
Monday – Friday  
except stat holidays

www.colwood.ca

Alistair Bryson  
Chair, Capital Regional District Board  
1903 Mt. Newton X Road  
Saanichton, BC V8M 2A9

Dear Mr. Bryson:

**Re: Independent study on options for waste water treatment for the Core Area of the Capital Regional District (CRD)**

As the Mayors of the Westside communities and the Chief of the Songhees Nation, we would like to provide you with our evaluation of the Terms of Reference (ToR) for the proposed study to identify viable options to treat the waste water for the Core Area. We remain committed to finding a regional solution to treat waste water.

While we appreciate that some of the criteria put forward by municipal/First Nations staff has been incorporated into the document currently before the Core Area Liquid Waste Management Committee (CALWMC), we strongly believe that there are additional improvements that are necessary to facilitate a successful solution that is regionally acceptable.

**1. Independent Manager (IM)**

The current document does not allow the IM sufficient independence to discharge their duties. In order for the study to be successful in examining all possible alternatives, the IM must have full access to all staff and information (CRD and municipal/First Nations) and not be constrained nor unduly fettered by previous non-statutory policy considerations. They also need access to all documents – both internal and external – and should not be overly influenced by any one set of preferences. There also needs to be greater transparency. At present, the IM is selected by CRD staff from a shortlist prepared by CRD staff, beholden to a CRD General Manager on a contract of services that has not been shared with our group.

There is confusion between the respective roles of the IM and the Fairness and Transparency Advisor (FTA). The whole purpose of the IM is to come up with an independent evaluation of options for treatment facilities. FTAs are usually employed in large scale procurement processes where staff are the primary issuers and

Via Email: crdchair@crd.bc.ca

Original will not be mailed unless requested

CAO

GM

For action / resp/ by AS

Corresp. for Board / Committee meeting

For Information Only

Copies to Sutton  
520-20 CALWMC  
0400-50 gen.

Board

Communications

evaluators of the proposal – not an overseer of what should already be an independent process. If the IM is truly independent, with unfettered access to information and staff, there should be no need for an FTA. Furthermore, as drafted, the FTA role is constrained to be an evaluation against the Terms of Reference, and the TOR is so limited that little would be gained by such an evaluation.

## **2. Integration with municipal and First Nations staff**

As noted above, municipal/First Nations staff have been participating in a process with CRD staff and through this process the CRD have requested suggested candidates from municipal/First Nations staff. Unfortunately there is no opportunity for staff to agree on the short list that will be presented to the CALWMC for decision, nor is there an opportunity for Directors to discuss potential candidates with their staff prior to making a decision.

There also does not seem to be any structural attempt to better integrate municipal and First Nations staff in a more fulsome and constructive way throughout the study. If we are to overcome the current obstacles and move forward, it is imperative that municipalities and First Nations are engaged throughout the process to identify issues and solutions prior to recommendations coming back to the CALWMC.

## **3. Technical and financial considerations**

The evaluation of alternative sites is constrained by parameters and assumptions that create an internal bias to reinforce existing decisions without fully evaluating them. The ToR seem to presuppose that only past sites will be “in scope” for this study. While we recognize that we have very tight timelines imposed by senior levels of government, and we have a moral imperative to move forward with properly treating our waste water, by dismissing any new locations to be part of the study we are in fact presupposing the outcome similar – if not the same – as the one currently tabled. Time has passed since the first analysis was done, and technologies and public awareness have advanced – we need to keep up with this – and not follow behind with outdated assumptions.

There is no mention of a distributed system or of “net costs” – again based on past analysis that may no longer be valid. Smaller facilities may have greater public acceptance in individual communities and offer the opportunity for resource recovery that would offset the overall cost to taxpayers. By seemingly dismissing this as “unfeasible” we are limiting ourselves to old technologies that may not offer the best economic and environmental outcomes for our communities.

## **4. Public consultation and involvement**

It is imperative to have the public involved and “onside” from the beginning if we are going to achieve success. It is critical that we put thought and effort into engaging the public at large – and it is doubly important that we actively engage First Nations in the conversation and decision making.

There needs to be more thought and planning put into how we include the citizens of the core area into finding the solution. While it is true that we will not be able to satisfy everyone – it is also equally true that if we don't engage people we will not satisfy anyone.

**5. Financing the study**

Staff have identified \$400K as being the budget for the project. We believe that we need to have a proper breakdown on where and how much is being spent on the study. We have already spent a considerable amount without having reached an acceptable answer – we believe that we need better budgetary oversight for both this study and the project overall.

**6. Accountability**

This project is far too important for its management to be the responsibility of a single person – regardless of how competent that individual is. The IM needs a direct reporting relationship with either the entire CALWMC or a sub-set thereof. A technical committee should be established comprised of staff from the CRD, Municipalities and First Nations to facilitate the sharing of technical information being considered by the IM.

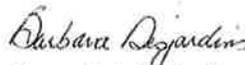
We would like to acknowledge that we have moved forward in the last few months from having a circular debate on one specific option – to opening the door for looking for better solutions for waste water treatment. Ensuring that staff from member municipalities and First Nations have input into this process is a positive step to help build relationships between both levels of local government.

We are painfully aware that we are running out of time, however it is imperative that for us to support the process currently on the table and for that process to lead us to a better result than the one that has already been rejected, we must make further adjustments to the ToR.

Regards,



Mayor Carol Hamilton  
City of Colwood



Mayor Barb Desjardins  
Town of Esquimalt



Chief Ron Sam  
Songhees Nation



Mayor Stew Young  
City of Langford



Mayor Graham Hill  
Town of View Royal

cc: Minister of Environment  
CRD Board

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## PRINCIPLES AND APPROACH

1. Undertake a fair and transparent process.
2. Collaborate and achieve incremental consensus building amongst all participants.
3. Achieve value for money for taxpayers and meet the CRD's project budget.
4. Optimize existing infrastructure.
5. Fiscally equitable amongst participants based on design capacity benefit.
6. Contribute to regional sustainability and respond to climate change.
7. Optimize resource recovery, supported by prudent business case analysis. Consider use of effluent heat, reclaimed water, struvite, biogas and beneficial use of biosolids.
8. Integrate proposed wastewater treatment and resource recovery facilities within the community.
9. Engage in a robust public consultation process at each phase of the planning process.
10. Ensure that the planning process and revisions to the current approved LWMP resulting from the planning process are conducted under the umbrella of the CRD to preserve Federal and Provincial funding to the extent possible.
11. Identify wastewater and residual solids treatment solutions for all seven municipalities and the two First Nations that meet or exceed applicable regulatory requirements.
12. Acknowledge that investments made by participants in community assets over and above the LWMP are outside the scope of the project.
13. Acknowledge the following guidelines, which are designed to preserve the autonomy of the municipalities and First Nations while maintaining the requirement to provide a holistic regional sewage treatment solution under the umbrella of the CRD:
  - (a) Each municipality will have authority over zoning for treatment plants within that municipality. Each municipality, not the CRD, will be responsible for either identifying a suitable site or sites within the municipality or for collaborating with another municipality that has agreed to host a site.
  - (b) Each municipality hosting a site assumes primary responsibility for determining the public process required to obtain approval for that site. These public processes will be led by the municipalities. Municipalities or groups of municipalities will bring forward proposed amendments to the Core Area Liquid Waste Management Plan by March 31, 2015 or demonstrate that they will meet environmental and timeline requirements.

- (c) Costs will be allocated on the basis of actual costs to serve each participant. The cost of a plant serving only one municipality would be allocated entirely to that municipality, and similarly the cost of a plant and conveyance systems serving a subset of municipalities will be allocated entirely among those participants. No municipality will be obliged to share the cost of plant or conveyance system in another municipality except by agreement between them, and the CRD as approved by the Board.
- (d) Individual municipalities or sub-systems will determine levels of treatment and resource recovery, provided they meet the standards required by regulators and funders. Benefits of resource recovery will be allocated in the same way as costs.
- (e) Grant funding should be allocated to reduce costs of systems on the basis of the current cost sharing formula and will be the basis of how future debt servicing costs are allocated among municipalities.



**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF WEDNESDAY, OCTOBER 8, 2014**

---

**SUBJECT      SEATERRA PROGRAM AND BUDGET UPDATE NO. 16**

**ISSUE**

The Commission must report in writing, at least once every 30 days, on the progress of the Seaterra Program. During budget discussions, the Core Area Liquid Waste Management Committee (Committee) requested monthly financial reporting on the Seaterra Program.

**BACKGROUND**

Attached is a monthly financial update for the Seaterra Program (Schedule A) year-to-date for August 2014. The 2014 Seaterra Financial Plan (Schedule B) is also attached for information. The report reflects actuals and commitments to the end of August 31, 2014.

At the July 9, 2014 Committee and Board meeting an information report was presented that discussed the Seaterra Program being placed on pause and options for reducing the workplan for 2014. The attached program summary report reflects the reduced service level as directed by the Committee. The estimated expenditures to year-end of \$8.9 million are for costs related to the Craigflower Pump Station work and other current commitments.

The 2015 – 2019 Financial Plan will be adjusted for the current known delays in timing. This budget estimate will be revised as new information becomes available on core drivers and assumptions used in establishing the original program budget.

**ALTERNATIVES**

1. That the Core Area Liquid Waste Management Committee receive Seaterra Program and Budget Update No. 16 for information.
2. That the Core Area Liquid Waste Management Committee request additional financial information.

**FINANCIAL IMPLICATIONS**

The 2014 program expenditures, including expenditures as at August 31, 2014 are within the approved 2014 Financial Plan. The current projected reduction of \$35.7 million is a direct result of the Program service delivery being placed on pause. The majority of the estimated costs to year end of \$7.4 million are for the Craigflower Pump Station.

**CONCLUSION**

The Committee will continue to receive additional information in future updates.

**RECOMMENDATION**

That the Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board:

That Seaterra Program and Budget Update No. 16 be received for information.



Rajat Sharma, MBA, CPA, CMA  
Senior Manager, Financial Services



Diana E. Lokken, CPA, CMA  
General Manager, Finance and Technology Dept.



Robert Lapham, MCIP, RPP  
Chief Administrative Officer  
Concurrence

Attachments: Schedule A – 2014 Program Summary Report  
Schedule B – Program Financial Plan  
Seatterra Program Progress Report No. 15 and 16

**2014 Program Summary Report  
Year to Date 31-August-2014**

SCHEDULE A-1

|                                     | <u>2014 Budget</u>       | <u>Year to Date Actuals</u> | <u>Commitments Unpaid (CU)</u> | <u>Total YTD Actuals + CU</u> | <u>Estimated Costs Sept-Dec 2014</u> | <u>Forecast of Actuals 2014</u> | <u>Variance Budget - Forecast</u> | <u>Projected CU Dec 31 2014</u> |
|-------------------------------------|--------------------------|-----------------------------|--------------------------------|-------------------------------|--------------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| WASTEWATER TREATMENT - M'CLOUGHLIN  | 14,166,000               | 427,477                     | 1,541,209                      | 1,968,686                     | 172,523                              | 600,000                         | 13,566,000                        | 0                               |
| CONVEYANCING PIPES AND PUMPSTATIONS | 19,875,000               | 5,869,080                   | 5,165,770                      | 11,034,850                    | 6,130,920                            | 12,000,000                      | 7,875,000                         | 0                               |
| RESOURCE RECOVERY CENTRE            | 4,734,000                | 1,657,589                   | 2,868,604                      | 4,526,193                     | 142,411                              | 1,800,000                       | 2,934,000                         | 0                               |
| COMMON COSTS                        | 8,112,000                | 2,622,743                   | 4,277,563                      | 6,900,306                     | 889,000                              | 3,511,743                       | 4,600,257                         | 0                               |
| INTERIM FINANCING                   | 435,000                  | 0                           | 0                              | 0                             | 100,000                              | 100,000                         | 335,000                           | 0                               |
| PROGRAM CONTINGENCY                 | 6,399,000                | 0                           | 0                              | 0                             | 0                                    | 0                               | 6,399,000                         | 0                               |
| <b>TOTAL</b>                        | <b><u>53,721,000</u></b> | <b><u>10,576,889</u></b>    | <b><u>13,853,146</u></b>       | <b><u>24,430,035</u></b>      | <b><u>7,434,854</u></b>              | <b><u>18,011,743</u></b>        | <b><u>35,709,257</u></b>          | <b><u>0</u></b>                 |

- 'Estimated costs Sep - Dec' reflect the reduced workplan as directed by Committee.

- Total reduction for the year is forecasted at \$35.7M.

**Seatterra**  
**Program Management Expenditure Report**  
**Year to Date 31-August-2014**

**SCHEDULE A-2**

|                          | <u>2014 Budget</u> | <u>Year to Date<br/>Actuals</u> | <u>Estimated Costs<br/>Sept - Dec 2014</u> | <u>Forecast<br/>Jan -Dec</u> | <u>Commitments<br/>(Note 1)</u> |
|--------------------------|--------------------|---------------------------------|--------------------------------------------|------------------------------|---------------------------------|
| <b>CAPITALIZED COSTS</b> |                    |                                 |                                            |                              |                                 |
| Salaries and Wages       | 2,305,000          | 1,006,722                       | 480,000                                    | 1,486,722                    |                                 |
| Consultants              | 4,261,000          | 1,227,146                       | 240,000                                    | 1,467,146                    | 4,102,728                       |
| Rentals and Leases       | 372,000            | 173,062                         | 88,000                                     | 261,062                      | 87,640                          |
| Operating - Other Costs  | 829,000            | 101,625                         | 32,000                                     | 133,625                      | 87,195                          |
|                          | <u>7,767,000</u>   | <u>2,508,555</u>                | <u>840,000</u>                             | <u>3,348,555</u>             | <u>4,277,563</u>                |
| <b>TOTAL</b>             |                    |                                 |                                            |                              |                                 |

Note 1: Includes multi year commitments

Note 2: Assumes no change to staffing levels September - December

**Seattera**  
**Commission Expenditure Report**  
**Year to Date 31-August-2014**

**SCHEDULE A-3**

|                          | <u>2014 Budget</u>    | <u>Year to Date<br/>Actuals</u> | <u>Estimated Costs<br/>Sept - Dec 2014</u> | <u>Forecast<br/>Jan- Dec</u> | <u>Commitments</u> |
|--------------------------|-----------------------|---------------------------------|--------------------------------------------|------------------------------|--------------------|
| <b>CAPITALIZED COSTS</b> |                       |                                 |                                            |                              |                    |
| Honoraria                | 243,000               | 76,594                          | 40,000                                     | 116,594                      | 0                  |
| Travel                   | 40,000                | 6,512                           | 4,000                                      | 10,512                       | 0                  |
| Operating - Other Costs  | 62,000                | 31,082                          | 5,000                                      | 36,082                       | 0                  |
|                          | <u>345,000</u>        | <u>114,188</u>                  | <u>49,000</u>                              | <u>163,188</u>               | <u>0</u>           |
| <b>TOTAL</b>             | <b><u>345,000</u></b> | <b><u>114,188</u></b>           | <b><u>49,000</u></b>                       | <b><u>163,188</u></b>        | <b><u>0</u></b>    |

**Seatterra Program  
Financial Plan**

SCHEDULE B

|                                    | Estimated<br>Costs to Date<br>Dec 2013 | 2014              | 2015               | 2016               | 2017               | 2018              | Total              |
|------------------------------------|----------------------------------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|
| WASTEWATER TREATMENT - MCLOUGHLIN  | 9,612,000                              | 14,166,000        | 72,460,000         | 141,844,000        | 39,926,000         | 553,000           | 278,561,000        |
| CONVEYANCING PIPES & PUMP STATIONS | 6,264,000                              | 19,875,000        | 53,672,000         | 39,907,000         | 6,962,000          | 106,000           | 126,786,000        |
| RESOURCE RECOVERY CENTRE           | 3,233,000                              | 4,734,000         | 31,388,000         | 166,958,000        | 48,072,000         | 291,000           | 254,676,000        |
| COMMON COSTS                       | 4,786,000                              | 8,302,000         | 9,460,000          | 9,593,000          | 11,234,000         | 6,962,000         | 50,337,000         |
| INTERIM FINANCING                  | 37,000                                 | 435,000           | 2,211,000          | 7,116,000          | 14,906,000         | 6,696,000         | 31,401,000         |
| PROGRAM CONTINGENCY                | 0                                      | 6,399,000         | 9,560,000          | 19,944,000         | 4,922,000          | 100,000           | 40,925,000         |
| <b>TOTAL</b>                       | <b>23,932,000</b>                      | <b>53,911,000</b> | <b>178,751,000</b> | <b>385,362,000</b> | <b>126,022,000</b> | <b>14,708,000</b> | <b>782,686,000</b> |

**SOURCES OF FUNDING**

|                      |                   |                   |                    |                    |                    |                   |                    |
|----------------------|-------------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|
| Government of Canada | 0                 | 35,492,000        | 72,808,000         | 61,700,000         | 0                  | 74,600,000        | 244,600,000        |
| Province of BC       | 0                 | 0                 | 0                  | 0                  | 0                  | 248,000,000       | 248,000,000        |
| CRD debt             | 1,932,000         | 6,965,000         | 52,633,000         | 183,426,000        | 101,021,000        | (277,891,000)     | 68,086,000         |
| Proponent financing  | 0                 | 1,454,000         | 38,310,000         | 120,236,000        | 0                  | (60,000,000)      | 100,000,000        |
| Requisition          | 5,000,000         | 10,000,000        | 15,000,000         | 20,000,000         | 25,000,000         | 30,000,000        | 105,000,000        |
| CRD Capital          | 17,000,000        | 0                 | 0                  | 0                  | 0                  | 0                 | 17,000,000         |
|                      | <b>23,932,000</b> | <b>53,911,000</b> | <b>178,751,000</b> | <b>385,362,000</b> | <b>126,021,000</b> | <b>14,709,000</b> | <b>782,686,000</b> |

Note 1: Actual proponent financing will be determined at contract finalization

Note 2: The budget for 2014 does not include contract amounts committed in 2014 which will be paid in 2015-2018

Note 3: Costs to date reflect Seatterra implementation costs. Costs to date do not include CAWTP Program planning costs from 2006-2013.

Note 4: The PPP Canada grant is less than the maximum funding level of \$83,400,000 by \$8,800,000. Assumes \$35,000,000 of risk costs will not be incurred.



**Seaterra Program  
Progress Report No. 15**

**July 31, 2014**

**Prepared by:**

**Seaterra Program Management Office**

## **Seattera Program Progress Report No. 15**

**In addition to reporting on activities that are the responsibility of the Seattera Program Commission, this progress report also includes updates on activities that are the responsibility of the Core Area Liquid Waste Management Committee (CALWMC) and the Capital Regional District (CRD) Board, namely, activities related to facility siting and agreements with municipalities or other government agencies. Those matters that are the direct responsibility of the CALWMC and CRD Board are clearly identified in the text as “CRD responsibility” and are identified in Section 1.2.**

# Seatterra Program Progress Report No. 15

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## **Seatterra Program Progress Report No. 15**

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## **Seattera Program Progress Report No. 15**

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# Overall Program

## July 2014 Project Status

### SAFETY

- No Lost Time Incidents in the previous 3 months.

### COST

- Program on budget - <20% Program Contingency committed.

### SCHEDULE

- Procurement of McLoughlin DBF Contract delayed indefinitely.
- Uncertainty of site location continues to threaten the Program schedule. Additional delays anticipated.
- All activities suspended from June 27, 2014, with the exception of the construction of the Craigflower Pump Station and the design of the Arbutus Road attenuation tank.

### QUALITY

- No critical NCR's recorded.

### ENVIRONMENT

- No incidents or breach in regulatory compliance recorded.

### RISK

- The overall program completion of 2018 now in jeopardy as a result of the zoning impasse for the implementation of a wastewater treatment plant at McLoughlin Point.
- Potential withdrawal of funding as a result of no wastewater treatment plant site.

### COMMUNITY

- Public & Municipal engagement ongoing.

- Key Issues :**
- No site allocated for the implementation of the WWTP now jeopardizing the overall Program.
  - Potential withdrawal of funding as a result of no WWTP site.
  - All activities suspended from June 27, 2014, with the exception of the construction of the Craigflower Pump Station and the design of the Arbutus Road attenuation tank.

### Financial Summary

(\$M)

|                        |       |
|------------------------|-------|
| Budget                 | 787.9 |
| Commitment To Date     | 49.3  |
| Forecast at Completion | 787.9 |
| Variance               | -     |

### Schedule Key Dates

### Target

|                                          |         |
|------------------------------------------|---------|
| McLoughlin Pt, Outfall, Harbour Crossing |         |
| DBF Awarded                              | Q3 2014 |
| Construction Complete                    | Q2 2018 |
| Commissioning Complete                   | Q4 2018 |
| Resource Recovery Centre & Pipeline      |         |
| DBFO Awarded                             | Q1 2015 |
| Construction Complete                    | Q4 2017 |
| Commissioning Complete                   | Q1 2019 |
| Conveyance Pump & Pipeline               |         |
| Macaulay PS DB Awarded                   | Q4 2015 |
| Clover PS DB Awarded                     | Q3 2014 |
| All Conveyance Complete                  | Q3 2017 |

Legend On Track Delayed At Risk Critical/Late



## Seaterra Program Progress Report No. 15

### 1. Executive Summary

#### 1.1 Seaterra Program

- 1.1.1 Costs this period are \$1,899,217 for a total cost to date of \$34,642,984 which is trending within budget and under the projected Seaterra Program (Program) cash flows.
- 1.1.2 Commitments this period are \$167,549 for a total commitment to date of \$49,360,213 (approximately 6.2% of the Program budget).
- 1.1.3 In July 2014 procurement activities on the Program remain suspended following the Township of Esquimalt's rejection of the zoning required for the implementation of a wastewater treatment facility at McLoughlin Point. The CRD Board and Core Area Liquid Waste Management Committee (CALWMC) met July 9, 2014 to discuss next steps for the Program.
- 1.1.4 Liquid Waste Management Plan (LWMP) Amendment No. 9 approval by Ministry of Environment (MOE) was received July 3, 2014 with conditions.
- 1.1.5 As a result of the suspension of procurement activities in June 2014, the Program schedule is in jeopardy of not achieving completion of the Program before the end of 2018. Acquisition of a new site and completion of any rezoning required followed by construction and commissioning of the wastewater treatment plant (WWTP) and the Resource Recovery Centre (RRC) are the activities that will determine and drive a revised Program critical path.
- 1.1.6 The selected preferred proponent for the McLoughlin Design-Build-Finance (DBF), Harbour Resource Partners has extended the validity of their bid to September 12, 2014.
- 1.1.7 The Clover Pump Station Design-Build (DB) Request for Proposals (RFP) closing scheduled for July 10, 2014 has been suspended indefinitely pending further direction from the Seaterra Commission.
- 1.1.8 The RFP for Clover Forcemain (Conveyance Pipe) Design Consulting Services closed in May 2014. The evaluation of the proposals has been suspended indefinitely pending further direction from the Seaterra Commission.
- 1.1.9 Construction related activities continued on the Craigflower Pump Station project. Forming and pouring of the pump station walls continued. The Electrical/Motor Room slab pour was completed this month. The trenchless crossing of Portage Inlet was 50% complete.
- 1.1.10 Design continued on the Arbutus Road Attenuation Tank which is approximately 85% complete. The construction Request for Qualification (RFQ), scheduled to be issued in the last week of May 2014, has been suspended indefinitely pending further direction of the Seaterra Commission.

## Seatterra Program Progress Report No. 15

### Major Issues:

#### CRD:

- Approval of a WWTP site.
- Liquid Waste Management Plan (LWMP) Amendment No. 9 approved by the CRD Board and forwarded to Ministry of Environment (MOE) was approved July 3, 2014.
- The LWMP includes a WWTP at McLoughlin Point and may require further amendment for changes to the Program resulting from the current inability to proceed with the implementation of a wastewater treatment facility at that site.
- The Clover Pump Station rezoning application was put on hold pending further direction on the entire Seatterra Program.
- Relocation of rock/gravel stockpile from the proposed site of the RRC at Hartland was put on hold.

### Major Activities Planned – Next Period:

#### CRD:

- The CALWMC and CRD Board plan to meet August 13, 2014 to discuss next steps of the Seatterra Program.

#### Commission/PMO:

- Awaiting direction from the CRD Board on an approved site for the WWTP and determining next steps for the Program.

## 1.2 Core Area Liquid Waste Management Committee/CRD Board Issues

- 1.2.1 Completion of Federal and Provincial Funding Agreements – pending final zoning approvals and sign off by the Ministers.
- 1.2.2 Potential invalidation of Federal and Provincial Funding Agreements due to the Ministers' decision to not intercede in the zoning impasse that exists for the implementation of a WWTP at McLoughlin Point.
- 1.2.3 Determine next steps for the Program.

## 2. Activities – McLoughlin Point Wastewater Treatment Plant Project

### 2.1 Design/Engineering Status

- 2.1.1 All activities currently suspended.

### 2.2 Procurement Status

- 2.2.1 The selected preferred proponent for the McLoughlin DBF, Harbour Resource Partners has extended the validity of their bid to September 12, 2014.

## **Seaterra Program Progress Report No. 15**

### **2.3 Construction Status**

- 2.3.1 Construction initially scheduled to commence July 2014 has been delayed indefinitely pending further direction from the Seaterra Commission.

### **2.4 Status of 3<sup>rd</sup> Party Approvals**

- 2.4.1 An Environmental Approval in Principle (AIP) was prepared and submitted for the McLoughlin Point site in March 2014. It was successfully screened by a Society of Contaminated Sites Approved Professionals of BC registered professional and transferred to the MOE for final release in March 2014. Comments from MOE were received in April 2014 requesting additional information. Work continued through July to address the comments and an addendum was scheduled to be issued to the MOE for review and approval early August 2014. The issue of the addendum has been suspended pending further direction from the Seaterra Commission.
- 2.4.2 Site Characterization Study scheduled to commence July 2014 has been suspended indefinitely pending direction from the Seaterra Commission.

### **2.5 Major Commitments This Period**

- 2.5.1 No major commitment to report for July 2014.

### **2.6 Schedule**

- 2.6.1 The DBF procurement process is four months behind schedule and is now suspended indefinitely. The submission of a staff report, scheduled to be issued to the Seaterra Commission in June 2014, recommending award and execution of the contract with HRP, has been suspended indefinitely pending further direction (all delays impact the critical path and extend the completion date of the Program).

### **2.7 Significant Issues/Decisions Pending**

- 2.7.1 Approval of a site for the WWTP.
- 2.7.2 Revision to or termination of the procurement process for the DBF contract.
- 2.7.3 Potential voiding of the Funding Agreements if the WWTP project does not proceed at McLoughlin Point.

## **3 Activities – Resource Recovery Centre (RRC)**

### **3.1 Design/Engineering Status**

- 3.1.1 All activities currently suspended.

## **Seaterra Program Progress Report No. 15**

### **3.2 Procurement Status**

- 3.2.1 The Design-Build-Finance-Operate RFP procurement process has been suspended indefinitely pending further direction from the Seaterra Commission.
- 3.2.2 Following evaluation of the proposals received for RFP RRC-310 Biosolids Disposal Services, the Commission at the June 27, 2014 meeting approved forwarding the staff report and the Biosolids Disposal Services Evaluation with recommendations to CALWMC and the CRD Board for their consideration.

### **3.3 Status of 3<sup>rd</sup> Party Approvals**

- 3.3.1 An Environmental Impact Study (EIS), geotechnical investigation, and surveying of the alignment from McLoughlin Point to the RRC at Hartland scheduled to commence in May 2014 has been suspended indefinitely pending direction from the Seaterra Commission.
- 3.3.2 A Power Utility Service Application was submitted and planning for service extension to the Hartland RRC with BC Hydro has been suspended indefinitely pending direction from the Seaterra Commission.

### **3.4 Major Commitments This Period**

- 3.4.1 No major commitment to report for July 2014.

### **3.5 Schedule**

- 3.5.1 The procurement is now suspended indefinitely pending direction from the Seaterra Commission (all delays impact the critical path and extend the completion date of the Program).

### **3.6 Significant Issues/Decisions Pending**

#### **CRD:**

- LWMP Amendment No. 9 approved by the CRD Board and forwarded to MOE was approved by the Minister July 3, 2014. The LWMP includes a WWTP at McLoughlin Point and may require further amendment for changes to the Program resulting from the Ministers' decision not to intercede in the zoning impasses that exists for the implementation of a WWTP at McLoughlin Point.
- Confirm water servicing requirements at the RRC Hartland site.
- Complete an EIS for the RRC plant and Residual Solids Pipeline.

#### **Commission/PMO:**

- None.

## **Seatterra Program Progress Report No. 15**

### **4. Activities – Macaulay Pump Station**

#### **4.1 Design/Engineering Status**

- 4.1.1 Development of technical specification scheduled to commence Q4 2014 have been suspended indefinitely pending further direction from the Seatterra Commission.

### **5. Activities – Craigflower Pump Station**

#### **5.1 Construction Status**

- 5.1.1 Forming and pouring of pump station walls continued. South wall (Gridline C) formed and poured. The 42" diameter steel casing for the gravity sewer trenchless crossing of Portage Inlet was completed and the 30" steel casing for the forcemain commenced. The final ground floor slab is formed and ready to be poured in early August.

#### **5.2 Schedule**

- 5.2.1 The shoring failure that occurred in November has caused at least a 3 month delay, and the contractor is now projecting a substantial completion date of January 31, 2015. There is no impact to the Program critical path.

#### **5.3 Significant Issues/Decisions Pending**

- 5.3.1 An insurance claim for the resulting costs of the shoring failure was compiled by the general construction contractor Jacob Bros Construction Ltd. (JBC) and presented to the insurance adjuster for review July 14, 2014.

### **6. Activities – Clover Pump Station**

#### **6.1 Design/Engineering Status**

- 6.1.1 The Clover Pump Station DB has been suspended indefinitely pending further direction from the Seatterra Commission.

#### **6.2 Procurement Status**

- 6.2.1 Procurement has been suspended indefinitely pending further direction from the Seatterra Commission.

#### **6.3 Status of 3<sup>rd</sup> Party Approvals**

- 6.3.1 A rezoning application for Clover Point Pump Station was submitted to the City of Victoria and Council approved the rezoning application to go to the public hearing stage. However, the rezoning process has been paused until there is further direction on the Seatterra Program.

## **Seaterra Program Progress Report No. 15**

### **6.4 Major Commitments This Period**

6.4.1 No major commitment to report for July 2014.

### **6.5 Schedule**

6.5.1 The procurement process for the award of the Clover Pump Station DB has been suspended indefinitely.

### **6.6 Significant Issues/Decisions Pending**

6.6.1 A decision to proceed or terminate the procurement process.

## **7. Activities – Currie Pump Station**

### **7.1 Design/Engineering Status**

7.1.1 Design scheduled to commence Q3 2015 has been suspended indefinitely pending further direction from the Seattera Commission.

## **8. Activities – Arbutus Road Attenuation Tank**

### **8.1 Design/Engineering Status**

8.1.1 KWL is continuing with the detailed design work which is now 85% complete. An open house, to present design information, scheduled for early June 2014 has been deferred pending further direction from the Seattera Commission.

### **8.2 Procurement Status**

8.2.1 A RFQ to prequalify construction contractors scheduled to be issued at the end of May 2014 has been suspended indefinitely pending further direction from the Seattera Commission.

### **8.3 Status of 3<sup>rd</sup> Party Approvals**

8.3.1 LWMP Amendment No. 9 which includes updating the Arbutus Road Attenuation Tank size has been approved by the CRD Board and by MOE.

### **8.4 Major Commitments This Period**

8.4.1 None this period.

### **8.5 Schedule**

8.5.1 The detailed design for the Arbutus Road Attenuation Tank will be complete in the 3<sup>rd</sup> quarter of 2014. The procurement process for the construction of the Arbutus Road Attenuation Tank construction has been suspended indefinitely pending further direction from the Seattera Commission.

## **Seaterra Program Progress Report No. 15**

### **8.6 Significant Issues/Decisions Pending**

- 8.6.1 A decision was made not to proceed with construction while the existing zoning impasse for the WWTP at McLoughlin Point is being resolved.

## **9. Activities – Clover Forcemain**

### **9.1 Design/Engineering Status**

- 9.1.1 Design scheduled to commence in Q2 2014 has now been suspended indefinitely pending further direction from the Seaterra Commission.

### **9.2 Procurement Status**

- 9.2.1 The RFP for Clover Forcemain (Conveyance Pipe) Design Consulting Services closed in May 2014. The evaluation process has been suspended indefinitely pending further direction from the Seaterra Commission.

### **9.3 Status of 3<sup>rd</sup> Party Approvals**

- 9.3.1 A License Agreement for Clover Forcemain has been submitted to the City of Victoria. The agreement is tied to rezoning at Clover Point.
- 9.3.2 Collaboration with the City of Victoria and First Nations is ongoing for the establishment of a reburial site at Beacon Hill Park.

### **9.4 Major Commitments This Period**

- 9.4.1 No major commitments to report for July 2014.

### **9.5 Schedule**

- 9.5.1 The procurement process for the award of the Clover Forcemain design consultant has been suspended indefinitely pending further direction from the Seaterra Commission.

### **9.6 Significant Issues/Decisions Pending**

- 9.6.1 A decision to proceed with or terminate the procurement process.

## **10. Activities – Currie Forcemain**

### **10.1 Design/Engineering Status**

- 10.1.1 Design scheduled to commence in Q1 2016, has been suspended indefinitely pending further direction from the Seaterra Commission.

## **Seaterra Program Progress Report No. 15**

### **11. Activities – ECI/Trent Twinning**

#### **11.1 Design/Engineering Status**

11.1.1 Design scheduled to commence in Q4 2014, has been suspended indefinitely pending further direction from the Seaterra Commission.

### **12. Activities – Macaulay Forcemain**

#### **12.1 Design/Engineering Status**

12.1.1 Design is scheduled to commence in Q2 2015, has been suspended indefinitely pending further direction from the Seaterra Commission.

### **13. Program Updates**

#### **13.1 Program Cost/Budget Update**

13.1.1 This report covers the period of July 2014.

13.1.2 Total Program budget is \$787,907,200.

13.1.3 Costs this period are \$1,899,217.

13.1.4 Costs to date are \$34,642,984 (Appendix A).

13.1.5 Commitments to date are \$49,360,213.

13.1.6 Commitments this period are \$167,549.

#### **13.2 Program Schedule Update**

13.2.1 The overall status of the Program schedule is under review and there are significant delays impacting the overall completion of the Program. Program completion in 2018 is now in jeopardy pending determination of a site for the WWTP.

13.2.2 The Program Schedule has been reviewed and updated based on current activities and the current suspension of Program procurement. See Program Schedule extracts in Appendix B of this report for:

- Critical Path Schedule
- Summary Task Schedule
- Look-ahead Schedule to October 2014

13.2.3 Major activities and milestones achieved in July include the following:

- N/A

13.2.4 Major activities and milestones scheduled the next 90 days include the following:

## Seaterra Program Progress Report No. 15

### McLoughlin WWTP:

- Determination of the Program status and resolution of the WWTP site issue.
- MOE approval of Environmental AIP Q4 2014.

### Resource Recovery Centre (RRC):

- Determination of the Program status and resolution of the WWTP site issue.
- Provide recommendation to the CALWMC on the Biosolids Disposal Services RFP.

### Conveyance Infrastructure:

- Complete 95% detailed design for Arbutus Road Attenuation Tank and present information to the public at a future open house.
- Complete the structure of Craigflower Pump Station, the trenchless crossing of Portage Inlet and a majority of the new sewer piping.

## 13.3 Procurement this Period

13.3.1 None this period

## 13.4 Major Commitments This Period

13.4.1 None this period.

## 13.5 Project Controls

13.5.1 Procurement activities on the Program are suspended.

13.5.2 The overall Program schedule has suffered a minimum of an additional 3 month delay and the completion of the acceptance testing for the RRC is now January 2019 based on the delays encountered by the Program.

13.5.3 A Risk Management Workshop, attended by all senior Seaterra management staff, will be conducted to reassess both systemic and project specific risks once direction has been received from the Seaterra Commission on program implementation.

## 13.6 Environmental

13.6.1 A consolidated EIS Final Report for the complete Program, except for the RRC, is currently being updated. The RRC EIS will be completed within 4 months of final site selection of the conveyance pipe routing.

13.6.2 An EIS for the alignment from McLoughlin Point to the RRC at Hartland was scheduled to commence in May 2014 but has been delayed indefinitely pending direction from the CRD Board.

13.6.3 Activities:

## **Seatterra Program Progress Report No. 15**

- Craigflower Pump Station Project – JBC has commenced with the trenchless crossing of Portage Inlet. Site visits conducted were conducted throughout the course of the month. No environmental issues or significant non-compliances were noted.
- There were no environmental issues to report this period.

### **13.7 Safety**

13.7.1 Site inspections continued on the Craigflower construction site.

13.7.2 There were no safety incidents to report this period.

## **14. Communications/Public Engagement**

### **14.1 Activities**

The CRD is currently leading discussions with core area municipalities to confirm the appropriate approach to treatment and siting of facilities as part of the core area wastewater treatment program. The Seatterra Program is refocusing its efforts and is assisting the CRD with planning and pursuing options to move forward with the implementation of a wastewater treatment program.

14.1.1 Education and Awareness Campaign:

- Revised content and design for Seatterra website
- Revised content and design for Seatterra Program “householder” and Program website.

14.1.2 Arbutus Attenuation Tank engagement:

- All activities currently suspended

14.1.3 Media Relations and Issues Management:

- Ongoing media relations issues.
- Prepared communications materials for mailer proposal to Esquimalt residents.
- Prepared updated communications materials for CRD outreach team

14.1.4 Ongoing responses to correspondence.

14.1.5 Ongoing Freedom of Information responses and tracking.

## Seatterra Program Progress Report No. 15

### 15. Program Financing

#### 15.1 Federal Agreement Management Committee

The Federal agreement has yet to be fully executed (agreement at risk due to the potential of not proceeding with the implementation of a WWTP at McLoughlin Point). A governmental overview committee is expected to be appointed after execution of these agreements.

#### 15.2 Intergovernmental Coordination Committee

The next meeting is scheduled for fall 2014 (subject to Program status).

#### 15.3 Status of Funding Agreements:

No change from last report however agreements may be at risk due to the potential of not proceeding with the implementation of a WWTP at McLoughlin Point.

| Funding Partner           | Status of agreement                                     |
|---------------------------|---------------------------------------------------------|
| Building Canada Fund      | Approved in principle but awaiting Minister's signature |
| Green Infrastructure Fund | Approved in principle but awaiting Minister's signature |
| PPP Canada                | Approved.                                               |
| Province of BC            | Approved                                                |

#### 15.4 Status of Funding Received:

No change from last report.

| Funding Partner           | Payments Received – Current Month | Received to Date | Grant Claims Submitted | Maximum Partner Contribution |
|---------------------------|-----------------------------------|------------------|------------------------|------------------------------|
| Building Canada Fund      | -                                 | -                | -                      | \$120,000,000                |
| Green Infrastructure Fund | -                                 | -                | -                      | \$50,000,000                 |
| PPP Canada                | -                                 | -                | -                      | \$83,400,000                 |
| Province of BC            | -                                 | -                | -                      | \$248,000,000                |

**Seaterra Program Progress Report No. 15**

**Appendix A**

**Monthly Cost Report**



**Program Summary Report  
Month Ending 31-July-2014**

|                                                | <u>Budget</u>      | <u>Cost to Date</u> | <u>Commitments<br/>Unpaid</u> | <u>Total<br/>CTD + CU</u> | <u>Forecast to<br/>Complete</u> | <u>Forecast at<br/>Completion</u> | <u>Variance</u> | <u>Variance<br/>from Last<br/>Report</u> |
|------------------------------------------------|--------------------|---------------------|-------------------------------|---------------------------|---------------------------------|-----------------------------------|-----------------|------------------------------------------|
| <b>WASTEWATER TREATMENT - MCLOUGHLIN</b>       | 283,782,392        | 10,404,565          | 1,548,081                     | 11,952,646                | 271,829,746                     | 283,782,392                       | 0               | 0                                        |
| <b>CONVEYANCING -PUMP STATIONS &amp; PIPES</b> | 126,786,364        | 12,011,185          | 5,984,387                     | 17,995,572                | 108,790,792                     | 126,786,364                       | 0               | 0                                        |
| <b>RESOURCE RECOVERY CENTRE</b>                | 254,675,629        | 4,652,026           | 2,868,680                     | 7,520,706                 | 247,154,923                     | 254,675,629                       | 0               | 0                                        |
| <b>COMMON COSTS</b>                            | 50,337,316         | 7,538,608           | 4,316,081                     | 11,854,689                | 38,482,627                      | 50,337,316                        | 0               | 0                                        |
| <b>INTERIM FINANCING</b>                       | 31,400,000         | 36,600              | 0                             | 36,600                    | 31,363,400                      | 31,400,000                        | 0               | 0                                        |
| <b>PROGRAM CONTINGENCY</b>                     | 40,925,499         | 0                   | 0                             | 0                         | 40,925,499                      | 40,925,499                        | 0               | 0                                        |
| <b>TOTAL</b>                                   | <u>787,907,200</u> | <u>34,642,984</u>   | <u>14,717,229</u>             | <u>49,360,213</u>         | <u>738,546,987</u>              | <u>787,907,200</u>                | <u>0</u>        | <u>0</u>                                 |

**Seatterra Program Progress Report No. 15**

**Appendix B**

**Schedule Extracts**

| Activity ID                                                                     | Activity Name | Original Duration | Start | Finish | 2013 |             | 2014      |    |    |    | 2015 |    |    |    | 2016 |    |    |    | 2017 |    |    |    | 2018 |    |    |    | 2019 |  |
|---------------------------------------------------------------------------------|---------------|-------------------|-------|--------|------|-------------|-----------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|--|
|                                                                                 |               |                   |       |        | Q4   | Q1          | Q2        | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   |  |
| <b>SEATERRA PROGRAM July 2014</b>                                               |               |                   |       |        | 1687 | 30-Apr-12 A | 08-Jan-19 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>KEY MILESTONES</b>                                                           |               |                   |       |        | 1687 | 30-Apr-12 A | 08-Jan-19 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>PROGRAM</b>                                                                  |               |                   |       |        | 1301 | 23-Nov-12 A | 06-Mar-18 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>MCCLOUGHLIN POINT WASTEWATER TREATMENT PLANT (PLANT, HARBOUR CROSSING, (</b> |               |                   |       |        | 1462 | 15-Nov-12 A | 29-Aug-18 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>RESOURCE RECOVERY CENTRE (DBFO)</b>                                          |               |                   |       |        | 1421 | 21-May-13 A | 08-Jan-19 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CRAIGFLOWER PUMP STATION (DBB)</b>                                           |               |                   |       |        | 554  | 30-Nov-12 A | 10-Feb-15 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>ARBUTUS ROAD ATTENUATION TANK (DBB)</b>                                      |               |                   |       |        | 696  | 23-Feb-13 A | 27-Nov-15 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CLOVER PUMP STATION (DB)</b>                                                 |               |                   |       |        | 873  | 25-Feb-13 A | 11-Aug-16 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CLOVER FORCEMAIN (DBB)</b>                                                   |               |                   |       |        | 895  | 04-Mar-13 A | 20-Sep-16 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>ECI / TRENT TWINNING (DBB)</b>                                               |               |                   |       |        | 722  | 14-Jan-14 A | 15-Dec-16 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>MACAULAY PUMP STATION (DB)</b>                                               |               |                   |       |        | 837  | 04-Mar-14 A | 08-Aug-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>MACAULAY FORCEMAIN (DBB)</b>                                                 |               |                   |       |        | 642  | 27-Oct-14   | 11-May-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CURRIE PUMP STATION (DBB)</b>                                                |               |                   |       |        | 488  | 01-May-15   | 06-Apr-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CURRIE FORCEMAIN (DBB)</b>                                                   |               |                   |       |        | 590  | 26-Aug-15   | 28-Dec-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>PROGRAM COMMISSIONING, HANDOVER &amp; START-UP</b>                           |               |                   |       |        | 240  | 03-Oct-16   | 14-Sep-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |

| Activity Name                                                                          | Original Duration | Start       | Finish     | 2014                                                                                   |    |    | 2015 |    |    |    | 2016 |    |    |    | 2017 |    |    |    | 2018 |    |    |    | 2019 |    |    |  |
|----------------------------------------------------------------------------------------|-------------------|-------------|------------|----------------------------------------------------------------------------------------|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|--|
|                                                                                        |                   |             |            | Q2                                                                                     | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 | Q4 | Q1   | Q2 | Q3 |  |
|                                                                                        |                   |             |            |                                                                                        |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Confirmation of the Project Agreement                                                  | 29                | 02-May-14 A | 20-Aug-14  | Confirmation of the Project Agreement                                                  |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Staff Report Options Approval                                                          | 10                | 22-Sep-14   | 26-Sep-14* | Staff Report Options Approval                                                          |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Staff Report Final Contract Agreement                                                  | 10                | 22-Sep-14   | 26-Sep-14  | Staff Report Final Contract Agreement                                                  |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Plant Design and Construction Period                                                   | 829               | 26-Sep-14   | 12-Jan-18  | Plant Design and Construction Period                                                   |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Commission Options Approval (in lieu of rezoning approval)                             | 0                 |             | 26-Sep-14  | Commission Options Approval (in lieu of rezoning approval)                             |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Commission Approval / Award Contract PA MC-300 Final Contract                          | 0                 |             | 26-Sep-14* | Commission Approval / Award Contract PA MC-300 Final Contract                          |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Financial Close                                                                        | 0                 |             | 26-Sep-14  | Financial Close                                                                        |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Outfall Design and Construction Period                                                 | 830               | 29-Sep-14   | 12-Jan-18  | Outfall Design and Construction Period                                                 |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Harbour Crossing Design Period                                                         | 40                | 29-Sep-14   | 25-Nov-14  | Harbour Crossing Design Period                                                         |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Permitting and Approval Harbour Crossing                                               | 80                | 26-Nov-14   | 19-Mar-15  | Permitting and Approval Harbour Crossing                                               |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Harbour Crossing Construction Period                                                   | 746               | 20-Mar-15   | 10-Jan-18  | Harbour Crossing Construction Period                                                   |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Harbour Crossing Functional Completion                                                 | 40                | 11-Jan-18   | 07-Mar-18  | Harbour Crossing Functional Completion                                                 |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Plant Functional Completion                                                            | 40                | 12-Jan-18   | 09-Mar-18  | Plant Functional Completion                                                            |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Outfall Functional Completion                                                          | 40                | 15-Jan-18   | 09-Mar-18  | Outfall Functional Completion                                                          |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Start Up Commissioning / 90 Day Acceptance Testing                                     | 120               | 12-Mar-18   | 29-Aug-18  | Start Up Commissioning / 90 Day Acceptance Testing                                     |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| RRC Acceptance Testing                                                                 | 90                | 29-Aug-18   | 08-Jan-19  | RRC Acceptance Testing                                                                 |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Request Balance of Provincial Payment (Resource Recovery Centre / Liquids Operational) | 0                 |             | 08-Jan-19* | Request Balance of Provincial Payment (Resource Recovery Centre / Liquids Operational) |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Request P3 Canada Payment Upon Completion of Resource Recovery Centre                  | 0                 |             | 08-Jan-19* | Request P3 Canada Payment Upon Completion of Resource Recovery Centre                  |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Program Operational                                                                    | 0                 |             | 08-Jan-19  | Program Operational                                                                    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| RRC DBFO Contract Commissioning Complete                                               | 0                 |             | 08-Jan-19  | RRC DBFO Contract Commissioning Complete                                               |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| In Service                                                                             | 0                 |             | 08-Jan-19  | In Service                                                                             |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Commencement of Twenty Five Year Operating Period                                      | 0                 | 08-Jan-19   |            | Commencement of Twenty Five Year Operating Period                                      |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |
| Total Acceptance RRC                                                                   | 0                 |             | 08-Jan-19  | Total Acceptance RRC                                                                   |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |  |

█ Actual Work   
 █ Critical Remaining Work   
 █ Remaining Work   
 ◆ Milestone   
 ▼ Summary

| Activity Name                                                    | Original Duration | Start       | Finish     | 2014 |     |                                           |
|------------------------------------------------------------------|-------------------|-------------|------------|------|-----|-------------------------------------------|
|                                                                  |                   |             |            | Aug  | Sep | Oct                                       |
| <b>SEATERRA PROGRAM July 2014</b>                                | 1275              | 02-Jan-13 A | 06-Mar-18  |      |     |                                           |
| <b>KEY MILESTONES</b>                                            | 0                 | 03-Oct-14   | 03-Oct-14  |      |     |                                           |
| Clover Pump Station DB Contract Awarded                          | 0                 | 03-Oct-14   | 03-Oct-14  |      |     | ◆ Clover Pump Station DB Contract Awarded |
| <b>PROGRAM</b>                                                   | 1275              | 02-Jan-13 A | 06-Mar-18  |      |     |                                           |
| <b>COMMISSION MEETINGS</b>                                       | 0                 | 03-Oct-14   | 03-Oct-14  |      |     |                                           |
| <b>2014 Meetings</b>                                             | 0                 | 03-Oct-14   | 03-Oct-14  |      |     |                                           |
| September                                                        | 0                 | 03-Oct-14   | 03-Oct-14* |      |     | ◆ September                               |
| <b>ENVIRONMENTAL</b>                                             | 937               | 02-May-14 A | 06-Mar-18  |      |     |                                           |
| <b>ENVIRONMENTAL REVIEW AND APPROVAL (McLoughlin, Clover, M)</b> | 937               | 02-May-14 A | 06-Mar-18  |      |     |                                           |
| <b>Archaeological</b>                                            | 937               | 02-May-14 A | 06-Mar-18  |      |     |                                           |
| Monthly Reports                                                  | 937               | 02-May-14 A | 06-Mar-18  |      |     |                                           |
| HCA (Heritage Conservation Act) Section 14 Permit Review Period  | 40                | 28-Aug-14   | 24-Oct-14  |      |     |                                           |
| AIA's as Required                                                | 20                | 27-Oct-14   | 17-Nov-14  |      |     |                                           |
| <b>PROGRAM PLANS</b>                                             | 23                | 08-Sep-14   | 08-Oct-14  |      |     |                                           |
| <b>Program Budget</b>                                            | 23                | 08-Sep-14   | 08-Oct-14  |      |     |                                           |
| PMO Review and Finalize, Prepare Staff Report                    | 5                 | 08-Sep-14   | 12-Sep-14* |      |     |                                           |
| Commission Review                                                | 10                | 15-Sep-14   | 26-Sep-14  |      |     |                                           |
| Commission Approval Budget                                       | 0                 |             | 26-Sep-14* |      |     |                                           |
| To CRD Board for Review                                          | 8                 | 29-Sep-14   | 08-Oct-14  |      |     |                                           |
| CRD Board Approval                                               | 0                 |             | 08-Oct-14  |      |     |                                           |
| <b>Program Schedule</b>                                          | 15                | 08-Sep-14   | 26-Sep-14  |      |     |                                           |
| PMO Review and Finalize, Prepare Staff Report                    | 5                 | 08-Sep-14*  | 12-Sep-14  |      |     |                                           |
| Commission Review                                                | 10                | 15-Sep-14   | 26-Sep-14  |      |     |                                           |
| Commission Approval of Program Schedule                          | 0                 |             | 26-Sep-14* |      |     |                                           |
| <b>REZONING / STAKEHOLDER MANAGEMENT</b>                         | 374               | 02-Jan-13 A | 12-Dec-14  |      |     |                                           |
| Program Wide Open Houses (info campaign)                         | 374               | 02-Jan-13 A | 12-Dec-14  |      |     |                                           |
| Program Wide Public Meetings (info campaign)                     | 374               | 02-Jan-13 A | 12-Dec-14  |      |     |                                           |
| <b>MCLOUGHLIN POINT WASTEWATER TREATMENT PL</b>                  | 976               | 28-Feb-14 A | 15-Jan-18  |      |     |                                           |
| <b>APPROVALS</b>                                                 | 523               | 28-Feb-14 A | 24-May-16  |      |     |                                           |
| <b>FUNDING</b>                                                   | 23                | 27-Oct-14   | 28-Nov-14  |      |     |                                           |
| Final Building Canada Funding Agreement Approval                 | 0                 |             | 27-Oct-14  |      |     |                                           |
| Final Green Infrastructure Funding Agreement Approval            | 0                 |             | 27-Oct-14  |      |     |                                           |
| Final Financing Agreement Approval (PPP)                         | 0                 |             | 28-Nov-14* |      |     |                                           |
| <b>HYDRO</b>                                                     | 523               | 28-Feb-14 A | 24-May-16  |      |     |                                           |
| Manage any First Nations Issues/opportunities/concerns           | 523               | 28-Feb-14 A | 24-May-16  |      |     |                                           |
| Federal (DND) Approvals / SRW's                                  | 160               | 04-Apr-14 A | 27-Jan-15  |      |     |                                           |
| <b>COMMISSION</b>                                                | 0                 | 26-Sep-14   | 26-Sep-14  |      |     |                                           |
| Commission Options Approval (in lieu of rezoning approval)       | 0                 |             | 26-Sep-14  |      |     |                                           |
| Commission Approval / Award Contract PA MC-300 Final Contract    | 0                 |             | 26-Sep-14* |      |     |                                           |
| <b>LAND</b>                                                      | 40                | 26-Nov-14   | 22-Jan-15  |      |     |                                           |
| <b>Transport Canada</b>                                          | 40                | 26-Nov-14   | 22-Jan-15  |      |     |                                           |
| Proces to Finalize Final Right of Way                            | 40                | 26-Nov-14   | 22-Jan-15  |      |     |                                           |
| <b>REZONING</b>                                                  | 10                | 22-Sep-14   | 26-Sep-14  |      |     |                                           |
| Staff Report Options Approval                                    | 10                | 22-Sep-14   | 26-Sep-14* |      |     |                                           |
| <b>PERMITS</b>                                                   | 140               | 29-Aug-14   | 19-Mar-15  |      |     |                                           |
| Environmental Remediation Characterization                       | 19                | 29-Aug-14   | 25-Sep-14  |      |     |                                           |
| McLoughlin Development Permit Approval                           | 60                | 29-Sep-14   | 23-Dec-14  |      |     |                                           |
| Remediation Monitoring and CofC Documentation                    | 120               | 29-Sep-14   | 19-Mar-15  |      |     |                                           |
| <b>PROCUREMENT</b>                                               | 10                | 22-Sep-14   | 26-Sep-14  |      |     |                                           |
| <b>DBF CONTRACT</b>                                              | 10                | 22-Sep-14   | 26-Sep-14  |      |     |                                           |
| <b>RFP MC-300</b>                                                | 10                | 22-Sep-14   | 26-Sep-14  |      |     |                                           |
| RFP Submission & Review                                          | 10                | 22-Sep-14   | 26-Sep-14  |      |     |                                           |
| Evaluation Period                                                | 10                | 22-Sep-14   | 26-Sep-14  |      |     |                                           |

■ Remaining Work     ◆ Milestone  
■ Critical Remaining Work

| Activity Name                                                         | Original Duration | Start       | Finish     | 2014 |     |     |
|-----------------------------------------------------------------------|-------------------|-------------|------------|------|-----|-----|
|                                                                       |                   |             |            | Aug  | Sep | Oct |
| Staff Report Final Contract Agreement                                 | 10                | 22-Sep-14   | 26-Sep-14  |      |     |     |
| Financial Close                                                       | 0                 |             | 26-Sep-14  |      |     |     |
| <b>DESIGN</b>                                                         | 185               | 26-May-14 A | 26-Dec-14  |      |     |     |
| <b>HYDRO</b>                                                          | 185               | 26-May-14 A | 26-Dec-14  |      |     |     |
| <b>Temporary Construction Power (500kVA ?)</b>                        | 87                | 26-May-14 A | 02-Oct-14  |      |     |     |
| Vegetation Removal                                                    | 5                 | 26-May-14 A | 04-Sep-14  |      |     |     |
| Customer Civil Build                                                  | 5                 | 28-Aug-14   | 11-Sep-14  |      |     |     |
| BC Hydro Provide Temporary Power                                      | 0                 |             | 02-Oct-14* |      |     |     |
| <b>Detail Design 6MVA Supply Route</b>                                | 121               | 02-Sep-14   | 26-Dec-14  |      |     |     |
| Civil Design along Peter St.                                          | 60                | 02-Sep-14*  | 26-Nov-14  |      |     |     |
| Electrical Design                                                     | 100               | 01-Oct-14*  | 26-Dec-14  |      |     |     |
| <b>CONSTRUCTION</b>                                                   | 937               | 25-Apr-14 A | 15-Jan-18  |      |     |     |
| <b>EARLY WORKS</b>                                                    | 120               | 29-Sep-14   | 19-Mar-15  |      |     |     |
| McLoughlin Point Remediation Excavation (Start when Early Works Sta   | 120               | 29-Sep-14   | 19-Mar-15  |      |     |     |
| Commencement of Early Works                                           | 120               | 29-Sep-14   | 19-Mar-15  |      |     |     |
| <b>ARCHAEOLOGICAL</b>                                                 | 830               | 26-Sep-14   | 15-Jan-18  |      |     |     |
| Archaeological Awareness Tail-gate (start of Construction/excavation) | 5                 | 26-Sep-14   | 03-Oct-14  |      |     |     |
| Archaeological Monitoring McLoughlin Pt. Plant                        | 830               | 29-Sep-14   | 15-Jan-18  |      |     |     |
| <b>PLANT</b>                                                          | 829               | 26-Sep-14   | 12-Jan-18  |      |     |     |
| Plant Design and Construction Period                                  | 829               | 26-Sep-14   | 12-Jan-18  |      |     |     |
| <b>HARBOUR CROSSING</b>                                               | 120               | 29-Sep-14   | 19-Mar-15  |      |     |     |
| Harbour Crossing Design Period                                        | 40                | 29-Sep-14   | 25-Nov-14  |      |     |     |
| Permitting and Approval Harbour Crossing                              | 80                | 26-Nov-14   | 19-Mar-15  |      |     |     |
| <b>OUTFALL</b>                                                        | 830               | 29-Sep-14   | 12-Jan-18  |      |     |     |
| Outfall Design and Construction Period                                | 830               | 29-Sep-14   | 12-Jan-18  |      |     |     |
| <b>HYDRO</b>                                                          | 551               | 25-Apr-14 A | 30-Jun-16  |      |     |     |
| Develop Construction Strategy                                         | 60                | 01-Oct-14*  | 26-Dec-14  |      |     |     |
| <b>Stakeholder Engagement/Communications</b>                          | 551               | 25-Apr-14 A | 30-Jun-16  |      |     |     |
| Prepare Communication Plan                                            | 31                | 25-Apr-14 A | 04-Sep-14  |      |     |     |
| Respond to Communication Issues                                       | 460               | 05-Sep-14   | 30-Jun-16  |      |     |     |
| <b>RESOURCE RECOVERY CENTRE (DBFO)</b>                                | 271               | 27-Nov-13 A | 21-Jan-15  |      |     |     |
| <b>APPROVALS</b>                                                      | 86                | 29-Jul-14   | 01-Dec-14  |      |     |     |
| <b>FUNDING</b>                                                        | 20                | 31-Oct-14   | 01-Dec-14  |      |     |     |
| Submit Value for Money for Federal Approval (PPP Canada)              | 0                 |             | 31-Oct-14* |      |     |     |
| Final Federal Financing Agreement Approved                            | 0                 |             | 01-Dec-14  |      |     |     |
| <b>PERMITS/ENVIRONMENTAL</b>                                          | 30                | 29-Jul-14   | 11-Sep-14  |      |     |     |
| <b>EIS Hartland Site</b>                                              | 30                | 29-Jul-14   | 11-Sep-14  |      |     |     |
| Hartland Site EIS Review                                              | 30                | 29-Jul-14   | 11-Sep-14  |      |     |     |
| Hartland Site EIS Approval                                            | 0                 |             | 11-Sep-14  |      |     |     |
| <b>PROCUREMENT</b>                                                    | 162               | 02-May-14 A | 21-Jan-15  |      |     |     |
| <b>RFP RRC-300 Submission &amp; Review</b>                            | 162               | 02-May-14 A | 21-Jan-15  |      |     |     |
| Commercial / Collaborative Meetings #2 with Proponents                | 4                 | 03-Sep-14*  | 08-Sep-14  |      |     |     |
| Commercial / Collaborative Meetings #3 with Proponents                | 4                 | 06-Oct-14   | 09-Oct-14  |      |     |     |
| <b>Technical</b>                                                      | 144               | 02-May-14 A | 16-Dec-14  |      |     |     |
| Submission of Technical Submissions                                   | 144               | 02-May-14 A | 16-Dec-14  |      |     |     |
| <b>Financial</b>                                                      | 162               | 02-May-14 A | 21-Jan-15  |      |     |     |
| Submission of Financial Submissions                                   | 162               | 02-May-14 A | 21-Jan-15  |      |     |     |
| <b>RFP "B" RRC-310</b>                                                | 45                | 29-Jul-14   | 01-Oct-14  |      |     |     |
| Confirmation of the Project Agreement                                 | 45                | 29-Jul-14   | 01-Oct-14  |      |     |     |
| Contract Execution                                                    | 0                 |             | 01-Oct-14  |      |     |     |
| <b>Hartland Site Gravel Removal IFT RRC004</b>                        | 35                | 27-Aug-14   | 16-Oct-14  |      |     |     |
| Award RRC 004                                                         | 5                 | 27-Aug-14   | 03-Sep-14  |      |     |     |
| Gravel Removal                                                        | 30                | 04-Sep-14   | 16-Oct-14  |      |     |     |
| <b>INFRASTRUCTURE</b>                                                 | 160               | 27-Nov-13 A | 12-Sep-14  |      |     |     |

█ Remaining Work     ◆ Milestone  
█ Critical Remaining Work

| Activity Name                                                        | Original Duration | Start       | Finish     | 2014                  |                                    |                                                                      |
|----------------------------------------------------------------------|-------------------|-------------|------------|-----------------------|------------------------------------|----------------------------------------------------------------------|
|                                                                      |                   |             |            | Aug                   | Sep                                | Oct                                                                  |
| <b>Hydro</b>                                                         | 160               | 27-Nov-13 A | 12-Sep-14  |                       |                                    |                                                                      |
| Hydro Detailed design                                                | 160               | 27-Nov-13 A | 12-Sep-14  | Hydro Detailed design |                                    |                                                                      |
| <b>DESIGN</b>                                                        | 58                | 29-Jul-14   | 17-Sep-14  |                       |                                    |                                                                      |
| <b>Residual Solids Forcemain Geotechnical Consulting</b>             | 15                | 27-Aug-14   | 17-Sep-14  |                       |                                    |                                                                      |
| Prepare Draft Geotechnical Report                                    | 5                 | 27-Aug-14   | 03-Sep-14  |                       | Prepare Draft Geotechnical Report  |                                                                      |
| Review Draft Geotechnical Report                                     | 5                 | 04-Sep-14   | 10-Sep-14  |                       | Review Draft Geotechnical Report   |                                                                      |
| Prepare Final Geotechnical Report                                    | 5                 | 11-Sep-14   | 17-Sep-14  |                       | Prepare Final Geotechnical Report  |                                                                      |
| <b>Residual Solids Forcemain Land Survey</b>                         | 58                | 29-Jul-14   | 17-Sep-14  |                       |                                    |                                                                      |
| Alignment Survey                                                     | 58                | 29-Jul-14*  | 17-Sep-14  | Alignment Survey      |                                    |                                                                      |
| <b>CRAIGFLOWER PUMP STATION (DBB)</b>                                | 201               | 28-Mar-14 A | 11-Dec-14  |                       |                                    |                                                                      |
| <b>CONSTRUCTION</b>                                                  | 201               | 28-Mar-14 A | 11-Dec-14  |                       |                                    |                                                                      |
| Substructure                                                         | 93                | 28-Mar-14 A | 29-Oct-14  | Substructure          |                                    |                                                                      |
| Install Equipment                                                    | 68                | 09-Jun-14 A | 11-Dec-14  |                       |                                    | Install Equipment                                                    |
| Superstructure                                                       | 72                | 15-Jul-14 A | 29-Oct-14  |                       |                                    | Superstructure                                                       |
| Forcemain & Sewer Install                                            | 29                | 20-Aug-14   | 30-Sep-14  |                       | Forcemain & Sewer Install          |                                                                      |
| Roofing & Envelope                                                   | 65                | 10-Oct-14*  | 24-Nov-14  |                       |                                    | Roofing & Envelope                                                   |
| <b>ARBUTUS ROAD ATTENUATION TANK (DBB)</b>                           | 87                | 06-Aug-14   | 09-Dec-14  |                       |                                    |                                                                      |
| <b>APPROVALS</b>                                                     | 20                | 20-Aug-14   | 17-Sep-14  |                       |                                    |                                                                      |
| <b>PERMITS</b>                                                       | 20                | 20-Aug-14   | 17-Sep-14  |                       |                                    |                                                                      |
| Building Permit (If Needed)                                          | 20                | 20-Aug-14   | 17-Sep-14  |                       | Building Permit (If Needed)        |                                                                      |
| <b>PROCUREMENT</b>                                                   | 72                | 27-Aug-14   | 09-Dec-14  |                       |                                    |                                                                      |
| <b>General Construction</b>                                          | 72                | 27-Aug-14   | 09-Dec-14  |                       |                                    |                                                                      |
| RFQ Period                                                           | 21                | 27-Aug-14   | 25-Sep-14  |                       | RFQ Period                         |                                                                      |
| RFQ Evaluation                                                       | 8                 | 26-Sep-14   | 07-Oct-14  |                       |                                    | RFQ Evaluation                                                       |
| Prepare Front End Document                                           | 10                | 08-Oct-14   | 22-Oct-14  |                       |                                    | Prepare Front End Document                                           |
| Review and Finalize Tender Document                                  | 5                 | 23-Oct-14   | 29-Oct-14  |                       |                                    | Review and Finalize Tender Document                                  |
| Tender Period                                                        | 20                | 30-Oct-14   | 27-Nov-14  |                       |                                    | Tender Period                                                        |
| Tender Evaluation Process                                            | 8                 | 28-Nov-14   | 09-Dec-14  |                       |                                    | Tender Evaluation Process                                            |
| <b>DESIGN</b>                                                        | 40                | 06-Aug-14   | 01-Oct-14  |                       |                                    |                                                                      |
| <b>Detailed Design</b>                                               | 38                | 06-Aug-14   | 29-Sep-14  |                       |                                    |                                                                      |
| Finalize Design Drawings and Specs                                   | 25                | 06-Aug-14   | 10-Sep-14  |                       | Finalize Design Drawings and Specs |                                                                      |
| Final Design Review Meeting                                          | 1                 | 11-Sep-14   | 11-Sep-14  |                       | Final Design Review Meeting        |                                                                      |
| Public Open House                                                    | 1                 | 29-Sep-14   | 29-Sep-14* |                       |                                    | Public Open House                                                    |
| <b>HYDRO</b>                                                         | 0                 | 01-Oct-14   | 01-Oct-14  |                       |                                    |                                                                      |
| Temporary Power Available                                            | 0                 | 01-Oct-14*  | 01-Oct-14* |                       |                                    | Temporary Power Available                                            |
| <b>CLOVER PUMP STATION (DB)</b>                                      | 214               | 04-Mar-14 A | 08-Jan-15  |                       |                                    |                                                                      |
| <b>APPROVALS</b>                                                     | 0                 | 03-Oct-14   | 03-Oct-14  |                       |                                    |                                                                      |
| <b>COMMISSION</b>                                                    | 0                 | 03-Oct-14   | 03-Oct-14  |                       |                                    |                                                                      |
| Commission Approval/Award DB Contract Clover PS                      | 0                 | 03-Oct-14*  | 03-Oct-14* |                       |                                    | Commission Approval/Award DB Contract Clover PS                      |
| <b>PROCUREMENT</b>                                                   | 164               | 04-Mar-14 A | 27-Oct-14  |                       |                                    |                                                                      |
| <b>Retain Design-Build Contractor</b>                                | 164               | 04-Mar-14 A | 27-Oct-14  |                       |                                    |                                                                      |
| RFP Period                                                           | 64                | 04-Mar-14 A | 09-Sep-14  |                       | RFP Period                         |                                                                      |
| RFP Evaluation                                                       | 8                 | 10-Sep-14   | 19-Sep-14  |                       | RFP Evaluation                     |                                                                      |
| Submit Staff Report for Commission Approval of Design-Build Contract | 10                | 22-Sep-14   | 03-Oct-14* |                       |                                    | Submit Staff Report for Commission Approval of Design-Build Contract |
| Negotiate Final Contract                                             | 15                | 06-Oct-14   | 27-Oct-14  |                       |                                    | Negotiate Final Contract                                             |
| <b>INFRASTRUCTURE</b>                                                | 0                 | 01-Dec-14   | 01-Dec-14  |                       |                                    |                                                                      |
| Temporary Power Available from BC Hydro                              | 0                 | 01-Dec-14*  | 01-Dec-14* |                       |                                    | Temporary Power Available from BC Hydro                              |
| <b>DESIGN</b>                                                        | 50                | 28-Oct-14   | 08-Jan-15  |                       |                                    |                                                                      |
| <b>Detailed Design/Construction</b>                                  | 50                | 28-Oct-14   | 08-Jan-15  |                       |                                    |                                                                      |
| Detailed Survey                                                      | 5                 | 28-Oct-14   | 03-Nov-14  |                       |                                    | Detailed Survey                                                      |
| Geotechnical Investigation                                           | 10                | 28-Oct-14   | 10-Nov-14  |                       |                                    | Geotechnical Investigation                                           |
| Finalize Prelim. Design (25%)                                        | 40                | 12-Nov-14   | 08-Jan-15  |                       |                                    | Finalize Prelim. Design (25%)                                        |

Remaining Work
  Critical Remaining Work
  Milestone

| Activity Name                                                  | Original Duration | Start       | Finish     | 2014 |     |     |
|----------------------------------------------------------------|-------------------|-------------|------------|------|-----|-----|
|                                                                |                   |             |            | Aug  | Sep | Oct |
| <b>CLOVER FORCEMAIN (DBB)</b>                                  | 83                | 15-Sep-14   | 12-Dec-14  |      |     |     |
| <b>APPROVALS</b>                                               | 39                | 26-Sep-14   | 24-Nov-14  |      |     |     |
| <b>COMMISSION</b>                                              | 0                 | 26-Sep-14   | 26-Sep-14  |      |     |     |
| Commission Approval/Award Detailed Design Contract Clover FM   | 0                 | 26-Sep-14*  | 26-Sep-14* |      |     |     |
| <b>PERMITS</b>                                                 | 20                | 27-Oct-14   | 24-Nov-14  |      |     |     |
| Archaeological Impact Assessment (AIA)                         | 20                | 27-Oct-14   | 24-Nov-14  |      |     |     |
| <b>PROCUREMENT</b>                                             | 10                | 15-Sep-14   | 26-Sep-14  |      |     |     |
| <b>Retain Design Consultant</b>                                | 10                | 15-Sep-14   | 26-Sep-14  |      |     |     |
| Staff Report Recommendation of Award of Design Contract Review | 10                | 15-Sep-14   | 26-Sep-14* |      |     |     |
| <b>DESIGN</b>                                                  | 48                | 06-Oct-14   | 12-Dec-14  |      |     |     |
| <b>Detailed Design</b>                                         | 48                | 06-Oct-14   | 12-Dec-14  |      |     |     |
| Survey                                                         | 30                | 06-Oct-14   | 18-Nov-14  |      |     |     |
| Obtain as-built Utility Info                                   | 10                | 17-Oct-14   | 30-Oct-14  |      |     |     |
| Preliminary Plan and Profile                                   | 20                | 31-Oct-14   | 28-Nov-14  |      |     |     |
| Geotechnical Investigation                                     | 10                | 01-Dec-14   | 12-Dec-14  |      |     |     |
| <b>ECI / TRENT TWINNING (DBB)</b>                              | 70                | 28-Aug-14   | 08-Dec-14  |      |     |     |
| <b>PROCUREMENT</b>                                             | 70                | 28-Aug-14   | 08-Dec-14  |      |     |     |
| <b>Retain Design Consultant</b>                                | 70                | 28-Aug-14   | 08-Dec-14  |      |     |     |
| RFQ Period                                                     | 20                | 28-Aug-14   | 25-Sep-14  |      |     |     |
| RFQ Evaluation                                                 | 10                | 26-Sep-14   | 09-Oct-14  |      |     |     |
| Prepare RFP                                                    | 15                | 26-Sep-14   | 17-Oct-14  |      |     |     |
| RFP Period                                                     | 20                | 20-Oct-14   | 17-Nov-14  |      |     |     |
| RFP Evaluation                                                 | 15                | 18-Nov-14   | 08-Dec-14  |      |     |     |
| <b>MACAULAY PUMP STATION (DB)</b>                              | 180               | 04-Mar-14 A | 31-Dec-14  |      |     |     |
| <b>INFRASTRUCTURE</b>                                          | 118               | 04-Mar-14 A | 28-Nov-14  |      |     |     |
| <b>Staff Relocation</b>                                        | 118               | 04-Mar-14 A | 28-Nov-14  |      |     |     |
| Staff Relocation Site Selection                                | 118               | 04-Mar-14 A | 28-Nov-14  |      |     |     |
| <b>DESIGN</b>                                                  | 45                | 27-Oct-14   | 31-Dec-14  |      |     |     |
| <b>Pre-Design</b>                                              | 45                | 27-Oct-14   | 31-Dec-14  |      |     |     |
| Prelim. Survey                                                 | 5                 | 27-Oct-14*  | 03-Nov-14  |      |     |     |
| Obtain as-built Utility Info                                   | 10                | 03-Nov-14   | 18-Nov-14  |      |     |     |
| Prelim. Drafting                                               | 10                | 18-Nov-14   | 02-Dec-14  |      |     |     |
| Conceptual Design                                              | 20                | 02-Dec-14   | 31-Dec-14  |      |     |     |
| <b>MACAULAY FORCEMAIN (DBB)</b>                                | 45                | 27-Oct-14   | 31-Dec-14  |      |     |     |
| <b>DESIGN</b>                                                  | 45                | 27-Oct-14   | 31-Dec-14  |      |     |     |
| <b>Pre-Design</b>                                              | 45                | 27-Oct-14   | 31-Dec-14  |      |     |     |
| Review Alignment Options                                       | 10                | 27-Oct-14   | 10-Nov-14  |      |     |     |
| Prelim. Drafting                                               | 15                | 10-Nov-14   | 02-Dec-14  |      |     |     |
| Conceptual Design                                              | 20                | 02-Dec-14   | 31-Dec-14  |      |     |     |

Remaining Work     ◆ Milestone  
 Critical Remaining Work



**Seaterra Program  
Progress Report No. 16**

**August 31, 2014**

**Prepared by:**

**Seaterra Program Management Office**

## **Seatererra Program Progress Report No. 16**

**In addition to reporting on activities that are the responsibility of the Seatererra Program Commission, this progress report also includes updates on activities that are the responsibility of the Core Area Liquid Waste Management Committee (CALWMC) and the Capital Regional District (CRD) Board, namely, activities related to facility siting and agreements with municipalities or other government agencies. Those matters that are the direct responsibility of the CALWMC and CRD Board are clearly identified in the text as "CRD responsibility" and are identified in Section 1.2.**

# **Seatterra Program Progress Report No. 16**

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## **Seattera Program Progress Report No. 16**

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**Seatterra Program Progress Report No. 16**

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Appendix A Monthly Program Cost Report

Appendix B Program Schedule Extracts

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# Overall Program

## August 2014 Project Status

### SAFETY

- ✓ No Lost Time Incidents in the previous 3 months.

### COST

- ✓ Program on budget - <20% Program Contingency committed.

### SCHEDULE

- ✗ Procurement of McLoughlin DBF Contract delayed indefinitely.
- ✗ Uncertainty of site location continues to threaten the Program schedule. Additional delays anticipated.
- ✗ All activities suspended from June 27, 2014, with the exception of the construction of the Craigflower Pump Station and the design of the Arbutus Road attenuation tank.

### QUALITY

- ✓ No critical NCR's recorded.

### ENVIRONMENT

- ✓ No incidents or breach in regulatory compliance recorded.

### RISK

- ✗ The overall program completion of 2018 now in jeopardy as a result of the zoning impasse for the implementation of a wastewater treatment plant at McLoughlin Point.
- ✗ Potential withdrawal of funding as a result of no wastewater treatment plant site.

### COMMUNITY

- ✓ Public & Municipal engagement ongoing.

- Key Issues :**
- ✗ No site allocated for the implementation of the WWTP now jeopardizing the overall Program.
  - ✗ Potential withdrawal of funding as a result of no WWTP site.
  - ✗ All activities suspended from June 27, 2014, with the exception of the construction of the Craigflower Pump Station and the design of the Arbutus Road attenuation tank.

### Financial Summary

(\$M)

Budget 787.9

Commitment To Date 49.1

Forecast at Completion 787.9

Variance -

### Schedule Key Dates

### Target

| Schedule Key Dates                              | Target  |
|-------------------------------------------------|---------|
| <b>McLoughlin Pt, Outfall, Harbour Crossing</b> |         |
| DBF Awarded                                     | Q3 2014 |
| Construction Complete                           | Q2 2018 |
| Commissioning Complete                          | Q4 2018 |
| <b>Resource Recovery Centre &amp; Pipeline</b>  |         |
| DBFO Awarded                                    | Q1 2015 |
| Construction Complete                           | Q4 2017 |
| Commissioning Complete                          | Q1 2019 |
| <b>Conveyance Pump &amp; Pipeline</b>           |         |
| Macaulay PS DB Awarded                          | Q4 2015 |
| Clover PS DB Awarded                            | Q3 2014 |
| All Conveyance Complete                         | Q3 2017 |

Legend On Track Delayed At Risk Critical/Late

# Major Program Components



August 31, 2014

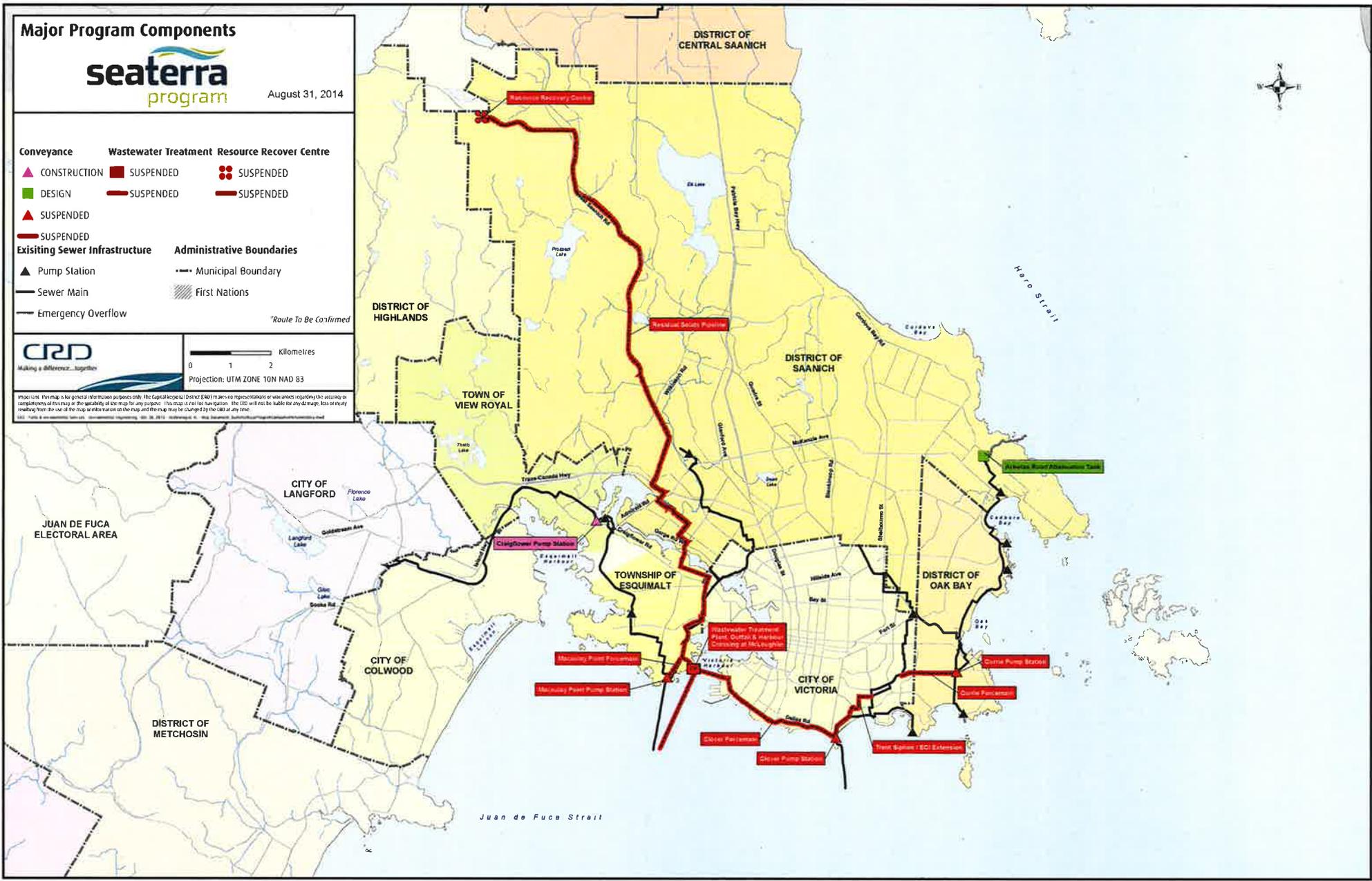
- |                                      |                                  |                                |
|--------------------------------------|----------------------------------|--------------------------------|
| <b>Conveyance</b>                    | <b>Wastewater Treatment</b>      | <b>Resource Recover Centre</b> |
| ▲ CONSTRUCTION                       | ■ SUSPENDED                      | ● SUSPENDED                    |
| ■ DESIGN                             | — SUSPENDED                      | — SUSPENDED                    |
| ▲ SUSPENDED                          |                                  |                                |
| — SUSPENDED                          |                                  |                                |
| <b>Existing Sewer Infrastructure</b> | <b>Administrative Boundaries</b> |                                |
| ▲ Pump Station                       | --- Municipal Boundary           |                                |
| — Sewer Main                         | ▨ First Nations                  |                                |
| — Emergency Overflow                 |                                  |                                |

*\*Route To Be Confirmed*



0 1 2 Kilometres  
Projection: UTM ZONE 10N NAD 83

This map is for general information purposes only. The Capital Regional District (CRD) makes no representation or warranties regarding the accuracy or completeness of this map or the availability of the data for any purpose. This map is not to be used for any purpose, for any liability, loss or injury resulting from the use of the map or information on the map, and the map may be changed by the CRD at any time.



## Seaterra Program Progress Report No. 16

### 1. Executive Summary

#### 1.1 Seaterra Program

- 1.1.1 Costs this period are \$657,928 for a total cost to date of \$35,300,912 which is trending within budget and under the projected Seaterra Program (Program) cash flows.
- 1.1.2 Commitments this period are -\$206,155 for a total commitment to date of \$49,154,058 (approximately 6.2% of the Program budget).
- 1.1.3 In August 2014 procurement activities on the Program remain suspended following the Township of Esquimalt's rejection of the zoning required for the implementation of a wastewater treatment facility at McLoughlin Point. The CRD Board and Core Area Liquid Waste Management Committee (CALWMC) met August 13, 2014 to discuss next steps for the Program.
- 1.1.4 As a result of the suspension of procurement activities in June 2014, the Program schedule will not achieve completion of the Program before the end of 2018. Acquisition of a new site and completion of any rezoning required followed by construction and commissioning of the wastewater treatment plant (WWTP) and the Resource Recovery Centre (RRC) are the activities that will determine and drive a revised Program critical path.
- 1.1.5 The selected preferred proponent for the McLoughlin Design-Build-Finance (DBF), Harbour Resource Partners has extended the validity of their bid to September 12, 2014.
- 1.1.6 The Clover Pump Station Design-Build (DB) Request for Proposals (RFP) closing scheduled for July 10, 2014 has been suspended indefinitely pending further direction from the Seaterra Commission.
- 1.1.7 The RFP for Clover Forcemain (Conveyance Pipe) Design Consulting Services closed in May 2014. The evaluation of the proposals has been suspended indefinitely pending further direction from the Seaterra Commission.
- 1.1.8 Construction related activities continued on the Craigflower Pump Station project. Forming and pouring of above ground walls continued and installation of the pump room valves and piping nearing completion. The trenchless crossing of Portage Inlet was completed with testing to follow early September 2014.
- 1.1.9 Design continued on the Arbutus Road Attenuation Tank which is approximately 85% complete. The construction Request for Qualification (RFQ), scheduled to be issued in the last week of May 2014, has been suspended indefinitely pending further direction of the Seaterra Commission.

## Seatterra Program Progress Report No. 16

### Major Issues:

#### CRD:

- Approval of a WWTP site.
- The LWMP approved by the MOE July 3, 2014, includes a WWTP at McLoughlin Point and may require further amendment for changes to the Program resulting from the current inability to proceed with the implementation of a wastewater treatment facility at that site.
- The Clover Pump Station rezoning application was put on hold pending further direction on the entire Seatterra Program.
- Relocation of rock/gravel stockpile from the proposed site of the RRC at Hartland was put on hold.

### Major Activities Planned – Next Period:

#### CRD:

- The CALWMC and CRD Board will meet September 10, 2014 to discuss next steps of the Seatterra Program.

#### Commission/PMO:

- Awaiting direction from the CRD Board on an approved site for the WWTP and determining next steps for the Program.

## 1.2 Core Area Liquid Waste Management Committee/CRD Board Issues

- 1.2.1 Completion of Federal and Provincial Funding Agreements – pending final zoning approvals and sign off by the Ministers.
- 1.2.2 Potential invalidation of Federal and Provincial Funding Agreements due to the Ministers' decision to not intercede in the zoning impasse that exists for the implementation of a WWTP at McLoughlin Point.
- 1.2.3 Determine next steps for the Program.

## 2. Activities – McLoughlin Point Wastewater Treatment Plant Project

### 2.1 Design/Engineering Status

- 2.1.1 All activities currently suspended.

### 2.2 Procurement Status

- 2.2.1 The selected preferred proponent for the McLoughlin DBF, Harbour Resource Partners has extended the validity of their bid to September 12, 2014.

### 2.3 Construction Status

- 2.3.1 Construction initially scheduled to commence July 2014 has been delayed indefinitely pending further direction from the Seatterra Commission.

## **Seaterra Program Progress Report No. 16**

### **2.4 Status of 3<sup>rd</sup> Party Approvals**

- 2.4.1 An Environmental Approval in Principle (AIP) was prepared and submitted for the McLoughlin Point site in March 2014. It was successfully screened by a Society of Contaminated Sites Approved Professionals of BC registered professional and transferred to the MOE for final release in March 2014. Comments from MOE were received in April 2014 requesting additional information. Work continued through July to address the comments and an addendum will be issued to the MOE for review and approval early September 2014.
- 2.4.2 Site Characterization Study scheduled to commence July 2014 has been suspended indefinitely pending direction from the Seaterra Commission.

### **2.5 Major Commitments This Period**

- 2.5.1 No major commitment to report for August 2014.

### **2.6 Schedule**

- 2.6.1 The DBF procurement process is four months behind schedule and is now suspended indefinitely. The submission of a staff report, scheduled to be issued to the Seaterra Commission in June 2014, recommending award and execution of the contract with HRP, has been suspended indefinitely pending further direction (all delays impact the critical path and extend the completion date of the Program).

### **2.7 Significant Issues/Decisions Pending**

- 2.7.1 Approval of a site for the WWTP.
- 2.7.2 Revision to or termination of the procurement process for the DBF contract.
- 2.7.3 Potential voiding of the Funding Agreements if the WWTP project does not proceed at McLoughlin Point.

## **3 Activities – Resource Recovery Centre (RRC)**

### **3.1 Design/Engineering Status**

- 3.1.1 All activities currently suspended.

### **3.2 Procurement Status**

- 3.2.1 The Design-Build-Finance-Operate RFP procurement process has been suspended indefinitely pending further direction from the Seaterra Commission.

## **Seaterra Program Progress Report No. 16**

- 3.2.2 The recommended proponent for the RFP RRC-310 Biosolids Disposal Services was approved by the CALWMC and the CRD Board at their July 2014 meeting. CRD staff were instructed to negotiate an agreement.

### **3.3 Status of 3<sup>rd</sup> Party Approvals**

- 3.3.1 An Environmental Impact Study (EIS), geotechnical investigation, and surveying of the alignment from McLoughlin Point to the RRC at Hartland scheduled to commence in May 2014 has been suspended indefinitely pending direction from the Seaterra Commission.
- 3.3.2 A Power Utility Service Application was submitted and planning for service extension to the Hartland RRC with BC Hydro has been suspended indefinitely pending direction from the Seaterra Commission.

### **3.4 Major Commitments This Period**

- 3.4.1 No major commitment to report for August 2014.

### **3.5 Schedule**

- 3.5.1 The procurement is now suspended indefinitely pending direction from the Seaterra Commission (all delays impact the critical path and extend the completion date of the Program).

### **3.6 Significant Issues/Decisions Pending**

#### **CRD:**

- LWMP Amendment No. 9 approved by the CRD Board and forwarded to MOE was approved by the Minister July 3, 2014. The LWMP includes a WWTP at McLoughlin Point and may require further amendment for changes to the Program resulting from the Ministers' decision not to intercede in the zoning impasses that exists for the implementation of a WWTP at McLoughlin Point.
- Confirm water servicing requirements at the RRC Hartland site.
- Complete an EIS for the RRC plant and Residual Solids Pipeline.

#### **Commission/PMO:**

- None.

## **4. Activities – Macaulay Pump Station**

### **4.1 Design/Engineering Status**

- 4.1.1 Development of technical specification scheduled to commence Q4 2014 have been suspended indefinitely pending further direction from the Seaterra Commission.

## **Seaterra Program Progress Report No. 16**

### **5. Activities – Craigflower Pump Station**

#### **5.1 Construction Status**

5.1.1 Forming and pouring of above ground pump station walls continued. The suction and discharge piping and valves in the pump room are almost complete. The trenchless crossing for the gravity sewer is complete and the installation of the 30" steel casing for the forcemain is approximately 75% complete. Both pipes will be pressure tested in September and the remaining of the pipe work will continue to the existing pump station.

#### **5.2 Schedule**

5.2.1 The shoring failure that occurred in November has caused at least a 3 month delay, and the contractor is now projecting a substantial completion date of January 31, 2015. There is no impact to the Program critical path.

#### **5.3 Significant Issues/Decisions Pending**

5.3.1 An insurance claim for the resulting costs of the shoring failure was compiled by the general construction contractor Jacob Bros Construction Ltd. (JBC) and presented to the insurance adjuster for review July 14, 2014.

### **6. Activities – Clover Pump Station**

#### **6.1 Design/Engineering Status**

6.1.1 The Clover Pump Station DB has been suspended indefinitely pending further direction from the Seatterra Commission.

#### **6.2 Procurement Status**

6.2.1 Procurement has been suspended indefinitely pending further direction from the Seatterra Commission.

#### **6.3 Status of 3<sup>rd</sup> Party Approvals**

6.3.1 A rezoning application for Clover Point Pump Station was submitted to the City of Victoria and Council approved the rezoning application to go to the public hearing stage. However, the rezoning process has been paused until there is further direction on the Seatterra Program.

#### **6.4 Major Commitments This Period**

6.4.1 No major commitment to report for August 2014.

#### **6.5 Schedule**

6.5.1 The procurement process for the award of the Clover Pump Station DB has been suspended indefinitely.

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### **6.6 Significant Issues/Decisions Pending**

6.6.1 A decision to proceed or terminate the procurement process.

## **7. Activities – Currie Pump Station**

### **7.1 Design/Engineering Status**

7.1.1 Design scheduled to commence Q3 2015 has been suspended indefinitely pending further direction from the Seatterra Commission.

## **8. Activities – Arbutus Road Attenuation Tank**

### **8.1 Design/Engineering Status**

8.1.1 KWL is continuing with the detailed design work which is now 85% complete. An open house, to present design information, scheduled for early June 2014 has been deferred pending further direction from the Seatterra Commission.

### **8.2 Procurement Status**

8.2.1 A RFQ to prequalify construction contractors scheduled to be issued at the end of May 2014 has been suspended indefinitely pending further direction from the Seatterra Commission.

### **8.3 Status of 3<sup>rd</sup> Party Approvals**

8.3.1 LWMP Amendment No. 9 which includes updating the Arbutus Road Attenuation Tank size has been approved by the CRD Board and by MOE.

### **8.4 Major Commitments This Period**

8.4.1 None this period.

### **8.5 Schedule**

8.5.1 The detailed design for the Arbutus Road Attenuation Tank will be complete in the 4<sup>th</sup> quarter of 2014. The procurement process for the construction of the Arbutus Road Attenuation Tank construction has been suspended indefinitely pending further direction from the Seatterra Commission.

### **8.6 Significant Issues/Decisions Pending**

8.6.1 A decision was made not to proceed with construction while the existing zoning impasse for the WWTP at McLoughlin Point is being resolved.

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### **9. Activities – Clover Forcemain**

#### **9.1 Design/Engineering Status**

9.1.1 Design scheduled to commence in Q2 2014 has now been suspended indefinitely pending further direction from the Seatterra Commission.

#### **9.2 Procurement Status**

9.2.1 The RFP for Clover Forcemain (Conveyance Pipe) Design Consulting Services closed in May 2014. The evaluation process has been suspended indefinitely pending further direction from the Seatterra Commission.

#### **9.3 Status of 3<sup>rd</sup> Party Approvals**

9.3.1 A License Agreement for Clover Forcemain has been submitted to the City of Victoria. The agreement is tied to rezoning at Clover Point.

9.3.2 Collaboration with the City of Victoria and First Nations is ongoing for the establishment of a reburial site at Beacon Hill Park.

#### **9.4 Major Commitments This Period**

9.4.1 No major commitments to report for August 2014.

#### **9.5 Schedule**

9.5.1 The procurement process for the award of the Clover Forcemain design consultant has been suspended indefinitely pending further direction from the Seatterra Commission.

#### **9.6 Significant Issues/Decisions Pending**

9.6.1 A decision to proceed with or terminate the procurement process.

### **10. Activities – Currie Forcemain**

#### **10.1 Design/Engineering Status**

10.1.1 Design scheduled to commence in Q1 2016, has been suspended indefinitely pending further direction from the Seatterra Commission.

## **Seatterra Program Progress Report No. 16**

### **11. Activities – ECI/Trent Twinning**

#### **11.1 Design/Engineering Status**

11.1.1 Design scheduled to commence in Q4 2014, has been suspended indefinitely pending further direction from the Seatterra Commission.

### **12. Activities – Macaulay Forcemain**

#### **12.1 Design/Engineering Status**

12.1.1 Design is scheduled to commence in Q2 2015, has been suspended indefinitely pending further direction from the Seatterra Commission.

### **13. Program Updates**

#### **13.1 Program Cost/Budget Update**

13.1.1 This report covers the period of August 2014.

13.1.2 Total Program budget is \$787,907,200.

13.1.3 Costs this period are \$657,928.

13.1.4 Costs to date are \$35,300,912 (Appendix A).

13.1.5 Commitments to date are \$49,154,058.

13.1.6 Commitments this period are -\$206,155.

#### **13.2 Program Schedule Update**

13.2.1 The overall status of the Program schedule is under review and there are significant delays impacting the overall completion of the Program. Program completion in 2018 is now not possible due to pending determination of a site for the WWTP.

13.2.2 The Program Schedule has been reviewed and updated based on current activities and the current suspension of Program procurement. See Program Schedule extracts in Appendix B of this report for:

- Critical Path Schedule
- Summary Task Schedule
- Look-ahead Schedule to October 2014

13.2.3 Major activities and milestones achieved in August include the following:

- N/A

13.2.4 Major activities and milestones scheduled the next 90 days include the following:

## **Seaterra Program Progress Report No. 16**

### **McLoughlin WWTP:**

- Determination of the Program status and resolution of the WWTP site issue.
- MOE approval of Environmental AIP Q4 2014.

### **Resource Recovery Centre (RRC):**

- Determination of the Program status and resolution of the WWTP site issue.
- Negotiate an agreement with the recommended proponent for the RRC-310 Biosolids Disposal Services.

### **Conveyance Infrastructure:**

- Complete 95% detailed design for Arbutus Road Attenuation Tank and present information to the public at a future open house.
- Complete the structure of Craigflower Pump Station.
- Complete the trenchless crossing of Portage Inlet and a majority of the new sewer piping.
- Continue with installation of the piping and valve for the pump room.
- Commence electrical rough-in and primary distribution installation.
- Commence the roofing and exterior envelope works.

## **13.3 Procurement this Period**

13.3.1 None this period

## **13.4 Major Commitments This Period**

13.4.1 None this period.

## **13.5 Project Controls**

13.5.1 Procurement activities on the Program are suspended.

13.5.2 The overall Program schedule has suffered a minimum of an additional 3 months delay and the completion of the acceptance testing for the RRC is now January 2019 based on the delays encountered by the Program.

13.5.3 A Risk Management Workshop, attended by all senior Seaterra management staff, will be conducted to reassess both systemic and project specific risks once direction has been received from the Seaterra Commission on program implementation.

## **13.6 Environmental**

13.6.1 A consolidated EIS Final Report for the complete Program, except for the RRC, has been issued in draft format. The RRC EIS has been delayed indefinitely pending direction from the CRD Board.

## **Seaterra Program Progress Report No. 16**

13.6.2 An EIS for the alignment from McLoughlin Point to the RRC at Hartland was scheduled to commence in May 2014 but has been delayed indefinitely pending direction from the CRD Board.

13.6.3 Activities:

- Craigflower Pump Station Project – The trenchless crossing of Portage Inlet is now nearing completion and the sewer installation ongoing. Site visits were conducted throughout the course of the month. No environmental issues or significant non-compliances were noted.
- There were no environmental issues to report this period.

### **13.7 Safety**

13.7.1 Site inspections continued on the Craigflower construction site.

13.7.2 There was one near miss incident on site. A lattice boom crane lifting a 60 foot sheet pile fractured off below the lifting devices. The sheet pile fell over and contacted a single phase 14.4 high voltage line. No injuries were reported. In accordance with WC Act Section 173(1)(b), WorkSafeBC were contacted and an incident investigation undertaken. A report was generated identifying metal fatigue as the primary cause. Corrective action and tool box talks to avoid repeat incidents were undertaken.

## **14. Communications/Public Engagement**

### **14.1 Activities**

The CRD is currently leading discussions with core area municipalities to confirm the appropriate approach to treatment and siting of facilities as part of the core area wastewater treatment program. The Seatterra Program is refocusing its efforts and is assisting the CRD with planning and pursuing options to move forward with the implementation of a wastewater treatment program.

14.1.1 Education and Awareness Campaign:

- All activities currently suspended.

14.1.2 Arbutus Attenuation Tank engagement:

- All activities currently suspended.

14.1.3 Media Relations and Issues Management:

- Ongoing media relations issues.

14.1.4 Ongoing responses to correspondence.

14.1.5 Ongoing Freedom of Information responses and tracking.

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### 15. Program Financing

#### 15.1 Federal Agreement Management Committee

The Federal agreement has yet to be fully executed (agreement potentially at risk due to the potential of not proceeding with the implementation of a WWTP at McLoughlin Point). A governmental overview committee is expected to be appointed after execution of these agreements.

#### 15.2 Intergovernmental Coordination Committee

The next meeting is scheduled for fall 2014 (subject to Program status).

#### 15.3 Status of Funding Agreements:

No change from last report however agreements may be at risk due to the potential of not proceeding with the implementation of a wastewater treatment facility at McLoughlin Point.

| Funding Partner           | Status of agreement                                     |
|---------------------------|---------------------------------------------------------|
| Building Canada Fund      | Approved in principle but awaiting Minister's signature |
| Green Infrastructure Fund | Approved in principle but awaiting Minister's signature |
| PPP Canada                | Approved.                                               |
| Province of BC            | Approved                                                |

#### 15.4 Status of Funding Received:

No change from last report

| Funding Partner           | Payments Received – Current Month | Received to Date | Grant Claims Submitted | Maximum Partner Contribution |
|---------------------------|-----------------------------------|------------------|------------------------|------------------------------|
| Building Canada Fund      | -                                 | -                | -                      | \$120,000,000                |
| Green Infrastructure Fund | -                                 | -                | -                      | \$50,000,000                 |
| PPP Canada                | -                                 | -                | -                      | \$83,400,000                 |
| Province of BC            | -                                 | -                | -                      | \$248,000,000                |

**Seattera Program Progress Report No. 16**

**Appendix A**

**Monthly Cost Report**



**Program Summary Report  
Month Ending 31-August-2014**

|                                                | <u>Budget</u>      | <u>Cost to Date</u> | <u>Commitments Unpaid</u> | <u>Total CTD + CU</u> | <u>Forecast to Complete</u> | <u>Forecast at Completion</u> | <u>Variance</u> | <u>Variance from Last Report</u> |
|------------------------------------------------|--------------------|---------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------|----------------------------------|
| <b>WASTEWATER TREATMENT - MCLOUGHLIN</b>       | 283,782,392        | 10,141,558          | 1,541,209                 | 11,682,767            | 272,099,625                 | 283,782,392                   | 0               | 0                                |
| <b>CONVEYANCING -PUMP STATIONS &amp; PIPES</b> | 126,786,364        | 12,766,017          | 5,165,770                 | 17,931,787            | 108,854,577                 | 126,786,364                   | 0               | 0                                |
| <b>RESOURCE RECOVERY CENTRE</b>                | 254,675,629        | 4,652,026           | 2,868,604                 | 7,520,630             | 247,154,999                 | 254,675,629                   | 0               | 0                                |
| <b>COMMON COSTS</b>                            | 50,337,316         | 7,704,711           | 4,277,563                 | 11,982,274            | 38,355,042                  | 50,337,316                    | 0               | 0                                |
| <b>INTERIM FINANCING</b>                       | 31,400,000         | 36,600              | 0                         | 36,600                | 31,363,400                  | 31,400,000                    | 0               | 0                                |
| <b>PROGRAM CONTINGENCY</b>                     | 40,925,499         | 0                   | 0                         | 0                     | 40,925,499                  | 40,925,499                    | 0               | 0                                |
| <b>TOTAL</b>                                   | <u>787,907,200</u> | <u>35,300,912</u>   | <u>13,853,146</u>         | <u>49,154,058</u>     | <u>738,753,142</u>          | <u>787,907,200</u>            | <u>0</u>        | <u>0</u>                         |

**Seatterra Program Progress Report No. 16**

**Appendix B**

**Schedule Extracts**

| Activity ID                                                                     | Activity Name | Original Duration | Start | Finish | 2013 |             | 2014      |    |    |    | 2015 |    |    |    | 2016 |    |    |    | 2017 |    |    |    | 2018 |    |    |    | 2019 |  |
|---------------------------------------------------------------------------------|---------------|-------------------|-------|--------|------|-------------|-----------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|--|
|                                                                                 |               |                   |       |        | Q4   | Q1          | Q2        | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   | Q3 | Q4 | Q1 | Q2   |  |
| <b>SEATERRA PROGRAM August 2014</b>                                             |               |                   |       |        | 1687 | 30-Apr-12 A | 09-Jan-19 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>KEY MILESTONES</b>                                                           |               |                   |       |        | 1687 | 30-Apr-12 A | 08-Jan-19 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>PROGRAM</b>                                                                  |               |                   |       |        | 1301 | 23-Nov-12 A | 06-Apr-18 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>MCCLOUGHLIN POINT WASTEWATER TREATMENT PLANT (PLANT, HARBOUR CROSSING, (</b> |               |                   |       |        | 1462 | 15-Nov-12 A | 30-Aug-18 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>RESOURCE RECOVERY CENTRE (DBFO)</b>                                          |               |                   |       |        | 1421 | 21-May-13 A | 09-Jan-19 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CRAIGFLOWER PUMP STATION (DBB)</b>                                           |               |                   |       |        | 575  | 30-Nov-12 A | 11-Mar-15 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>ARBUTUS ROAD ATTENUATION TANK (DBB)</b>                                      |               |                   |       |        | 718  | 23-Feb-13 A | 30-Dec-15 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CLOVER PUMP STATION (DB)</b>                                                 |               |                   |       |        | 895  | 25-Feb-13 A | 13-Sep-16 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CLOVER FORCEMAIN (DBB)</b>                                                   |               |                   |       |        | 895  | 04-Mar-13 A | 20-Sep-16 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>ECI / TRENT TWINNING (DBB)</b>                                               |               |                   |       |        | 741  | 14-Jan-14 A | 12-Jan-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>MACAULAY PUMP STATION (DB)</b>                                               |               |                   |       |        | 837  | 04-Mar-14 A | 08-Aug-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>MACAULAY FORCEMAIN (DBB)</b>                                                 |               |                   |       |        | 642  | 27-Oct-14   | 11-May-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CURRIE PUMP STATION (DBB)</b>                                                |               |                   |       |        | 488  | 01-May-15   | 06-Apr-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>CURRIE FORCEMAIN (DBB)</b>                                                   |               |                   |       |        | 590  | 26-Aug-15   | 28-Dec-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |
| <b>PROGRAM COMMISSIONING, HANDOVER &amp; START-UP</b>                           |               |                   |       |        | 240  | 03-Oct-16   | 14-Sep-17 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |

| Activity Name                                                                 | Original Duration | Start              | Finish           | Remaining Duration | % Complete | 2014                                             |             |                                                         |
|-------------------------------------------------------------------------------|-------------------|--------------------|------------------|--------------------|------------|--------------------------------------------------|-------------|---------------------------------------------------------|
|                                                                               |                   |                    |                  |                    |            | Sep                                              | Oct         | Nov                                                     |
| <b>SEATERRA PROGRAM August 2014</b>                                           | <b>1291</b>       | <b>02-Jan-13 A</b> | <b>06-Apr-18</b> | <b>908</b>         |            |                                                  |             |                                                         |
| <b>KEY MILESTONES</b>                                                         | <b>0</b>          | <b>05-Nov-14</b>   | <b>05-Nov-14</b> | <b>0</b>           |            |                                                  |             |                                                         |
| Clover Pump Station DB Contract Awarded                                       | 0                 | 05-Nov-14          | 05-Nov-14        | 0                  | 0%         |                                                  |             | ◆ Clover Pump Station DB Contract Awarded               |
| <b>PROGRAM</b>                                                                | <b>1275</b>       | <b>02-Jan-13 A</b> | <b>06-Apr-18</b> | <b>908</b>         |            |                                                  |             |                                                         |
| <b>COMMISSION MEETINGS</b>                                                    | <b>0</b>          | <b>05-Nov-14</b>   | <b>05-Nov-14</b> | <b>0</b>           |            |                                                  |             |                                                         |
| 2014 Meetings                                                                 | 0                 | 05-Nov-14          | 05-Nov-14        | 0                  |            |                                                  |             |                                                         |
| September                                                                     | 0                 | 05-Nov-14*         | 05-Nov-14*       | 0                  | 0%         |                                                  |             | ◆ September                                             |
| <b>ENVIRONMENTAL</b>                                                          | <b>981</b>        | <b>28-Feb-14 A</b> | <b>06-Apr-18</b> | <b>908</b>         |            |                                                  |             |                                                         |
| <b>ENVIRONMENTAL REVIEW AND APPROVAL (McLoughlin, Clover, Archaeological)</b> | <b>981</b>        | <b>28-Feb-14 A</b> | <b>06-Apr-18</b> | <b>908</b>         |            |                                                  |             |                                                         |
| Gap Analysis                                                                  | 10                | 01-May-14 A        | 29-Sep-14        | 21                 | 100%       | [Green Bar] Gap Analysis                         |             |                                                         |
| First Nations Protocol Collaboration                                          | 59                | 28-Feb-14 A        | 29-Sep-14        | 21                 | 75%        | [Green Bar] First Nations Protocol Collaboration |             |                                                         |
| Develop Chance Finds Protocol                                                 | 5                 | 01-May-14 A        | 29-Sep-14        | 21                 | 100%       | [Green Bar] Develop Chance Finds Protocol        |             |                                                         |
| HCA (Heritage Conservation Act) Section 14 Permit Review Perik                | 40                | 30-Sep-14          | 26-Nov-14        | 40                 | 0%         | [Green Bar]                                      |             |                                                         |
| AIAs as Required                                                              | 20                | 27-Nov-14          | 17-Dec-14        | 15                 | 0%         | [Green Bar]                                      |             |                                                         |
| Monthly Reports                                                               | 937               | 02-May-14 A        | 06-Apr-18        | 908                | 0%         | [Green Bar]                                      |             |                                                         |
| <b>PROGRAM PLANS</b>                                                          | <b>23</b>         | <b>08-Sep-14</b>   | <b>08-Oct-14</b> | <b>23</b>          |            |                                                  |             |                                                         |
| <b>Program Budget</b>                                                         | <b>23</b>         | <b>08-Sep-14</b>   | <b>08-Oct-14</b> | <b>23</b>          |            |                                                  |             |                                                         |
| PMO Review and Finalize, Prepare Staff Report                                 | 5                 | 08-Sep-14          | 12-Sep-14*       | 5                  | 0%         | [Green Bar]                                      |             |                                                         |
| Commission Review                                                             | 10                | 15-Sep-14          | 26-Sep-14        | 10                 | 0%         |                                                  | [Green Bar] |                                                         |
| Commission Approval Budget                                                    | 0                 |                    | 26-Sep-14*       | 0                  | 0%         |                                                  |             |                                                         |
| To CRD Board for Review                                                       | 8                 | 29-Sep-14          | 08-Oct-14        | 8                  | 0%         |                                                  |             |                                                         |
| CRD Board Approval                                                            | 0                 |                    | 08-Oct-14        | 0                  | 0%         |                                                  |             |                                                         |
| <b>Program Schedule</b>                                                       | <b>15</b>         | <b>08-Sep-14</b>   | <b>26-Sep-14</b> | <b>15</b>          |            |                                                  |             |                                                         |
| PMO Review and Finalize, Prepare Staff Report                                 | 5                 | 08-Sep-14*         | 12-Sep-14        | 5                  | 0%         | [Green Bar]                                      |             |                                                         |
| Commission Review                                                             | 10                | 15-Sep-14          | 26-Sep-14        | 10                 | 0%         |                                                  | [Green Bar] |                                                         |
| Commission Approval of Program Schedule                                       | 0                 |                    | 26-Sep-14*       | 0                  | 0%         |                                                  |             |                                                         |
| <b>REZONING / STAKEHOLDER MANAGEMENT</b>                                      | <b>374</b>        | <b>02-Jan-13 A</b> | <b>15-Jan-15</b> | <b>95</b>          |            |                                                  |             |                                                         |
| Program Wide Open Houses (info campaign)                                      | 374               | 02-Jan-13 A        | 15-Jan-15        | 95                 | 80%        | [Green Bar]                                      |             |                                                         |
| Program Wide Public Meetings (info campaign)                                  | 374               | 02-Jan-13 A        | 15-Jan-15        | 95                 | 80%        | [Green Bar]                                      |             |                                                         |
| <b>McLOUGHLIN POINT WASTEWATER TREATMENT PLANT (</b>                          | <b>997</b>        | <b>28-Feb-14 A</b> | <b>13-Feb-18</b> | <b>871</b>         |            |                                                  |             |                                                         |
| <b>APPROVALS</b>                                                              | <b>523</b>        | <b>28-Feb-14 A</b> | <b>23-Jun-16</b> | <b>459</b>         |            |                                                  |             |                                                         |
| <b>FUNDING</b>                                                                | <b>23</b>         | <b>27-Oct-14</b>   | <b>28-Nov-14</b> | <b>23</b>          |            |                                                  |             |                                                         |
| Final Building Canada Funding Agreement Approval                              | 0                 |                    | 27-Oct-14        | 0                  | 0%         |                                                  |             | ◆ Final Building Canada Funding Agreement Approval      |
| Final Green Infrastructure Funding Agreement Approval                         | 0                 |                    | 27-Oct-14        | 0                  | 0%         |                                                  |             | ◆ Final Green Infrastructure Funding Agreement Approval |
| Final Financing Agreement Approval (PPP)                                      | 0                 |                    | 28-Nov-14*       | 0                  | 0%         |                                                  |             |                                                         |
| <b>HYDRO</b>                                                                  | <b>523</b>        | <b>28-Feb-14 A</b> | <b>23-Jun-16</b> | <b>459</b>         |            |                                                  |             |                                                         |
| Federal (DND) Approvals / SRW's                                               | 160               | 04-Apr-14 A        | 26-Feb-15        | 125                | 20%        | [Green Bar]                                      |             |                                                         |
| Manage any First Nations Issues/opportunities/concerns                        | 523               | 28-Feb-14 A        | 23-Jun-16        | 459                | 5%         | [Green Bar]                                      |             |                                                         |
| <b>COMMISSION</b>                                                             | <b>11</b>         | <b>11-Sep-14</b>   | <b>26-Sep-14</b> | <b>11</b>          |            |                                                  |             |                                                         |
| Commission Approval Next Steps                                                | 0                 |                    | 11-Sep-14        | 0                  | 0%         |                                                  |             |                                                         |
| Commission Options Approval (in lieu of rezoning approval)                    | 0                 |                    | 26-Sep-14        | 0                  | 0%         |                                                  |             |                                                         |
| Commission Approval / Award Contract PAMC-300 Final Contract                  | 0                 |                    | 26-Sep-14*       | 0                  | 0%         |                                                  |             |                                                         |
| <b>LAND</b>                                                                   | <b>40</b>         | <b>26-Nov-14</b>   | <b>22-Jan-15</b> | <b>40</b>          |            |                                                  |             |                                                         |
| Transport Canada                                                              | 40                | 26-Nov-14          | 22-Jan-15        | 40                 | 0%         | [Green Bar]                                      |             |                                                         |
| Proces to Finalize Final Right of Way                                         | 40                | 26-Nov-14          | 22-Jan-15        | 40                 | 0%         | [Green Bar]                                      |             |                                                         |
| <b>REZONING</b>                                                               | <b>25</b>         | <b>29-Aug-14</b>   | <b>26-Sep-14</b> | <b>20</b>          |            |                                                  |             |                                                         |
| Staff Report Next Steps                                                       | 9                 | 29-Aug-14          | 11-Sep-14        | 9                  | 0%         | [Green Bar]                                      |             |                                                         |
| Staff Report Options Approval                                                 | 10                | 22-Sep-14          | 26-Sep-14*       | 5                  | 0%         |                                                  | [Green Bar] |                                                         |
| <b>PERMITS</b>                                                                | <b>272</b>        | <b>14-Mar-14 A</b> | <b>20-Apr-15</b> | <b>161</b>         |            |                                                  |             |                                                         |
| Environmental MOE AIP (Approval in Principal) Review                          | 49                | 14-Mar-14 A        | 30-Sep-14        | 22                 | 40%        | [Green Bar]                                      |             |                                                         |
| Remediation AIP Approved MOE                                                  | 0                 |                    | 30-Sep-14        | 0                  | 0%         |                                                  |             | ◆ Remediation AIP Approved MOE                          |

█ Critical Remaining Work    ◆ Milestone  
█ Current Bar Labels    █ % Complete

| Date      | Revision                               | Checked | Approved |
|-----------|----------------------------------------|---------|----------|
| 21-Feb-14 | Progress Updated to 21st February 2014 | Yes     |          |

| Activity Name                                                        | Original Duration | Start              | Finish           | Remaining Duration | % Complete | 2014 |     |     |
|----------------------------------------------------------------------|-------------------|--------------------|------------------|--------------------|------------|------|-----|-----|
|                                                                      |                   |                    |                  |                    |            | Sep  | Oct | Nov |
| Environmental Remediation Characterization                           | 19                | 01-Oct-14          | 28-Oct-14        | 19                 | 0%         |      |     |     |
| McLoughlin Development Permit Approval                               | 60                | 29-Sep-14          | 23-Dec-14        | 60                 | 0%         |      |     |     |
| Remediation Monitoring and CoC Documentation                         | 120               | 29-Oct-14          | 20-Apr-15        | 120                | 0%         |      |     |     |
| <b>PROCUREMENT</b>                                                   | <b>95</b>         | <b>02-May-14 A</b> | <b>26-Sep-14</b> | <b>20</b>          |            |      |     |     |
| <b>DBF CONTRACT</b>                                                  | <b>95</b>         | <b>02-May-14 A</b> | <b>26-Sep-14</b> | <b>20</b>          |            |      |     |     |
| <b>RFP MC-300</b>                                                    | <b>95</b>         | <b>02-May-14 A</b> | <b>26-Sep-14</b> | <b>20</b>          |            |      |     |     |
| <b>RFP Submission &amp; Review</b>                                   | <b>95</b>         | <b>02-May-14 A</b> | <b>26-Sep-14</b> | <b>20</b>          |            |      |     |     |
| <b>Evaluation Period</b>                                             | <b>95</b>         | <b>02-May-14 A</b> | <b>26-Sep-14</b> | <b>20</b>          |            |      |     |     |
| Confirmation of the Project Agreement                                | 29                | 02-May-14 A        | 22-Sep-14        | 16                 | 30%        |      |     |     |
| Financial Close                                                      | 0                 |                    | 26-Sep-14        | 0                  | 0%         |      |     |     |
| Staff Report Final Contract Agreement                                | 10                | 22-Sep-14          | 26-Sep-14        | 5                  | 0%         |      |     |     |
| <b>DESIGN</b>                                                        | <b>185</b>        | <b>23-May-14 A</b> | <b>26-Dec-14</b> | <b>82</b>          |            |      |     |     |
| <b>HYDRO</b>                                                         | <b>185</b>        | <b>23-May-14 A</b> | <b>26-Dec-14</b> | <b>82</b>          |            |      |     |     |
| <b>Temporary Construction Power (500kVA?)</b>                        | <b>109</b>        | <b>23-May-14 A</b> | <b>04-Nov-14</b> | <b>46</b>          |            |      |     |     |
| Procurement for Customer Civil Build                                 | 20                | 23-May-14 A        | 29-Sep-14        | 21                 | 0%         |      |     |     |
| Vegetation Removal                                                   | 5                 | 26-May-14 A        | 06-Oct-14        | 26                 | 10%        |      |     |     |
| Customer Civil Build                                                 | 5                 | 30-Sep-14          | 14-Oct-14        | 10                 | 0%         |      |     |     |
| BC Hydro Provide Temporary Power                                     | 0                 |                    | 04-Nov-14*       | 0                  | 0%         |      |     |     |
| <b>Detail Design 6MVA Supply Route</b>                               | <b>121</b>        | <b>02-Sep-14</b>   | <b>26-Dec-14</b> | <b>81</b>          |            |      |     |     |
| Civil Design along Peter St.                                         | 60                | 02-Sep-14*         | 26-Nov-14        | 60                 | 0%         |      |     |     |
| Electrical Design                                                    | 100               | 01-Oct-14*         | 26-Dec-14        | 60                 | 0%         |      |     |     |
| <b>CONSTRUCTION</b>                                                  | <b>958</b>        | <b>25-Apr-14 A</b> | <b>13-Feb-18</b> | <b>871</b>         |            |      |     |     |
| <b>EARLY WORKS</b>                                                   | <b>141</b>        | <b>29-Sep-14</b>   | <b>20-Apr-15</b> | <b>141</b>         |            |      |     |     |
| Commencement of Early Works                                          | 120               | 29-Sep-14          | 19-Mar-15        | 120                | 0%         |      |     |     |
| McLoughlin Point Remediation Excavation (Start when Early Works t    | 120               | 29-Oct-14          | 20-Apr-15        | 120                | 0%         |      |     |     |
| <b>ARCHAEOLOGICAL</b>                                                | <b>851</b>        | <b>29-Sep-14</b>   | <b>13-Feb-18</b> | <b>851</b>         |            |      |     |     |
| Archaeological Awareness Tail-gate (start of Construction/excavation | 5                 | 29-Sep-14          | 03-Oct-14        | 5                  | 0%         |      |     |     |
| Archaeological Monitoring McLoughlin Pt. Plant                       | 830               | 29-Oct-14          | 13-Feb-18        | 830                | 0%         |      |     |     |
| <b>PLANT</b>                                                         | <b>829</b>        | <b>29-Sep-14</b>   | <b>12-Jan-18</b> | <b>829</b>         |            |      |     |     |
| Plant Design and Construction Period                                 | 829               | 29-Sep-14          | 12-Jan-18        | 829                | 0%         |      |     |     |
| <b>HARBOUR CROSSING</b>                                              | <b>120</b>        | <b>29-Sep-14</b>   | <b>19-Mar-15</b> | <b>120</b>         |            |      |     |     |
| Harbour Crossing Design Period                                       | 40                | 29-Sep-14          | 25-Nov-14        | 40                 | 0%         |      |     |     |
| Permitting and Approval Harbour Crossing                             | 80                | 26-Nov-14          | 19-Mar-15        | 80                 | 0%         |      |     |     |
| <b>OUTFALL</b>                                                       | <b>830</b>        | <b>29-Sep-14</b>   | <b>12-Jan-18</b> | <b>829</b>         |            |      |     |     |
| Outfall Design and Construction Period                               | 830               | 29-Sep-14          | 12-Jan-18        | 829                | 0%         |      |     |     |
| <b>HYDRO</b>                                                         | <b>573</b>        | <b>25-Apr-14 A</b> | <b>03-Aug-16</b> | <b>486</b>         |            |      |     |     |
| Develop Construction Strategy                                        | 60                | 01-Oct-14*         | 26-Dec-14        | 60                 | 0%         |      |     |     |
| <b>Stakeholder Engagement/Communications</b>                         | <b>573</b>        | <b>25-Apr-14 A</b> | <b>03-Aug-16</b> | <b>486</b>         |            |      |     |     |
| Prepare Communication Plan                                           | 31                | 25-Apr-14 A        | 06-Oct-14        | 26                 | 10%        |      |     |     |
| Respond to Communication Issues                                      | 460               | 07-Oct-14          | 03-Aug-16        | 460                | 0%         |      |     |     |
| <b>RESOURCE RECOVERY CENTRE (DBFO)</b>                               | <b>271</b>        | <b>27-Nov-13 A</b> | <b>20-Feb-15</b> | <b>121</b>         |            |      |     |     |
| <b>APPROVALS</b>                                                     | <b>64</b>         | <b>29-Aug-14</b>   | <b>01-Dec-14</b> | <b>64</b>          |            |      |     |     |
| <b>FUNDING</b>                                                       | <b>20</b>         | <b>31-Oct-14</b>   | <b>01-Dec-14</b> | <b>20</b>          |            |      |     |     |
| Submit Value for Money for Federal Approval (PPP Canada)             | 0                 |                    | 31-Oct-14*       | 0                  | 0%         |      |     |     |
| Final Federal Financing Agreement Approved                           | 0                 |                    | 01-Dec-14        | 0                  | 0%         |      |     |     |
| <b>COMMISSION</b>                                                    | <b>0</b>          | <b>26-Sep-14</b>   | <b>26-Sep-14</b> | <b>0</b>           |            |      |     |     |
| Approval and Selection IFT RRC004 Gravel Removal Hartland Site       | 0                 |                    | 26-Sep-14        | 0                  | 0%         |      |     |     |
| <b>PERMITS/ENVIRONMENTAL</b>                                         | <b>30</b>         | <b>29-Aug-14</b>   | <b>14-Oct-14</b> | <b>30</b>          |            |      |     |     |
| <b>EIS Hartland Site</b>                                             | <b>30</b>         | <b>29-Aug-14</b>   | <b>14-Oct-14</b> | <b>30</b>          |            |      |     |     |
| Hartland Site EIS Approval                                           | 0                 |                    | 14-Oct-14        | 0                  | 0%         |      |     |     |
| Hartland Site EIS Review                                             | 30                | 29-Aug-14          | 14-Oct-14        | 30                 | 0%         |      |     |     |
| <b>PROCUREMENT</b>                                                   | <b>162</b>        | <b>02-May-14 A</b> | <b>20-Feb-15</b> | <b>121</b>         |            |      |     |     |
| <b>RFP RRC-300 Submission &amp; Review</b>                           | <b>162</b>        | <b>02-May-14 A</b> | <b>20-Feb-15</b> | <b>121</b>         |            |      |     |     |
| Commercial / Collaborative Meetings #2 with Proponents               | 4                 | 03-Oct-14*         | 08-Oct-14        | 4                  | 0%         |      |     |     |
| Commercial / Collaborative Meetings #3 with Proponents               | 4                 | 06-Nov-14          | 12-Nov-14        | 4                  | 0%         |      |     |     |

█ Critical Remaining Work    ◆ Milestone  
█ Current Bar Labels    █ % Complete

|           |                                        |         |          |
|-----------|----------------------------------------|---------|----------|
| Date      | Revision                               | Checked | Approved |
| 21-Feb-14 | Progress Updated to 21st February 2014 | Yes     |          |

| Activity Name                                                                       | Original Duration | Start       | Finish     | Remaining Duration | Complete % | 2014                                                                                |             |                                                             |  |
|-------------------------------------------------------------------------------------|-------------------|-------------|------------|--------------------|------------|-------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------|--|
|                                                                                     |                   |             |            |                    |            | Sep                                                                                 | Oct         | Nov                                                         |  |
| <b>Technical</b>                                                                    | 144               | 02-May-14 A | 19-Jan-15  | 97                 | 97         |                                                                                     |             |                                                             |  |
| Submission of Technical Submissions                                                 | 144               | 02-May-14 A | 19-Jan-15  | 97                 | 10%        | [Gantt bar]                                                                         |             |                                                             |  |
| <b>Financial</b>                                                                    | 162               | 02-May-14 A | 20-Feb-15  | 121                | 121        | 5%                                                                                  | [Gantt bar] |                                                             |  |
| Submission of Financial Submissions                                                 | 162               | 02-May-14 A | 20-Feb-15  | 121                | 5%         | [Gantt bar]                                                                         |             |                                                             |  |
| <b>RFP "B" RRC-310</b>                                                              | 45                | 29-Aug-14   | 03-Nov-14  | 45                 | 45         | 0%                                                                                  | [Gantt bar] |                                                             |  |
| Confirmation of the Project Agreement                                               | 45                | 29-Aug-14   | 03-Nov-14  | 45                 | 0%         | [Gantt bar]                                                                         |             |                                                             |  |
| Contract Execution                                                                  | 0                 |             | 03-Nov-14  | 0                  | 0%         |                                                                                     |             | Confirmation of the Project Agreement<br>Contract Execution |  |
| <b>Hartland Site Gravel Removal IFT RRC004</b>                                      | 55                | 29-Aug-14   | 18-Nov-14  | 55                 | 55         | 0%                                                                                  | [Gantt bar] |                                                             |  |
| Tender Period IFT RRC 004                                                           | 15                | 29-Aug-14   | 12-Sep-14  | 10                 | 0%         | Tender Period IFT RRC 004                                                           |             |                                                             |  |
| Evaluation/prepare staff report Gravel Removal RRC004                               | 10                | 15-Sep-14   | 19-Sep-14  | 5                  | 0%         | Evaluation/prepare staff report Gravel Removal RRC004                               |             |                                                             |  |
| Staff Report Review Gravel Removal RRC004                                           | 10                | 22-Sep-14   | 26-Sep-14  | 5                  | 0%         | Staff Report Review Gravel Removal RRC004                                           |             |                                                             |  |
| Award RRC 004                                                                       | 5                 | 29-Sep-14   | 03-Oct-14  | 5                  | 0%         | Award RRC 004                                                                       |             |                                                             |  |
| Gravel Removal                                                                      | 30                | 06-Oct-14   | 18-Nov-14  | 30                 | 0%         | Gravel Removal                                                                      |             |                                                             |  |
| <b>INFRASTRUCTURE</b>                                                               | 160               | 27-Nov-13 A | 15-Oct-14  | 32                 | 32         |                                                                                     |             |                                                             |  |
| <b>Hydro</b>                                                                        | 160               | 27-Nov-13 A | 15-Oct-14  | 32                 | 75%        | Hydro Detailed design                                                               |             |                                                             |  |
| Hydro Detailed design                                                               | 160               | 27-Nov-13 A | 15-Oct-14  | 32                 | 75%        | Hydro Detailed design                                                               |             |                                                             |  |
| <b>DESIGN</b>                                                                       | 58                | 29-Aug-14   | 20-Oct-14  | 35                 | 35         |                                                                                     |             |                                                             |  |
| <b>Residual Solids Forcemain Geotechnical Consulting</b>                            | 30                | 08-Sep-14   | 20-Oct-14  | 30                 | 30         |                                                                                     |             |                                                             |  |
| Assessment of RSF Alignment & Development Geotechnical Survey Program and Work Plan | 5                 | 08-Sep-14   | 12-Sep-14  | 5                  | 0%         | Assessment of RSF Alignment & Development Geotechnical Survey Program and Work Plan |             |                                                             |  |
| Obtain Permits if required                                                          | 5                 | 15-Sep-14   | 19-Sep-14  | 5                  | 0%         | Obtain Permits if required                                                          |             |                                                             |  |
| Geotechnical Survey Program                                                         | 5                 | 22-Sep-14   | 26-Sep-14  | 5                  | 0%         | Geotechnical Survey Program                                                         |             |                                                             |  |
| Prepare Draft Geotechnical Report                                                   | 5                 | 29-Sep-14   | 03-Oct-14  | 5                  | 0%         | Prepare Draft Geotechnical Report                                                   |             |                                                             |  |
| Review Draft Geotechnical Report                                                    | 5                 | 06-Oct-14   | 10-Oct-14  | 5                  | 0%         | Review Draft Geotechnical Report                                                    |             |                                                             |  |
| Prepare Final Geotechnical Report                                                   | 5                 | 14-Oct-14   | 20-Oct-14  | 5                  | 0%         | Prepare Final Geotechnical Report                                                   |             |                                                             |  |
| <b>Residual Solids Forcemain Land Survey</b>                                        | 58                | 29-Aug-14   | 20-Oct-14  | 35                 | 35         |                                                                                     |             |                                                             |  |
| Alignment Survey                                                                    | 58                | 29-Aug-14*  | 20-Oct-14  | 35                 | 0%         | Alignment Survey                                                                    |             |                                                             |  |
| <b>CRAIGFLOWER PUMP STATION (DBB)</b>                                               | 218               | 28-Mar-14 A | 20-Jan-15  | 98                 | 98         |                                                                                     |             |                                                             |  |
| <b>CONSTRUCTION</b>                                                                 | 218               | 28-Mar-14 A | 20-Jan-15  | 98                 | 98         |                                                                                     |             |                                                             |  |
| Substructure                                                                        | 93                | 28-Mar-14 A | 24-Sep-14  | 18                 | 85%        | Substructure                                                                        |             |                                                             |  |
| Forcemain & Sewer Install                                                           | 29                | 08-Sep-14   | 10-Oct-14  | 25                 | 0%         | Forcemain & Sewer Install                                                           |             |                                                             |  |
| Superstructure                                                                      | 72                | 15-Jul-14 A | 27-Nov-14  | 62                 | 25%        | Superstructure                                                                      |             |                                                             |  |
| Roofing & Envelope                                                                  | 65                | 14-Nov-14*  | 05-Jan-15  | 35                 | 0%         | Roofing & Envelope                                                                  |             |                                                             |  |
| Install Equipment                                                                   | 68                | 09-Jun-14 A | 20-Jan-15  | 90                 | 25%        | Install Equipment                                                                   |             |                                                             |  |
| <b>ARBUTUS ROAD ATTENUATION TANK (DBB)</b>                                          | 163               | 07-May-14 A | 30-Dec-14  | 84                 | 84         |                                                                                     |             |                                                             |  |
| <b>APPROVALS</b>                                                                    | 20                | 16-Sep-14   | 14-Oct-14  | 20                 | 20         |                                                                                     |             |                                                             |  |
| <b>PERMITS</b>                                                                      | 20                | 16-Sep-14   | 14-Oct-14  | 20                 | 20         |                                                                                     |             |                                                             |  |
| Building Permit (If Needed)                                                         | 20                | 16-Sep-14   | 14-Oct-14  | 20                 | 0%         | Building Permit (If Needed)                                                         |             |                                                             |  |
| <b>PROCUREMENT</b>                                                                  | 161               | 07-May-14 A | 30-Dec-14  | 84                 | 84         |                                                                                     |             |                                                             |  |
| <b>General Construction</b>                                                         | 161               | 07-May-14 A | 30-Dec-14  | 84                 | 84         |                                                                                     |             |                                                             |  |
| Prepare RFQ                                                                         | 13                | 07-May-14 A | 29-Sep-14  | 21                 | 50%        | Prepare RFQ                                                                         |             |                                                             |  |
| RFQ Period                                                                          | 21                | 29-Sep-14   | 28-Oct-14  | 21                 | 0%         | RFQ Period                                                                          |             |                                                             |  |
| RFQ Evaluation                                                                      | 8                 | 29-Oct-14   | 07-Nov-14  | 8                  | 0%         | RFQ Evaluation                                                                      |             |                                                             |  |
| Prepare Front End Document                                                          | 10                | 10-Nov-14   | 24-Nov-14  | 10                 | 0%         | Prepare Front End Document                                                          |             |                                                             |  |
| Review and Finalize Tender Document                                                 | 5                 | 25-Nov-14   | 01-Dec-14  | 5                  | 0%         | Review and Finalize Tender Document                                                 |             |                                                             |  |
| Tender Period                                                                       | 20                | 02-Dec-14   | 30-Dec-14  | 20                 | 0%         | Tender Period                                                                       |             |                                                             |  |
| <b>DESIGN</b>                                                                       | 115               | 07-May-14 A | 29-Sep-14  | 21                 | 21         |                                                                                     |             |                                                             |  |
| <b>Detailed Design</b>                                                              | 115               | 07-May-14 A | 29-Sep-14  | 21                 | 21         |                                                                                     |             |                                                             |  |
| Complete (95%) Design                                                               | 40                | 07-May-14 A | 15-Sep-14  | 11                 | 87%        | Complete (95%) Design                                                               |             |                                                             |  |
| Prepare Construction Cost Estimate                                                  | 5                 | 16-Sep-14   | 22-Sep-14  | 5                  | 0%         | Prepare Construction Cost Estimate                                                  |             |                                                             |  |
| Finalize Design Drawings and Specs                                                  | 25                | 16-Sep-14   | 22-Sep-14  | 5                  | 0%         | Finalize Design Drawings and Specs                                                  |             |                                                             |  |
| Final Design Review Meeting                                                         | 1                 | 23-Sep-14   | 23-Sep-14  | 1                  | 0%         | Final Design Review Meeting                                                         |             |                                                             |  |
| Public Open House                                                                   | 1                 | 29-Sep-14   | 29-Sep-14* | 1                  | 0%         | Public Open House                                                                   |             |                                                             |  |
| <b>CLOVER PUMP STATION (DB)</b>                                                     | 196               | 04-Mar-14 A | 11-Dec-14  | 72                 | 72         |                                                                                     |             |                                                             |  |

█ Critical Remaining Work    ◆ Milestone  
█ Current Bar Labels    █ % Complete

| Date      | Revision                               | Checked | Approved |
|-----------|----------------------------------------|---------|----------|
| 21-Feb-14 | Progress Updated to 21st February 2014 | Yes     |          |

| Activity Name                                                     | Original Duration | Start       | Finish     | Remaining Duration | % Complete | 2014                                                           |                          |                                                     |                                                              |
|-------------------------------------------------------------------|-------------------|-------------|------------|--------------------|------------|----------------------------------------------------------------|--------------------------|-----------------------------------------------------|--------------------------------------------------------------|
|                                                                   |                   |             |            |                    |            | Sep                                                            | Oct                      | Nov                                                 |                                                              |
| <b>APPROVALS</b>                                                  |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| <b>COMMISSION</b>                                                 |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Commission Approval/Award DB Contract Clover PS                   | 0                 | 05-Nov-14   | 05-Nov-14  | 0                  | 0%         |                                                                |                          |                                                     | Commission Approval/Award DB Contract Clover PS              |
| <b>PROCUREMENT</b>                                                |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Retain Design-Build Contractor                                    | 186               | 04-Mar-14 A | 27-Nov-14  | 62                 |            |                                                                |                          |                                                     |                                                              |
| RFP Period                                                        | 64                | 04-Mar-14 A | 09-Oct-14  | 29                 | 75%        | RFP Period                                                     |                          |                                                     |                                                              |
| RFP Evaluation                                                    | 8                 | 10-Oct-14   | 22-Oct-14  | 8                  | 0%         |                                                                | RFP Evaluation           |                                                     |                                                              |
| Submit Staff Report for Commission Approval of Design-Build Contr | 10                | 23-Oct-14   | 05-Nov-14* | 10                 | 0%         |                                                                |                          | Submit Staff Report for Commission Approval of Desi |                                                              |
| Negotiate Final Contract                                          | 15                | 06-Nov-14   | 27-Nov-14  | 15                 | 0%         |                                                                |                          |                                                     |                                                              |
| <b>INFRASTRUCTURE</b>                                             |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Temporary Power Available from BC Hydro                           | 0                 | 01-Dec-14   | 01-Dec-14* | 0                  | 0%         |                                                                |                          |                                                     |                                                              |
| <b>DESIGN</b>                                                     |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Detailed Design/Construction                                      | 10                | 28-Nov-14   | 11-Dec-14  | 10                 |            |                                                                |                          |                                                     |                                                              |
| Detailed Survey                                                   | 5                 | 28-Nov-14   | 04-Dec-14  | 5                  | 0%         |                                                                |                          |                                                     |                                                              |
| Geotechnical Investigation                                        | 10                | 28-Nov-14   | 11-Dec-14  | 10                 | 0%         |                                                                |                          |                                                     |                                                              |
| <b>CLOVER FORCEMAIN (DBB)</b>                                     |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| <b>APPROVALS</b>                                                  |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| <b>COMMISSION</b>                                                 |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Commission Approval/Award Detailed Design Contract Clover FM      | 0                 | 26-Sep-14   | 26-Sep-14  | 0                  | 0%         |                                                                |                          |                                                     | Commission Approval/Award Detailed Design Contract Clover FM |
| <b>PERMITS</b>                                                    |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Archaeological Impact Assessment (AIA)                            | 20                | 27-Nov-14   | 24-Dec-14  | 20                 | 0%         |                                                                |                          |                                                     |                                                              |
| <b>PROCUREMENT</b>                                                |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Retain Design Consultant                                          | 20                | 29-Aug-14   | 26-Sep-14  | 20                 |            |                                                                |                          |                                                     |                                                              |
| RFP Evaluation                                                    | 10                | 29-Aug-14*  | 12-Sep-14  | 10                 | 0%         | RFP Evaluation                                                 |                          |                                                     |                                                              |
| Staff Report Recommendation of Award of Design Contract Review    | 10                | 15-Sep-14   | 26-Sep-14* | 10                 | 0%         | Staff Report Recommendation of Award of Design Contract Review |                          |                                                     |                                                              |
| <b>DESIGN</b>                                                     |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Detailed Design                                                   | 48                | 06-Oct-14   | 12-Dec-14  | 48                 |            |                                                                |                          |                                                     |                                                              |
| Obtain as-built Utility Info                                      | 10                | 17-Oct-14   | 30-Oct-14  | 10                 | 0%         |                                                                |                          |                                                     | Obtain as-built Utility Info                                 |
| Survey                                                            | 30                | 06-Oct-14   | 18-Nov-14  | 30                 | 0%         |                                                                | Survey                   |                                                     |                                                              |
| Preliminary Plan and Profile                                      | 20                | 31-Oct-14   | 28-Nov-14  | 20                 | 0%         |                                                                |                          |                                                     |                                                              |
| Geotechnical Investigation                                        | 10                | 01-Dec-14   | 12-Dec-14  | 10                 | 0%         |                                                                |                          |                                                     |                                                              |
| <b>ECI / TRENT TWINNING (DBB)</b>                                 |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| <b>PROCUREMENT</b>                                                |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Retain Design Consultant                                          | 163               | 17-Apr-14 A | 17-Dec-14  | 76                 |            |                                                                |                          |                                                     |                                                              |
| Prepare RFQ                                                       | 25                | 17-Apr-14 A | 29-Sep-14  | 21                 | 75%        | Prepare RFQ                                                    |                          |                                                     |                                                              |
| RFQ Period                                                        | 20                | 30-Sep-14   | 28-Oct-14  | 20                 | 0%         |                                                                | RFQ Period               |                                                     |                                                              |
| RFQ Evaluation                                                    | 10                | 29-Oct-14   | 12-Nov-14  | 10                 | 0%         |                                                                | RFQ Evaluation           |                                                     |                                                              |
| Prepare RFP                                                       | 15                | 29-Oct-14   | 19-Nov-14  | 15                 | 0%         |                                                                |                          |                                                     | Prepare RFP                                                  |
| RFP Period                                                        | 20                | 20-Nov-14   | 17-Dec-14  | 20                 | 0%         |                                                                |                          |                                                     |                                                              |
| <b>MACAULAY PUMP STATION (DB)</b>                                 |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| <b>INFRASTRUCTURE</b>                                             |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Staff Relocation                                                  | 118               | 04-Mar-14 A | 31-Dec-14  | 85                 |            |                                                                |                          |                                                     |                                                              |
| Staff Relocation Site Selection                                   | 118               | 04-Mar-14 A | 31-Dec-14  | 85                 | 30%        |                                                                |                          |                                                     |                                                              |
| <b>DESIGN</b>                                                     |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Pre-Design                                                        | 45                | 27-Oct-14   | 31-Dec-14  | 45                 |            |                                                                |                          |                                                     |                                                              |
| Prelim. Survey                                                    | 5                 | 27-Oct-14*  | 03-Nov-14  | 5                  | 0%         |                                                                | Prelim. Survey           |                                                     |                                                              |
| Obtain as-built Utility Info                                      | 10                | 03-Nov-14   | 18-Nov-14  | 10                 | 0%         |                                                                | Obtain as-built Utili    |                                                     |                                                              |
| Prelim. Drafting                                                  | 10                | 18-Nov-14   | 02-Dec-14  | 10                 | 0%         |                                                                |                          |                                                     |                                                              |
| Conceptual Design                                                 | 20                | 02-Dec-14   | 31-Dec-14  | 20                 | 0%         |                                                                |                          |                                                     |                                                              |
| <b>MACAULAY FORCEMAIN (DBB)</b>                                   |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| <b>DESIGN</b>                                                     |                   |             |            |                    |            |                                                                |                          |                                                     |                                                              |
| Pre-Design                                                        | 45                | 27-Oct-14   | 31-Dec-14  | 45                 |            |                                                                |                          |                                                     |                                                              |
| Review Alignment Options                                          | 10                | 27-Oct-14   | 10-Nov-14  | 10                 | 0%         |                                                                | Review Alignment Options |                                                     |                                                              |
| Prelim. Drafting                                                  | 15                | 10-Nov-14   | 02-Dec-14  | 15                 | 0%         |                                                                |                          |                                                     |                                                              |

█ Critical Remaining Work    ◆ Milestone  
█ Current Bar Labels    █ % Complete

| Date      | Revision                               | Checked | Approved |
|-----------|----------------------------------------|---------|----------|
| 21-Feb-14 | Progress Updated to 21st February 2014 | Yes     |          |

| Activity Name                                                                                       | Original Duration | Start     | Finish    | Remaining Duration | % Complete | 2014 |     |     |
|-----------------------------------------------------------------------------------------------------|-------------------|-----------|-----------|--------------------|------------|------|-----|-----|
|                                                                                                     |                   |           |           |                    |            | Sep  | Oct | Nov |
|  Conceptual Design | 20                | 02-Dec-14 | 31-Dec-14 | 20                 | 0%         |      |     |     |

|                                                                                                             |                                                                                                |
|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|  Critical Remaining Work |  Milestone  |
|  Current Bar Labels      |  % Complete |

| Date      | Revision                               | Checked | Approved |
|-----------|----------------------------------------|---------|----------|
| 21-Feb-14 | Progress Updated to 21st February 2014 | Yes     |          |

| Activity Name                                                                          | Original Duration | Start       | Finish     | 2014                                                                                   |    |    |    | 2015 |    |    |    | 2016 |    |    |    | 2017 |    |    |    | 2018 |    |    |    | 2019 |  |  |
|----------------------------------------------------------------------------------------|-------------------|-------------|------------|----------------------------------------------------------------------------------------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|--|--|
|                                                                                        |                   |             |            | Q3                                                                                     | Q4 | Q1 | Q2 | Q3   | Q4 | Q1 | Q2 | Q3   | Q4 | Q1 | Q2 | Q3   | Q4 | Q1 | Q2 | Q3   | Q4 | Q1 | Q2 | Q3   |  |  |
| Confirmation of the Project Agreement                                                  | 29                | 02-May-14 A | 22-Sep-14  | Confirmation of the Project Agreement                                                  |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Staff Report Options Approval                                                          | 10                | 22-Sep-14   | 26-Sep-14* | Staff Report Options Approval                                                          |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Staff Report Final Contract Agreement                                                  | 10                | 22-Sep-14   | 26-Sep-14  | Staff Report Final Contract Agreement                                                  |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Commission Options Approval (in lieu of rezoning approval)                             | 0                 |             | 26-Sep-14  | Commission Options Approval (in lieu of rezoning approval)                             |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Commission Approval / Award Contract PA MC-300 Final Contract                          | 0                 |             | 26-Sep-14* | Commission Approval / Award Contract PA MC-300 Final Contract                          |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Financial Close                                                                        | 0                 |             | 26-Sep-14  | Financial Close                                                                        |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Outfall Design and Construction Period                                                 | 830               | 29-Sep-14   | 12-Jan-18  | Outfall Design and Construction Period                                                 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Plant Design and Construction Period                                                   | 829               | 29-Sep-14   | 12-Jan-18  | Plant Design and Construction Period                                                   |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Harbour Crossing Design Period                                                         | 40                | 29-Sep-14   | 25-Nov-14  | Harbour Crossing Design Period                                                         |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Permitting and Approval Harbour Crossing                                               | 80                | 26-Nov-14   | 19-Mar-15  | Permitting and Approval Harbour Crossing                                               |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Harbour Crossing Construction Period                                                   | 746               | 20-Mar-15   | 10-Jan-18  | Harbour Crossing Construction Period                                                   |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Harbour Crossing Functional Completion                                                 | 40                | 11-Jan-18   | 07-Mar-18  | Harbour Crossing Functional Completion                                                 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Outfall Functional Completion                                                          | 40                | 15-Jan-18   | 09-Mar-18  | Outfall Functional Completion                                                          |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Plant Functional Completion                                                            | 40                | 15-Jan-18   | 09-Mar-18  | Plant Functional Completion                                                            |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Start Up Commissioning / 90 Day Acceptance Testing                                     | 120               | 13-Mar-18   | 29-Aug-18  | Start Up Commissioning / 90 Day Acceptance Testing                                     |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| RRC Acceptance Testing                                                                 | 90                | 30-Aug-18   | 08-Jan-19  | RRC Acceptance Testing                                                                 |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Request Balance of Provincial Payment (Resource Recovery Centre / Liquids Operational) | 0                 |             | 08-Jan-19* | Request Balance of Provincial Payment (Resource Recovery Centre / Liquids Operational) |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Request P3 Canada Payment Upon Completion of Resource Recovery Centre                  | 0                 |             | 08-Jan-19* | Request P3 Canada Payment Upon Completion of Resource Recovery Centre                  |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Program Operational                                                                    | 0                 |             | 08-Jan-19  | Program Operational                                                                    |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| RRC DBFO Contract Commissioning Complete                                               | 0                 |             | 08-Jan-19  | RRC DBFO Contract Commissioning Complete                                               |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| In Service                                                                             | 0                 |             | 08-Jan-19  | In Service                                                                             |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Total Acceptance RRC                                                                   | 0                 |             | 08-Jan-19  | Total Acceptance RRC                                                                   |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |
| Commencement of Twenty Five Year Operating Period                                      | 0                 | 09-Jan-19   |            | Commencement of Twenty Five Year Operating Period                                      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |    |    |    |      |  |  |

█ Actual Work   
 █ Critical Remaining Work   
  Summary  
█ Remaining Work   
 ◆ Milestone

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**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF WEDNESDAY, OCTOBER 08, 2014**

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**SUBJECT     Seaterra Commission Recruitment Process Update**

**ISSUE**

To provide an update on the Seaterra Commission Recruitment Process

**BACKGROUND**

Bylaw No. 3851 allows for the establishment of a Commission to administer the Core Area Wastewater Treatment Program (Seaterra). The Bylaw states that the Commission shall consist of a minimum of seven members appointed by the Regional Board with expertise in one or more of the areas outlined in the bylaw. Commission members were appointed for terms of up to two years. For the initial year starting in 2013, four (4) Commission members appointments were for one (1) year terms that expired on March 26, 2014. Three (3) of the four (4) one-year term Commission members were appointed by the CRD Board on February 12, 2014. Larry Hughes was not able to return as a Commission member and the Board directed that a search be conducted for additional members. A Selection Committee was established to interview and recommend a possible replacement member within the required 90 days as set out in the bylaw. A recommended candidate was proposed to the Board at its closed meeting on May 14, 2014 however, immediately prior to the meeting, the candidate withdrew their application.

The matter of the vacancy was raised by a member of the public to the Province questioning whether the CRD was in contravention of the Contribution Agreement. Attached is a response from the Inspector of Municipalities advising that while the Seaterra Commission is currently outside the specific requirements of the Contribution Agreement, the Province is under no obligation to take remedial action and views the violation as minor since the project has moved back into a planning phase and away from implementation (Appendix A).

At its Closed meeting held September 10, 2014, the Board directed staff to reconvene the Seaterra Selection Committee and resume the search for an additional member to the Seaterra Commission. The Seaterra Selection Committee met in camera on October 1, 2014 and resolved to write a letter to the Province advising that the Board and participants of the Core Area and Western Communities Liquid Waste Management (CALWM) Service will be giving broader consideration to the Core Area Wastewater Treatment Program and will be completing additional planning and assessment work prior to proceeding with further implementation (Appendix B). At the time that the project is ready to resume, the Seaterra Selection Committee will reconvene and consider candidates to fill the remaining vacancy. In the meantime, staff will compile a list of potential candidates for consideration that meet the skill set outlined in the bylaw.

## **ALTERNATIVES**

That the Core Area Liquid Waste Management Committee recommends to the Capital Regional District Board:

1. That the letter to the Inspector of Municipalities dated October 8, 2014 providing an update on the Seaterra Commission recruitment process, be approved.
2. That the letter be referred back to staff for further revision.

## **IMPLICATIONS**

The Province has requested that the CRD keep them apprised of the status of recruitment for the additional Seaterra Commission member. Once the Program is ready to resume, the Seaterra Selection Committee will reconvene to consider candidates to fill the remaining vacancy. In the meantime, the Seaterra Commission, while still operational with six members, has scaled down their operations given that the Core Area Wastewater Treatment Program has now moved back into the planning phase.

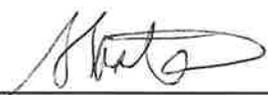
## **CONCLUSION**

The CRD and CALWM participants will be completing additional planning and assessment work prior to proceeding with further implementation of the Core Area Wastewater Treatment Program. In the meantime, recruitment to fill the remaining vacancy on the Seaterra Commission will be put on hold until this work is completed. Correspondence providing an update on the recruitment process to the Inspector of Municipalities is before the Committee and Board for consideration.

## **RECOMMENDATION**

That the Core Area Liquid Waste Management Committee recommends to the Capital Regional District Board:

That the letter to the Inspector of Municipalities dated October 8, 2014 providing an update on the Seaterra Commission recruitment process, be approved.

  
\_\_\_\_\_  
Sonia Santarossa, MA  
Senior Mgr, Legislative & Information Services

  
\_\_\_\_\_  
Robert Lapham, MCIP, RRP  
Chief Administrative Officer  
Concurrence

SS

Attachments: Appendix A – correspondence from Inspector of Municipalities – August 28, 2014  
Appendix B – correspondence to Inspector of Municipalities

**Sonia Santarossa**

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**Subject:**

RE: EMAIL FROM JAY SCHLOSAR, INSPECTOR OF MUNICIPALITIES

From: Martin, Susan CSCD:EX

Sent: Thursday, August 28, 2014 11:53 AM

To: '[Sewage.Treatment.Action.Group@gmail.com](mailto:Sewage.Treatment.Action.Group@gmail.com)<<mailto:Sewage.Treatment.Action.Group@gmail.com>>'

Subject: EMAIL FROM JAY SCHLOSAR, INSPECTOR OF MUNICIPALITIES

Mr. Richard Atwell

Director

Sewage Treatment Action Group

Ref: 156283

Email: [Sewage.Treatment.Action.Group@gmail.com](mailto:Sewage.Treatment.Action.Group@gmail.com)<<mailto:Sewage.Treatment.Action.Group@gmail.com>>

Dear Mr. Atwell:

Thank you for your email regarding the Capital Regional District's (CRD) Seaterra Program. In your letter, you presented three issues of concern, each of which I have addressed below.

The first and second issues are directly related, so I will discuss them together. Firstly, yes, you are correct that the Commission currently has only six members instead of the minimum seven and that, with less than seven members, the Commission is operating outside the specific requirements of the Contribution Agreement (CA). Although this failure of the CRD to meet the required conditions might allow the Province to take remedial action, there is no obligation to do so. In this case in particular, the violation is viewed as minor with the following considerations:

- (1) The CRD attempted to fill the seventh position.
- (2) The work of the Commission is now reduced as the project moves back into a planning phase and away from implementation. The intent of the Commission is to manage project implementation.
- (3) A seventh member will be selected when the Commission begins, again, with full project implementation.

Your third issue is the publication of Commission meeting times as required by CRD bylaw. My staff reminded the Commission Project Director of this requirement.

Thank you again for writing to convey your concerns.

Sincerely,

Jay Schlosar

Jay Schlosar

Inspector of Municipalities

Local Government

Ministry of Community, Sport and Cultural Development

October 8, 2014

File: 5220-20

Jay Schlosar  
Inspector of Municipalities  
Local Government  
Ministry of Community, Sport and Cultural Development  
PO Box 9490 Stn Prov Govt  
Victoria, BC V8W 9N7

Dear Mr. Schlosar:

### **Seaterra Commission Recruitment Process Update**

We are in receipt of the response you provided to Mr. Richard Atwell on August 28, 2014 regarding his concerns about the remaining vacancy on the Seaterra Commission. In your response, you indicate that while the Commission currently only has six members instead of the minimum seven and is operating outside of the specific requirements of the Contribution Agreement, the Province is under no obligation to take remedial action and views the violation as minor since the project has moved back into a planning phase and away from implementation.

At its closed meeting on September 10, 2014, the CRD Board considered the public enquiry into the remaining vacancy and directed staff to reconvene the Seaterra Selection Committee and resume the search for an additional member to the Seaterra Commission. I would like to take this opportunity to provide you with an update on the recruitment process.

On behalf of the CRD, I would first like to thank you for not requiring the CRD to immediately fill the remaining vacancy on the Seaterra Commission. Over the next number of months, the CRD Board and participants of the Core Area and Western Communities Liquid Waste Management (CALWM) Service will be giving broader consideration to the Core Area Wastewater Treatment Program and will be completing additional planning and assessment work prior to proceeding with further implementation. At the time that the project is ready to resume, the Seaterra Selection Committee will reconvene and consider candidates to fill the remaining Seaterra Commission vacancy. In the meantime, staff will compile a list of potential candidates for consideration that meet the requirements and skill set outlined in the Seaterra Commission Bylaw No. 3851.

Once again thank you for your consideration and understanding of the CRD's return to the planning phase in the Core Area Wastewater Treatment Program. If you have any questions regarding the above, please contact me at 250-360-3124.

Yours truly,

Robert Lapham, MCIP, RRP  
Chief Administrative Officer

cc: CRD Board of Directors  
B. Eaton, Chair, Seaterra Commission  
L. Edwards, A/Executive Director, Infrastructure & Finance, Local Government Division  
A. Sweetnam, Program Director, Seaterra

**NOTICE OF MOTION (REVISED) – OPTIONS FOR WASTEWATER TREATMENT - DIRECTOR HAMILTON**

WHEREAS: It is critical that there be positive action taken to meet funding deadlines and regulatory requirements for waste water treatment for the Capital Regional District;

BE IT RESOLVED that: Capital Regional District (CRD) staff be directed to support municipalities and First Nations who want to explore options for waste water treatment that are economically responsible, technically feasible, environmentally sound and meet current provincial and federal deadlines;

AND THAT funding be provided from the sewage treatment budget to support an independent assessment of alternative locations to McLoughlin and Hartland, with full and regular engagement of staff and elected representatives from participating municipalities, First Nations and the public; and,

AND THAT any decisions taken to amend the Liquid Waste Management Plan be done in an open and transparent public process;

AND THAT any further money spent be recoverable under the funding arrangement with the Provincial and Federal Governments and that clarity be sought that the funding arrangement with Provincial and Federal governments be able to support the communities to the extent it supported the CRD driven process .

August 5, 2014

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# Notice of Motion – Core Area Liquid Waste Committee

## Director Vic Derman – August 13, 2014

### Rationale

Esquimalt's decision not to zone to CRD requirements and the Province's decision not to intervene have created a kind of "enforced hiatus" for the core area sewage treatment project. We should seize this opportunity to re-think what, quite possibly, was a less than optimal project. Ultimately, the core area and its citizens will benefit from a better outcome and that, most certainly, would be a good thing. We should begin by asking the Province for an extension until federal regulations kick in. Currently, this is the end of 2020, although there is reason to question the federal process of classifying risk. We should also move very quickly to investigate other possible designs such as a distributed system. To be accepted by the public at large, any such an investigation must be seen as:

1. *open to all ideas, technologies and designs*
2. *active in reviewing the literature and seeking to encourage submissions,*
3. *comprehensive in presenting all technologies, approaches and opportunities,*
4. *leading edge without being "bleeding edge"*
5. *independent and objective with no connections to special interests or "traditional" interests in the sewage industry*

It might be appropriate to have the investigation led by a retired deputy minister or someone of similar status. Whoever leads the investigation should insure submissions are sought from organizations and individuals large and small who have shown particular knowledge, expertise and leadership in leading edge designs including distributed systems. The final report should be accompanied by an appendix containing unedited versions of all submissions received. This process need not incur the time and expense involved in a full scale Request for Proposals (RFP). A much swifter and less expensive process should be able to give a credible evaluation of "what is out there". Essentially, if carried out appropriately, this process could result in a "**Best Practices Sounding**", something that could only serve to inform the sewage treatment project.

Furthermore, we must insure the very large expenditure involved in a sewage treatment project, and all other expenditures for that matter, prepare us for the very different world we will soon face. We should make the new process much more "outcome driven" and should determine exactly what we expect to accomplish with the project. Meeting federal regulations for a minimum of secondary treatment is a given. We should expect to accomplish much more including:

1. **MAXIMIZING response to climate change.** Given the unfolding crisis that climate change presents, it is absolutely unacceptable to plan and build any major project without insuring that our response to climate change, especially greenhouse gas reduction, is optimized.

2. **MAXIMIZING opportunities for resource recovery.** This is critical for an appropriate climate change response. Also, life cycle costs and can be reduced and scarce resources recovered.
3. **Accomplishing a high standard of treatment.** Tertiary disinfected treatment that provides high quality effluent and substantially deals with emerging chemicals should be seen as essential.
4. **Providing best value for money to taxpayers.** Value for money is accomplished by achieving benefit substantial enough to justify money spent. It is possible a different approach could have higher initial capital costs. However, accomplishing much higher environmental benefit with lower life cycle costs could still provide excellent value for money to taxpayers.
5. **Looking for opportunities to integrate other parts of the waste stream.** Existing gasifier technology might, for example, be able to handle biosolids on a relatively small site for a cost in the order of \$50 million. This contrasts with nearly \$300 million projected for the biosolids solution in the Seaterra project. In addition, gasifiers are relatively compact and could be located to maximize opportunities for resource recovery. Finally, in addition to biosolids, gasifiers could likely use kitchen scraps as a feedstock. This would deal with two CRD “waste” problems in an environmentally appropriate and fiscally prudent manner.
6. **Restoring public trust in regional government.** There is little doubt that the sewage issue has caused much of the general public to question the effectiveness of the CRD. A new, clearly objective, and efficient process of investigation could do much to restore public confidence in the value of regional government.

Finally, we must insure that all advantages of a given design are considered in decisions made. A distributed system would, for example, likely present the ability to:

1. Phase in capacity on a “just in time” basis. Thereby making expenditures as needed.
2. Provide greater flexibility to incorporate future innovation by equipping plants designed for new capacity with “the latest and greatest”.
3. Provide greater resiliency through redundancy. A major catastrophe such as an earthquake could render virtually an entire centralized system inoperable. There is a much greater chance that a distributed system would be able to maintain at least some level of operability.
4. Provide better opportunities for resource recovery and lower life cycle costs. Distributed plants can be located close to where resources are actually used. This advantage makes substantial resource recovery much more likely.

**Moved** – That staff be directed to report back, at the next meeting of the Core Area Liquid Waste Committee, on how a process for investigating best practices, as described in the rationale above, might be implemented.