



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Monthly Report

Reporting Period: April 2017



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1 Executive Summary

1.1 Introduction

The Wastewater Treatment Project (the “WTP” or the “Project”) includes three main Project components (the “Project Components”): the Residuals Treatment Facility (the “RTF”), the McLoughlin Point Wastewater Treatment Plant (the “WWTP”) and the Conveyance System (which includes upgrades to the conveyance network, including the construction of pump stations and pipes). The Project scope will be delivered through a number of contracts with a variety of contracting strategies.

Overall the Project is progressing as planned. After signing the WWTP contract with Harbour Resource Partners (HRP) in March, the WWTP moved into the construction phase. The construction phase of the WWTP is progressing in line with the schedule, with materials and equipment beginning to be mobilized and construction sites being prepared.








The RTF is in the procurement phase and progressed from the Request for Qualifications (“RFQ”) stage to the Request for Proposals (“RFP”) stage in the reporting period. Following the successful completion of the RFQ stage a shortlist of three proponents were issued with the RFP. The RFP activity is on track with technical submissions due in September 2017 and financial submissions due in October 2017 from the three proponents.

The highlights of the Conveyance System activities in this reporting period were the development of the RFP for the Clover Point Pump Station and the RFQ for Macaulay Point Pump Station and Forcemain.

1.2 Dashboard





Table 1 indicates the high level status of the Project and each Project Component with regards to the six Key Performance Indicators (“KPI”) that were defined within the Project Charter. For the reporting period the Project KPI’s have been met and Project implementation is on plan.

Table 1 - Executive Summary Dashboard

Key Performance Indicators		WTP Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					No safety issues
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					No environmental issues.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Extensive engagement activities completed in the reporting period; more information will be provided as it becomes available and focused engagement will be undertaken around Ogden and McLoughlin Point construction activities.
Schedule	Deliver the Project by December 31, 2020.					No schedule issues.
Cost	Deliver the Project within the Control Budget (\$765 million).					Project expenditures within Control Budget.

* A TRIF of no more than 1 means that there is 1 or fewer recordable incidents (being a work-related injury or illness that requires medical treatment beyond first aid or causes death, days away from work, restricted work or transfer to another job, or loss of consciousness) for every 200,000 person-hours of work.

KPI Status Key

Status	Description
	KPI unlikely to be met
	KPI at risk unless corrective action is taken
	KPI at risk but corrective action has been identified/is being implemented
	Good progress against KPI

2 Wastewater Treatment Project Progress

2.1 Safety

Safety information for the reporting period and cumulative for the Project from January 1, 2017 is summarised in Table 2. In April the TRIF for the WTP inclusive of Project Contractors and Project Management Office staff was zero. No recordable incidences were reported in the reporting period. No corrective actions were required due to there being no open recordable incidents.

HRP was the only Project Contractor during the reporting period. HRP began mobilization to WWTP works sites during the reporting period, and mobilized 10 staff.

The Project Management Office (“PMO”) staffing level increased over the reporting period, with the PMO staff increasing from 8 to 14 full time equivalents (“FTE”).

The key safety management activity completed during the reporting period was the review of HRP’s Health, Safety and Environmental Plan. This Plan was reviewed and accepted by the PMO.

Table 2 - WTP Safety Information

	Reporting Period (April 2017)	Project Total to-Date (from January 1, 2017)
Person Hours		
CRD PMO	1160	4137
Project Contractors	1420	5633
Total Person Hours	2580	9770
Number Of Employees		
CRD PMO	14	
Project Contractors	10	
Total Number Of Employees	24	
Number Of Occurrences		
Near Miss Reports	0	0
High Potential near Miss Reports	0	0
Report Only	0	0
First Aid	0	0
Medical Aid	0	0
Medical Aid (Modified Duty)	0	0
Lost Time	0	0
Total Recordable Incidents	0	0

	Reporting Period (April 2017)	Project Total to-Date (from January 1, 2017)
Frequency Rates		
First Aid Frequency	0	0
Medical Aid Frequency	0	0
Lost Time Frequency	0	0
Total Recordable Incident Rate	0	0

2.2 Environment and Regulatory Management

2.2.1 Environment

The key environmental management activities that were completed during this reporting period are as follows:

- Draft archaeological permit associated with the geotechnical drilling for the Clover and Macaulay forcemains sent to Millennia, the Project's archaeological advisors, for review;
- PMO team reviewed the HRP WWTP Early Works Construction Environmental Protection Plan and returned comments.

2.2.2 Regulatory Management

The Project Team continued to progress the construction-related regulatory approvals as planned. The permitting activities for the reporting period involved engagement with the municipal, provincial and federal government departments as summarised in Table 3.

Table 3 - Regulatory Approvals Permitting Activities

Government Authority Level	Activity
Municipal	<ul style="list-style-type: none"> • The City of Victoria Technical Working Group met and the first District of Saanich Technical Working Group meeting was planned.
Provincial	<ul style="list-style-type: none"> • The Project Team progressed Heritage Act permits and operational permits required for the McLoughlin Point Wastewater Treatment Plant.
Federal	<ul style="list-style-type: none"> • The Project Team progressed the Transport Canada Facility Alteration Permits for the construction of the McLoughlin Point outfall and harbour crossing conveyance line. • Operational and progress update meetings with Department of National Defence ongoing.

The timely availability of the various Project permits reflect an area of key management focus due to the potential Project progress impacts. The regulatory management activities were in line with the planned Project progress for the period.

2.3 Schedule

All scheduled activities were completed as planned. The procurement phase of the WWTP Project Component was completed and the Project Component moved into the construction phase which progressed in line with HRP's schedule. The RTF Project Component is in the procurement phase and is on-track to be completed in line with the schedule. The Conveyance System Project Component progressed in line with the schedule with procurement planning progressing on Clover Point Pump Station and Macaulay Point Pump Station and Forcemain.

Figure 1 shows the high-level Project schedule.

Given the early execution stage of the Project a number of Project planning related activities were ongoing over the reporting period. Key amongst these were schedule integration activities including:

- Refinement of the Project schedule to align with the Work Breakdown Structure ("WBS") framework;
- Review of HRP's baseline schedule and incorporation into the Project's schedule; and,
- Cost-loading the Project schedule with the Control Budget.

Figure 1 – High-Level Project Schedule



2.4 Cost Management and Forecast

The Project summary cost report for the reporting period is shown in Figure 2 below. Further information is available in Appendices A and B. The cost report summarizes Project expenditures and commitments by the three Project Components and the major cost centres common to the Project Components. The Project expenditures for the reporting period were as expected and the forecast to completion remains the Control Budget (\$765 million), with no variance. No contingency or program reserve was drawn upon during the reporting period.

The main Project expenditures incurred over the reporting period were associated with: WWTP construction activities; third-party commitments; communications and engagement activities and PMO-related costs.

Figure 2 – Project Summary Report Month End April 30, 2017

	Budget	Cost to Date	Commitments Unpaid	Total CTD + CU	Forecast to Complete	Forecast to Completion	Variance	Variance from Last report
WASTEWATER TREATMENT PLANT	384.8	13.6	289.2	302.8	82.0	384.8	-	-
CONVEYANCING - PUMP STATIONS & PIPES	188.5	17.5	-	17.5	171.1	188.5	-	-
RESIDUALS TREATMENT FACILITY	191.6	5.5	-	5.5	186.2	191.6	-	-
COMMON COSTS**	-	8.3	8.8	17.0	(17.0)	-	-	-
INTERIM FINANCING*	-	0.6	-	0.6	(0.6)	-	-	-
PROGRAM CONTINGENCY*	-	-	-	-	-	-	-	-
LWMP - PROJECT BOARD*	-	7.5	-	7.5	(7.5)	-	-	-
TOTAL	765.0	52.8	298.0	350.8	414.1	765.0	-	-

* The budget for common costs, interim financing, program contingency and Project Board are allocated directly to the project components.

** Common costs include BCHydro, Third Party Commitments and Project Management Office

The allocation of the Project's Control Budget, and associated implementation of the Prolog Project cost management software system was ongoing during the reporting period. Project costs and forecast costs to completion will be reported against the allocated Control Budget in the next monthly report.

2.5 Project Status (Engineering, Procurement and Construction)

The Project Components are at different stages of engineering, procurement and construction. All components are progressing according to plan.

The WWTP is in the construction phase. The construction phase of the WWTP is progressing in line with the schedule, with HRP furthering design and beginning to mobilise materials and equipment, and prepare construction sites.

The RTF is in the procurement phase and progressed from the RFQ stage to the RFP stage in the reporting period. Following the successful completion of the RFQ stage a shortlist of three proponents were issued with the RFP. The RFP activity is on track with technical submissions due in September 2017 and financial submissions due in October 2017 from the three proponents.

The Conveyance System is in the engineering phase. Efforts related to the Conveyance System were focused on preparing the indicative designs, including the alignments, and developing the RFP for the Clover Point Pump Station and the RFQ for Macaulay Point Pump Station and Forcemain.

2.6 First Nations

First Nations communication and engagement was ongoing and progressed as planned over the reporting period.

The following activities were completed in the reporting period:

- Submitted First Nations engagement log to Transport Canada (TC) as part of the permit approval process for the harbour crossing and outfall application and Transport Canada's duty to consult First Nations;
- Letters of project notification were prepared and sent to neighbouring First Nations governments;
- Initial planning meetings were held with Esquimalt and Songhees administrators to discuss the First Nations Liaison positions. The Esquimalt and Songhees Nations explored a joint approach to managing the positions and the Terms of Reference were jointly developed;
- Archeology responsibilities were defined:
 - A site specific permit was submitted by the PMO to the Archaeology Branch, in order to allow geotechnical drilling to be undertaken. A mandatory 30 day referral process to neighbouring Nations (beyond Songhees and Esquimalt Nations) was initiated, with an expectation of a permit decision from the Archaeology Branch in mid-June; and
 - Millennia were retained as the Project's archaeological advisor, and were tasked with overall oversight of archeological activities, including First Nations cultural protocol development.

2.7 Stakeholder Engagement

The Project maintained its ongoing two-way Communications and Engagement Plan over the reporting period to provide Project information to stakeholders, communities and the public and to respond to public inquiries. A variety of materials and methods supported the implementation of the Communications and Engagement Plan, including a public inquiry program, Project website updates, social media, construction notifications, community and stakeholder meetings, and door-to-door notifications.

The following activities were completed in the reporting period:

- Meetings with the following community groups:
 - James Bay Neighbourhood Association;
 - Ecole Macaulay Elementary School;
 - James Bay Community School; and
 - Victoria West Community Association.

- Two Community Information meetings were held; one in Victoria, and one in Esquimalt. Over 300 people attended the meetings, which were publicized widely through mailed notices to residents, email, newspaper advertisements, social media, and on the Project website. The meetings provided an opportunity for residents to learn more and have questions answered, particularly regarding the Project schedule, noise, odour and upcoming construction at Ogden Point and McLoughlin Point. 27 members of the Project Team and HRP attended the meetings and were available to answer questions.
- Project Updates were developed and distributed:
 - Project Update #1 was developed for the Community Information Meetings and posted to the website;
 - Project Update #2 was developed and posted to the Project website; mailed to 7,500 households in James Bay; and emailed to our stakeholder list;
- Updates to the Project Website were made:
 - Project information boards were developed for the community information meetings and posted to the website;
 - Project information sheets were developed for the community meetings and posted to the Project website on: Construction Schedule; McLoughlin Point Wastewater Treatment Plant: Noise During Operations; Odour Control: McLoughlin Point Wastewater Treatment Plant; Ogden Point Noise Mitigation; and, Clover Point Pump Station;
 - A new “Community Questions” page was created with commonly-asked questions and answers;
 - A media release on the Residuals Treatment Facility Proponents Shortlisted for the Wastewater Treatment Project was prepared and issued; and
 - A media release on the McLoughlin Point Wastewater Treatment Plant Contract Awarded was prepared and issued.
- The Project public information line was set up so that members of the public can call a number 24-7: 1-844-815-6132;
- Public e-mail inquiries were responded to;
- Correspondence with James Bay Neighbourhood Association was prepared and issued; and
- Terms of reference were developed with Esquimalt Liaison Committee

As construction plans are advanced and specific work schedules are finalized over the coming months, the Project Team will schedule further meetings with stakeholders and continue to update the Project website so as to continue to provide Project information and hear questions and concerns.

2.8 Key Risks and Issues

The Project Team actively-identified and managed Project risks over the reporting period.

Table 4 summarises the highest-level risks that were actively managed over the reporting period, as well as the mitigation steps identified and/or undertaken over the reporting period.

Table 4 - WTP Risk Summary

Risk No.	Risk	Risk Status	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
1	First Nations engagement	The assessed risk level reflects the PMO's priority of establishing strong and effective relationships with First Nations interfacing with, or interested in, the Project.	First Nations engagement activities remained ongoing over the reporting period (see section 2.5 for further details).	M	No change
2	PMO Start up: development and implementation of systems, plans and processes	The roll-out of PMO systems and the development of the Project Management Plan and key subsidiary plans was ongoing over the reporting period. The Communications and Engagement Plan was completed and issued.	The development of Project management plans and supporting systems implementation remained ongoing as resources were hired. Advisors were also engaged to provide support on an interim basis.	M	No change
3	PMO Start up: Hiring of staff	The hiring of key staff was of increasing priority with a number of senior staff operating in interim capacities across a number of functional and project management roles.	Hiring of project office staff continued over the period, with the PMO FTEs increasing from 8 to 14.	M	No change
4	Divergent interests between multiple parties and governance bodies whose co-operation is required to successfully deliver the project	As detailed in section 2.9 a number of local government authorities and management committees met over the period and passed resolutions.	The Project Board considered and responded to resolutions from other governments. The Project Team either has or plans to establish a technical working group with each of the three core area municipalities most directly affected by construction (Victoria, Esquimalt, and Saanich).	M	No change
5	Misalignment between Project objectives/scope and stakeholder expectations	The assessed risk level reflects the PMO's priority of establishing strong and effective community stakeholder engagement.	Extensive community engagement activities were undertaken over the reporting period. In addition, the Project Team either has or intends to establish community committees in the three core area municipalities most directly affected by construction (Victoria, Esquimalt, and Saanich).	M	No change

2.9 Resolutions from Other Governments

2.9.1 Core Area Liquid Waste Management Committee

The Project Board received a number of resolutions from the Core Area Liquid Waste Management Committee's (CALWMC) April 12th meeting. The Project Board considered these resolutions at its May 2nd meeting and directed staff to prepare the response. The CALWMC's resolutions are in italics and the Project Board's responses follow.

That the Core Area Liquid Waste Management Committee recommend to the Capital Regional District Board, that the Wastewater Treatment Project Quarterly Report - Reporting Period December 25, 2016 to March 24, 2017 be received for information.

Amendment:

That future Wastewater Treatment Project Quarterly Reports include a section 11.3 that indicates stakeholder issues and responses from the Project Board.

The Project Board agrees with this request and has directed the Project Team to include in future Wastewater Treatment Project Quarterly Reports a summary of key themes and responses from correspondence received during the reporting period.

That the CRD Board request that the Core Area Wastewater Treatment Project Board:

- 1. Explore a Change Order with Harbour Resource Partners to ensure that enforceable performance Standards are in place upon completion of the McLoughlin Point waste-water treatment plant to ensure that odour levels do not to exceed 2 Odour Units.*

The Project Board reviewed this request in detail and discussed it at the May 2, 2017, open Project Board meeting. At the conclusion of the discussion, the Project Board voted unanimously in favour of the staff recommendation to not explore a Change Order with Harbour Resource Partners (HRP).

The guiding principle for the design of the McLoughlin Point Wastewater Treatment Plant is that there will be no detectable odour by residents. The contract with HRP specifies that:

- All process tankage must be covered, which will result in one of the highest levels of odour capture and treatment in the industry;
- The plant include a robust and reliable treatment strategy consisting of a two stage odour control system utilizing a bioscrubber followed by activated carbon, that is capable of treating all odorous air streams;
- Back-up odour control equipment and back-up power generators be installed, to reduce the possibility of odour escaping the plant in the unlikely event there is an equipment or power failure; and,
- A 24 hour odour control monitoring system be installed, to ensure that odour requirements are met or exceeded.

Under normal operating conditions atmospheric odour modelling predicts that the odour at the plant's property line will be approximately two odour units. The performance standard within the

contract of up to five odour units provides a margin to deal with an extraordinary event such as an equipment or power failure. The CRD will maintain the facility in accordance with an asset management plan that will mitigate the risk of any such failures.

The scope of the contract with HRP includes the design, build and finance of the McLoughlin Point Wastewater Treatment Plant. The contract is structured such that third party debt capital is at risk until HRP can demonstrate that the plant has satisfactorily achieved operational capability, including compliance with contract odour specifications. Such performance will have to be demonstrated continuously over a 90 day acceptance period for HRP (and their lenders) to receive full payment. In determining whether to put their capital at risk, third party lenders satisfied themselves that HRP's designs are capable of meeting the contract specifications; including the odour specifications.

In addition, HRP must demonstrate that the plant can meet the contract standards with respect to odour performance during a two-year performance period after achieving operational capability. If the odour specifications are not met over this two-year performance period, HRP will be obliged to upgrade the plant as required to meet the standards. HRP are therefore incentivized to design and build the plant so that it can be operated well below the performance standard.

Re-opening the contract to establish the odour performance limit at two odour units is therefore unnecessary to achieve the guiding principle (that there be no detectable odour by residents) and would also have significant impacts to both schedule and budget.

2. Report back to the Core Area Liquid Waste Management Committee on the advisability and cost of reducing operating Noise levels when measured at the McLoughlin Point property line to 55 Decibels.

The Project Board reviewed this request in detail and discussed it at the May 2, 2017, open Project Board meeting. At the conclusion of the discussion, the Project Board voted unanimously in favour of the staff recommendation to not explore a Change Order with Harbour Resource Partners (HRP).

The guiding principle for the design of the McLoughlin Point Wastewater Treatment Plant is that operating noise levels are within reasonable levels for all residents. The reference point is noise bylaws and agreements with the Township of Esquimalt and City of Victoria.

The contract specifies that:

- a) Noise enclosures are required for equipment which generates high levels of noise, such as air blowers and generators;
- b) Acoustic baffles will be installed on the intake and exhaust louvers;
- c) Acoustic insulation of walls, doors and roofs as necessary to meet noise control bylaws; and
- d) Noise levels at receptors must be in compliance with municipal bylaws.

The contract with HRP specifies that operational noise from the McLoughlin Point Wastewater Treatment Plant must not exceed 60 decibels at the plant's property line. Under normal operating conditions noise modelling shows that the predicted decibel levels in James Bay (the closest location to the plant site in the City of Victoria) and other surrounding areas in the City of

Victoria, will not exceed 35 decibels. This is 5 decibels below the most stringent limit in the City of Victoria noise bylaw.

The noise modelling was undertaken assuming a “worst case scenario” of 60 decibels everywhere along the McLoughlin Point Wastewater Treatment Plant site’s property line. However, actual noise levels from the treatment facility once operational are anticipated to be lower.

The scope of the contract with HRP includes the design, build and finance of the McLoughlin Point Wastewater Treatment Plant. The contract is structured such that third party debt capital is at risk until HRP can demonstrate that the plant has satisfactorily achieved operational capability, including compliance with contract noise specifications. Such performance will have to be demonstrated continuously over a 90 day acceptance period for HRP (and their lenders) to receive full payment. In determining whether to put their capital at risk, third party lenders satisfied themselves that HRP’s designs are capable of meeting the contract specifications.

Re-opening the contract to establish the operating noise limit at 55 decibels is therefore unnecessary to achieve reasonable levels of noise for all residents and would have significant impacts to both schedule and budget.

- 3. Continue and improve consultation with James Bay, Victoria West, Fairfield and Downtown residents on mitigation of construction and long-term impacts from conveyancing infrastructure, the McLoughlin Point waste-water treatment and the Clover Point Pump Station.*

The Project Board reviewed this request in detail and discussed it at the May 2, 2017, open Project Board meeting. At the conclusion of the discussion, the Project Board voted unanimously in favour of the staff recommendation outlined below, which is in agreement with the request.

The Project Team will continue to look for ways to build relationships and expand their communications tools in order to provide timely information about construction planning and to hear questions and concerns. As the Project moves into the construction phase, we expect the level of engagement will increase as the Project Team will have more information to share with potentially impacted communities. The Project Team’s communications will follow the linear nature of the construction of the Project, which starts in Esquimalt and James Bay, moves into Fairfield Gonzales in the fall of 2017 and to Saanich in 2018. For each phase of the Project, the Project Team will communicate with communities to provide information and hear questions and concerns. The Project Team will continue to use all the communication tools described in the Project’s Communications and Engagement plan, which include a 24/7 phone line, web updates, residential mail updates, email updates, construction bulletins, community liaison meetings, community information meetings, and where appropriate, door-to-door visits.

- 4. Closely monitor geotechnical issues along the Dallas Road waterfront and advise the Core Area Liquid Waste Management Committee of any issues that arise and solutions.*

The Project Board reviewed this request in detail and discussed it at the May 2, 2017, open Project Board meeting. At the conclusion of the discussion, the Project Board voted

unanimously in favour of the staff recommendation outlined below, which is in agreement with the request.

In addition, and subsequent to the CALWMC's April 12th meeting, the City of Victoria passed a related resolution on May 11th as follows:

Put in place risk mitigation measures to protect the Dallas Road Bluffs during construction including but not limited to:

- a. Assembling an interdisciplinary team to study and address the protection of the bluffs.*
- b. As part of the detailed design of the conveyancing, include a plan for the preservation of the bluffs.*

And that the Project Board report out to the public at one of their regular community meetings, to the JBNA and to Victoria City Council on the measures outlined.

The following response captures the direction of the Project Board to resolution 4 from the CALWMC's April 12th meeting and elaborates on the Project Team's plans in order to address the related resolution from the City of Victoria's May 11th meeting.

Geotechnical investigations and monitoring will take place along Dallas Road with an enhanced focus on the shoreline and bluffs prior to, during and after the construction of the Clover Point Forcemain and related pipework. The geotechnical investigations will include a series of test holes drilled along the pipe alignment to establish existing geological conditions and to collect samples for laboratory testing and use in establishing geotechnical design parameters for the pipe and bluff stability analysis. The geotechnical monitoring will include the installation of instruments near the bluffs and along the pipe alignment. Recordings from these instruments will be used to monitor conditions during the construction and post construction phase of the project.

The design process for the conveyance system from Ogden Point to Clover Point (the Clover Point Forcemain) has begun. It includes the development of an indicative design and a final design. Stantec, as the owner's engineer, will undertake the indicative design. Another qualified engineering firm (which we will call the 'Second Engineering Firm') will review the indicative design and prepare the final design. Both firms will have input into the undertaking of, and access to the outcome of, geotechnical investigations and monitoring outlined above.

Specifically, the Project Team will competitively-procure the Second Engineering Firm to review the indicative design and prepare the final design. This firm will have expertise in the fields of geotechnical, terrain analysis, environmental and civil engineering. The firm will be provided with the indicative design and the results of the geotechnical investigations undertaken to-date, and will be responsible for reviewing that work as part of developing the final design. They will also be responsible for fulfilling the duties of Engineer of Record as defined by the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Professional members of the firm and their qualifications will be noted as part of their work.

As part of their scope of work, the Second Engineering Firm will prepare a plan to mitigate any impacts on the bluffs during construction. As noted, this plan will include post construction monitoring for 12 months following completion of construction.

Reports detailing the results of the geotechnical investigations and the indicative alignment will be complete in the fall of 2017. The Project Team will report on these to the public at one of their regular community information meetings, to the James Bay Neighbourhood Association and to Victoria City Council. Results will also be posted on the Project website.

5. Explore a Green Shores certification for the Clover Point Pump Station

The Project Board reviewed this request and discussed it at the May 2, 2017, open Project Board meeting. At the conclusion of the discussion, the Project Board voted unanimously in favour of the staff recommendation outlined below, which is in agreement with the request.

The Project Team will review the Green Shores certification process and determine whether the certification might be appropriate for the Clover Point Pump Station, and identify any impacts to cost and schedule of pursuing the certification.

2.9.2 Integrated Resource Management Advisory Committee (IRMAC)

The Project Board received resolutions from IRMAC's April 12th Open meeting. The Project Board considered these resolutions at its May 2nd meeting. The IRMAC's resolutions are in italics and the Project Board's response, as discussed at its May 2nd meeting follow.

- 1. That the Integrated Resource Management Work Plan as amended be submitted to the Minister of Environment by May 31, 2017; and*
- 2. That this report [staff report entitled 'Advanced Integrated Resource Management – Next Steps'] be forwarded to the Core Area Liquid Waste Management Committee, the Saanich Peninsula Wastewater Commission and the Core Area Wastewater Treatment Project Board for information.*

The Project Board received this report for information and noted that it is anticipated that biosolids will start to be produced by the Residuals Treatment Facility from the spring-summer of 2020 rather than from January 2021 as noted in the CRD staff report to the IRMAC entitled 'Advanced Integrated Resource Management – Next Steps'.

The Project Board also received a number of resolutions from the Integrated Resource Management Advisory Committee's (IRMAC) April 12th Closed meeting. The Project Board considered these resolutions at its May 2nd meeting. The IRMAC's resolutions and the Project Board's responses, as discussed at its May 2nd meeting, were sent to the IRMAC in a letter from Bob Lapham on behalf of the Project Board, dated May 5, 2017 and attached as Appendix C.



Appendix A: Summary of Project Expenses to April 30, 2017

CORE AREA LIQUID WASTE MANAGEMENT SUMMARY REPORT
MONTH ENDING APRIL 30, 2017
(in \$ millions)

3.798C - Core Area Wastewater Treatment Program	to 2013	2014	2015	2016	2017	Total
Program Expenses						
Wastewater Treatment - McLoughlin	9.71	0.43	0.48	(0.15)	3.12	13.6
Conveyancing	6.90	7.53	3.01	0.02	0.00	17.5
Residuals Treatment Facility	2.99	1.66	0.01	0.82	-	5.5
Common Costs*	4.96	3.16	0.24	(1.70)	1.60	8.3
Interim Financing	0.04	0.03	0.19	0.23	0.08	0.6
LWMP - Project Board	-	-	-	2.61	4.88	7.5
Total program expenditures	24.60	12.80	3.93	1.83	9.69	52.8

* Common costs include BCHydro and Third Party Commitments



Appendix B: Core Area Liquid Waste Management Summary Report

PROGRAM SUMMARY REPORT
SUMMARY OF PROJECT EXPENSES TO APRIL 30, 2017
(in \$ millions)

	to 2013	2014	2015	2016	2017	Total
WASTEWATER TREATMENT PLANT						
Marine Outfall - McLoughlin Pnt - CAWTP	210,592	4,843	-	-	-	215,435
Project Management & Commission	983	-	-	-	-	983
Victoria Harbour Crossing - CAWTP	467,794	5,377	102	(151,019)	24,635	497,908
Wastewater Treatment - McLoughlin Pnt	9,035,692	417,911	476,269	(151,019)	3,098,437	12,877,290
Subtotal Wastewater Treatment Plant	9,715,061	428,131	476,371	(151,019)	3,123,072	13,591,617
CONVEYANCING - PUMP STATIONS & PIPES						
Arbutus Rd Attenuation Tank	3,740,034	552,160	135,860	-	-	4,428,054
Clover Ogden FM	13,840	15,930	-	-	-	29,771
Clover Pt PS	318,411	86,020	142,857	-	-	547,288
Craigflower PS	2,616,936	6,805,124	2,684,505	15,976	350	12,122,890
Currie FM	4,245	588	-	-	-	4,832
Currie PS	4,245	-	-	-	-	4,245
Macaulay - McLoughlin FM	20,993	588	-	-	-	21,581
Macaulay Pt PS	141,761	50,790	50,000	-	-	242,551
Trent/ECL Twinning	35,487	14,506	-	-	-	49,993
Subtotal Conveyancing - Pump Stations & Pipes	6,895,951	7,525,706	3,013,222	15,976	350	17,451,205
RESIDUALS TREATMENT FACILITY						
Project Management & Commission	596	-	-	-	-	596
Resource Recovery Ctr	2,930,973	1,530,025	13,223	816,975	-	5,291,196
Sludge & Concentrate Conveyance	63,463	127,131	-	-	-	190,593
Subtotal Resource Recovery Centre	2,995,032	1,657,155	13,223	816,975	-	5,482,386
COMMON COSTS						
Commission Direct	374,120	144,694	89,199	31,821	-	639,834
Third Party Commitments	-	-	-	-	1,540,000	1,540,000
BC Hydro	-	-	-	-	55,020	55,020
Project Management	4,583,480	3,013,700	148,393	(1,726,466)	-	6,019,106
Subtotal Common Costs	4,957,600	3,158,394	237,592	(1,694,645)	1,595,020	8,253,960
INTERIM FINANCING						
	36,600	29,916	192,834	226,776	82,603	568,729
PROGRAM CONTINGENCY						
	-	-	-	-	-	-
LWMP - PROJECT BOARD						
Project Oversight (Project Board)	-	-	-	554,661	198,660	753,320
Communications	-	-	-	38,616	276,509	315,124
Feasibility and Costing Analysis	-	-	-	649,203	-	649,203
Business Case review	-	-	-	75,630	-	75,630
Partnerships BC	-	-	-	373,042	870,959	1,244,001
Project Management (Staff and Wages)	-	-	-	193,600	433,918	627,518
Miscellaneous and Legal	-	-	-	725,862	3,104,145	3,830,007
Subtotal LWMP - Project Board	-	-	-	2,610,613	4,884,191	7,494,804
TOTAL	24,600,244	12,799,303	3,933,242	1,824,676	9,685,236	52,842,701



Appendix C: May 5, 2017 Letter to IRMAC from Bob Lapham on behalf of the Project Board



Making a difference...together

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May 5, 2017

File: 0220-20
Core Area Wastewater Treatment Project Board

Dear CRD Chair & Directors,

RE: Resolution from the Integrated Resource Management Advisory Committee

On behalf of the Core Area Wastewater Treatment Project Board ("**Project Board**"), I am writing to you regarding the following resolution from the Integrated Resource Management Advisory Committee's April 12, 2017 closed meeting (the "**Resolution**"):

That the IRM proposals be sent to the Project Board for their information and request:

1. that the Project Board review the IRM timelines and see how the IRM project can be aligned with what the Project Board is doing;
2. that the Project Board evaluate the proposals;
3. that the Project Board review elements of the applications with a view towards controlling the total costs on the region, maximizing possibilities for resource recovery and streamlining processes; and
4. that the Project Board consider up to 100% raw sewage and owned finance options

During its meeting on May 2, 2017, the Project Board considered the Resolution, and the Project Board's role in the IRM planning process being led by the CRD. The Project Board is unable to act on the Resolution because the requests are not within the scope of duties defined in the Project Board's terms of reference. Further background to the Project Board's response follows.

1. Funding Agreements

As you are aware, the Wastewater Treatment Project ("**the Project**") consists of three main elements:

- the McLoughlin Point Wastewater Treatment Plant,
- the Residuals Treatment Facility, and
- the Conveyance System.

The Project cost of \$765 million is being funded by the federal and provincial governments, and the CRD.

The Government of British Columbia will provide up to \$248 million towards the three components of the Project and P3 Canada will provide up to \$41 million towards the Residuals Treatment Facility. The funding by P3 Canada and the Government of British Columbia is intrinsically linked to the entire Project. The construction of the Residuals Treatment Facility cannot be extracted without placing the entire funding amounts from these funding partners at risk.

2. Regulatory Context

The Project must satisfy the regulatory requirements applicable to wastewater treatment. The funding agreements, as expected, require the Project to comply with all applicable laws as a condition of the funding.

The CRD is legally obliged to treat wastewater, and those legal obligations extend to the treatment byproducts, including biosolids. Federal and Provincial regulatory requirements apply to biosolids quality, the environmental implications, and the management of wastes. In British Columbia, the Organic Matter Recycling Regulation applies to the production, distribution, storage, sale, and use of biosolids and compost.

The inclusion of the Residuals Treatment Facility in the Project as part of the solution for treating the Core Area's wastewater satisfied the regulatory requirements, and therefore the funding partners. The processing of sewage sludge into Class A biosolids is part of the approved Core Area Liquid Waste Management Plan ("CALWMP") Amendment 11. In addition, the Minister of Environment's approval of the CALWMP Amendment 11 is conditional upon the CRD submitting a definitive plan for the beneficial reuse of biosolids by June 30, 2019 and to ensure the definitive plan for beneficial reuse of biosolids is supported by an assessment of the full spectrum of beneficial uses and integrated resource management options available for the Class A biosolids that will be produced.

3. Operational Context

Biosolids comprise only a small proportion of the total combined biosolids, organics and municipal solid waste streams that must be integrated to create an effective IRM plan. As a result, the potential for IRM in the Core Area will be predominantly driven by the solid waste streams. Thus, IRM planning properly resides within the Solids Waste Management Plan rather than as a separate aspect of wastewater treatment within the Liquid Waste Management Plan.

The Residuals Treatment Facility and the chosen site of Hartland landfill optimises the integration of biosolids with the current and future solid waste program. Hartland landfill receives about 140,000 tonnes of municipal solid waste per year and offers operational synergies and IRM opportunities with biosolids processing.

4. Residuals Treatment Facility

Given the above, there is no conflict between the IRM planning process and the construction and operation of the Residuals Treatment Facility. The Project Board, as part of the liquid waste management planning, has ensured that the Project provides the CRD the flexibility and the ability to accommodate an IRM planning process either now or in the future. As discussed in greater detail in the Core Area Wastewater Treatment Program Business Case dated September 7, 2016, that was approved by the CRD Board on September 14, 2016, the Project Board considered a wide spectrum of biosolids treatment technologies in its analysis. In recommending the production of class A biosolids at Hartland landfill, the Business Case recognised that the biggest opportunity for IRM at the CRD exists with the potential integration of the various waste streams that may be available at the Hartland Landfill.

Furthermore, the Project Board have structured the Residuals Treatment Facility contract to ensure that up to 50% of raw residuals produced at the McLoughlin Point Wastewater Treatment Plant can bypass the Residuals Treatment Facility. As noted in the April 12, 2017 report entitled 'Advanced Integrated Resource Management – Next Steps', that the Project Board received for information, this contractual and operating flexibility supports the viability of IRM solutions that rely upon the incorporation of both raw residuals and class A biosolids.

The Project Board appreciates the work of the IRM Committee in leading the planning and development of a comprehensive IRM plan. The Project Board is maintaining the alignment by ensuring that, through the CRD Chief Administrative Officer, the CRD IRM Advisory Committee is aware of the Project's activities, specifically as they relate to the production of biosolids.

I trust that the above information provides useful background and explains the Project Board's complementary functions.

Yours truly,



Robert (Bob) Lapham, MCIP, RPP
Chief Administrative Officer

cc: Core Area Wastewater Treatment Project Board
Dave Clancy, Project Director, Core Area Wastewater Treatment Project