



IRM Project Plan Outline

Capital Regional District

Advanced Integrated Resource Management (IRM)
Project

August 30, 2017

1. Introduction

On June 28, 2017 the Integrated Resource Management Advisory Committee (IRMAC) recommended to the CRD Environmental Services Committee that five key deliverables be prepared and delivered for the September IRMAC meeting, based on the staff report entitled the *Advanced Integrated Resource Management, Next Steps* and the presentation that was provided regarding the IRM Road Map. These recommendations were approved by the Environmental Services Committee on June 28th, 2017 and subsequently by the CRD Board. One of these five key deliverables is an IRM Project Plan Outline.

The following describes the proposed IRM Project Plan Outline. This IRM Project Plan outline builds upon the IRM Work Plan which was submitted to the Province in May 2017 as requested by the Minister of Environment in her conditional approval of Amendment No. 11 of the Core Area Liquid Waste Management Plan (CALWMP). The intent is that the IRM Project Plan outline, provide more details regarding the road map for the IRM process. This document will also be used to support discussions with Ministry of the Environment staff for feedback and alignment during the remainder of 2017. The IRM Project Plan Outline reflects the staff reports and documents developed to-date in support the IRM process, and the outcome of discussions with CRD staff.

2. IRM Project Plan Outline

The proposed IRM Work Plan was submitted to the Province in May 2017. Since that document was completed, some adjustments to the work plan have become evident based both on the outcomes of the June 28, 2017 IRMAC meeting and based on development of a reasonable schedule and succession of activities to support the IRM Project Plan. These adjustments include the following:

- a) As documented in the Report providing the detailed analysis of the results of the CRD IRM RFEOI, it was clear that the majority of parties interested in providing an IRM solution to the CRD indicated that a pilot program was unnecessary as the majority of the proposed technologies have been successfully used at operating facilities to process similar materials. A pilot program would require investment by the CRD in development or support of a small scale trial, and experience in other jurisdictions indicates it is difficult for a pilot to replicate actual full-scale facility operations. Facility tours offer the option to see larger scale operations first hand to gather essential information. Subsequently the option of undertaking an IRM Pilot has been removed from the IRM Plan Outline and replaced by recommendations for an IRM Facility Tour. Details regarding the proposed Facility Tour are outlined in the *Proposed IRM Facilities Tour Plan*.

The IRM Facility Tour has been integrated within the IRM Plan Outline, with suitable timing to inform and support subsequent steps of the IRM process. To accommodate the proposed Facility Tour and other items as provided to the IRMAC for consideration in September, and to allow for reasonable decision making as required for some key steps in the IRM process, a number of actions have been moved out within a reasonable timeframe. However, as the Facility Tour effectively replaces

undertaking of an IRM pilot project which would have taken substantially longer time to complete, the overall effect on the IRM schedule is relatively minimal.

- b) The IRM Plan Outline has been adjusted to indicate the key decisions that would be required, in the form of recommendations from the IRMAC and subsequent decisions by Environmental Services Committee and the CRD Board throughout the IRM planning process. This Plan Outline identifies the timing of key decisions related to policy, in particular waste flow management policy implications as reflected in a separate CRD Staff report presented to the IRMAC in September, as well as the implications related to the existing CRD policy regarding Land Application and implications associated with the beneficial reuse of products that could include biosolids. Decisions related to the regulation of the flow of solid waste and organic materials will determine whether the CRD will be in the position to guarantee feedstock for an IRM solution. In the absence of feedstock guarantees, the viability of an IRM solution will depend on its ability to compete cost effectively with options to ship materials off-island for management elsewhere. Decisions related to the CRD policy regarding Land Application and how that policy would apply to the use of products generated by an IRM solution that could contain biosolids, will significantly scope the potential for product markets and thus effect both facility design as well as the business case for implementing an IRM solution.
- c) The IRM Plan Outline addresses the need for development of a Preliminary and Final Business Case for an IRM solution. Generally for similar projects a municipality would be advised to develop a Preliminary Business Case in order to determine if a project of this nature was viable, and in the event that it was viable the outcome of the business case would be used to scope the subsequent procurement process in regards to defining the preferred service delivery model to undertake the project; the preferred technology and the feedstock that would be managed. The timeframes under which the IRM Project Plan must be developed and completed including implementation of an approach for beneficial reuse of biosolids, does not allow for a separate business case to be developed in advance of procurement. Instead, during the development of the IRM RFPQ document an assessment of service delivery models will be undertaken. The IRM RFPQ document itself, will be structured so as to allow for pre-qualification of service providers that have capability to manage IRM solid and liquid waste streams, with the identification of any preferred technologies and the feedstock to be addressed in an IRM solution to be informed by the outcome of the RFPQ process. The outcome of the RFPQ along with the Preliminary Business Case will provide the basis for the CRD to decide whether to proceed with the next IRM steps and the RFP scope definition for an IRM solution. The Final Business Case would reflect the outcome of the IRM RFP.
- d) The IRM Plan Outline has been adjusted to reflect alignment with the CRD solid waste management planning process, as it contemplates beneficial reuse of solid waste residuals. IRM in the Capital Region is predominantly driven by the solid waste streams, as biosolids comprise a relatively small proportion of the combined liquid and solid waste streams. The IRM project would be a fundamental shift in the way solid waste residuals and potentially other materials like organics would be managed in the Capital Region and requires a major review of the solid waste management plan. As appropriate, key steps in

the development of the CRD Solid Waste Management Plan (SWMP) which can affect the IRM planning process (and vice versa) have been indicated in the IRM Plan Outline.

- e) The IRM Plan Outline refers to the planning and development of an advanced IRM solution, rather than making specific reference to an advanced IRM facility (in the singular) to allow for flexibility in the outcome of the process. This reflects the real potential that the outcome of the initial steps of the IRM Project Plan, including the RFPQ and Preliminary Business Case, may indicate that either a phased solution or a multi-facility approach may be identified as more feasible approaches to implement an advanced IRM solution for the CRD. For example, it may be made clear that initially the focus of an IRM facility should be the management of biosolids and a smaller subset of other CRD materials, with the option that over time either a facility expansion or an additional facility could be developed to manage other CRD materials. A phased approach could be developed by the same or a different entity. Alternatively, it may become apparent that the most feasible IRM solution may include more than one facility at the outset, developed by different entities, managing separate CRD material streams.

In the event that an IRM opportunity managing biosolids and other CRD waste streams is not proven to be the most beneficial path forward, the CRD would pursue an individual resource recovery plan or plans for the Region's solid waste streams, and present the Province with a definitive plan for the beneficial reuse of biosolids as a stand-alone opportunity.

The following Table 1, provides the IRM Project Plan outline, breaking down key activities and the timing of key decisions that would have to be made throughout the IRM planning process.

Figure 1 illustrates the general timing of key activities included as part of the IRM Project Plan outline, and the timing of other associated/parallel activities under the SWMP and CALWMP processes.

Figure 1 **IRM Project**
Plan General Timeline and Associated
Activities

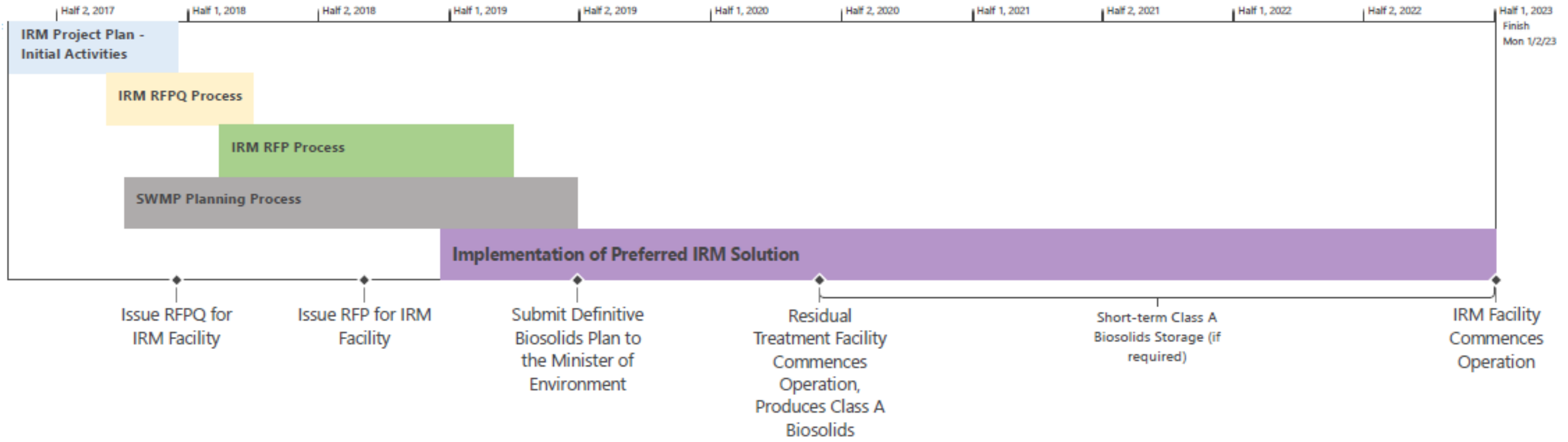


Table 1 Proposed CRD Integrated Resource Management, Project Plan Outline

General Timeframe	Key Activities	Key Decisions
September 2017	<ul style="list-style-type: none"> • IRM Project Plan Outline • Gap Analysis of Technologies and Feedstock Combinations • IRM Facilities Tour Plan • IRM RFPQ Outline • Summary of Policy/Project Implications • Complete arrangements for IRM Facilities Tour • Initiate development of Draft IRM RFPQ document (pending IRMAC and subsequent ESC/Board approval in early Sept) • Initiate assessment of Service Delivery models for the IRM; approach for technology selection; feedstock assumptions (pending IRMAC and subsequent ESC/Board approval in early Sept) • CALWMP RFP for Residual Treatment Facility closes 	<ul style="list-style-type: none"> • IRMAC and subsequent ESC/Board approval of the: <ul style="list-style-type: none"> ○ IRM Project Plan Outline, and issuance of this document to support consultation with stakeholders ○ IRM Facilities Tour Plan ○ IRM RFPQ Outline and subsequent direction to draft the IRM RFPQ as informed by the IRM Facilities Tour ○ Recommendations arising from the waste flow policy implications • The RFPQ outline lays out key issues regarding scope definition for an IRM facility and an approach to address these issues. These would include whether: an IRM solution could include one or multiple facilities; whether an IRM solution could be staged over time; and, what feedstock would be assumed to be addressed within an IRM solution.
October / November 2017	<ul style="list-style-type: none"> • Review Draft IRM Project Plan with Ministry of Environment (MoE) for feedback and alignment • Complete and document the outcome of the IRM Facilities Tour • Complete Final RFPQ document for IRM solution • Re-initiate SWMP Planning Process 	<ul style="list-style-type: none"> • Prior to issuance of the RFPQ document resolution will be necessary regarding scope definition (see above) as informed by the outcome of the IRM Facilities Tour.

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<p>December 2017</p>	<ul style="list-style-type: none"> • Issue RFPQ for an IRM solution 	<ul style="list-style-type: none"> • Core Area Wastewater Project Board to execute agreement with preferred bidder for residual treatment facility, will allow for clear definition of the potential quantity and type of biosolids to be managed by an IRM solution. It is recommended that the RFPQ for the IRM solution be issued following this decision.
<p>Q1 2018</p>	<ul style="list-style-type: none"> • Review/evaluate results of IRM RFPQ and evaluate the feasibility of an advanced IRM solution • Prepare Preliminary Business Case, along with recommendations regarding: risk assessment, preferred service delivery model(s), technology(ies) and feedstock to be included in an IRM solution and CRD budget development recommendations. • Work with MoE staff to finalize the IRM Project Plan, including a detailed public consultation plan and timeline • Present preliminary business case and identification of qualified proponents arising from the IRM RFPQ process • Develop IRM Request for Proposals scope definition • Inform SWMP planning process by outcome of the IRM Preliminary Business Case to set plan direction 	<ul style="list-style-type: none"> • Based on the Preliminary Business Case and the outcome of the RFPQ process, recommendations would be presented to the IRMAC regarding the RFP scope definition for an IRM solution including: risk assessment, method of implementation, technologies and feedstock assumptions and CRD budget recommendations. • IRMAC and subsequent ESC/Board approval of the recommendation(s) to proceed (or not) with an IRM RFP process.
<p>Q2/Q3 2018</p>	<ul style="list-style-type: none"> • ISWRMP Step 3, Evaluate Options (to be informed by outcome of IRM preliminary business case) • Confirm potential IRM facility locations to be made available by the CRD and complete data collection for these locations • Develop IRM RFP Document (to be informed based on the outcome of the ISWRMP Step 3) • Secure IRM feedstock commitments/agreements 	<ul style="list-style-type: none"> • Key policy direction regarding flow control of waste streams to be addressed in SWMP planning process and inform the IRM RFP. • Key policy direction regarding IRM resource reuse opportunities (specifically related to the use of products containing biosolids) should be addressed through the IRMAC followed by a decision by the ESC/Board. • IRMAC recommendation followed by ESC/Board decision to proceed with issuance of the IRM RFP.

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	<ul style="list-style-type: none"> • Confirm IRM resource reuse opportunities arising from key policy directions as sought in Q1 2018 • Issue RFP for advanced IRM solution 	
Q4 2018 / Q1 2019	<ul style="list-style-type: none"> • Review/consultation on the SWMP • Evaluation of IRM RFP submissions and negotiations with preferred bidder • Development of Final Business Case for implementation of an IRM solution based on the submission from the preferred bidder including review of financing options • Review and align IRM Project Plan and SWMP to resolve discrepancies regarding integrated resource management • Finalize & Adopt the SWMP • Develop detailed implementation plan for the preferred IRM solution, including determination of regulatory approvals and environmental requirements and consultation plan 	<ul style="list-style-type: none"> • ESC/Board decision to proceed to consultation on the SWMP • IRMAC recommendation followed by ESC/Board decision to proceed to award a contract for an IRM solution based on the outcome of the IRM RFP and Final Business Case. • The outcome of the above should be reflected in the SWMP, issued for public consultation and to the ESC/Board for Review (or adjust plan as needed)
June 30, 2019	<ul style="list-style-type: none"> • Submit Definitive IRM Plan to the Minister of the Environment for Approval (focus on IRM solution) • Submit SWMP to the Minister of the Environment for Approval (larger context for overall solid waste management system) 	<ul style="list-style-type: none"> • IRMAC recommendation followed by ESC/Board decision to submit the Definitive IRM Plan to the Minister, with this plan reflecting the outcome of the IRM process up to that date, and the implementation plan/approach for the preferred advanced IRM solution.
2019/2020	<ul style="list-style-type: none"> • Permitting process for the long-term advanced IRM solution <ul style="list-style-type: none"> ○ Legal ○ Technical ○ Environmental Impact Assessment (as applicable) ○ Public consultation (as required) ○ First Nations consultation (as required) • Design and engineering for the long-term advanced IRM solution 	<ul style="list-style-type: none"> • As appropriate, decision points related to submission of permitting documentation and implementation of the public consultation plan. • The CRD should consider retention of external services to act as owners engineer through the permitting, design, engineering and construction phases of the IRM solution, the extent of which will depend on the complexity of the technology and scope of the IRM solution that is selected.

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January 1, 2021	<ul style="list-style-type: none"> Residual treatment facility starts operation and produces Class A biosolids Short-term Class A biosolids storage, if required 	
2021/2022	<ul style="list-style-type: none"> Construction and commissioning of long-term advanced IRM solution 	
January 1, 2023	<ul style="list-style-type: none"> IRM facility starts operation 	

The IRM Project Plan outline as discussed in Table 1 above, is illustrated in the attached Figure 2 chart indicating these project activity streams and potential timing of these activities.

To assist in understanding the level of effort required for key procurement activities as indicated in the IRM Project Plan, further details are provided below.

The following provides a more detailed breakdown of the IRM RFPQ activities that would be undertaken:

a) Development of the RFPQ document:

- Assess and scope Project service delivery models (e.g. financing, ownership, operation)
- Prepare components for team qualifications
- Prepare components for technology qualifications
- Prepare components for financing qualifications
- Develop full draft RFPQ
- Review and finalization of RFPQ
- Release of RFPQ

b) RFPQ Submission Window:

- Due to complexity of the RFPQ (which is required to provide flexibility for potential outcomes) recommend at least 60 days submission window
- A number of enquiries during this window should be anticipated

c) RFPQ Evaluation:

- Prior to the RFPQ submission deadline an evaluation framework would be developed and evaluator training would be completed
- RFPQ submissions would be reviewed. There may be a need to accommodate commercially confidential meetings/discussions with proponents to clarify aspects of their submissions under the guidance of the CRD Fairness Advisor
- Completion of RFPQ evaluation, development of recommendations and CRD Staff Report
- Completion of the Preliminary IRM Business Case

The IRM RFP approach would be refined based on the outcome of the RFPQ and Preliminary Business Case. In general the IRM RFP process could be expected to include:

a) Drafting of the RFP Document

- Technical Specifications
- Payment Mechanism
- Submission requirements and Evaluation Criteria
- Project Agreement and Schedules
- Full draft review and revisions
- Issuance of the RFP

b) RFP submission window

- The extent of the RFP would likely require a 90 day RFP submission window
- A number of enquiries during this window should be anticipated
- It would be recommended that a series of commercially confidential meetings be held with each bidder in order to discuss financing CCMs, the Project Agreement and Technical specifications

c) RFP Evaluation:

- Prior to the RFP submission deadline an evaluation framework would be developed and evaluator training would be completed.
- RFP submissions would be reviewed. There will likely be a need to correspond with proponents and or conduct interviews to clarify aspects of their submissions under the guidance of the CRD Fairness Advisor.
- Completion of RFP evaluation, development of recommendations and CRD Staff Report
- Completion of the Final IRM Business Case

3. Conclusion

The IRM Project Plan sets out a series of actions and decisions that would be necessary to implement an IRM solution within approximately 2 years of the Residual Treatment Facility beginning operations, in order to provide for beneficial reuse of CRD biosolids and minimize the period where landfill disposal may be required. The activities identified in the IRM Project Plan, reflect the current status of the IRM investigations, and would be subject to modification depending on the outcome of initial activities such as the Facilities Tour, RFPQ and Preliminary Business Case. The timelines identified assume that key critical decisions are made in a timely fashion through the process, and would be subject to review and updates as implementation of the plan progresses. This would include developing further details regarding the activities and timing of activities in the latter steps of developing an IRM solution (2019 and beyond). Adjustments may also be necessary based on the outcome of discussions with the Ministry of Environment (MoE) for feedback and alignment.

The IRM Project Plan and the outcome of the initial IRM activities will be used to form the basis of the Definitive IRM Plan that would be submitted to the Minister of the Environment for Approval by June 30, 2019.

CRD IRM Project Plan Outline

