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**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF September 11, 2013**

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**SUBJECT      CORE AREA WASTEWATER TREATMENT PROGRAM (CAWTP) BIOSOLIDS  
ENERGY CENTRE SITE SEARCH – AUGUST 2013 ANALYSIS**

**ISSUE**

At its meeting of July 24, 2013 the Core Area Liquid Waste Management Committee (CALWMC) directed staff to continue the search for additional potential sites for the Biosolids Energy Centre (BEC).

**BACKGROUND**

The Capital Regional District (CRD) has been evaluating sites for sewage treatment options since at least 1991. Since the Provincial order in 2006 to implement sewage treatment, the effort has intensified with more comprehensive analysis. On each occasion the potentially available sites have changed with changes in land-use activities (e.g., industrial sites have been decommissioned, gentrification of some areas, and new mixed use developments have been proposed or constructed).

Past criteria used to select a site have excluded consideration of Agricultural Land Reserve (ALR) lands, park lands and lands zoned for residential purposes. There is also an unwillingness to expropriate land for the CAWTP.

Several sites have been previously reviewed in detail since 2006 and extensive negotiations and analysis have occurred on several occasions.

The Core Area Liquid Waste Management Plan (LWMP) Amendment No.8 identifies a site owned by the CRD at the Hartland Landfill. Subsequent to the decision to not proceed with the siting of the BEC on the proposed Viewfield site, the CALWMC directed staff to continue the search for additional potential sites. In order to complete this analysis, staff used previous criteria and evaluated the entire land base within 18 kilometres (the distance to the Hartland site) along major roads from the proposed McLoughlin Point Wastewater Treatment Plant (WWTP) on Victoria View Road, Esquimalt, BC.

In addition to the existing criteria, a new criterion was added following the June 2013 public review of the proposed Viewfield site in the Esquimalt Industrial Park. Residents who attended the Open House made frequent reference to the need for a buffer zone around a BEC of between 200 to 300 metres. Consequently, a criterion was added that the suitable site for a BEC must be at least 200 metres from residential lands and preferably 300 metres.

**ALTERNATIVES**

1. That the Hartland Landfill site be confirmed as the site for a Biosolids Energy Centre.
2. That staff be directed to investigate the feasibility of acquiring one or more of the identified potential sites

## **ANALYSIS**

The analysis of alternative sites involved three levels of review:

1. Exclusion of all unsuitable lands based on proposed primary criteria;
2. Exclusion of all unsuitable lands based on proposed secondary criteria; and
3. Analysis of the remaining sites.

### **Primary Criteria (no specific order)**

The following primary criteria were used to evaluate the suitability of potential sites for the BEC:

- No lands in the Agricultural Land Reserve;
- No lands designated as park or ecological reserve; and
- No lands within 300 metres of residential land-use based on Zoning Maps and BC Assessment Actual Use Codes.

### **Secondary Criteria (no specific order)**

After the primary criteria applied and sites removed from consideration, the secondary criteria were applied to the remaining sites. The following secondary criteria were used to evaluate the suitability of the remaining sites for the BEC:

1. The land was further reviewed for proximity to residential lands that were not identified by GIS analysis;
2. The land must be absent of non-residential land uses that were not considered suitable (cemeteries, cruise-ship facility, colleges, universities, hospitals, shopping centres)
3. The land has not previously been identified as having unwilling sellers, and not have regulatory challenges in acquisition or be part of a treaty settlement;
4. The land must be within one of the Core Area municipalities that are participating in the project;
5. The land must not be included in a comprehensive development plan for residential or mixed-use development; and
6. The land must be absent of topography or other geographic constraints.

A field review was completed as part of the evaluation of the secondary criteria enable better analysis of the site's attributes. The field review resulted in additional sites being eliminated from consideration.

## **RESULTS**

The gross area within the study area was 22,176 hectares (ha) or 54,798 acres. The application of the primary criteria resulted in the following:

1. 11% of the study area was removed when ALR was excluded;
2. 14% of the study area was removed when parks (outside of ALR) were excluded;
3. 64% of the study area was removed when all lands with 200m of residential areas was excluded;
4. 11% of the study area remained and was great than 200 metres from residential land-use;
5. 6% of the study area remained and was greater than 300 metres from residential land-use;
6. The number of potential sites was reduced from 76 to 58 when the buffer was increased from 200m to 300m.

At the conclusion of the analysis using the primary criteria, and removal of all land within 300m of residential land-use, there were 1,578 hectares (ha) or 3,897 acres of land remaining in the study area. Within this residual area there were 58 potential sites for further consideration. Many of these sites were immediately eliminated whereas others required more comprehensive field review.

The secondary criteria removed an additional 51 of 58 remaining sites for several reasons that are summarized in Table 1.

**Table 1: Removal of Sites based on Secondary Criteria**

<b>Secondary Criteria</b>	<b>Site count</b>	<b>Attributes</b>
Close proximity to residential not identified by GIS	11	These sites were near to existing residential areas that the GIS did not identify. The land-use was determined by reviewing aerial photographs and confirming in the field where necessary.
Existing non-residential land-use or uses that are not suitable	9	These lands were in one of the following areas: cemetery, cruise ship facility, college, university, hospital, or within a shopping centre.
No willing sellers identified, or regulatory challenges to acquire, or in Treaty Negotiations	8	These sites have been identified previously and we have been unable to negotiate a price that represented fair market value, or had difficulty in acquiring ownership.
Located in non-participating municipalities	9	Located in Metchosin or the Highlands.
Under residential or mixed-use development	6	A site that is actively being developed for residential or mixed-use (eg. Westhills, Bear Mt, Royal Bay, Skirt Mt).
Topography, size, or other geographic constraints	8	These sites had one of the following attributes: steep slopes (greater than 25%), insufficient size (< 4 acres) or shape (example: long and narrow).
<b>Grand Total</b>	<b>51</b>	

The application of the primary and secondary criteria reduced the study area to seven potential sites for analysis including the Hartland Landfill site. In order to compare the remaining potential sites to Hartland a number of site attributes and land use considerations were examined including the following:

1. Distance to existing residential homes;
2. Synergies with existing CRD facilities and potential to be innovative with solid waste management;
3. Elevation of the site;
4. Length of pipeline that would need be constructed from McLoughlin Point WWTP to the potential site;
5. Likelihood of residential encroachment in the future – following a review of current zoning and the Official Community Plans;
6. Length of expected new road upgrade or road construction that would be required to facilitate access to the site for construction and maintenance;

7. Jurisdiction of the area; and
8. Who currently owns the land.

The results of the analysis are summarized in Table 2 (Appendix 1).

The analysis shows the Hartland Landfill site had the greatest distance from neighbouring residential homes. The distance was 1200 metres with the next furthest site from residential having a distance of about 650 metres. All the sites would require a pipeline from the McLoughlin Point WWTP to be built greater than 10.5 kilometres in length. The lowest elevation sites were about 65 to 90 metres in elevation. The likelihood of future residential encroachment was low in three of the seven sites. Most of the sites are privately owned, with only the Hartland Landfill site currently owned by the CRD. Most of the sites do not provide synergies with existing CRD services or activities. The location of the biosolids energy facility adjacent the existing landfill should allow for future integration to occur between the Region's solid waste and liquid waste management that no other site can provide.

The potential sites other than Hartland may have other attributes that make them unfeasible and they may have unwilling sellers.

### **CONCLUSION**

Since 1991 the CRD has completed numerous comprehensive reviews to identify sites for wastewater treatment facilities. This analysis has concluded that there are several potential sites where a Biosolids Energy Centre could be located.

The Hartland Landfill site was the greatest distance from neighbouring residential at 1200 metres with a low likelihood of encroachment. The next best site for distance from residential was 650 metres. All the sites would require a pipeline to be built longer than 10.5 kilometres with the average distance being over 15 kilometres. There are several sites that are a lower elevation than Hartland, however they are not owned by the CRD and would require a willing vendor to be successful and likely require rezoning. Hartland, if selected, should provide for synergies with the existing CRD service at the landfill.

### **RESOLUTION**

That the Board Chair rise and report on the recommendations:

- 1 Confirming Hartland as the site for the Biosolids Energy Centre with supporting information on the work undertaken to identify alternate sites; and
2. That the Commission be directed to structure the RFP to allow for the proponents to propose alternate sites.

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## APPENDIX 1

**Table 2: Analysis of the Seven (7) Potential Sites**

Site description	Approximate distance to nearest Residential (metres)	Synergies with Existing CRD Facilities & Potential to Innovate	Elevation of Site (metres)	Approximate pipeline length to Site from WWTP (kilometres)	Likelihood of future residential encroachment (low, medium high)	Current zoning	Approximate length of new or upgraded road to facilitate access (metres)	Jurisdiction	Ownership
Hartland landfill	1200	Yes	160	18	low	Public (P-10)	0	Saanich	CRD
Hydro Lines and Prospect Lake Road	500	No	90	13.5	medium	Rural (A-1) & Rural (A-4)	2000	Saanich	Private
Burnside and Thetis	500	No	85	10.5	medium	Recreation & Open Spaces (P-4)	1000	Saanich	Private
North of Sooke Rd at Awsworth Rd	400	No	210	18	low	Greenbelt 1 (GB-1)	2000	Langford	Private
Area SW of Luxton Rd	375	No	65	17.5	low	Greenbelt 1 (GB-1)	200	Langford	Private & the Land Conservancy
Pike's Lake	650	No	90	14	medium	Greenbelt 2 (GB2)	3500	View Royal	Private or BC Hydro (near residential)
Millstream Meadows	325	No	70	16	medium	Commercial Recreational (CR-1)	200	Langford	Private