

DATE: January 31, 2019**FILE:** 5360-50**TO:** Chair and Directors
Comox Valley Regional District
(Comox Strathcona Waste Management) BoardSupported by Russell Dyson
Chief Administrative Officer**FROM:** Russell Dyson
Chief Administrative Officer***R. Dyson*****RE: Regional Organics Compost Project – Review and Siting**

Purpose

To provide an update on the Comox Strathcona Waste Management (CSWM) Regional Organics (Organics) Project, and to review siting of the organics processing facility and seek the Comox Valley Regional District (CVRD) CSWM Board's (Board) direction on this matter.

Recommendation from the Chief Administrative Officer:

THAT the Comox Valley Regional District (Comox Strathcona Waste Management) Board direct staff to analyze and compare siting of the Comox Strathcona Waste Management organics processing facility, at both the Norm Wood Environmental Centre, or the Campbell River Waste Management Centre – Block J;

AND FURTHER THAT staff seek approval from respective provincial ministries and agencies for siting as required at either location.

Executive Summary

The diversion of organics represents the single greatest opportunity for the CSWM service to pursue the 70 per cent diversion target set out in the 2012 CSWM Solid Waste Management Plan (SWMP).

As the first phase in the full diversion of organics, this project will divert residential organic waste from our four largest municipalities – the City of Campbell River (Campbell River), the City of Courtenay (Courtenay), the Town of Comox (Comox) and the Village of Cumberland (Cumberland).

The project is funded by a combination of grant funding from the New Building Canada Fund and capital works reserves.

A working group of regional and municipal staff have been working with the CSWM service consultant (Jacobs Engineering Group Inc. (Jacobs) formerly CH2M Hill Canada) to advance this project. The group has reached consensus on many of the key project parameters. Below is a summary of the technical work completed by our consultant in conjunction with the Regional Organics working group:

- **Co-mingled waste.** Project planning and preliminary design has been sized to accommodate 'co-mingled food and yard waste' for single family residential users and a portion of the industrial, commercial, and institutional (ICI) waste.
 - Co-mingled food and yard waste for single family residential users provides the lowest overall cost to the end taxpayer. The reason for this is that costs are more sensitive to an additional separate collection stream than to the additional capital and operational costs

associated with a larger processing facility. This is a net benefit to the region, but does increase the cost of the organics service provided by CSWM.

- **Organics feedstock agreements.** Agreements are required between member municipalities and the CSWM service regarding the amount of organic waste to be supplied. This is critical for project success as it sets the size of the facility and ultimately the operating cost per tonne. The current position from participating municipalities is as follows:
 - Campbell River Council provided a letter with motion from Council for commitments to co-mingled food and yard waste (Appendix C);
 - Comox Council provided a letter with motion from Council for conditional commitment to co-mingled food and yard waste subject to cost comparative analysis including a regional compost facility in the Comox Valley, or two smaller facilities in both Campbell River and the Comox Valley (Appendix D);
 - Courtenay and Cumberland working group staff supports commitment to co-mingled food and yard waste. CSWM should secure unqualified support of the respective Councils.
- **Type of organic waste.** The working group has agreed on the types of organic waste to be processed. Compostable plastic kitchen pail liners will not be acceptable in the municipalities' collection programs as these plastic liners are not rapidly degradable and their use would reduce compost quality and marketability.
- **Pails and carts.** The working group has agreed that under-sink pails will be provided as part of the project (subject to Board approval for a budget amendment), and that large collection carts will not be provided as part of the project, but can be provided by participating municipalities, as desired within that community.
- **Technology used to establish land needs.** The preliminary land needs to accommodate the processing facility have been based on covered aerated static piles technology. This technology normally has lower capital costs and requires moderate land area.
- **Technology selection.** Previously completed study work, along with a Composting Technology Evaluation completed by Jacobs, has shown that composting is the most suitable and viable technology for processing food and yard waste for the CSWM service. Final decision on the composting processing technology will be determined during the procurement process to allow for a more competitive procurement process.
- **Procurement approach.** The project is proceeding on a design build operate (DBO) basis as indicated in the New Building Canada Fund grant application. This procurement approach tends to maximize costs savings through design innovation during procurement, improve the overall scheduling and project delivery times, and optimize initial construction costs and long-term operational costs. It also allows for industry experts to be responsible for the long term processing and quality assurance requirements. Possible disadvantages of this approach are that it requires a long-term service contract and it could encounter risk associated with current collective agreements. Other procurement options including design bid build (DBB) have also been analyzed by our consultant, and may be considered depending on further direction from the Board.
- **Backhauling.** In the near future all final waste from the Campbell River Waste Management Centre (CRWMC) will be trucked to the Comox Valley Waste Management Centre (CVWMC) for disposal. This provides a potential opportunity where empty trailers are travelling back to Campbell River. These empty trailers could potentially be utilized to backhaul food and yard waste feedstock from the Comox Valley area. This concept is complicated by trailer size and cleanliness issues, and is currently under review by our consultant to determine if a cost saving exists.

Final Siting of the Regional Organics facility:

Clear to date is the Board's direction to site in Campbell River, however, securing a site at the Norm Wood Environmental Centre (NVEC) for implementation of an organics processing facility has created some

unanticipated challenges. Most recently, Campbell River determined that it will continue to apply biosolids at the NWECC and that the site originally allocated for regional organics composting is no longer available to the CSWM service. The City has offered alternate locations within the NWECC (Appendix B). Our consultant has analyzed these areas and come to the conclusion that only the 2.9 ha site is suitable for construction, with several limitations.

The NWECC has the advantage that it has been approved by the Agricultural Land Commission (ALC) to be used for non-farm use, however, as presently proposed, the 2.9 ha area is not large enough to accommodate the whole facility, or able to accommodate any increase in capacity/expansion within the near future. In addition, there is a risk of odour complaints due to the proximity of a residential area, a motel and mobile home park. While NWECC is the location of the City's liquid waste treatment facility and neighbors may be used to some impact. Even with the best technology organic processes can experience odour complaints. CVRD staff and the working group continue to work with Campbell River municipal staff to work out these matters, but there is a need to compare the NWECC to other suitable alternatives that provide the most cost effective and efficient long term solution for the CSWM service.

Based on the above preliminary analysis it is recommended that a comparison of siting be completed for the regional organics facility between the NWECC and the CRWMC, Block J. This comparison continues to honour the direction from the Board to site a facility in Campbell River. The comparison will take approximately one month to complete, with a report back for a decision as soon as possible, potentially at the March 2019 Board meeting.

It should be noted that at the January 23, 2019 Technical Advisory Committee, the group asked for the CVWMC to also be included in the comparison of potential sites, this is referred in the minutes.

In terms of project schedule the New Building Canada Fund grant requires final project completion no later than March 31, 2020. This deadline is quickly approaching and unlikely to be met due to the delay in identifying a final site for the processing facility. Preliminary communication with the granting agency has been initiated and a formal request for a time extension with a clear plan to complete the project will be required. The CSWM service needs to settle the matter of siting within the next couple of months.

Separately from this grant, additional funds for this project may become available in 2019 through the Organics Infrastructure Program (OIP), and will require Board approval to submit an application. Identifying a practical site for the long term growth of the organics project is important. Deadline for submission is expected in the spring of 2019. Based on the relevance of siting the facility, staff will seek a resolution from the Board at the March, 2019 Board meeting, once more information is available.

Following this staff report, updates will be presented on a regular basis to update the Board on the project progress.

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Stakeholder Distribution (Upon Agenda Publication)

City of Campbell River	✓
City of Courtenay	✓
Town of Comox	✓
Village of Cumberland	✓

Background/Current Situation

The SWMP includes the removal of organics from the waste stream as a key objective to increasing diversion, reducing greenhouse gas emissions and meeting a 70 per cent diversion target. The Organics project is designed to help deliver these objectives and is funded through a combination of grant funds from the New Building Canada Fund and existing capital reserves.

The current CSWM diversion rate is 47 per cent (year 2017). This diversion rate could increase up to 60 per cent if we divert all food and yard waste from our regional landfills. A further to 73 per cent is possible if the CSWM service could divert all divertible materials, according to the CSWM service waste composition audit conducted in November 2017.

Apart from the SWMP target, the Ministry of Environment and Climate Change Strategy (MoE) has set provincial waste disposal targets with the long-term goal of lowering the municipal waste disposal rate to 350 kg/person/year by the year 2020 (essentially equivalent to 70 per cent diversion). The current solid waste disposal rate of the CSWM service is 573 kg/person/year.

Direction from the Board includes the construction of a regional organics processing facility in Campbell River and a transfer station at the CVWMC. The project is in the planning and preliminary design phase, and Jacobs (previously CH2M Hill Canada) has been retained to support a staff working group made up of technical staff from the four member municipalities (Campbell River, Courtenay, Comox and Cumberland) and the CVRD to implement this project.

Organic diversion and project capacity phases:

Table 1 below shows how capacity requirements have changed over time and the ultimate land size requirements to accommodate the organics processing facility.

Table 1 Organics processing facility capacity size requirements

Description (design capacity year)	Design forecast	Capacity (Tonnes per year)				Land Size Req'd (Hectares)
		Residential	ICI	Campbell River Biosolids	Total	
Campbell River conceptual design	2015 initial forecast to accommodate organic waste generation until the year 2030	11,265	1,610	0	12,875	2.6 (10ha available)
Latest conceptual design	Current forecast to accommodate organic waste generation until the year 2028	11,140	3,360	0	14,500	2.9ha + ancillary services
Organics full blown design (to be implemented in the year 2028)	Current forecast to accommodate organic waste generation until the year 2038	18,713	9,232	2,357	30,302	9.2ha (requested 10ha)

Capacity:

Based on the analysis completed to date, the processing facility has been sized to accommodate co-mingled food and yard waste for single family residential users and a portion of the ICI waste. Municipal and CVRD staff have agreed that this option provides lower overall cost to taxpayers as costs are more sensitive to the additional separate collection stream than to the additional capital and operational costs for a larger processing facility.

The facility has been sized to process 11,140 tonnes/year of organic waste from the residential sector (currently at 9,566 tonnes/year in 2018) and 3,360 tonnes/year from the ICI sector in the year 2028. In 2028 the facility will need to be expanded in order to fully divert organics from the landfills. It is recommended that the expansion be considered in the near future in order to divert organic waste and meet the objectives of the SWMP – 350kg per capita.

The initial amount of ICI waste to be composted (3,232 tonnes/year) has been determined using the estimate established in the SWMP. This amount can be increased accordingly up to 9,232 tonnes/year in the year 2038.

The working group has agreed on the list of organic waste to be processed which is in line with the same materials currently accepted at the CVWMC Organics pilot project. Compostable plastic kitchen pail liners will not be acceptable in the municipalities' collection programs as compostable plastic liners are not rapidly degradable and their use would reduce compost quality and marketability.

Technology:

A technical review of the most favorable composting technologies has been prepared by Jacobs. Although several composting technologies remain under consideration, the preliminary land requirements have been based on covered aerated static piles technology. This technology normally requires moderate use of land and it is less expensive. During the procurement process, composting technologies presented by the different proponents will be reviewed by our consultant in order to allow for a more competitive procurement process. The capital and operational costs to construct an organics processing facility is a critical factor in determining the technology that will be most likely to be successful in the procurement process.

Apart from this, the working group has agreed that under-sink pails will be provided as part of the project (subject to Board approval for a budget amendment), and that larger curbside collection carts will not be provided by the project but could be provided by participating municipalities, if desired.

Siting:

In November 2017, as part of the award of a contract to Jacobs for consulting services, the Board determined that Campbell River was the preferred location. Since that time, staff from the CSWM service and Campbell River have met on several occasions to discuss the requirements to implement the organics processing facility at the NVEC.

In April 2018, after establishing the preliminary facility size required, a letter was sent to Campbell River requesting 10 hectares of uncontaminated, developable land. Campbell River analyzed the request and informed the CVRD in December 2018 that it cannot provide the area initially identified for the construction of the processing facility, but is open to explore other Campbell River locations. The reason for not being able to provide 10 hectares within the NVEC is that Campbell River plans to use a large portion of the NVEC site to continue to land apply biosolids from Campbell River's sewage plant over the next 16 years. The City has identified four other sites within the NVEC for possible location of the regional composting facility. The project consultant has visited the NVEC to complete ground trothing

and a desktop investigation into each of the proposed alternate sites. The results of the investigation are as follows (Appendix A):

1. The risk of odour complaints from neighbouring communities is high in all areas proposed within the NVEC.
2. 10 ha are required for the full buildout of the organics facility. Siting on two facilities will add to the capital and operational cost.
3. Only the 2.9 ha location is suitable for development, and is approved by the ALC for non-farm use. The rest of locations proposed by Campbell River are either too wet or too small to be considered further for development.
4. The 2.9 ha site only allows for the construction of the main processing buildings but is not large enough to accommodate the whole facility. Additional land is needed to allocate the facility's ancillary services such as the scale and administrative building.
5. The 2.9 ha site does not allow for expansions if larger amounts of food and yard waste need to be composted in the short term due to inaccuracies in the current estimates, or additional process air need to be treated for odour control.

In terms of siting support for the regional organics processing facility, the current position from other participating municipalities is as follows:

- Comox Council provided a letter with motion from council to compare costs including a Regional compost facility in the Comox Valley, or two smaller facilities in both Campbell River and the Comox Valley (Appendix D)
- Courtenay provided letter (Appendix E) from Mayor on January 23, 2019 urging the CSWM service to explore all options for the location of an organics processing facility in the region.

Based on the preliminary analysis completed, feedback from member municipalities and feedback from the working group it is recommended that a siting comparison be completed between implementing the regional organics processing facility at the NVEC versus the CRWMC, Block J.

Block J provides the potential for greater space and reduced proximity to neighbours. This location honours the direction from the Board to site a facility in Campbell River.

Backhauling:

In the near future all final waste from the CRWMC will be trucked to the CVWMC for disposal. This provides a potential opportunity where empty trailers are travelling back to Campbell River. These empty trailers could potentially be utilized to backhaul food and yard waste feedstock from the Comox Valley area. This concept is complicated by trailer size and cleanliness issues, and is currently under review by our consultant to determine if a cost savings exists.

Policy Analysis

The 2012 CSWM SWMP recommends the development of regional organics processing capacity as the primary Organics program diversion strategy, towards a target of 70 per cent diversion by 2022.

At its April 14, 2016 meeting the CVRD, CSWM Board, passed the following motions:

THAT the Comox Valley Regional District (Comox Strathcona Waste Management) service submit a grant application for the construction of a regional organics facility hosted in Campbell River, under the New Building Canada Fund – Small Communities Fund.

THAT a letter be sent to the Town of Comox, the City of Courtenay, the Village of Cumberland and the City of Campbell River requesting support for the development of a multi-municipal organic collection and disposal program that meets the service needs of the communities and request a commitment of organic and yard waste feedstock to support program viability, subject to a successful grant funding application.

At its November 9, 2017 meeting the CVRD, CSWM Board passed the following motion:

THAT as a result of a competitive process, a contract be awarded to CH2M Hill for Engineering Services for the Comox Strathcona Regional Organics Management facility in Campbell River in an amount not to exceed \$264,055 plus applicable taxes;

AND FURTHER THAT the Chair and Corporate Legislative Officer be authorized to execute the contract.

Options

The Board has the following options to consider:

- 1) Direct staff to expand the exploration of locations to implement the CSWM organics processing facility at the CRWMC – Block J, and enable staff to seek approval from respective provincial ministries and agencies;
- 2) Not to direct staff to analyze an alternate location for the compost processing facility within the CSWM service and seek alternative Board direction.

Final site selection for the regional organics processing facility is a key project decision and critical to long term project success. Sufficient space is essential for the efficient and effective design, construction and operation as well as for long term growth over the life of the facility. Organics processing facilities are notoriously difficult to locate near residential areas and careful consideration of odour and noise issues must be considered, evaluated and understood. As such, only option one above is recommended.

Financial Factors

In 2017 the CVRD was awarded a grant from the New Building Canada Fund to construct the regional organics composting facility. At the time, the capital project cost estimate was \$8.48 million for processing an estimate 12,875 tonnes/year.

Upon further analysis in 2018 from our consultant, the expected tonnage had increased to 14,500 tonnes/year and associated capital costs had increased to \$12.17 million due to additional tonnage capacity as well as construction cost increases.

The above cost estimate covers the construction of a regional organics processing facility at the NVEC as well as the construction of a transfer station at the CVWMC and the purchase of two trailers for transporting food and yard waste from the Comox Valley area to the NVEC.

In order to obtain additional funds for this project, in November 2018, the CVRD submitted an Expression of Interest under the OIP for the additional 1,625 tonnes/year with a capital investment of \$1,364,450. This Expression of Interest was a requirement to submit an application for funding in the spring of 2019. Based on the relevance of siting the facility, staff will seek a resolution from the Board at the March 2019 Board meeting to submit an application for funding, once more information is available.

Further financial analysis will be completed and presented once the location of the processing facility is finalized. Prior to proceeding with procurement, staff will provide the Board with funding options and recommend a path forward, including impacts related to tipping fees and operating costs associated with this new service.

The project is proceeding on a DBO bases as indicated in the New Building Canada Fund grant application. This procurement approach tends to maximize costs savings through design innovation during procurement, improve the overall scheduling, and optimize initial construction costs and long-term operational costs. It also allows for industry experts to be responsible for the long term processing and quality assurance requirements. Some disadvantages of this procurement approach is that it requires a long-term service contract, and it may encounter risk associated with existing collective agreements.

According to the analysis conducted by Jacobs, currently there is a mix of procurement delivery methods used for organic diversion programs in Canada. In the traditional DBB option, the design is finalized prior to requesting bids for construction. This can lead to longer overall delivery schedules, and creates multiple points of contact that may not align to the owner's business interest. Complex and technically challenging projects have led to a whole range of different procurement options that may be considered depending on further direction from the Board.

Table 2 below shows how capital cost requirements have changed over time.

Table 2 Organics processing facility capital cost requirements

Description	Capital cost (\$ million)	Capacity (tonnes/year)
2017 CVRD New Building Canada Fund grant application	\$8.5 (\$5.5 funded through the NBCF)	12,875
2018 CVRD Consultant estimate	\$12.17	14,500
2018 Organics Infrastructure Program application	\$1.36	1,625

Legal Factors

If the Board decides to build the processing facility at the NVEC, an agreement will be needed between the CSWM service and Campbell River.

Separate agreements will be needed between member municipalities and the CSWM service confirming the amount of organic waste to be supplied.

Intergovernmental Factors

Throughout this project, the CSWM service continues to work together with member municipalities (Courtenay, Comox, Cumberland, and Campbell River) regarding the amount of organic waste to be supplied to the processing facility, and the implementation of organic collection programs at the curbside, as well as project siting and other key project decisions. This is critical for the project success.

CSWM staff have worked closely with the City staff to realize this project at NVEC. We have explored options for synergies with their future plans and tried to be flexible with interests of both organizations. If this site is to be located at NVEC there needs to be negotiations of specifics.

The MoE will also be involved to ensure that the project meets the required Organic Matter Recycling Regulation.

Interdepartmental Involvement

This project is led by Engineering Services, with project support provided by Financial Services for project tendering and contract review, and Corporate Services for future project communications.

Citizen/Public Relations

Once the location and capacity of the regional organics processing facility is established, staff will work with Corporate Services and the consulting engineer to develop a communication plan.

Following this staff report, additional staff reports will be presented to the Board on a regular basis to update the Board on the project progress.

Appendix A – “Jacobs Technical Memo Processing facility siting at the NVEC”

Appendix B – “City of Campbell River - Alternate locations provided within the NVEC”

Appendix C – “Campbell River Council letter from May 8, 2018, with motion from Council for commitments to co-mingled food and yard waste”

Appendix D – “Comox Council letter from August 23, 2018, with motion from Council for conditional commitment to co-mingled food and yard waste”

Appendix E – “Courtenay letter from January 23, 2019, to explore all options for the location of the organics processing facility”

Previous staff reports can be downloaded here:

- June 7, 2018 CSWM service Board meeting - [Regional Organics Compost Project Update.](#)
- November 9, 2017 CSWM service Board meeting - [Regional Compost Advising Engineer Contract Award.](#)
- April 14, 2016 CSWM service Board meeting [Regional Compost Project Grant Application.](#)

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Subject	Evaluation of Potential Composting Sites at Norm Wood Environmental Centre	Project Name	Comox Valley Regional District Composting Facility
Attention	Gabriel Bau	Project No.	700041CH
From	John Berry		
Date	January 31, 2019		
Copies to	File		

1.0 Introduction

Jacobs¹ and Morrison Hershfield are assisting the Comox Valley Regional District (CVRD) and its member municipalities with the planning and procurement of a new regional organics processing facility and an organic waste transfer station that will service municipalities in the Comox Strathcona Waste Management (CSWM) service area.

The first phase of this project includes an analysis that confirms the location for these facilities. As part of this analysis, the City of Campbell River has identified three locations at the Norm Wood Environmental Centre (NVEC) that have been reviewed with the CSWM Technical Advisory Committee for the construction of the organics processing facility. The City has also identified an adjacent potential location not currently owned by the City.

The purpose of this technical memorandum (TM) is to evaluate these four locations at the NVEC as to their suitability for the organics processing facility. The scope of this TM does not include evaluation of other locations either within the City of Campbell River or elsewhere within the CSWM service area.

2.0 Key Siting Considerations

Siting of the regional organics processing facility is an important decision that will affect other decisions, as well as the successful operation of the facility. Important siting considerations include:

- Composting Technology: Each composting technology, and its accompanying equipment, will have slightly different site requirements.
- Topography: Topography affects site drainage, facility visibility and, potentially, odour movement.
- Proximity to Land Users: Consider the site's proximity to other land users (e.g. residential areas). The facility will potentially impact sensitive individuals due to noise, odour, dust, increased traffic, etc.

¹ On December 15, 2017, all CH2M HILL companies became part of Jacobs and are now wholly owned direct subsidiaries of Jacobs. CH2M HILL Canada Limited remains a separate legal entity and we will continue to operate and conduct business under this entity in Canada; however, we refer to ourselves in deliverables, including this technical memorandum, as Jacobs.

- Buffer Areas: Open fields and treed spaces can help avoid or mitigate environmental impacts.
- Vectors: Insects, rodents, etc. may transport diseases, depending on feedstock materials.
- Fires: Maintaining a buffer distance to trees can be prudent and a facility fire protection plan is required.
- Weather Conditions: Rainfall patterns and prevailing winds will affect leachate generation and odour movement.
- Wetlands & Flood Plains: Sites should not be in or near wetlands due to the higher potential for environmental impacts. Sites subject to flooding or where the seasonal high groundwater table is less than one metre from the soil surface should not be chosen.
- Site Utilities: The need for access to infrastructure utilities including electrical power, domestic sewage treatment, and water lines should be considered.
- Space Requirements: Adequate space should be provided for storing raw materials and finished product, curing, and odour and leachate control measures.
- Vehicular Traffic: Access to the facility should be easy and should be over wide, paved roads through non-residential areas.
- Travel Distance: Travel distances for incoming feedstock and to finished compost purchasers should be minimized.
- Local Zoning: Zoning bylaws should permit construction of the facility.

2.1 Facility Capacity

The required capacity of a regional composting facility is addressed in a separate TM. Table 1 presents a summary of the three recommended sizes.

Table 1 Facility Capacity

Description	Year 2028 (tonnes per year)	Year 2038 (tonnes per year)	Year 2038 full blown (tonnes per year)
SF + MF Food Waste	4,159 (SF)	4,827 (SF)	6,114 (SF + MF)
SF + MF Yard Waste	6,988 (SF)	8,109 (SF)	12,599 (SF + MF + Depots)
Commercial Food Waste	3,360	3,620	9,232
Biosolids	NA	NA	2,357
Total Estimated Tonnage	14,500	16,500	30,300

Notes:

SF = Single family residential households

MF = Multi-family residential households

Depots = Regional yard waste drop-off depots

3.0 Norm Wood Environmental Centre (NVEC)

The NVEC consists of ± 70 hectares of land and is located on the west side of Highway 19 and on the east side of Duncan Bay Road, approximately 2.4 kilometres north of Campbell River. The NVEC treats domestic wastewater from the City of Campbell River.

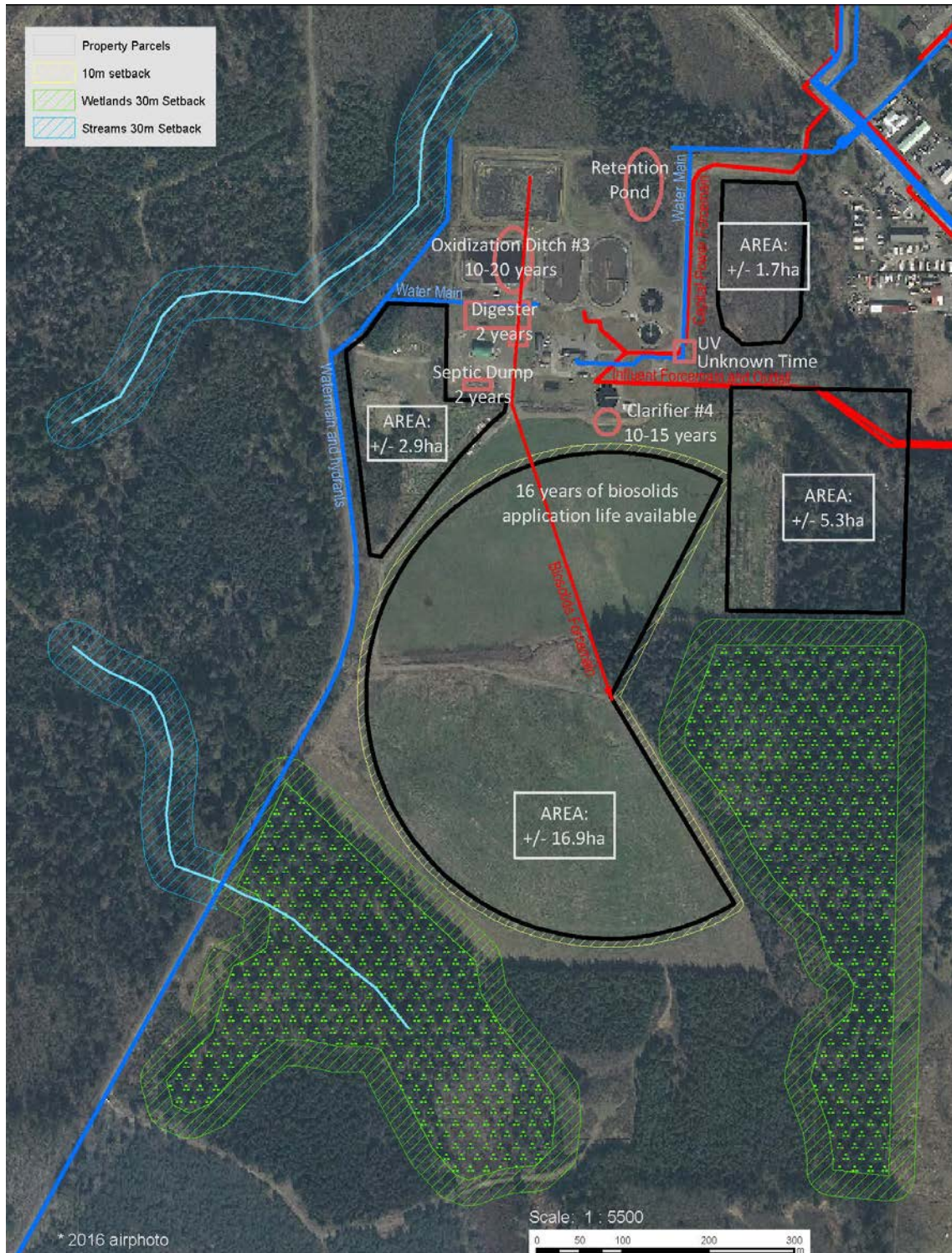
The three locations that the City of Campbell River has identified as available are shown in Exhibit 1. They consist of:

- A 1.7 hectare site located in the northeast corner of the property.
- A 2.9 hectare site located along the west side of the property.
- A 5.3 hectare site located along the east side of the property.

There is a 10.7 ha parcel adjacent to NVEC that was also considered.

The 16.9 hectare area shown on Exhibit 1 is being used for spray irrigation of biosolids generated from the wastewater treatment plant (WWTP). It is estimated that approximately 16 years of application life is available in this field. Therefore, this parcel of land may not be available until sometime around the year 2035.

Exhibit 1 Norm Wood Environmental Centre



According to a March 13, 2014 letter from the Agricultural Land Commission (ALC), the northern portion of the NVEC has been authorized by the ALC to be used for an organics processing facility (Exhibit 2 and Exhibit 3). This area encompasses three of the four sites identified, whereas the 10.7 hectare site is located outside of the ALC approved boundary.

Exhibit 2 Resolution by the Agricultural Land Commission

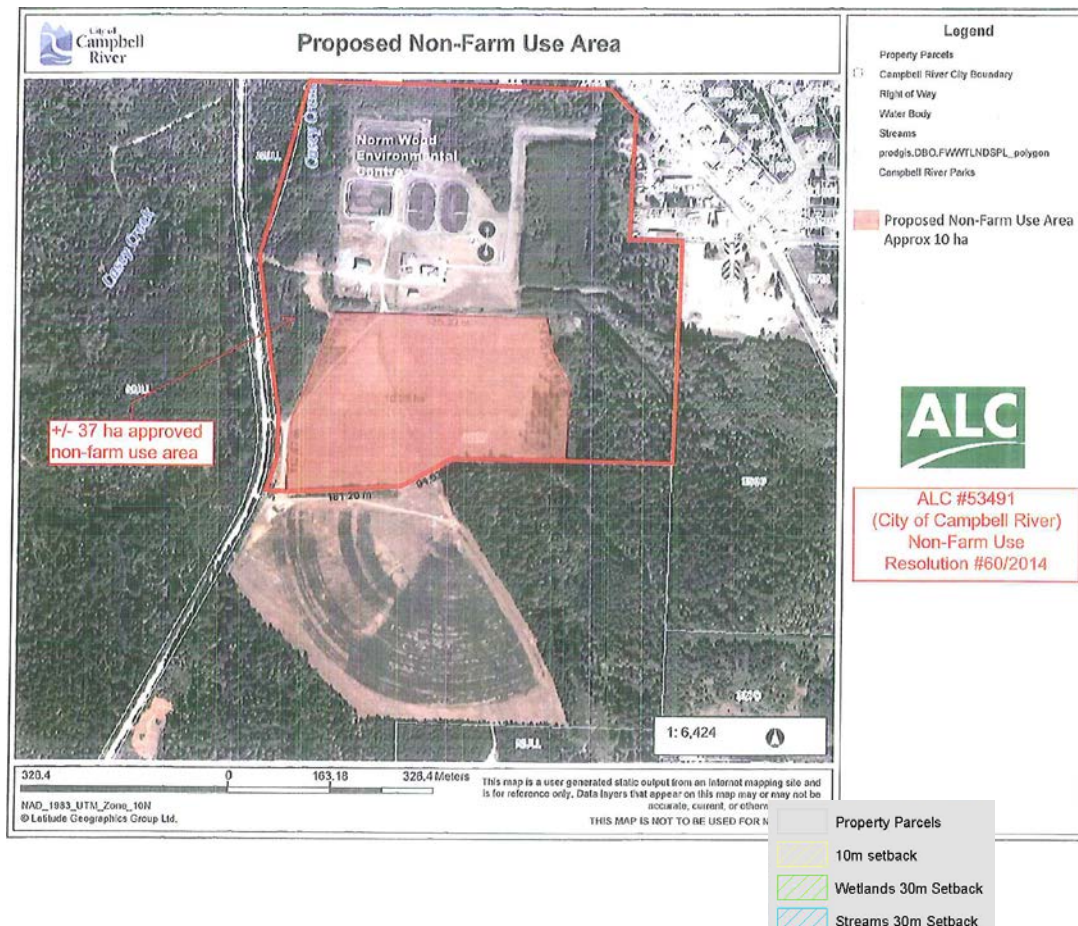
THAT the request to use 10 ha for the purpose of an organics processing facility be approved.

THAT the applicant may use the northern +/- 37 ha of the property for non-farm uses related to civic waste management without further approval from the Commission.

AND FINALLY THAT this decision does not relieve the owner or occupier of the responsibility to comply with applicable Acts, regulations, bylaws of the local government, and decisions and orders of any person or body having jurisdiction over the land under an enactment.

CARRIED
Resolution #60/2014

Exhibit 3 Map of Lands Approved by ALC for Non-Farm Use



The NWECC is zoned **PA - 1 Public Areas One** by the City of Campbell River (Exhibit 4). This zoning provides for areas and uses that provide health, social, educational, recreational, and other services to the community. Permitted uses include:

- i) Major utility buildings, structures or facilities.

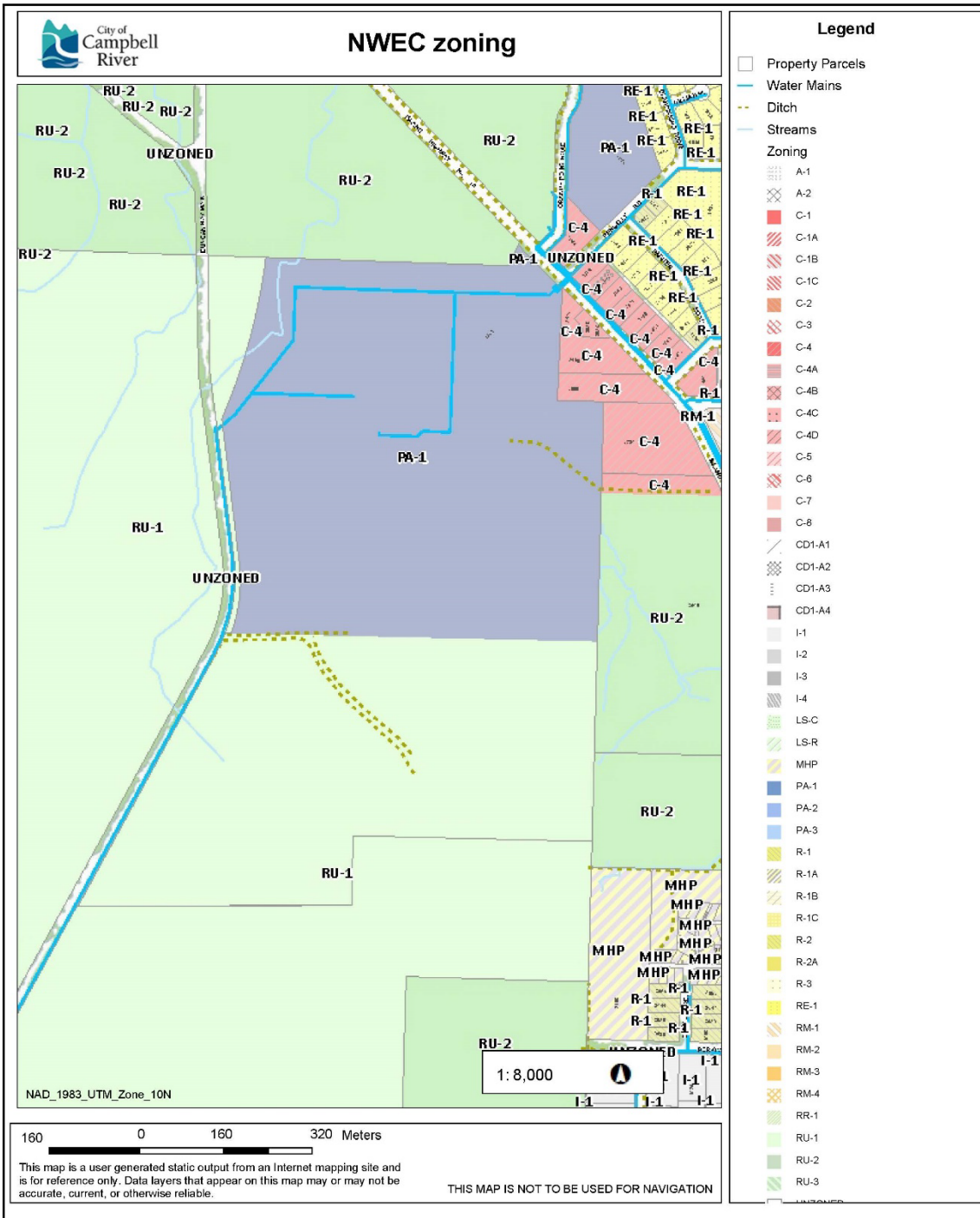
The CVRD has confirmed with the City of Campbell River Sustainability and Long Term Planning Manager that the land use zoning is appropriate for construction and operation of the organics processing facility.

Minimum setback distances for lands zoned PA - 1 are:

- Front and rear yards = 8.0 metres
- Side yards = 4.0 metres, or half the height of the principal building, whichever is greater

The maximum building height for this type of use is 15 metres.

Exhibit 4 NWEZ Zoning



It is important to note that the 10.7 hectare site is zoned RU - 1 (Exhibit 4). This zone provides for resource and agricultural uses on rural lands in the provincial Agricultural Land Reserve. As such, the 10.7 hectare site would require both land use rezoning and ALC approval for development of the regional composting facility.

Vehicular access into the NVEC is from a driveway approach along the west side of Highway 19 (Exhibit 5). The access road into the WWTP is a single lane paved road (Exhibit 6). This road is narrow and has tight turns. Thus, large vehicles such as tractor-trailers usually access the NVEC from a gate located on the west side of the property along Duncan Bay Road (Exhibit 7 and Exhibit 8).

Furthermore, the driveway approach off Highway 19 straddles the short (± 60 metre) distance between Pengelly Road and Orange Point Road, which access the highway from the east side. Also, northbound traffic on Highway 19 must cross a double yellow line to enter the site and there is no left-hand turn lane.

Therefore, if development of the regional composting facility proceeds at the NVEC, improvements to the driveway approach off Highway 19 and the access road into the site will be required. Improvements must be reviewed and approved by the British Columbia, Ministry of Transportation and Infrastructure. Improvements will most likely include:

- Traffic impact assessment to confirm required improvements to intersection.
- Realignment of the driveway approach further north to line up with Orange Point Road.
- Realignment will trigger relocation of the three-phase power pole shown in Exhibit 5.
- Increasing approach radii to accommodate tractor-trailers entering the site.
- Addition of a northbound left-hand turn lane with bypass lane on Highway 19.
- Widening of access road into the NVEC to two paved lanes and increasing of curve radii to accommodate tractor-trailers.
- Widening of the access road will trigger a partial realignment of the chain link fence surrounding the property and widening of the vehicle gate.

In April 2015, a construction cost estimate of \$275,860 was estimated for the access road improvements. However, this number does not appear to include improvements to Highway 19. Engineering costs and contingency are over and above this amount.

Exhibit 5 Driveway Approach into NWEC



Exhibit 6 Access Road into NWEC



Exhibit 7 Gate into NWECC off Duncan Bay Road



Exhibit 8 Duncan Bay Road



3.1 1.7 Hectare Site

The 1.7 hectare site is located in the northeast corner of the NVEC. It is bounded on the north and west sides by the access road into the NVEC. A motel and trailer park are located along the east side of this site. The utility corridor servicing the NVEC runs along the south side of this site. The site is heavily treed and a chain link fence for the NVEC runs along the west side of this site (Exhibit 9).

Exhibit 9 West Side of 1.7 Hectare Site



Storm water from the north side of the NVEC (coming from both on-site and off-site) is intercepted by a ditch and directed around the east side of the WWTP and into this site. A culvert running underneath the utility corridor then directs this runoff south. The site is low and does not completely drain to the south. As such, there is standing water on the site (Exhibit 10).

Exhibit 10 Standing Water on 1.7 Hectare Site



Table 2 presents an evaluation of this site using the key siting considerations listed in Section 2.0.

Table 2 Evaluation of 1.7 Hectare Site

Siting Consideration	Evaluation
Composting Technology	Composting technology and accompanying equipment will be similar for all four sites.
Topography	Site is located in a low point in the surrounding topography. This is good from a visibility viewpoint. However, this complicates site drainage and has the potential to trap odours in the surrounding area.
Proximity to Land Users	The adjacent motel and trailer park are approximately 100 metres away. This proximity to odour receptors will result in a very high risk of odour, noise and dust complaints.
Buffer Areas	No buffer area to adjacent landowners.
Vectors	Control of vectors will be similar for all four sites evaluated.
Fires	Trees will need to be cleared. Site is adjacent to a motel and trailer park. As such, a fire protection plan will be required.
Weather Conditions	Weather conditions are similar for all four sites evaluated.

Siting Consideration	Evaluation
Wetlands & Flood Plains	The site is underwater year-round. As such, it is unsuitable for development of a regional composting facility both from a constructability viewpoint and the potential environmental impact to groundwater and surface water.
Site Utilities	The utility corridor running along the south side of this property and the power line running along the west side will permit relatively easy connection to utilities.
Space Requirements	Insufficient space to construct any of the three regional composting facility sizes listed in Table 1.
Vehicular Traffic	Vehicular traffic would access the site through the driveway approach off Highway 19 and access road into the NVEC. Improvements required are outlined in Section 3.0.
Travel Distance	The travel distances for collection vehicles, transfer trailers and customers purchasing finished compost is similar for the first three sites evaluated.
Local Zoning	The PA – 1 zoning and the ALC approval will permit construction of the facility on this site.

3.1.a 1.7 Hectare Site Conclusion

We do not recommend constructing the regional composting facility on the 1.7 hectare site due to issues related to: topography, proximity to land users, lack of buffer areas, wetlands, and space restrictions.

3.2 2.9 Hectare Site

The 2.9 hectare site is located along the west side of the NVEC. It is bounded on the west side by Duncan Bay Road, on the southeast side by the pivot arm irrigation system used to dispose of biosolids from the WWTP, on the northeast side by the WWTP and on the northwest side by a utility right-of-way servicing a water feeder main.

The site is relatively flat, and it currently contains several earth / fill disposal piles that will be moved to the biosolids disposal field in 2019 (Exhibit 11). An access road runs through the site from Duncan Bay Road to the WWTP. This road is currently used for tractor-trailers to access the WWTP (Exhibit 12).

Exhibit 11 Earth / Fill Disposal Fields on 2.9 Hectare Site



Exhibit 12 Access Road from Duncan Bay Road Through 2.9 Hectare Site



Table 3 presents an evaluation of this site using the key siting considerations listed in Section 2.0.

Table 3 Evaluation of 2.9 Hectare Site

Siting Consideration	Evaluation
Composting Technology	Composting technology and accompanying equipment will be similar for all four sites.
Topography	Site is located in a higher area of the NVEC property and has adequate drainage. This site would only be visible from traffic travelling down Duncan Bay Road. This is good from both site drainage and visibility viewpoints.
Proximity to Land Users	The motel and trailer park are approximately 500 metres away. This is further than the 1.7 and 5.3 hectare sites and should result in a lower risk of odour, noise and dust complaints.
Buffer Areas	The only adjacent development is the WWTP. Buffer area is adequate.
Vectors	Control of vectors will be similar for all four sites evaluated.
Fires	Most trees will be cleared when the earth / fill piles are moved in 2019. It is still recommended that a fire protection plan be prepared.
Weather Conditions	Weather conditions are similar for all four sites evaluated.

Siting Consideration	Evaluation
Wetlands & Flood Plains	The site is high and has adequate drainage. There are no anticipated issues with either wetlands or flood plains.
Site Utilities	A water feeder main runs down Duncan Bay Road. Therefore, connection to the water line will be relatively easy. The overhead power line servicing the WWTP would have to be extended approximately 320 metres west to service the site. Domestic sewage could be piped to the septic pump receiving station at the WWTP (approximately 70 metres away).
Space Requirements	Space requirements are addressed in Sections 3.2.a and 3.2.b
Vehicular Traffic	Vehicular traffic would access the site through the driveway approach off Highway 19 and access road into the NVEC. Improvements required are outlined in Section 3.0. Alternative access is provided through the existing gate off Duncan Bay Road.
Travel Distance	The travel distances for collection vehicles, transfer trailers and customers purchasing finished compost is similar for the first three sites evaluated.
Local Zoning	The PA – 1 zoning and the ALC approval will permit construction of the facility on this site.

3.2.a Space Requirements at 2.9 Hectare Site

The 14,500 tonne per year facility just fits inside the 2.9 hectare site providing ancillary services are located elsewhere within the NVEC. Exhibit 13 and Appendix A present a conceptual site layout for this size of facility. Ancillary services to be located off site include:

- Scale
- Scale house
- Administration / maintenance building
- Ditching for storm water system
- Storm water pond

The ancillary services are estimated to require an additional 1.2 hectares. Locating the ancillary services elsewhere within the NVEC will require interaction with operation of and future expansion plans at the WWTP. In addition, operational costs at the regional composting facility will be slightly higher due to the semi-remote operation of these ancillary services.

Exhibit 13 14,500 Tonne Per Year Composting Facility, Overall Plan



3.2.b Future Expansion at 2.9 Hectare Site

The 2.9 hectare site does not provide land for immediate expansion. Additional land is available to the southeast, where the pivot arm irrigation system is located, when an alternative method of biosolids disposal is available. This could be 16 years away (sooner if provincial regulations change). Thus, constructing the regional composting facility at this location will restrict expansion plans to constraints that are not under the control of the organics diversion program and the CSWM Service.

3.2.c 2.9 Hectare Site Conclusion

The 2.9 hectare site is the only developable location of the four sites available within the NVEC. However, its small footprint restricts sizing the facility to the 14,500 tonne per year option with ancillary services located elsewhere. Locating ancillary services elsewhere will complicate operation of and expansion plans for the WWTP. Future expansion at this location is contingent upon the biosolids disposal field being decommissioned so that the facility can be expanded southeast into the disposal field.

3.3 5.3 Hectare Site

The 5.3 hectare site is located along the east side of the NVEC. It is bounded on the north side by the utility corridor servicing the NVEC and on the west side by the pivot arm irrigation system used to dispose of biosolids from the WWTP. The site is bounded on the east side by a privately-owned construction yard and on the south side by undeveloped land. The site is heavily treed (Exhibit 14).

Exhibit 14 Trees on 5.3 Hectare Site

Storm water from the north side of the NWECC is directed through the 1.7 hectare site and into the 5.3 hectare site by a culvert running underneath the utility corridor. Also surface run-off from the biosolids disposal field flows into this site. Although the site drains to the south, there are isolated low spots resulting in standing water on the site (Exhibit 15).

Exhibit 15 Standing Water on the 5.3 Hectare Site



The City of Campbell River Sustainable Official Community Plan (OCP) shows a Stream Development Permit (DP) area intercepting the south portion of this site. As such, an assessment will be required by a qualified environmental professional on the potential impacts of a regional composting facility in this area.

Table 4 presents an evaluation of this site using the key siting considerations listed in Section 2.0.

Table 4 Evaluation of 5.3 Hectare Site

Siting Consideration	Evaluation
Composting Technology	Composting technology and accompanying equipment will be similar for all four sites.
Topography	Site is located in a low point in the surrounding topography. This is good from a visibility viewpoint. However, this complicates site drainage and has the potential to trap odours in the surrounding area.
Proximity to Land Users	The adjacent motel and trailer park are approximately 150 metres away. The adjacent construction yard is approximately 100 metres away. This proximity to odour receptors will result in a very high risk of odour, noise and dust complaints.
Buffer Areas	No buffer area to adjacent landowners.
Vectors	Control of vectors will be similar for all four sites evaluated.

Siting Consideration	Evaluation
Fires	Trees will need to be cleared. Site is adjacent to a construction yard. As such, a fire protection plan will be required.
Weather Conditions	Weather conditions are similar for all four sites evaluated.
Wetlands & Flood Plains	The site is underwater year-round. As such, it is unsuitable for development of a regional composting facility both from a constructability viewpoint and the potential environmental impact to groundwater and surface water.
Site Utilities	The utility corridor running along the north side of this property and the power line to the north will permit relatively easy connection to utilities.
Space Requirements	Sufficient space is available construct a 14,500 tonne per year facility providing ancillary services are off the footprint, somewhere else within the NVEC. Insufficient space to construct the two larger regional composting facility sizes listed in Table 1.
Vehicular Traffic	Vehicular traffic would access the site through the driveway approach off Highway 19 and access road into the NVEC. Improvements required are outlined in Section 3.0.
Travel Distance	The travel distances for collection vehicles, transfer trailers and customers purchasing finished compost is similar for the first three sites evaluated.
Local Zoning	The PA – 1 zoning and the ALC approval will permit construction of the facility on this site. However, the Stream DP area identified in the OCP will require evaluation by a qualified environmental professional. It is doubtful that this evaluation will not identify any impacts.

3.3.a 5.3 Hectare Site Conclusion

We do not recommend constructing the regional composting facility on the 5.3 hectare site due to issues related to: topography, proximity to land users, lack of buffer areas, wetlands, space restrictions and the Stream DP area identified in the OCP.

3.4 10.7 Hectare Site

The 10.7 hectare site is located adjacent to the NVEC property. This land is privately owned, but the owner has expressed interest in the past in disposing of this property. Land adjacent to this property is undeveloped.

A stream borders the site on three sides and a second stream runs parallel to the road approximately 20 to 30 metres inside the property (Exhibit 16).

Exhibit 16 Stream Inside 10.7 Hectare Property



The City of Campbell River Sustainable OCP shows one Stream DP area crossing this area and a second Stream DP intercepting the property. As such, an assessment will be required by a qualified environmental professional on the potential impacts of a regional composting facility in these areas.

The area is zoned RU – 1 and will require land use rezoning to develop the regional composting facility.

Table 5 presents an evaluation of this site using the key siting considerations listed in Section 2.0.

Table 5 Evaluation of 10.7 Hectare Site

Siting Consideration	Evaluation
Composting Technology	Composting technology and accompanying equipment will be similar for all four sites.
Topography	Site is intersected by a stream / small ravine and a second stream borders the site on the south, west and north sides. As such, there is only 20 to 30 metres of developable land running parallel to the road. Thus, the topography does not permit construction of the regional composting facility on this site.
Proximity to Land Users	The property is privately owned and the CVRD would have to purchase the property.

	The nearest odour receptors are the motel and trailer park, which are approximately 700 metres away. Thus, this site should have the lowest risk of odour, noise and dust complaints.
Buffer Areas	No adjacent developments. Buffer area is adequate.
Vectors	Control of vectors will be similar for all four sites evaluated.
Fires	Trees will need to be cleared and a fire protection plan will be required.
Weather Conditions	Weather conditions are similar for all four sites evaluated.
Wetlands & Flood Plains	The site is intersected by a stream / small ravine that drains the property. There are no wetlands or flood plains identified on this site.
Site Utilities	A water feeder main runs down the privately owned road. Therefore, connection to the water line will be relatively easy. The overhead power line servicing the WWTP would have to be extended approximately 450 metres west to service the site. Domestic sewage could be piped to the septic pump receiving station at the WWTP (approximately 200 metres away).
Space Requirements	There is sufficient space to construct any of the three facility sizes listed in Table 1. However, the intersecting stream divides the property into two smaller parcels that do not have sufficient area.
Vehicular Traffic	Vehicular traffic would access the site from a privately owned road and access / maintenance agreements would have to be signed between the road owner and the CVRD.
Travel Distance	The travel distances for collection vehicles, transfer trailers and customers purchasing finished compost is longer than the other three sites evaluated. Vehicles would have to travel further north on Highway 19 then turn onto the private road to access the site. The additional travel distance is estimated at 2 kilometres.
Local Zoning	The RU – 1 zoning and the lack of ALC approval will necessitate land use rezoning and ALC approval to permit construction of the facility on this site. The intersecting stream and the second stream bordering the site will require evaluation by a qualified environmental professional. It is doubtful that this evaluation will not identify any impacts.

3.4.a 10.7 Hectare Site Conclusion

We do not recommend constructing the regional composting facility on the 10.7 hectare site due to issues related to: topography, land ownership, the second stream running parallel to the road restricting development to a 20 to 30 metre wide strip, access via a privately owned road, lack of both zoning and ALC approval, and the two Stream DP areas identified in the OCP.

4.0 Conclusions and Recommendation

4.1 Conclusions

- 1) Of the four sites available for development of a regional composting facility at the NVEC, only the 2.9 hectare site is suitable.
- 2) The 1.7 hectare site is not suitable for development of the regional composting facility due to issues related to: topography, proximity to land users, lack of buffer areas, wetlands, and space restrictions.
- 3) The 5.3 hectare site is not suitable for development of the regional composting facility due to issues related to: topography, proximity to land users, lack of buffer areas, wetlands, space restrictions and the Stream DP area identified in the OCP.
- 4) The 10.7 hectare site is not suitable for development of the regional composting due to issues related to: topography, land ownership, the second stream running parallel to the road restricting development to a 20 to 30 metre wide strip, access via a privately owned road, lack of both zoning and ALC approval, and the two Stream DP areas identified in the OCP.
- 5) Only the smaller regional composting facility size of 14,500 tonnes per year will fit on the 2.9 hectare site providing ancillary services are located elsewhere within the NVEC. Locating the ancillary services elsewhere will require approximately 1.2 hectares of additional land plus interaction with operation of and future expansion plans at the WWTP.
- 6) Construction of the smaller 14,500 tonne per year facility will restrict the organics diversion program to servicing single-family homes and a small commercial component. Servicing of multi-family homes, a larger commercial diversion program, and composting of biosolids requires a larger regional composting facility.
- 7) If the regional composting facility is constructed on the 2.9 hectare site, then expansion of the facility is contingent upon decommissioning of the biosolids disposal field to free up additional land. This could be as long as 16 years away (sooner if provincial regulations change). Thus, constructing the regional composting facility at this location will restrict expansion plans to constraints that are not under the control of the organics diversion program and the CSWM Service.

4.2 Recommendation

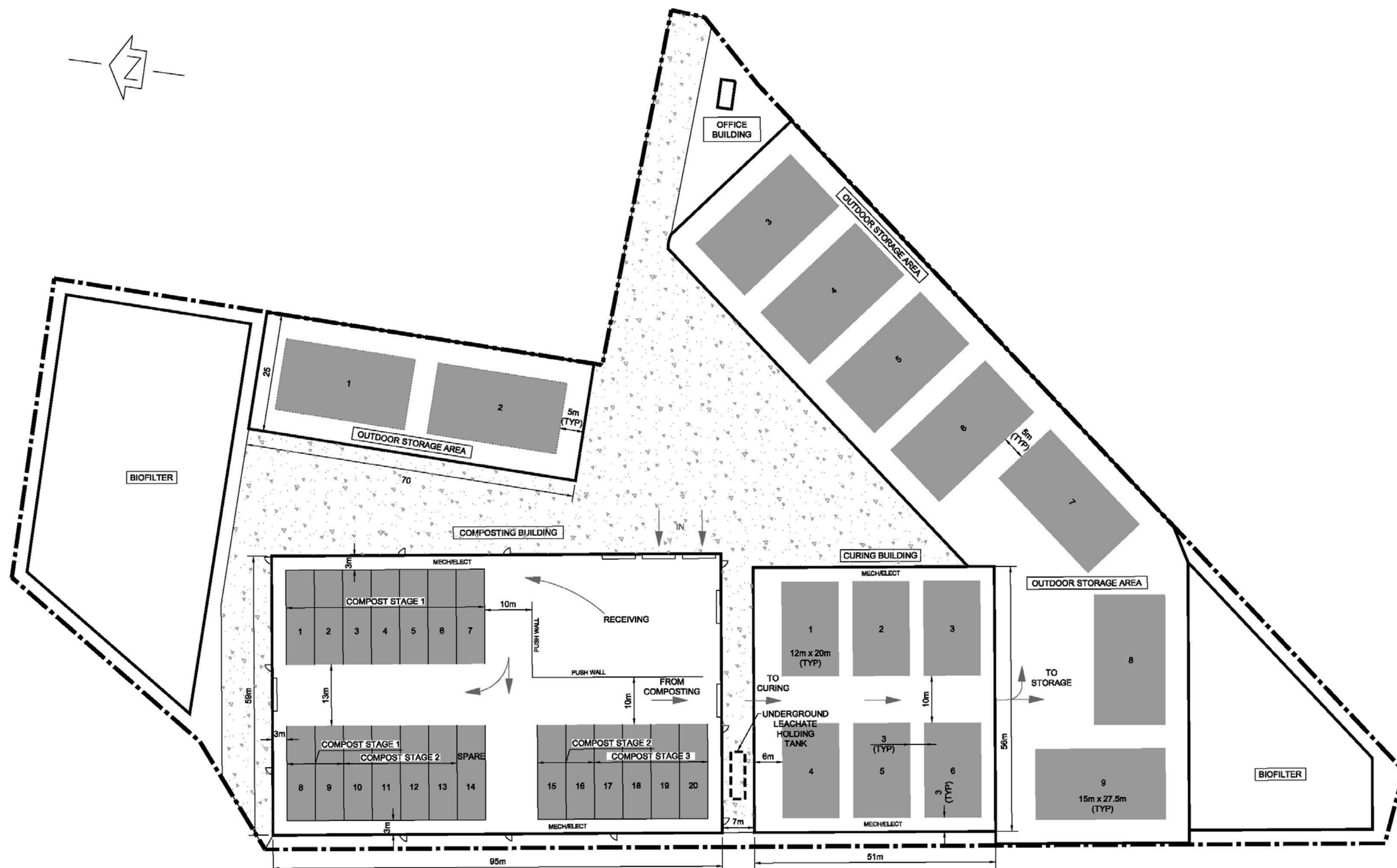
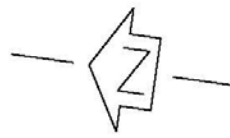
- 1) As a result of the above conclusions, Jacobs recommends analyzing other locations before deciding on a location for the CSWM Regional Organics Processing Facility.

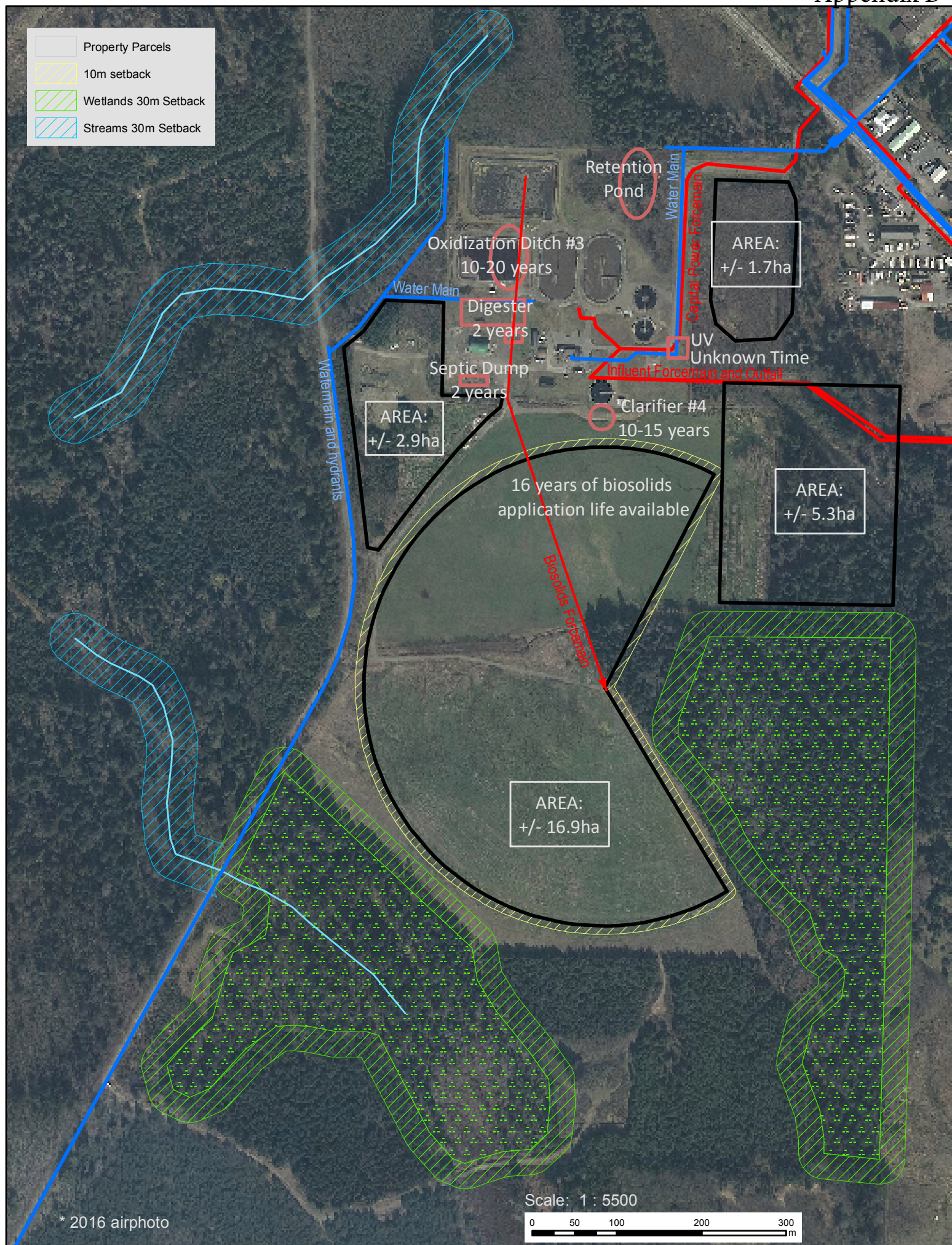
/jb

Attachments: Appendix A

Appendix A

**Conceptual Layout
for a 14,500 tonne per year Facility
on the 2.9 Hectare Site**







Comox Valley Regional District

RECEIVED

File: 5380-03 /CR

MAY 11 2018

J. Warren
R. Dyson

8 May 2018

Mr. James Warren
Acting Chief Administrative Officer
Comox Valley Regional District
600 Comox Road
Courtenay, BC V9N 3P6

Dear James Warren:

Thank-you for your letter of May 4th requesting that the City of Campbell River confirms its commitment to provide co-mingled food and yard waste to the regional organics composting facility as per option F of the CH2M Hill technical memo 'Initial Analysis of Regional System Options' dated May 3.

City staff are preparing a comprehensive report to Council for the May 29th Committee of the Whole agenda with respect to the regional organics composting facility. We will respond to your request following the May 29th Committee of the Whole.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Deborah Sargent", with a stylized flourish at the end.

Deborah Sargent
City Manager

C: Russel Dyson, Chief Administrative Officer, Comox Valley Regional District
Drew Hadfield, Director of Operations, City of Campbell River



TOWN OF COMOX

Our File No. 0114-20-391

August 23, 2018

Comox Valley Regional District
600 Comox Road
Courtenay, BC V9N 3P6

Attn: Russell Dyson, Chief Administrative Officer

Dear Mr. Dyson

Re: Regional Organics Composting Facility

Further to your May 4, 2018 letter requesting a commitment from the Town of Comox regarding the residential food and yard waste that will be diverted and delivered to the regional organics compost program, I can advise that Council, at its Regular meeting held August 1, 2018 passed the following motion:

"that Council of the Town of Comox provide conditional support to the Regional Organics Program and Option F subject to a detailed cost comparative analysis being completed by the CVRD and subsequently given full consideration by the Comox Strathcona Waste Management Board on a Regional Compost Facility site in the Comox Valley or smaller facilities in both Campbell River and the Comox Valley versus solely locating the compost facility in Campbell River at the Norm Wood Environmental Centre".

We recognize the importance of working towards implementation of a co-mingled food and yard waste program and we too look forward to continuing to work with the other municipalities in achieving this objective with minimal costs to all participants.

Yours truly,

R. Kanigan
Chief Administrative Officer

C: S. Ashfield, Municipal Engineer
C. Freundlich, Director of Finance
S. Russwurm, Deputy Corporate Administrator

K:\Admin\Council\Corr\2018\RCM\08_01\CVRD_Regional_Organics_2018_08_23

THE CORPORATION OF THE CITY OF COURTENAY

Mayor's Office
830 Cliffe Avenue
Courtenay, B.C. V9N 2J7



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Comox Valley Regional District

RECEIVED

File: 5380-03/CU ORGANS

JAN 29 2019

File No. 0220-02

January 23, 2019

Board of Directors
Comox Strathcona Waste Management
600 Comox Road
Courtenay, BC
V9N 3P6

To: WEB (C50M)
cc: MURIEL: AMOS (FAC)
EDYSON

Re: Organics Program

Dear Sirs:

Working towards an organics program continues to be a priority for Courtenay Council and the citizens of the Comox Valley.

I am writing to urge you to explore all options for the location of an organics processing facility in our region.

Sincerely,

Bob Wells
Mayor